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Economic discourse and European market integration: the problem of financial market infrastructures

Troels Magelund Krarup

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Institut d'études politiques de Paris

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Programme doctoral de sociologie

**Max Planck Sciences Po Center on Coping with Instability in Market Societies
(MaxPo)**

Doctorat en sociologie

Economic Discourse and European Market Integration

The Problem of Financial Market Infrastructures

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Economic Discourse and European Market Integration

The Problem of Financial Market Infrastructures

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List of Abbreviations

BIS	Bank for International Settlement
CAPM	Capital Asset Pricing Model
CCBM	Collateral Central Bank Management
CCP	Central Counter Party
CESAME	Clearing and Settlement Advisory and Monitoring Expert Group
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
CSD	Central Securities Depository
DvP	Delivery versus Payment
EBF	European Banking Federation
EC	European Community
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs Council
EMI	European Monetary Institute
EMU	Economic and Monetary Union
ERC	European Repo Council
ESCB	European System of Central Banks (Eurosystem)
ESES	Euroclear Settlement for Euronext Securities
EU	European Union
ICMA	International Capital Market Association
ICSD	International CSD
IOSCO	International Organization of Securities Commissions
IOU	I Owe You (debt, credit, liability)
ISIN	International Securities Identification Number
MiFID	Markets in Financial Instruments Directive
RTGS	Real-Time Gross Settlement
TARGET	Trans-European Automated Real-time Gross settlement Express Transfer
T2	TARGET2
T2S	T2 Securities

To an economist

INTRODUCTION

1. European Financial Market Integration as a Knowledge Problem

Nine years into the final stage of Economic and Monetary Union, on 17 July 2008, the European Central Bank (ECB) announced the launch of a major project to “provide a single, borderless pool of pan-European securities, as well as a core, neutral, state-of-the-art settlement process” (ECB 2008a). In the future, holding securities in any European country will simply mean holding securities in “Europe,” understood as a uniform and harmonised realm with no difference between moving or transacting securities internally in one country or across borders between two countries. Moving securities from Portugal to Estonia will be as efficient, cheap, and safe as moving them from France to Germany, or even between investors in Germany. From the perspective of financial market infrastructures, Europe will be one – or at least, as the ECB described it, the *Target2 Securities* (T2S) project “constitutes a major step forward in the delivery of a single integrated securities market for financial services” (ECB 2008a).

Although little known outside the financial infrastructure sector¹, T2S is considered by professionals to constitute a major step forward in European financial market integration. It is also seen as a considerable investment by and portfolio expansion of the ECB, which was not directly engaged in securities settlement before the launch of the project. At the time of writing, in mid-2016, T2S is being implemented – so far successfully – following the plan of three migration waves between 2015 and 2017 for the 21 participants from Eurozone countries and Denmark (ECB 2015c).²

But what exactly is “the market” that is being integrated? The question may appear trivial, or even ill-posed. On the one hand, it is well-known that the EU is to a large extent based on and structured as a project of market integration. On the other hand, we as social researchers are accustomed to consider all principles and high ideals – about what a market is, for example – to be the manipulatable instruments of powerful interests and the outcome of the pragmatics of political bargaining. But the T2S project provides an interesting case that nuances this traditional view. Upon close

¹ For example, a search on the Financial Times (ft.com) renders only 36 mentions of Target2 Securities, and only one entry after September 2011 (search conducted 8 August 2016).

² More precisely, Ireland and the Greek settlement system for stocks are not joining in one of the three waves. The following non-Eurozone countries will join T2S in one of the waves: Denmark, Hungary, Romania, and Switzerland.

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inspection the T2S project, as well as the different controversies and the series of problems that emerged around it over the years, appear to be structured by a certain conception of the market. This is not to suggest that the 10 years that passed from the first conception of the project in 2006 to the present day form a kind of linear history according to some pre-given ideal of what an integrated European market should look like. Rather, it appears that the T2S project as a heterogeneous whole, including the controversies around it, and the problems that emerged in its course, are somehow structured in its diversity. The problems, the disagreements, the possible solutions – and even the conceptual contradictions that emerge within the T2S project itself – seem to be pre-configured by the conception of the market driving and motivating the integration efforts in the first place.

Before 2006 when the idea of T2S was first conceived internally at the ECB, the European Commission insisted that the integration of financial infrastructures should be provided by private sector initiatives, preferably on a competitive basis, supported merely by legal harmonisation from the public sector, as we shall see in chapter 4. Yet, a few years later they opted for an ECB monopoly which would “in-source” business activity from private companies. In order to explain such a remarkable shift, traditional approaches in social research would examine whether there had been an ideational shift in the EU and, if so, how it had been produced. They would then scrutinise possible re-configurations in the interests of powerful actors and in the alliances and oppositions between them. Part II of this dissertation will demonstrate that while such approaches can successfully account for many aspects of the T2S project and its success, they also leave a whole domain of questions untouched. Why, for example, in the first place, had there been a problem of making private competition drive market integration? Why was a public monopoly able to do the job? Why, as we shall see, had the T2S project, and the problems and controversies around it, seemingly re-iterated classical problems in economic theory? More broadly, how had the “problem structure” of the securities integration project – as I shall define it in chapter 2 – organised the T2S project as a socio-historical process?

Rather than approach the problem as one of ideas understood as a set of *shared* beliefs that shape and influence the interests of powerful players and/or as one manipulated by them to serve their objectives, this dissertation is interested in a deeper epistemic level of stratification which makes *different* ideas possible in the first

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place. It is also interested in how these ideas are structured in relation to each other, with reference to a set of problems. For example, we shall see how the relationship between competition and monopoly poses a deep epistemic problem for European financial market integration.

In fact, as developed in detail in chapter 2, we may think of the *problem* of European financial market integration in terms similar to those in which Foucault (1976a) conceived the problem of madness with its periods of change and stability across 500 years of European history. For Foucault, madness is neither a universal problem applicable in the same way to all societies at all times, nor is it a uniform social construction specific to any given society and epoch. Rather, precisely as a *problem* specific to a given society and epoch – not least as a problem of knowledge – madness structures a *variety* of possible policies, institutions, and or medical theories, in their constitutive relations to each other through, for example, opposition and alliance, contradiction and coherence, exclusion and inclusion, or affinity and complementation. It is not a single idea or paradigm that characterises the government of madness in society, nor is that government reducible to the strategic interest of hegemonic actors. Rather, it is the very struggles between different interests, views, theories, and institutions that are structured as an epistemic formation around madness: the matrix of oppositions, alliances, filiations, and yet other relationships that makes utterances and practices possible and meaningful. In a similar vein, this dissertation examines the ways in which the T2S project, the controversies around it, and the problems emerging in its course, are structured by an underlying conception of the market imbued with a specific set of associated problems and paradoxes. We can thus formulate the main research question of this dissertation as follows:

What is the conception of the market underlying the T2S project and, by extension, the epistemic role of economic knowledge in processes of European financial market integration? In particular, how does this conception provoke specific problems, structure controversies, and make possible solutions around the integration of financial market infrastructures?

The rest of this introductory chapter further clarifies at a general level what this question implies.

1.1 Target2 Securities Beyond True and False

Financial market infrastructures in general, and securities settlement systems in particular, are unknown territory to all but a few sociologists. We all have some idea of how a stock exchange works, and some have heard of and even studied clearinghouses. But the number of sociologists who have even a vague idea of a central securities depository (CSD) is infinitesimal.

Most people don't even know we exist. They know what a stock exchange is; a clearing house a little less. But when you talk about settlement it is over, no-one is left (I14³).

Some academics have heard of Euroclear and Clearstream. The latter is particularly well known, since the Luxembourg-based company has been associated with a number of different controversies, including allegations that it helped prominent French politicians evade taxes and, later, filed a series of lawsuits against investigative journalist Denis Robert, a response viewed by some as an effort to suppress bad publicity (2011). But few outside the “micro-cosmos” (I13) or the “Divine Church of Payment Systems” (I8) of close-knit expert networks cultivated in the field for many years understand what these institutions do on a daily basis, their position and role in financial markets, how they make money, and who owns them.

Yet, financial infrastructures are constitutive of financial markets. As one interviewee puts it, financial infrastructures are: “a bit like eBay that allows you to trade across the world” (I38).

In a way, it is not unlike water and electricity. I mean, you do not ask questions about water and electricity as long as the light turns on when you hit the switch and the water comes out when you turn the tap. But the day when your pipes are frozen – “damn, there is no water!” It is only the day it does not work that you will ask questions (I14).

³ Interviewees are referred to with an “I” followed by a number, cf. chapter 3. All translations of interviews and other sources into English are mine.

Financial infrastructures are the subject of this dissertation. Different aspects of financial infrastructures are gradually introduced and developed as the dissertation proceeds, starting with a general overview in chapter 4 and going deeper into different problems in subsequent chapters. For now, a simple definition of central securities depositories (CSDs) will suffice: they are accounting systems for securities – that is, for stocks and bonds, rather than for money, or for more exotic financial instruments like derivatives. Simplifying somewhat, when investor *A* buys securities from investor *B*, she does so at a stock exchange or in some other market place. In the marketplace, an *obligation* to deliver securities (against money) is concluded, but the legally binding *transfer* of the securities takes place as an accounting operation in the relevant CSD. In Europe, as a rule of thumb, there is one CSD in each country. The national CSDs are usually closely associated not only with the local stock exchange from which the bulk volume of orders comes, but also with the national central bank so as to be able to coordinate the transfer of securities with that of money. In 2013, European CSDs collectively held securities worth €48 tn. in custody and processed 410 m. delivery instructions, representing a value of €1.1 quadrillion (€10¹⁵), and employing a total of almost 8.000 people (ECSDA 2014).

In the eyes of the Commission, the problem in Europe before T2S was that the national CSDs had different technical systems, opening hours, and settlement cycles, and operated under different legislative frameworks. The presence of different systems and standards generated communication and synchronisation problems, impeding efficiency and safety for cross-border transactions:

It is like in the old days when different countries did not agree on the width of the rail tracks – then you had to unload goods at the borders. This was of course very costly, and then you say: “we buy it at home” (I48).

According to its proponents, T2S and the encompassing CSD Regulation (European Commission 2014b), will contribute to the integration and harmonisation of settlement between CSDs in Europe. In turn, this will make cross-border securities transactions fast, safe, and efficient. Such financial infrastructure integration is held to be a prerequisite, for example, for the European Commission’s recent Capital Markets

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Union project (ECB 2015b; European Commission 2015:23). But the T2S project has also been the object of contestation and controversy. Consider the following quotations about the origins and consequences of the T2S project:

If you believe in the market then why would you do this? Maybe you can answer that in your project. Is it because the ECB wants to own everything and seize the control and the power, or is it out of efficiency concerns? The economists cannot tell us that it is more efficient (I21, chief of a national regional banks' federation);

The European Commission and the ECB wanted to remove national monopolies with T2S, but one could argue that they have created the biggest monopoly in Europe: T2S will de facto be the biggest infrastructure monopoly that ever existed... Even if we are happy about T2S and really support it, we cannot help but to be a bit nervous about what is going to happen when all the CSDs have been abolished and there is only one system left in Europe. We might not be so happy by then – whether public or not. You see, it is not so many years back that we had public monopolies in telecommunications, electricity, water, and so on, but one day it can all be privatised and then I actually think we have a serious problem (I19, T2S responsible in covered bond institution).

These quotes – as well as many others, as we shall see in Part II – point to the paradoxes and contradictions in the T2S project as allegedly a process of market integration. Before T2S, there was a highly integrated settlement infrastructure in each European country, and a somewhat heterogeneous and fragmented market of commercial providers servicing cross-border transactions. Cross-border securities settlement was an existing business and an established market before the ECB created a public monopoly in its place.

As social researchers, we may then ask the same kind of questions as the two interviewees ask: what happened? Was the establishment of a public monopoly on securities settlement in Europe an outburst of lust for power by the ECB? Were private players simply overrun by coercive government? Was T2S the product of a new configuration of interests and alliances in Europe? Were centralisation and denationalisation objectively required to achieve integration and economic efficiency?

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Or did this choice instead constitute a decisive turn in the ideas about economic efficiency at the heart of the European institutions? But this line of questioning quickly runs into further complications. From the point of view of other interviewees, notably the regulators themselves, there was no substantial break around 2006. Instead, T2S followed naturally from previous efforts to integrate European financial markets. According to these interviewees – for reasons which we shall discuss in chapter 5 – T2S is not a monopoly at all. Furthermore, in their view, the provision of public infrastructure does not take business away from private providers because, legally speaking, T2S is not a settlement system:

I don't think there was necessarily a complete breach as such. I think it was more of an evolution... What the Commission was really looking for was a public-private partnership. So, the private actors actually do what is necessary in the private sphere, and the Commission does what is necessary in the legal sphere for things to proceed... What is provided through T2S is a platform for settlement. It is very complicated, but I would not necessarily say that it is a public initiative – there is a public element, and a strong public element, obviously, but there is also the private sphere which has been very much involved in how the project has evolved (I57).

Another regulator explains that the years running up to 2006 were a period of “reflexion” in view of the demand for integrated financial infrastructures in Europe from “everybody” and of cross-border transaction volumes tripling between 2000 and 2007. Something simply had to be done:

[The decision to support the T2S project] was not about economic theory. We could not exclude that something would happen [in the market], but in 2007/8 it was clear that T2S was the best bet. Not that other things could not have delivered... The question is not private versus public but efficiency versus inefficiency. We wanted to make a level playing field, but there was a coordination failure [in the market] (I59).

There was neither an ideological masterplan, nor a conspiracy of power interests, according to these interviewees. T2S was rather the result of a pragmatic process of achieving integration and efficient market infrastructures via trial and error – simply

the art of making things happen under political constraints. These quotations thus not only reject the critical attitudes of the two first interviewees, but also the underlying observations, questions, and assumptions about power, monopoly, and inefficiency motivating them.

As social researchers, we thus face a problem. If we are to account for the T2S project (as an interesting case of financial market integration processes in Europe), it seems like we will have to choose between the following alternatives, or some mix between them. We can either reject the first two interviewees in favour of the latter two – stressing, for example, that these persons are more remote from the T2S project and in particular were so from the negotiations that preceded it: the first two are wrong; the latter two are right. Or, inversely, we can reject the latter in favour of the former, arguing that the European institutions were indeed motivated by their power interests and that the hair splitting over what “monopoly” means only serves as an instrument in that game: the latter are debunked; the former are the debunkers.

Whichever story we choose, we can draw from a variety of theories to support and frame our discussion. Economics can tell us what a monopoly really is and therefore whether the first interviewee is correct in the assertion that T2S will not be more efficient than the alternatives. Political economy can help us understand the different interests and ideas at stake, how they have changed over the years, and what conflicts, compromises, and outcomes they have entailed. Finally, sociology can provide us with the tools to understand the role played by ideas, beliefs, culture, and social networks in the process.

But something would fade from our sight if we pursued this line of inquiry. Consider how the four interviewees, despite their differences, appear to evoke or refer to the same conceptual and logical structure. The first interviewee evokes a notion of the market as an efficient mechanism for providing goods and services – including financial infrastructures – and therefore also optimal social outcomes, contrasting it to the coercive impositions of government. The second interviewee is more admmissive of a government monopoly to provide economically efficient infrastructures, but there is a parallel structure to the first interviewee in the concern expressed about monopoly turning into a coercive force on market mechanisms. The third interviewee rejects the concept of monopoly when speaking of T2S, but entertains a similar conception in so far as the purpose of government action is to provide a common platform that markets

can develop on in an efficient way. The last interviewee makes the purpose of government this even clearer with the notion of a “level playing field;” despite denying all orthodoxy and ideology (T2S “was not about economic theory;” “the question is not private versus public”) there is clearly a very economic notion of the market implicit in talking about “coordination failures” and providing a settlement platform based on which markets can be “efficient.”

Beyond their obvious disagreements and beyond the question of true and false utterances, there thus appears to be an implicit conceptual structure to which these interviewees all refer, and within which they all position themselves in relation to one another. Metaphorically speaking, they are engaged in a dialogue, even if they never met each other, are unaware of each other’s existence, and perhaps even ignorant of the precise official or unofficial positions of each other’s institutions on T2S. An implicit structure appears to make their respective utterances meaningful and to relate them to each other, making the comparison between them possible. Whereas the comments so far may appear provisory and overly simplifying – market versus government; private versus public; market efficiency versus market failure; competition versus monopoly – we should be interested in how this structure plays out in a complex project of market integration like T2S, including the controversies around it and the problems that emerged in its course. Indeed, if a broader conceptual formation can be identified within which European financial market integration manifests itself as a problem, and within which different solutions, disagreements, controversies, and truth claims are made possible and deployed, then any inquiry of market integration processes in Europe should have an interest in a detailed understanding of that structure.

1.2 Market Infrastructures as a Problem of Economic Knowledge

Chapter 2 discusses the theory of *discursive formations* as formulated by Foucault (2008) and relates it to the “social studies of finance” literature. For this school of thought, markets are socio-technological assemblages of material and ideational co-development. Economic devices are not simply constructed to deal with pre-existing problems or to serve pre-existing interests, and economic theories are not simply conceived to represent market realities. Instead, they both contribute to the construction of markets. In some cases, a specific theory is “performative” in that

markets and market agents take shape according to it, while other cases yield higher degrees of complexity. T2S is an interesting case in which to consider performativity theory because – in contrast to some of the most acclaimed existing studies in the field – there is no explicit reference to specific economic theories behind the project, but only to seemingly vague notions of efficiency and competition. One important question is thus how to make sense of a process that appears to be at the same time epistemically arbitrary and structured. Moreover, social studies of finance have so far largely left the analysis of European market integration processes to political economy, history, and political sociology. This dissertation thus offers groundbreaking inspiration to social studies of finance both in terms of approach and object of study.

One of the main arguments developed in this dissertation is that the discursive formation structuring processes of European financial market integration is essentially the same as the one structuring economic theory as a field of academic knowledge. As explained in chapter 2, although the approach is closely affiliated with social studies of finance and, in particular, with the theory of performativity, the objective of this dissertation is not to trace the history of mutual influences between the EU and economics, but rather to achieve the more humble goal of establishing the existence of such a parallel and to examine its consequences and dynamics. At the core of this parallel between the two domains, I identify a common conception of the market, which I refer to as the *competitive conception of the market*. This conception can be identified more or less explicitly in foundational documents of the EU, but the real measure of its existence, role, and importance is derived not from such formal professions, but from the meticulous analysis of some 15 years of integration of financial market infrastructures in Europe and of the controversies and problems around which these processes are organised. This analysis is carried out in Part II.

Part III goes deeper into the parallel with economic theory. In economic theory the issue of market infrastructures takes up a particular place. Often, their existence is simply assumed, or it is assumed that there is nothing special about them. For example, more than 100 years ago, Léon Walras (1988) conceived a mathematical system of “pure political economy” in which exchange takes place in a unified, harmonized, safe, and frictionless space with no effective propagation, topology, or structure. Real markets, according to Walras (1988:71), may resemble more or less

this ideal, but the closer they do so, the more efficient they are prone to be in procuring optimal social outcomes. In the ideal market, there is no role for government because transactions flow with no restraints in a fully liquid and enlightened manner – light simply goes out when you hit the switch and water comes out when you turn the tap (cf. p. 26).

But economic theory does sometimes recognize a special role for market infrastructures, and sometimes even that integrated and efficient market infrastructures cannot be provided by the market itself. For example, another 100 years back, Adam Smith (2012:22) argued that the wealth of a nation depended on the division of labour in its economy, but that the division of labour, in turn, depended on the size of the market, because the breadth and scope of the market determines the extent to which any individual can specialise and rely on buying and selling, rather than producing for himself the many different goods he needs. However, whereas liberating the market to develop according to its own impulses is thus generally preferable to government regulation, according to Smith, there are certain requirements which must be procured by the sovereign or commonwealth in order for markets to expand in an efficient way. These are defence, justice, and “public works which facilitate the commerce of any country, such as good roads, bridges, navigable canals, harbours, etc.” – that is, the “institutions” or market infrastructures “for facilitating the commerce of the society” (Smith 2012:721–22). Such public works, according to Smith:

though they may be in the highest degree advantageous to a great society, are, however, of such a nature that the profit could never repay the expense to any individual or small number of individuals, and which it therefore cannot be expected that any individual or small number of individuals should erect or maintain (Smith 2012:721).

As we shall see in chapter 4, economic theory today has provided a specific formulation for the “nature” of market infrastructures observed by Smith as problems of “externalities,” “network effects,” “public goods,” and high “fixed costs.” If left unregulated, infrastructure sectors may produce “market failures,” and the existence of market failures, in turn, legitimises government “intervention.”

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This immediately raises questions about the more precise definition of a market failure and how to identify it, as well as how to delimit government interventions in order to avoid the “over-provision” of such goods and services to the detriment of competition and, as a consequence, to economic efficiency. Yet these were exactly the kinds of questions that structured the differences and oppositions between the four interviewees discussed earlier. Consequently, it would be a mistake to take the contention of the fourth interviewee – that T2S was not about economic theory because it is not based on fixed ideals about the role of the private and public sectors (cf. p. 29) – as a simple truth claim. T2S has everything to do with economic theory in so far as it is about efficiency, market integration, competition, and financial infrastructures.

The tension between market integration in the Walrasian and in the Smithian formulations thus seems to neatly capture a fundamental dimension of controversy around the T2S project. Like roads, bridges, canals, harbours, and other public works, financial infrastructures are services that can be – and indeed are – offered by private commercial providers in the market, as we shall see in chapter 4. Yet, T2S is provided by the ECB, a fully public entity. Traditional political economists would likely ask questions such as: who were the powerful actors that pushed this turn through? Or, what were the hegemonic ideas that shaped and legitimised it? Yet, these questions lead us astray from our initial interest, which is to understand the underlying problem structure on its own discursive terms, as well as to examine why this structure seemingly parallels important problems structuring 200 years of economic theory.

If market integration is about approaching the ideal conditions of integrated markets to produce optimal social outcomes, then how can it be that it depends not only on legal harmonisation and the removal of barriers to trade, but also on a centralised *public* infrastructure which is itself *outside* the supposedly efficient market? How is it possible in the first place to *conceive* of such a project within the constraints of the conception of the market underlying European financial market integration? Why do these questions seem to resonate quite precisely with the century-old problem of market integration in economic theory? What is the *problem* around which the T2S project is organised – not simply what problem it is officially or unofficially intended to solve, but what conceptual divisions, distinctions, contradictions, and tensions organise it as a process of European financial market integration? Moreover, why

must T2S as the “core” infrastructure of financial markets be “neutral,” as stated by the ECB (cf. p. 23) – a formulation that seems to exclude any privately owned commercial core infrastructure? What is “core” infrastructure anyway in an efficient and integrated – that is, unstructured and unstratified – market?

The question is thus not simply whether the EU is pursuing a specific market ideal or not. Nor is it primarily about assessing the criteria employed in the decision to intervene in markets or not or accounting for the political and strategic negotiations over such intervention between different interests. Rather, the question is whether and how – in the act of pursuing market integration – the EU inscribes itself in a specific discursive formation which comes to structure integration processes, including the possible forms of controversy, debate, and contestation over it.

The T2S project, and market infrastructures more broadly, provide a good case in which to study the conception of the market underlying European market integration and the role of economic theory within it. Lying conceptually at the frontier of the market conceived as an efficient realm of competition, market infrastructures are liable to provoke controversy, thus making the connections, contradictions, and dynamics of that discursive formation visible.

To be fair, traditional political economy does sometimes consider the role of economic theory in European integration processes. I discuss various “discursive” approaches in chapter 2, arguing that these largely consider discourse either as a set of shared beliefs or as an instrument in strategic power struggles – none of which corresponds exactly to the Foucaultian version of discourse analysis. Perhaps closer to the perspective adopted in this dissertation is the formulation used by Mügge (2010) in his study of European capital market integration. Similar to this dissertation, Mügge highlights Smith’s paradoxical insight about the commercial actors (“dealers”) who occupy privileged positions to connect otherwise separate markets or market segments:

To widen the market and to narrow the competition, is always the interest of the dealers. To widen the market may frequently be agreeable enough to the interest of the public; but to narrow the competition must always be against it, and can serve only to enable the dealers, by raising their profits above what they naturally would be, to levy,

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for their own benefit, an absurd tax upon the rest of their fellow-citizens (Smith 2012:257–58).

But Mügge still follows a traditional political economy research strategy and explains that recent capital market integration in Europe resulted from the changing strategic interests of major banks towards pan-European markets, motivating successful lobbying efforts to “upload” political powers to Brussels (Mügge 2010:2). He also decides that: “The supranationalisation and harmonisation of capital market governance was a question of political choice, not of economic necessity” (Mügge 2010:3). Like so many other social researchers, Mügge attempts to judge between true and false based on the testimonies available from interviews and documents (whose validity must therefore be weighed in the process) – just like we were tempted to do in our consideration of the four quotes about T2S earlier (p. 30). But he does not ask why the above quotation from the founder of economics (from which Mügge draws the title of his book) appears to exhibit a striking parallel with his own study of European capital market integration more than 200 years later. Furthermore, it is not a central question to Mügge how it can be that – across 200 years of market integration – if a widening of the market is in the general public interest, then why is it necessary that some private dealers provide that widening – at the risk that the same dealers will feather their own nest at the expense of the public. These, however, are exactly the kinds of questions and paradoxes around European market integration that this dissertation seeks to address. Long before any specific outcome is determined – even long before the problem of European capital market integration was posed – a conceptual formation organises their possibility of coming into existence.

While this study does not conduct a genealogy covering the more than 200 years of modern economic theory, it does examine the discursive formation of European financial market integration, as well as the epistemic role of economic theory in it. Moreover, as perhaps the first of its kind, it seeks a way to approach that problem in a “pure” way, meaning that it deliberately abandons traditional research strategies aimed at revealing power, interests, and dominant or shared ideas, and instead seeks to shed light as far as possible into the darker and more difficult area of discursive formation. Attempts to explain historical outcomes with reference to a series of linear causes step into an auxiliary position to the study of the problems that seem to continuously

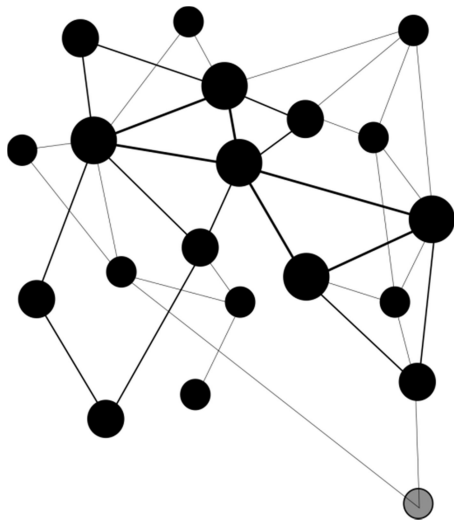
reappear across a wide range of domains that are most often considered independently of each other: markets, economic theory, Economic and Monetary Union (EMU), and settlement infrastructures.

1.3 What is a Discursive Formation?

If we have become accustomed in social research to view knowledge and even truth in relative terms as something that can be instrumentalised to serve specific political interests or the outcome of socio-historical and institutional constructions, we nevertheless generally abstain from a more Foucaultian examination of how knowledge and truth structures produce specific tensions, contradictions, antagonisms, controversies, compromises, and solutions. The ways in which it is possible to disagree, and the objectives it is possible to formulate, are not arbitrary, but rather have to manifest themselves within an existing field of knowledge.

The notion of a discursive formation is discussed at length in chapter 2. For the time being, we may think of it as illustrated in *Figure 1*. Knowledge is not a conceptually coherent whole, but rather a formation of concepts and relations between concepts that also include such relations of non-coherence as contradiction, exclusion, and paradoxes. Some concepts are more fundamental to the formation than others – hence the different sizes of the dots – but they are all determined only in their specific relations to each other, and not through some individual substances. The most common way to conceive of the role of concepts in knowledge, by contrast, is precisely to consider each concept in isolation, such as the bottom-right grey dot. It is also to privilege *coherence* in the relationship to other concepts via the abstract *definition* of each such substantial concept.

Figure 1: The Notion of Discursive Formation



For example, it may be argued that the Eurozone is based on an erroneous concept of money with regard to independent central banks and inflation targeting. And one may seek to correct this understanding by, for example, invoking a post-Keynesian endogenous-money view. However, from the perspective of Foucaultian discourse theory, such efforts would imply an illusory view of knowledge as the accumulation of individual substantial facts about the true nature of money. They would also assume a teleological ideal about conceptual coherence as the end goal of knowledge – excluding all disagreement and contradiction from knowledge. By contrast, Foucaultian (2008) discourse analysis commits itself to examining the conditions under which it is possible to contrast, for example, two distinct visions of money in the first place. In particular, a discursive approach will be interested in whether the confrontation between the two views reoccurs on different occasions and in different contexts. If so, this would signal the existence of some deeper-level conceptual problem continually reproducing that confrontation.

The structure of a discursive formation is what makes knowledge inert. In order to replace the discursive formation of economic theory as a whole, it is seldom enough to produce some new economic theory about an isolated concept – as we shall see through many examples provided in Part III. Seemingly radical breakthroughs of new economic theories that replace, for example, the assumption of rational economic agents with that of irrational ones, contrast the quantity theory of money with the reflux theory, or introduce transaction costs and institutions into the theory of

markets, may upon closer inspection be found to play out within the same discursive formation. It is precisely the discursive formation of economic theory as a differentiated whole which forms the main interest of this dissertation. To be sure, the complexity of a discursive formation may imply that a minor reorganisation at the core can lead to wide-reaching changes – not unlike what is seen in the chaos theory of physics. This possibility, however, is effectively of less relevance to the present study, as will be clear from the analysis in Part II and III.

The discursive formation is thus the condition both for knowledge to be formed and for controversy over knowledge to take place. Throughout this dissertation, I occasionally use terms such as “underlying” and “structure” to point to the concept of discursive formation. It should be clear, however, that it is not underlying in a strictly ontological sense, nor is it an entirely immobile and rigid complex.

It may be illuminating to briefly compare the discursive approach adopted in this dissertation to the work of some sociologists who have more recently advanced along similar lines: namely, Boltanski and Thévenot (1991) and the “pragmatic turn” in sociology more broadly (see Blokker 2011). These authors identify six different *cités* that combine certain regimes of worth with a reservoir of tests of worth, among other things. These *cités* are available to individuals who can more or less freely – or “pragmatically” – pick from, employ, and switch between them in order to form and advance their arguments and purposes. Combining the Latin *pragmaticus* (a solicitor of arguments to orators in court) and the Greek *prâgma* (something that has been done) this current thus focuses on the individual human actor in his or her discursive engagement with others. There are three main differences between this approach and that of discourse analysis:

- a discursive formation largely surpasses the horizon of the individual engaged in strategic and discursive interaction. Whereas the *cités* also have a supra-individual and historical component, they are still depicted more like an instrument for individual action. By contrast, discursive formations are the “historical *a priori*” (Foucault 2008:166–73) or epistemic conditions for knowledge and debate in a given society and epoch;

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- discourse analysis denies itself the possibility to produce a universal schema of standard or fundamental formations like the six *cités*⁴, and insists instead on the specific analysis of a given knowledge domain;
- discursive formations are not unified and integrated wholes like *cités*, but are rather fields of dispersion and difference, including relations of contradiction and problems, making debate possible in the first place.

1.4 History without Teleology

As explained in detail in chapter 2, discourse analysis is the analysis of knowledge as a socio-historical epistemic system formulated in language and manifested in utterances. Although interested in both traditional historiography (in our case of the European Union) and in the relevant science of that knowledge domain (in our case economics), it differs from these disciplines in important respects: on the one hand, it is not the study of chronologies of particular and situated events; on the other hand, it is not the study of universal laws. From the perspective of discourse analysis, the two approaches – although often contrasted and confronted with each other – may even have certain epistemic assumptions in common which discourse analysis does not share. For example, in his *History of Madness*, Foucault (1976a:110–11, 156–59) argues that historians have tended to assume that the 17th century *grand renfermement* of thousands is comparable to today's hospitalisation of psychiatric patients based on the allegedly common social purpose of governing “asocial” citizens. This, however, according to Foucault, would imply that madness as both a pathological phenomenon and as a social problem would somehow ontologically pre-exist the scientific and institutional appropriation of madness specific to a given society and epoch. By extension, it would imply that the social experience of madness in the 17th and 18th centuries was simply an immature and perhaps erroneous form of the more objective and valid knowledge of contemporary science – that the two would be united by the same underlying universal ontology of madness across history. In this way, history would present itself as the teleological process of progress towards an ever-more precise and valid appropriation of a universal and unchanging real object. Such an assumed real object would thus play

⁴ The seventh *cité* identified as historically emerging in France from the 1970s onwards (Boltanski and Chiapello 1999) comes closer to the principles of discourse analysis. But the two other differences in this list still maintain some validity concerning that work.

the role of an ideal or goal – a *telos* – to the historical evolution of knowledge. Moreover, precisely this assumption of historiography of madness, however attentive it may be to historical details, is paradoxically shared with positivist psychiatry which considers the concept of madness to be entirely covered by a system of universal laws that are true for all times and places – even if they include “environmental factors.”

By contrast, Foucault (1976a:113) suggests avoiding placing history into the contemporary categories of pathology or police. Instead, he traces how, at a given point in history, the segregation of mad and sane was accomplished, how different operations related to each other and came to form a historical whole such as the *grand renfermement*, what different horizons the subjects of that segregation came from, and how man experienced the change in his knowledge about and understanding of himself, which this process of segregation provoked. These are interesting arguments that merit further consideration in relation to the history of the European Union and economic theory.

The history of European integration of financial markets dates back at least half a century. Since the end of World War II – or, perhaps more precisely, since the onset of the Marshall plan and the currency reform in ally-occupied West Germany, both in 1948 – Europe has sought to coordinate monetary and financial markets to create a stable basis for growth in trade, production, and employment – pursuing varying strategies over time that achieved varying degrees of success (see, for instance, Amato and Fantacci 2011; Marsh 2011; Murlon-Druol 2012). In the 1960s and 1970s, Eurobonds emerged as genuinely transnational financial instruments (O’Malley 2014; see also Norman 2007).⁵ But it was not until the 1980s that systematic political efforts began to be made towards financial market integration (Grossman 2012:195). The most recent turning point was the initiation of stage one of the Economic and Monetary Union (EMU) which eventually led to the introduction of the euro in 1999. Stage one of the EMU also meant that the “free movement of capital” – one of the freedoms of the EU, including also the free movement of labour, goods and services – was reinterpreted from the removal of “restrictions to the extent necessary for the functioning of the common market” to a full liberalisation of capital movements (European Parliament 2015). More broadly, Mudge and Vauchez (2012:450)

⁵ These Eurobonds should not be confused with those proposed as instruments to mutualise debt in the Eurozone. The traditional Eurobonds are issued by major companies or governments with the support of an international consortium of banks.

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distinguish three periods in post-war European integration: a “pacific” project following WWII and lasting till the 1960s; a “community of law” project lasting from the 1960s to the 1980s to “promote political unity and economic rationality by reconciling national legal and regulatory institutions;” and, beginning in the late 1980s, a “single market” project “whose central function was to liberalize, impose budgetary restraint, and maintain low-inflation monetary policy.”⁶

Writing the history of European economic integration obviously does not have to be teleological in the sense of iterating a linear and inescapable process. But it may be so in the sense of assuming that the problems of economic integration in every period are essentially the same. The cursory overview suggests rather that the problem of integration has changed over the course of the second half of the twentieth century – most recently with the launch of the EMU project and of financial market integration in the late 1980s. But this should leave us open to the possibility that the problems of economic integration have changed too. Whereas this dissertation does not go further back in time than the late 1980s, the awareness problems being able to change fundamentally over time does have an impact on our conception of the economic problems that we encounter in relation to the T2S project. This understanding pushes us to avoid considering selected accounts in interviewees and documents as evidence that can be used to ascertain some alleged universal truth about economic, political, or social problems related to European integration. And it similarly pushes us to avoid approving some and disproving other such accounts based on some alleged truth. Rather than deciding which accounts are correct and which ones are erroneous, our focus is to understand how these different accounts mutually shape specific knowledge problems.

This brings us to a related consideration of the relationship with the sciences of the relevant knowledge domain under inspection – in our case, economics. When studying topics related to money and banking – and even to markets and economics more generally – one frequently has the experience of recurrently encountering the same fundamental problems and issues across different research topics and across great spans of history. A recent example of this can be found in the contention by Mehrling and colleagues (2015) that “Bagehot was a shadow banker,” referring to how fundamental mechanisms in Bagehot’s (2012) contemporary description of the 19th

⁶ The authors also identify one failed project, that of a “social Europe” and suggest that with the financial crisis new projects may be emerging.

century London money market can be developed into an analytics of modern-day finance, notably of derivatives, shadow banking, systemic risk, and the new role of central banks. Similarly, we may see in the T2S project simply a variant of an age-old problem of market integration also detectable, for example, in the long history of financial integration in the US: “From the definition of the unit of account by the Mint Act of 1792 to the creation of an official central bank system by the Federal Reserve Act of 1913, the monetary and banking history of the United States reveals the difficulty for a nation to establish a unified and integrated system of payment” (Le Maux 2013:461). Whereas markets have always posed problems, we should be careful not to impose modern-day formations of that problem on earlier periods in which it may have appeared quite differently.

It is possible that the problem of integration in the EU has only recently come to approach a much older problem of market integration in economic theory. As already mentioned, it is not the ambition of this dissertation to decide when this alignment took place and how far back the two formations date. Our interest is not to provide a genealogy of when and how the problem of European integration became attached to the discursive formation of economic theory, but just to establish that today it does exist. But, again, this is still an important point because it also implies that we should avoid attempting to decide the relative truth value of different accounts in our material according to some pre-established standard, but rather examine the formation of market integration as a problem manifest in the conceptual relationships between these different accounts.

One important difficulty in this respect is that aligning European integration with economic theory means aligning it with a theory which itself has universalist pretensions. Our analysis of this discursive formation thus runs the risk of appearing universalist too. The remarks made in this section essentially serve the purpose of clarifying that this is not the aim of the analysis. Modern economic theory deliberately and explicitly strives for universally applicable laws, and therefore generally seeks to strip its fundamental conceptual system from any particularity pertaining to the specific historical context, institutions, or societal characteristics in which a given economic phenomenon appears. From the perspective of economic theory, it may require particular insights and modifications of the theory to analyse a Polish utilities monopoly in 1996, a British colonial monopoly in 1896, or a Prussian manufacturing

monopoly in 1796 – but the fundamental conceptual structure will be the same. The ideal of economic theory is to be abstract and universal, applying to all times and places.

In the history of economic thought we find the same kind of universalism. Blaug's (1997) influential work, for example, considers economic theory "in retrospect," meaning explicitly that old theories are presented with the clarity of hindsight which they did not themselves possess in their original formulation. For example, Smith's (2012:51) famous example of the relative labour costs of hunting beavers and deer is represented with supply and demand curves that were only invented more than a century later (Blaug 1997:41). Similarly, modern-day textbooks generally present economic theory as the more or less coherent product of knowledge accumulation and refinement, formulated in homogeneous language, and with history serving merely as examples of theories, problems, or variations.

Even in the discipline of economic history – however attentive it may be in the description of historical variation – we very often find the same kind of universalism. For example, in the two-volume anthology *The Cambridge History of Capitalism*, we find "capitalism" defined retrospectively as the economic system we have today in the West of which elements – more or less in isolation and in more or less purified form – can be identified in other societies and points in history (Neal 2015). Specifically, capitalism is defined as an ideal-type economic system based on private property rights, enforceable contracts, responsive market prices, and "supportive governments" (Neal 2015:2). Moreover, Neal (2015:3) argues, each of these elements "must deal specifically with capital, a factor of production that is somehow physically embodied, whether in buildings and equipment, or in improvements to land, or in people with special knowledge."

By defining capitalism retrospectively, and by doing so with reference primarily to such generic terms as factors of production and developed markets backed by political power, economic history provides no conceptual specificity to the definition of capitalism as an "economic system" (Neal 2015:4) that cannot be found in the most abstract and universal versions of neoclassical economic theory.⁷ However, it is worth noting that it would not make a big difference if we added such "critical" concepts to the definition of capitalism as, for example, exploitation. Human labour has been

⁷ Some objection may be raised concerning the concept of government, but the limits of such an objection should be clear from the discussion in chapter 9

exploited in production at all times – whether based on slavery, feudalism, or wage labour. One must go differently about the matter to determine the specificity of an economic system.

Consider the counter-example of Marx. His theory of capitalism is not a decisive point for our analysis, but his approach to social theory is, in my view, close to the Foucaultian one adopted here, and belongs, like Foucault, to what I term post-Hegelian social theory (a concept explicated in chapter 2). To Marx (1990), capitalism is a specific mode of production. Capitalism is not defined simply by the exploitation of labour, but by the exploitation of labour *power* (see also Harvey 2010:98–100). This, in turn, requires the existence of a labour market. Moreover, capital is defined by Marx not so much as specific factors of production or as an ever-expanding market, but as abstract social value on the (private) hands of the owners of the means of production in a social system where such value can effectively proliferate based on the exploitation of labour power. Finally, for Marx, the competitive forces of the market push exploitation to maximum intensity push down barriers to the circulation of capital, and lead to the development and expansion of finance. It is this specific composition of concepts that, to give it a Foucaultian reformulation, gives birth to the *problem of capital*, and hence to capitalism as a social formation. By contrast, if the concepts of capitalism, markets, and factors of production considered abstractly – that is, in isolation from other concepts – they obtain no historical specificity. From a post-Hegelian perspective, one cannot isolate concepts from the formation in which they occur, because the specificity of each concept is determined by that formation itself (cf. *Figure 1*). Outside this formation, the concepts are empty abstractions of universal but treacherous applicability (cf. chapter 2).

It is only possible to project the categories of one's own time and society on previous eras and other societies – and to “see” them there in all evidence – if one does not have a sufficiently specific conception of either the former or the latter. The more self-evident a conception appears to us, the more we should be worried about its possible abstract and hence insufficient character. Marx consequently refers both to retrospective history and universalist social theory (including classical economic theory) as “ideology” (see Harvey 2010:119).

The teleology in all three cases – economic theory, history of economic thought, and economic history – does not consist in the explicit championing of a theory about

the end-goal of history, but in the implicit assumption of the universal existence of certain problems which mankind has – or at least ideally can – gradually unearth in the course of universal history. If we are to avoid this in the present context, we will have to abstain from considering the problems we identify as some kind of Kantian (1999:459ff) “antinomies” – universal problems given prior to any possible conception of markets, money, integration, and so on. As we shall see in more detail in chapter 2, the choice of studying a discursive formation is thus not the consequence of some idealist or nominalist ontology, holding that “reality is discursively constructed,” but rather a strategy to avoid teleology in the study of knowledge problems, such as that of European financial market integration.

The issue here is thus not simply contrasting abstract universal theory with particular situated facts of history, but rather to conceptualise the historical specificity of a discursive formation. If we want to understand what in Europe today makes certain problems continuously re-appear across domains (such as the different controversies identified in chapter 5: technical, legal, economic, political) and time (at least throughout the 10 years of the T2S project; probably back to the 1980s; and only possibly beyond that), we are dealing with history in so far as we are attempting to account for social patterns of repetition and change – even if we are not doing long-term historiography or producing genealogies of European integration or of economic theory. We must therefore seek a way to avoid teleology and the lack of specificity characteristic of universalist theory.

1.5 A Structuralist Approach

The early Foucault through at least *The Order of Discourse* (1976b [1971]) can be characterised as “structuralist” (see Eribon 2011:274–91). Structuralist theory exhibits a strong interest in language and inheritance from Saussure (1995). In France around the mid-20th century, one axis of interest to structuralist theory concerned the problem of indeterminacy of concepts. However, as Desautels-Stein (2015, 2016) argues in the case of law, structuralist theory is not about some “fundamental indeterminacy,” as in postmodern theory, nor is it about some “external explanation” of law based on political interests, culture, or what have we. Instead, structuralism is about the specific constraints on indeterminacy within a discursive system. Discursive formations such as law and economic theory impose determining constraints that are

largely unconscious, but necessary to meaningful utterances – not unlike grammar is largely unconscious but necessary to everyday speech (Desautels-Stein 2015:44). Legal structuralism hence seeks to identify the implicit or immanent rules that form the “structured indeterminacy” of a discursive field (cf. Desautels-Stein 2015:54). The objective is thus to produce a schema of the relationships between utterances in interviews and documents about a specific problem (or set of problems) in order to give formulation to the organising principles of those relationships – that is, to the discursive formation within which different utterances can coincide, complement or contrast each other, or form paradoxes, oppositions, alternatives, inferences or other complex figures of knowledge. This will amount to the uncovering of the structure of economic knowledge not only in economic theory, but also, as this dissertation demonstrates, in processes of European financial market integration.

This research strategy implies an alternative conception of critique than is usually assumed. First, it is different from the kind of critique internal to economic theory by heterodox or critical scholars who seek to establish alternative universal theories about, for example, the nature of money (e.g. Graeber 2013; Ingham 2004; Lavoie 2015; Théret 2008; Werner 2005). Second, as discussed in detail in chapter 2, it is different from the kind of critique of economic theory traditionally raised by sociology and political economy which points to the “unrealistic” character of its assumptions and demonstrates the importance of the social and political dimensions of economic phenomena which economic theory tends to ignore (e.g. Carruthers and Babb 1996; Zelizer 1989). Based on the premises outlined above, critique can neither consist in the establishment of alternative universal theories, nor in the explanation of it by some external (social and political) factors. Instead, the critical impetus consists in the very revelation of a discursive structure, including its moments of contradiction, indeterminacy, and paradox – that is, precisely in its subversion of any universal pretensions. Specifically, as I see it, this dissertation motivates two interrelated critiques of economic theory and consequently also of European financial market integration. First, it provides a critique of the positivist reliance on and reference to an ideal truth (preferably mathematically formulated) about the economy. Second, it critiques the conception of markets as a realm of competitive exchange between individuals. It will lead too far to go into further detail of those critiques here,

however, as these points rely heavily on the analysis provided in Part II and III. But I return to these aspects in the concluding chapter 10.

Another consequence of the focus on knowledge problems and discursive formations of European financial market integration is that the purpose of the investigation ceases to be about revealing real or potentially real (but yet unknown) “effects.” For example, whether T2S will have some effect on monetary policy is not an urgent question for our inquiry. In chapter 7, precisely this question of a possible effect of T2S on monetary policy is indeed important, but although it occupies some of our interviewees to a considerable extent, it is rather their reflections over and disagreements about such an effect that have our attention – that is, the *problem* of the relationship between market, infrastructures, money, and government. By extension, we are not particularly constrained in the analysis by the non-existence of effects between two domains or two phenomena. For example, if no substantial effect can be found between T2S and monetary policy, then other approaches in social research would be liable to conclude that no substantial *relationship* exists between these domains. By contrast, from our perspective, an important relationship may still exist if such an effect is a *problem* in our material (interviews and documents). For example, the reason why no effect can be detected may be precisely because so much effort is put into extricating infrastructures from markets and damming up any spill overs from the one domain to the other – that is, to organise and manage the problematic relationship between them. We shall see several examples of this in the analysis of Part III. Whether a problem manifests itself as a measurable effect is less interesting to us.

1.6 Dissertation overview

To recapitulate, the main argument of this dissertation is that the different controversies that have emerged around the T2S project are provoked and structured by deeper discursive problems related to the competitive conception of the market. As a process of European financial market integration, the T2S project thus parallels the discursive formation of economic theory. Following reflections on the approach adopted (Part I), the body of the dissertation is constituted by, first, an analysis of the T2S project and the controversies around it, leading to the provisional identification of a structural parallel between economic theory and European financial market

integration (Part II) and, second, an examination and discussion of the details and dynamics of that discursive formation (Part III).

Part I develops and discusses the Foucaultian approach to discourse analysis. By the end of chapter 2, this leads to the formulation of a “problem analysis” approach focused specifically on discursive problems, contradictions, paradoxes, and conflicts. Whereas “discourse analysis” is an established approach in political economy and European studies, and whereas the works of Foucault are widely known in sociology, I go at some length in this chapter to explain in what important ways these approaches differ from the one laid out by Foucault, in particular in *The Archaeology of Knowledge* (Foucault 2008). Put briefly, the original Foucaultian approach to discourse analysis seeks to avoid speaking, on the one hand, of ideas or ideology somehow shaping material, political, and social reality; and, on the other hand, of material, political, and social reality shaping ideas or ideology. Foucault seeks to avoid this, I argue, in order not to produce teleological accounts in which one realm (e.g., ideas) manifests or realizes itself in another realm (e.g., material reality) over time. Moreover, he seeks to avoid privileging the individual subject – as well as human beings in general – as the elementary components of social reality. Instead, he seeks ways to analyse language with no reference to the intentions of a speaker or to the interpretation of a reader or listener. In this, I argue, Foucault is heavily influenced by and must be read within a post-Hegelian tradition of (mostly French) social theory. I discuss how social studies of finance share a list of tenets with this tradition, but also how the two differ, notably concerning the influence of pragmatist philosophy on the latter. Chapter 3 describes the material gathered for the analysis: interviews, documents, and economic theory. It also discusses the analytical treatment of the material and the ethical implications of the project. Discourse analysis is based on the meticulous examination of utterances and relations between utterances in the material. In particular, it is interested in breakdowns of meaning in these utterances.

Part II opens with a broad introduction to the history and core problems of financial infrastructures in Europe leading up the T2S project as perceived by economists and professionals in chapter 4. It continues in chapter 5 to identify and examine four controversies around the T2S project: a technical, a legal, an economic, and a political controversy. The four controversies are seemingly very different and unrelated – that is, beyond their trivial relationship as occurring chronologically in

relation to the T2S project. However, as suggested in chapter 5, and further developed in chapter 6, these controversies are indeed related at a more fundamental level, as they all relate to problems in the conception of “the market” underlying the integration efforts. In this, it parallels economic theory which departs from a competitive conception of the market based on the voluntary exchange of commodities by private actors (i.e., individuals and firms). According to economic theory, competition can be shown to be the most efficient organisation of the economy, but certain sectors happen to have characteristics that lead competition to result in monopolistic production. Contrary to this view, this dissertation argues that the problems that emerge around the economic concept of natural monopolies do so specifically in the field of market infrastructures because these have to fulfil a double role, being simultaneously inside and outside the market: on the one hand, financial infrastructures must unite everybody on a “level playing field;” on the other hand, they are services of overcoming market frictions which should therefore be produced on a competitive basis, according to the very same conception of the market. Therefore, both economic theory and European integration of financial infrastructures face a problem or paradox of *integration of fragmentation*. The conception of the market as a competitive sphere of exchanging individuals and firms, which is inscribed in treaties and statutes of EU institutions, involves a tension or contradiction between the dispersed and fragmented mass of competing market agents and an integrated and uniform medium in which they can exchange. As we will see, a similar tension exists at the core of economic theory. In both instances, such a medium must, on the one hand, connect all market agents on an equal and uniform basis with no significant frictions, risk, and costs. In this sense, then, it must be “outside” the market because markets are exactly where frictions are serviced, risk is traded, and costs remunerated. On the other hand, it must be “inside” the market because it provides a service by removing frictions and appropriating risk and costs by making infrastructure investments. This fundamental problem, I argue, continuously produces new tensions and therefore conflicts with, while at the same time structuring, the attempts to solve the problems. The conflicts can occur in seemingly different “contexts,” producing, as we have seen, technical, legal, economic, and political controversies in the case of T2S. Furthermore, they are particularly likely to occur around concepts such as “market infrastructures,” “money,” and “the public sector,” which are all elements of – or stand-ins for – the

general concept of an egalitarian and uniform market medium. However, there is no pre-determination of specific outcomes (such as T2S in the case of Europe). Rather, it is the basic *structure* of the problems that emerge, the conflicts they provoke, and the solutions that can be conceived within them that is discursively determined by the competitive conception of the market. Chapter 6 also discusses this argument relative to the perspectives of classical political economy, new economic sociology, and social studies of finance.

Part III seeks to take the analysis of European financial market integration one step further, gradually liberating it from the narrow focus on T2S. Chapter 7 examines ambiguities around the concept of money, departing from an analysis of settlement credit in T2S created via a technique called “autocollateralisation.” It argues that the disagreement and confusion over whether the credit created in autocollateralisation is money or not parallels debates in economic theory over whether money is a commodity or an accounting system. Chapter 8 pursues the issue to a related debate about the collateral that is pledged with central banks and other creditors as safety against credit. T2S is said to greatly improve the mobility and liquidity of collateral in Europe, thus making its use more efficient. However, the reliance on fluid collateral arguably pushes the problem of credit safety onto a systemic level – something that was already observed by early modern finance theory and has been discussed extensively in the wake of the recent financial crisis. Finally, chapter 9 adopts indications from previous chapters of a specific, but rarely entirely explicit, concept of government in economic theory as well as in European processes of market integration. Whereas political economy and sociology ordinarily attempt to develop and advance their own concepts of government as a critique of or an addition to economic theory, chapter 9 examines how a specific concept of government emerges from within the discursive formation of economic theory itself in relation to the fundamental problems around which it – and thereby also European market integration – is organised. The analysis thus ends, in a certain sense, where it starts: with the ECB’s provision of T2S and with the question of the necessity of market integration being provided not simply from the outside, but in a paradoxical way both from inside and outside the market at the same time – only in a much broader perspective than the initial one exclusively on T2S.

1. European Financial Market Integration as a Knowledge Problem

Chapter 10 concludes and discusses the degree of generality of the analysis, as well as some courses for future research. In particular, it emphasises the specificities of the developed problem analysis approach, and its unique capacity to identify certain elements of European market integration by examining them as a discursive formation. Although rooted in a specific conception of the market that parallels that of economic theory, the argument is not simply that European market integration is based on a set of shared beliefs, a dominant ideology, or a policy paradigm, such as a neoliberal free-market doctrine. Nor is the argument that European market integration is the construction of dominant agents in their more or less strategic pursuit of their self-interests. Rather, the argument developed is that European market integration is organised by *problems* in the sense of fundamental contradictions in the conception of the market, and that these problems structure what it is possible to know, utter, and think about the economy. The two words “market integration” are far from being neutral, loose, or un-committing. Indeed, speaking of market integration in Europe mobilises a vast and highly consequential discursive formation.

PART I

Studying Discursive Formations

2. The Foundations and Principles of Problem Analysis

This chapter develops a “problem analysis” approach to study the relationship between economic theory and the European integration of financial market infrastructures. Based on Foucaultian discourse analysis and more broadly on post-Hegelian social theory, this approach consists of a theoretical anti-teleological and anti-humanist strategy to study a formation of problems that become visible in moments of breakdown, contradiction, and paradox in utterances. This approach differs from the two dominant approaches in contemporary economic sociology in important respects: new economic sociology and social studies of finance which both entertain relations to economic theory distinct from those of problem analysis. Moreover, Foucaultian discourse analysis is substantially different from the “discourse analysis” in mainstream political economy and European integration studies.

New economic sociology re-configures the relation between the concepts of market and society found in economic theory, but maintains them as fundamental theoretical categories to represent the world. The approach insists that markets are embedded in society and therefore tends to portray economic theory as partly or wholly erroneous and, consequently, either as something that needs to be corrected or as pure ideology (e.g. Fligstein 1996; Swedberg 2003). Social studies of finance seek to trace the “performativity” of particular economic theories in shaping markets or the “assemblage” of markets as socio-technological devices. Social studies of finance asks how specific economic theories have shaped the construction of markets (notably Callon 1998b; MacKenzie 2006; Muniesa 2000; Riles 2011). Foucaultian discourse analysis can also be contrasted to the version of discourse analysis found in European integration studies (e.g. Diez 1999; Schmidt and Radaelli 2004; Smith and Hay 2008), which tends to see specific economic theories – e.g., monetarism – mainly as paradigmatic metanarratives, ideology, or a smoke screen for real interests. This version of discourse analysis tends to view discourse as something that can be isolated analytically as a realm of ideas or public discourse of which the effects on other realms (e.g. policy or institution building) can be measured empirically.

By contrast to these alternatives, a discursive approach asks what the underlying conceptual structure is that produces conflicts between different economic theories in relation to European market integration. In this, it makes no *a priori* distinctions

between different domains, e.g. interviews with infrastructure specialists, Commission documents and academic economic theory. Whereas the “assemblage” approach of social studies of finance makes a similar point in generic terms based on a concept of action, discourse analysis identifies a specific stable but dynamic structure of conceptual problems working in different conflicts, settings and domains (technical, legal, economic, and political controversies). It thereby relates these analytically beyond their trivial relation to the same socio-historical moment (e.g. to T2S). Discourse analysis in the version adopted here thus proceeds by identifying problems, contradictions, and conflicts in the examined material (interviews, documents and economic theory) and seeks to determine how they are related, both across different “views” (in conflicts) and across different problems (technical, legal, economic, political).

Among the above alternatives, Foucaultian discourse analysis shares the most tenets with social studies of finance. This current inspires a general interest in technology and the role of economic theory, as well as the analytical principle of symmetry. Analytical symmetry requires “following” the material irrespectively of established boundaries both in the social world under examination and in the theoretical traditions within which it is traditionally conceptualised, such as those between big and small actors, important and unimportant issues, scientific, technological, and political domains, or true and false knowledge. However, discourse analysis differs from social studies of finance in one important respect in that it replaces the theoretical orientation towards action and agency with one more focused on conceptual problems. I argue that this orientation towards conceptual problems has an advantage over the focus on “performativity” of specific economic theories and on the messy “assemblages” of multiple heterogeneous agencies that it can identify knowledge structures more clearly. At a deeper level, it leads to a critique and rejection of the theoretical foundation of social studies of finance in pragmatism and the centrality that action and related concepts occupy in their analytical vocabulary. The alternative I develop is a specific post-Hegelian version of discourse analysis inspired largely by Foucault. As Diez notes, Foucault’s early works on discourse analysis provide:

2. The Foundations and Principles of Problem Analysis

the background against which the question of “imposing European purpose” can be posed: What are the rules according to which constructions of European governance can be legitimately⁸ articulated? ... How do particular issues become “problems” of European governance, and how does their solution tie into dominant contemporary discourses? (Diez 2008:267).

The use of Foucault in this dissertation thus draws less from the more well-known analyses of power as an omnipresent and disciplining play of forces intimately related to the production of knowledge (Foucault 1980), and more from his earlier writings, particularly his work on “epistemes” and his later analysis of “discursive formations” (Foucault 1976a, 1976b, 1990, 2008, 2009). Although constituted by nothing but the continuous flow of speech and writing in all its variety, and with all its nuances, for Foucault, discursive formations are generally very stable, and can last several hundred years.

By taking a discourse analysis approach, later chapters of this dissertation seek to relate the different controversies in the T2S project – technical, legal, economic, political – to a structure of fundamental problems related to the conceptualisations of “markets,” “infrastructures,” “money,” “credit,” and “government” that can be identified in the material gathered (interviews, documents, academic work). As fundamental conceptual problems inscribed in the discursive formation of European market integration, they continuously produce tensions, and therefore social conflict and, on some occasions, negotiations and attempted solutions. I argue that T2S is an example of such a solution. However, whereas T2S and other solutions may remedy some concrete challenges that bureaucrats and politicians face, they are unlikely to solve the more fundamental conceptual problems which will continue to produce tensions. As such, discursive formations structure both processes of institution-building and institutional stability. They therefore constitute a principle of social and institutional change.

Post-Hegelian discourse analysis is different from the more widespread social constructivist variant as well as the “institutionalist” version found in the international political economy literature. Foucaultian discourse analysis is not an analysis of power, interests and ideas. It is important to stress, therefore, that discourse here does not

⁸ This qualification (“legitimately”), however, is misplaced, as discourse analysis concerns the possibility of utterances as such.

designate a given set of norms or ideas, a dominant ideology, or some kind of a metanarrative. Nor does it designate a realm of language of which the influence on other (i.e., social, material, institutional) realms can be measured (or *vice versa*) (see also Machado 1989). Rather, it designates the space of possible utterances *about* norms, views, ideas and theories. This space is structured by the problematic of – or problem relations between – certain core concepts in the conception of the market that is deployed in European financial market integration efforts. For instance, whereas “the market” is identified as a core problematic concept in the analysis of this dissertation, it is not implied that agents share a specific vision of the market. Rather, their views are structured vis-à-vis each other in specific ways in relation to certain problems produced by that conception. Rigorously speaking, one cannot even talk about the “views” of certain “agents” because “views” in any meaningful sense can change – not only over time, but also in the course of a single sentence. Such flux exists exactly because utterances relate to fundamental problems that are inherently destabilising. We shall see a few examples of this in Parts II and III.

I combine Foucault’s discourse analysis from his early works with the later “problematization” analysis, which I situate in the broader landscape of post-Hegelian approaches in social theory so as to clarify its tenets and commitments. Whereas I have already made clear that I rely mainly on the early writings of Foucault, and less on the later ones on power, I thus break with the mainstream reading of Foucault’s authorship as divided into two entirely different parts: an early period of discourse analysis and a late period of power analysis (Dreyfus and Rabinow 1983). I largely ignore the specific conception of power in Foucault because I find it to be weaker, not because I think there is an easily divisible break around the time when Foucault began to use it (see Hindess 1996). By contrast, the late concept of problematization (and that of government rationality) marks no radical break from the earlier writings, I argue. This allows me to carve a novel specification of what I call “problem analysis” to the study of economic theory and knowledge in European market integration processes. As the analysis will show in the case of T2S, the same fundamental problems re-occur not only across time and across different controversies (technical, legal, economic, political), but also across different economic theories, political positions, and business perspectives. By contrast, attempts to link these by some “shared” set of beliefs, a kind of “policy paradigm” (Hall 1993), or as a negotiation over different interests would fail

to account for why the same fundamental problems re-occur across controversies. Moreover, the specificity of problem analysis will allow us to qualify these controversies beyond the more generic alternatives of ideational “bricolage” (Carstensen 2011) or a kind of “assemblage” (Callon 2008). Without being pre-determined, controversies are structured by conceptual problems deployed by a given discursive formation.

Section 2.1 provides a first overview of Foucaultian discourse analysis and contours an important problem in the analysis of Part II and III as an illustration – that of the concept of money. Section 2.2 gives a more full and detailed introduction to the Foucaultian conception of discursive formations, and discusses important differences from speech act theory with which it should not be confused. Section 2.3 formalises two important theoretical commitments of discourse analysis: theoretical anti-humanism and anti-teleological theory. These two commitments are discussed in comparison to social constructivism, new economic sociology, and social studies of finance. Section 2.4 develops the reading of Foucault as a post-Hegelian thinker. This has important implications for the status of conceptual contradictions in discourse for the status of utterances as material of the analysis, as well as for the generality of the arguments – themes that are discussed in three subsections. This in itself constitutes a contribution of the dissertation as several new points are advanced and known ones connected in new ways. Finally, section 2.5 develops the notion of “problem analysis,” which combines discourse and problematisation analysis, and provides general principles for its conduction.

2.1 Problems of Money

As we examine the discursive formation of economic theory and the problems related to the competitive conception of the market in processes of European financial market infrastructure integration, we shall come to realise that the concept of money occupies an important position therein. Moreover, money is the object of recurring controversy and debate in economic theory due to its role as a mediator between contradictions in the discursive formation of economic theory, as we shall see in later chapters. It may therefore serve as an example to shed a first light on the notion of discourse analysis in the present work.

Discursive formations are founded in language and consist in “rules” about the formation of objects of discourse, the intellectual operations that are possible, the concepts and the relations between them, as well as the theoretical positions and options available within that discursive formation. All of these aspects I refer to in shorthand as knowledge (cf. Foucault 2001b, 2008). Contrary to hermeneutical and formalist approaches, what is decisive about speech and writing from this perspective is neither “meaning,” in the sense of the intended message or emotional reality behind a given statement, nor “logic,” in the sense of the formal content of a given proposition. Rather it is the “enunciation” or “utterance”⁹ which derives its sense exclusively from its relations to other utterances in its position within a given discursive formation. A discursive formation thus structures “the limits and forms of the sayable” (de Goede 2005:9). This includes the characteristics of both subjects and objects of speech (see also Deleuze 2004; Gutting 1989). As a consequence, different scientific theories – indeed the very distinction between scientific and non-scientific theories – is possible only within certain discursive formations and not within others (Foucault 2008). For example, Foucault (2009:7) argues that the major change that occurred with the birth of clinical medicine in the decades around 1800 was not (as is often held) the discovery of systematic observation as a scientific method. Nor did clinical medicine constitute a leap forward in the approximation of theories to a “real” object outside language. The decisive aspect of this development for Foucault, was rather the reconfiguration of the relationship “between what speaks and what is spoken about,” – that is, the fundamental change in the discursive structure of knowledge about bodies and diseases (see also Machado 1989). From this perspective, a simple question such as “how can we have more market integration in Europe?” – or even the two words “market integration” – analysed as an utterance potentially implies a lot of things. This is because such questions and terms refer to an ensemble of other utterances from the discursive formation within which it occurs. We may not immediately be able to determine what these references are because the same words

⁹ The French *énoncés* is often translated to “statements” which is problematic exactly because *énoncés* do not include alone declarations of beliefs or states of affairs. Whereas Searle (1969) also uses “utterances,” I contend that “statements” is the more adequate concept for speech act theory because it is founded (at least in the last instance) on language referring to subjects and objects. By contrast, I will use “utterances” and “enunciations” interchangeably in relation to discourse theory throughout this dissertation.

can occur in different discursive formations. However, we can attempt to trace them meticulously through the connections made by the specific utterances.

Foucault himself analysed economic theory on several occasions, notably as part of the modern episteme of the human sciences (Foucault 1990) and in relation to the liberal problem of the government of populations (Foucault 2004). Yet, these studies do not engage deeply with economic discourse in processes of market integration (see Lima 2010; Gutting 1989). The study of money and financial markets is a particularly interesting case at hand. Today, only an infinitesimal proportion of money is physical cash, the rest is debits and credits in a bookkeeping system (Ryan-Collins, Greenham, and Werner 2014). De Goede (2005:5) thus rightly argues that in today's world, "[m]oney, credit, and capital are, quite literally, systems of writing." Indeed, bookkeeping money is fittingly called "scriptural money" in French. There is an important caveat to this, however. To say that money is writing is not to imply – as both social constructivists (Swedberg 2010) and their critics (Searle 1996) have claimed – that it has no "intrinsic" value and therefore is essentially a question of trust, belief or confidence, even if institutionally embedded. If anything, de Goede's remark should illustrate the opposite to us: that there is no distinction to be made between discourse, speech, writing, beliefs, symbols and so on, on the one side, and reality, facts, material and financial economics and so on, on the other. As Laclau and Mouffe (2001:108) argue, the tendency to consider discourse analysis as either relying on an ontological claim which denies "reality" or as setting up some relationship between such reality and language taken as two distinct realms is based on "an assumption of the *mental* character of discourse." This is true whether the realms involve the possible correspondence between words and things in scientific knowledge; the influence of language on ideas and values of agents; or the performative effects of ideas and theories upon reality through "speech acts," to name just a few possibilities. Against this, Laclau and Mouffe explain, "we will affirm the material character of every discursive structure.... The linguistic and non-linguistic elements are not merely juxtaposed, but constitute a differential and structured system positions" (Laclau and Mouffe 2001:108). Money is thus something that cannot be reduced to signs, as has been attempted by some scholars (Konings 2011). In contrast to such views, the dissertation considers discourses *about* money as a conceptual object found in interviews and other materials.

One major classical problem in both economic and sociological theories about money is the tension between money as a (scriptural) bookkeeping system and as a (material) commodity. In economic theory, Menger (1892) and von Mises (2013) saw money as simply a commodity that had become so widely demanded that even bartering individuals who could make no other use of that commodity would accept it, knowing that it would enable them to buy what they needed almost anywhere in the market. The exchange value of that commodity would then no longer be determined by its usefulness in ordinary consumption and production (even if this would still provide the “backing” of the value of money), but by its newly acquired use as a medium of exchange. By contrast, Knapp (1924) saw money as a system of credit imposed by the state and the compulsory capacity of the state to enforce taxation. Backed by physical and political power, the sovereign is able to indebt itself in a unit of account of its own choice (such as “crowns”). But by the same token, it can impose taxes payable in that unit of account, thus creating an economy-wide demand for its own debt. That debt then automatically turns into a medium of exchange.

Some sociologists still debate the “nature” of money with reference to these two positions, sometimes complemented by a Durkheim-Maussian notion of “social facts” (Ingham 2004; Lapavistas 2005; Théret 2007). More along the lines of social constructivism, Carruthers and Babb (1996) examine the *contestation* of the nature of money by two varieties of the above views in 19th century US – “greenbackers” and “bullionists” – as destabilizing the “neutrality” of money and revealing its socially constructed nature. Similarly, Zelizer (1989) has argued that money is not a given and fixed social fact in either of the two classical variants, but rather something which has “extra-economic” social and symbolic meanings. These social constructivist studies thus emphasise the social embeddedness of markets (and hence of money) while the former tend to emphasise the structuring and disciplining impact of markets (and hence of money) on modern societies. What either approach fails to grasp clearly, though, is how these controversies over money – which seem to continuously re-emerge in very different contexts – constitute a more general problem structure. Yet, this question is neither about the nature of money, nor is it about the social construction of money. Indeed, discourse analysis seeks to cross out the question of whether these problems are “really” in the “nature” of money “in itself” or rather “constructed” characteristics or “meanings” of money “for us.” Instead, discourse

analysis studies how these problems appear in discourse and how they structure the limits and rules of the sayable, the possible positions of subjects and objects, and thereby both the “production” of tensions and conflicts and that of possible “solutions” to them.

2.2 Beyond Facts about Things and Words about Ideas: The Theory of Discursive Formations

Foucault (2001b) explains that although discourse is an encompassing system that shifts fundamentally only in rare “ruptures” or “breaks,” it is nonetheless pluralist. Discursive formations are not coherent ideology, theoretical commitments, or metanarratives shared by individuals. Rather, they are the structures within which it becomes possible to identify differences, oppositions, and even contradictions in a constant flow of new utterances. This is why Foucault (2001b) focusses on the “individualization of discourse” by which he refers to the production of discursive unities such as those of scientific disciplines into which new enunciations are immediately inscribed, but which they also constantly modify. Laclau and Mouffe (2001:105) use the term “moments” to describe the “differential positions” within a discursive formation which are characterised only in relation to all the other positions in the discursive formation. A discursive formation is thus not unified “in the logical coherence of its elements,” nor in the subjects as meaning-giving apparatuses, nor “in the unity of an experience,” but in the “regularity in dispersion” of the utterances themselves among each other (Laclau and Mouffe 2001:105). We may say that discourse analysis is “immanent” because it relies on no distinction between a substantial “inside” and a formative “outside” of discourse, but seeks to approach it as an encompassing system. As Wæver explains, discourse

is not an indicator for something else and thus questions about whether “they really mean what they say” are irrelevant. A discourse analysis tries to find the structures and patterns in public statements that regulate political debate so that certain things can be said while other things will be meaningless or less powerful or reasonable (Wæver 2009:165)

2. The Foundations and Principles of Problem Analysis

As discussed in detail below, Foucault's structural approach to language is opposed to, for example, that of speech act theory based on actors (Wæver 2009:165; Diez 1999:600). This is an important insight because, although such scholars as Austin, Searle, and Habermas make up the hard core of the latter tradition, speech act theory has been an important influence for social studies of finance. It will thus serve us in our discussion of the latter in section 2.3.2. Conversely, Foucaultian discourse analysis avoids explaining, for example, the political positions of specific individuals or groups by discourse – something which would amount to relapsing into “the cognitivist position where discourse regulates the consciousness of actors” (Wæver 2009:165).¹⁰ Discourse analysis is not structuralist if by this one implies an opposition between structure and agency. Rather, as explained in section 2.3, it is theoretically anti-humanist, meaning that it gives no theoretical privilege to concepts of human subjectivity, ideas or action.

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By combining Foucault's early conception of discourse analysis with his later notion of problematisation analysis, it becomes possible to focus on how there is, so to speak, a hierarchy in the problems that a given scientific discipline or a political process revolves around. Some problems are more fundamental than others and tend to produce a continuous flow of lower-order problems. For example, I argue in this dissertation that the fundamental problem in the process of European financial market integration – and in the discursive formation of economic theory that characterises it – is the competitive conception of the market.

Foucault's analyses of discursive formations generally focused on the formation of scientific disciplines as we know them (notably medicine and psychiatry, but also linguistics, biology and economics). In his early work, he focused on the relationship between words and things not as one that could be settled philosophically to provide a solid ground of knowledge, but as a relationship internal to discourse and organized historically in different systems that simultaneously structure and enable knowledge and scientific theories to develop. Rather than “epistemology,” Foucault therefore spoke of “epistemes” (Foucault 1990:9–13). Foucault developed his notion of epistemes

¹⁰ Strangely enough, despite these precise formulations, this author does not give up the analysis of actors with “at least the possibility of acting strategically in relation to discourse” (Wæver 2009:165).

on the background of the French tradition of historical epistemology (see, for instance, Gutting 1989; Osborne 1998). According to this tradition, the obstacles to knowledge are not simply “external obstacles like the complexity or transience of phenomena” nor “the feebleness of human senses and spirit,” but inhere “in the *very act of knowing*” in which “sluggishness and trouble appear by a kind of *functional necessity*” (Bachelard 2000:15, my italics). This runs counter to logical positivism (Carnap 1956), which had developed a fine-grained set of assumptions in order to uphold a fundamental distinction between the object and the subject of knowledge. However, it simultaneously had to bridge that divide in order for knowledge to be possible. Positivism therefore stipulated the existence of an “observation language” and of extra-theoretical primitive “observation statements” based on primitive sensuous perceptions. These provided the foundation for an unmediated objective knowledge. Bachelard, on the other hand, argued that there was no hope for such reunification. The “functional necessity” of obstacles to knowledge in the “very act of knowing,” according to Bachelard, results from knowledge being a conceptual system at a radical distance from the objects it is supposedly knowledge about. Rather than a correspondence between words and things, this means that knowledge is a structure or a “hierarchy of concepts” in which “one concept produces another and is related to it,” and so the development of knowledge takes place either within a specific epistemological system or in a radical “break” with an established system (Bachelard 2000:20, 25, 2014:207). In fact, our most immediate sense perceptions are likely to be the most erroneous of all, constituting an obstacle of common sense to the development of knowledge. Theory and research technologies are instruments to break with knowledge entrapped in common sense. The structural rather than the epistemological character of knowledge means that “Bachelardian history does not try to understand past science in terms of present concepts,” but “realises the need to explicate the past in its own words” (Gutting 1989:20).¹¹ Foucault’s (1990) notion of epistemes similarly designated cross-disciplinary knowledge structures, often spanning long periods (sometimes several hundred years).

Designating discourse as a practice, Foucault (2008:70) explains that in discourse analysis both words and things are “deliberately absent.” Instead, discursive

¹¹ Contrary to Foucault, Bachelard did maintain a notion of epistemology and even some idea of objective truth and the progress of knowledge. But his work represents a move away from these notions which Foucault accomplishes.

formations can be thought of as spaces or fields of what and how it is possible to speak and know within which not only concepts and objects can be formed, but also different scientific theories distinguished, related and discussed. It is within these discursive fields that the very distinction between scientific and non-scientific theories can be established in the first place. The question is not “whether scientific assertions are scientifically true or false,” but in unearthing the discursive space in which such debates are situated and by which they are structured (Delaporte 1998:287).

By developing an “archaeology” of knowledge, Foucault’s aim was to analyse discourse without any reference to something “outside” language, be it objective “reality” or subjective “meaning” (cf. Foucault 2008:14). This excludes 1) the simple analysis of *words* because such an analysis would focus on how words designate, represent, or correspond to objects outside speech; 2) the analysis of *sentences* since this would require a hermeneutics of the intended or unintended meaning of the autonomous or socially situated speaker; and 3) the analysis of *propositions* since this would refer to formal rules of logic that allow the reduction of what is being said to formulas (see also Deleuze 2004). Consider the following utterance: “Money is a commodity.” As a proposition, this is reducible to the formal statement that $C(m)$ or $C(\forall m)$, using the standard notation of linguistic theory. However, as an utterance it clearly signifies more than this. Moreover, that signification depends on whether the utterance is made in an economic textbook or in Adam Smith’s *The Wealth of Nations*, by Uncle Scrooge or in a sociological dissertation.

A similar point is made by speech act theory, but on different grounds than Foucaultian discourse analysis. To distinguish speech using language from mere vocal noise, Searle (1969:16, 19, 45–48) insists that the dependency of an utterance on its context can at least ideally be reduced to a question of the *intensions* of the speaker and of the rules of common language employed. In this, Searle deliberately and explicitly assumes two things: 1) that it is, at least ideally, possible to *express* precisely what one thinks in common language; and 2) that common language is, again at least ideally, *shared* by the speaker and the hearer. Searle (1969:20) argues that these two assumptions must necessarily be true because otherwise communication would not be possible at all and speech would be reduced to vocal noise. In this, he subscribes to a hermeneutic conception of speech as the transfer of meaning between individual subjects via language or, in shorthand, as “communication” (“common language” being

the *communis* that bridges between subjects that have been separated from the outset). Searle's two assumptions essentially bridge across an *a priori* divide which he has (less explicitly and, perhaps, deliberately) assumed at an even deeper level. In many ways, this is not unlike the divide-cum-bridge construction of Carnap (p. 65) made between the individual subject as the elementary container of substantial meaning and a language in which it is only "expressed." Whereas pure communication, that is, the perfect transmission of meaning, may fail for various practical reasons, it is, at least ideally, possible – and this possibility is a necessary prerequisite for a coherent theory of language, according to Searle (1969:20).

Rather than simply rejecting these assumptions as wild metaphysical claims, we should recognise that Searle simply works through the necessary consequences of any conception of language based on the *representation* of things external to language itself. Foucault seeks to avoid such metaphysical assumptions, but this means that he cannot allow himself to pose the problem of representation. Instead, he commits to analysing "utterances" without reference to widely-used concepts such as meaning, speaking and interpreting subjects, the representation of objects, and communication or a shared common language. This choice has wide-reaching consequences. For example, it means that we will have to reject Callon's contention that money "provides the currency, the standard, the common language which enables us to reduce heterogeneity, to construct an equivalence and to create a translation" (Callon 1998b:21). We will have to develop another way of studying money than those which assumes its (inherent or socially constructed) unity as a medium of exchange.

2.3 Beyond Causality and Action: Theoretical Anti-Humanism and Anti-Teleology

It is important to understand Foucault's critique of conceptions of knowledge and language based on a subject-object divide if we are to appreciate the theoretical implications it has for social theory well beyond the commonplace rejections of autonomous subjects and of objective facts (Gutting 1989:241–42; Powers 2007; see also Held 1980). The full consequences and commitments of these critiques, and their relation to post-Hegelian thought, have, to my knowledge, never been made clear. To be sure, certain accounts provide substantial elements. For example, many scholars employ "causality," as well as notions like "action," "interests," "ideas," and "intentions"

as viable theoretical concepts for Foucaultian discourse analysis. However, these concepts, as we shall see, are all problematic within a Foucaultian framework. This section seeks to clarify the theoretical commitments of discourse analysis and to adjust the theoretical vocabulary correspondingly.

In *The Archaeology of Knowledge*, Foucault (2008:185–90) goes at lengths to distinguish his approach from that of the established history of ideas. The latter, he claims, holds a vision of the history of science as a messy mass of failures, attempts, successes, imperfections as well as ideas, technology, coincidences, and social institutions. However, at the same time, it seeks to connect these many elements in an account of the gradual progress and formalisation of knowledge (see also Delaporte 1994:146). In contrast to this history “of beginnings and ends,” the archaeology of knowledge analyses discourses on their own level and premises, avoiding determining their non-discursive origins in some other way in either a subject, a society, or a historical or natural reality (Foucault 2008:186–89). As we will have occasion to discuss in more detail below, this rules out any discussion of whether economic theory is “right” or has “realistic assumptions.” However, it simultaneously rules out attempts to “interpret” economic theory and thereby to identify its underlying intentions, or to “explain” it with, for example, the “interests” of its proponents or the complex historical process of its “social construction.” The problem with all these attempts, I argue, is that they pose a teleological structure that places something outside discourse (such as subject, history, society, or reality) as non-discursive elements that determine discourse, “realising” themselves in it over time, or, *vice versa*, being themselves determined by discourse. As Diez argues, discourse analysis does not attempt to explain member states’ European policies:

what is interesting in the analysis of European policies is how European governance is conceptualized in specific ways, how this makes politicians ask certain questions and not others, what effects this has on the organization of governance, and which alternatives are available in the debate. In other words, a [discursive]¹² approach is not aimed at explanation, but at what one could call a ‘critical understanding’ of European policies (Diez 2001:30).

¹² Diez talks of “discursive nodal points.” The specifics of this approach have limited interest for our purposes.

Foucault (e.g., 1992, 2001b, 2001c; see also Sabot 2006a; Wiele 1983) persistently stressed his attempt to avoid *teleological* accounts of language, knowledge and rationalities of government. This, however, has often been neglected or misunderstood. What is usually granted is that Foucault – especially in his later works – opposed a linear account of causal mechanisms as well as any overarching goal or unity of history. What is misguided, however, is that such grand universalistic accounts are often contrasted with the particularism of an always local and situated multiplicity of actors or agencies. Thus, it has been argued, for instance, that Foucault’s approach leaves room for “small sparks of subjectivity” in the manifestations of “freedom and reflection” in everyday life (Gutting 2010:33), or that it is based on a “transcendental subject” (Han 2002). Some have even argued that Foucault’s work constitutes a “theory of action” (Barnett 2015), and that the critical edge to Foucault’s “interpretative analytics” helps “actors” discover “hidden meaning” which is “masked” in their everyday life (Dreyfus and Rabinow 1983:124). Even if similar formulations can be found sporadically in Foucault’s writing due to his often (strategically) sloppy or playful wording, I contend that there are no “actors” or “agency” in his approach – or at least that such concepts are not theoretically central to it. I mean this in the Bachelardian sense of a theory being a hierarchy of concepts (cf. p. 65), and that the absence of actors and agency is a direct consequence of his rejection of the teleology which is taken from the post-Hegelian tradition in social theory. Indeed, concepts like actors and agency are clearly importations from the dominating Weberian tradition of “empiricist hermeneutics” in sociology.¹³

Foucault formulates his critique of teleology in almost identical phrasing throughout his work – although unfortunately in seemingly vague terms. In *The Order of Things* (Foucault 1990 [1966]), he denies accounts of knowledge as the simple evolution towards contemporary Western rationality, but also of foundational subjects (Sabot 2006b:20; see also Foucault 2001b). Almost twenty years later, in his preface to the second volume of *The History of Sexuality*, he explains that he seeks to avoid

¹³ One may remark that the introduction of human action and agency into Foucault not only illustrates how a theory can change signification if moved from one discursive formation to another (from post-Hegelian post-war French philosophy to post-Kantian contemporary international social science), but also how such accounts ironically enough are highly reproductive – something that could arguably be accounted for by a theory of discursive formations, but not by a theory of action, as the realisation of some inner creative, subjective principle.

writing a history of sexual behaviour varying according to socio-historical criteria as well as one of ideas about sexuality, including scientific, moral or religious representations (Foucault 1998b:199–200). In either case, he thus seeks to avoid referring his analysis to both subjective and objective historical realities external to the discourses found in the archives he analyses (see also Sabot 2006b:6). This may sound either trivial or obscure. Nonetheless, it positions him in relation to a very specific critique of teleology among his contemporary French philosophers.

According to the dominant critique of teleology – epitomised by Popper (Popper 2002a, 2002b) – theory is teleological when it claims that history moves towards an end or a goal with inevitability. Leaving critique of Popper’s assessment of Hegel and Marx and of his philosophy more generally aside (cf. Hindess 1977b), such a definition is insufficient and inadequate, even if the presence of an end goal remains a clearly important element of teleology. The critique of teleology by Althusser (2014b) – one of Foucault’s teachers – was more precise. Based on it, Hindess (1977a:177) defined teleology broadly as the realisation or expression of a “determinate inner principle” – or of an “essence,” to use Althusser’s (2014b) term – in a temporal order. In teleological theory, a historical outcome is thus the realisation of an essence or inner principle pre-existing it in a latent form.

For Althusser and Hindess, teleology emerges with (Bachelardian) necessity when theory is founded in an *a priori* distinction (i.e. a distinction preceding knowledge itself) between different realms which must then be re-connected for knowledge to succeed. This is inspired by Hegel’s (1988; Hyppolite 1948, 1974) critique of the *a priori* divide between subject and object in Kantian philosophy. In his critique of empiricism, Althusser (2014b:49) focuses on the *a priori* distinction between “the order of ‘logic’ and the order of the ‘real’” because it implies a conception of knowledge that requires, as an ontological prerequisite, the possibility of *correspondence* between the two domains which it has just assumed to be *a priori* separated. Knowledge will therefore have to be based on the “realisation” of some essence of the real which can be abstracted – in the etymological sense of *ab-strahere*: drawn out – from it and manifest itself in logic or ideas. This is precisely what we saw in the cases of positivism and speech act theory above, in which, respectively, objects and meaning had to be drawn out of their isolated realms – objects and subjects – by an observer or hearer, transported by “observation language” or “common language.” In that case, again, the

fundamental problem of philosophy of science becomes that of epistemology: if subject and object are divided from the outset (as the knowing and that which is known), then how can we know – how can we guarantee – that we manage to make correct (“true,” “scientific”) connections between them afterwards? Similarly, the history of science becomes the history of progress understood as gradually increasing approximation between reality and theory. In other words, history becomes a process with an end and a subject.

For Hindess (1977a), the problem of teleology in social research is much more widespread than Althusser’s critique of epistemology might suggest at first sight. Certain commonplaces of social theory, he argues, imply teleological conceptual structures. Notably, “causality” and “action” as commonly employed in social research both imply the realisation of a determinate inner principle in a temporal order. The problem, of course, is not whether these words occur in academic texts or not, but whether they are used in ways that imply theoretical commitments – that is, whether they occur as central concepts or not. A cause is simply the essence of its effect in another form, occurring before it in time. As such, causality is teleological. “Causal mechanisms” must be abstracted from the chaotic mass of phenomenal reality as an essence which is the proper and only potential matter of true (scientific) knowledge.¹⁴ Similarly, in action, some inner subjective principle (e.g. ideas or norms) are realised in the outer objective world. Action must then be interpreted to draw out (abstract) the meaning or intention behind it so as to understand it. Action connects a realm of ideas with a realm of nature, only in the opposite direction of causality. It is thus an equally teleological concept.

This is the post-Hegelian tradition within which Foucault’s seemingly trivial rejection of teleology must be read. My contention is therefore that when Foucault (2001b) rejects an approach to the history of knowledge that looks for “the founder to interpret what he tried to say,” he not only refers to divine will or the Cartesian *cogito*, but also more generally to the principle of action as the realisation of subjective essences in the objective realm. Similarly, when he rejects approaches that seek a transcendental origin “behind all manifestations,” he not only refers to reductionist

¹⁴ In the empiricist conception of knowledge, the “real” hence has a double existence, essential (causal mechanisms) and inessential (phenomena, form), but essential reality itself has a double existence too as knowledge and as reality external to knowledge – as subject and as object (cf. Althusser 2014b:34; Hindess 1977a, 1977b).

conceptions of the nature of man or to naïve positivism, but also more generally to the principle of causality as the realisation of objective essences in the subjective realm. Moreover, Foucault avoids “social” explanations of discourses because this would simply amount to a more complex version of the same teleological structure (involving institutions, social facts, structural causality, and so on). Like Althusser, he also avoids conceptualizing the overcoming of epistemological obstacles or problems as “progress,” but simply views them as epistemic breaks (Delaporte 1994:146).

It deserves mentioning that Foucault never stated this formally, as I do here, and that he has occasionally spoken of action (Foucault 1998b) and causality (Foucault 2015). But these are not presented as important theoretical concepts and therefore imply no ontological commitment to an *a priori* distinction between subjects and objects. More importantly, though, it is not decisive here whether or not Foucault himself saw and expressed clearly the commitments implied by his arguments. What is important is that we do so here.

Foucault was much more systematic in his employment of the terms discursive and non-discursive *practices*, than in that of action. This deserves mentioning because “practice” was the alternative to “action” employed by Althusser (2005:229–49, 2014a) and other Marxist philosophers who identified themselves as “theoretical anti-humanists.” The term has nothing to do with being against human beings or humanist values in general, but denies theoretical privilege given to generic anthropological characteristics and seeks to avoid entering the subject-object conundrum. It is specifically *theoretical* anti-humanism (Althusser 2005:233). More broadly, post-war French philosophy was marked by structuralism. In linguistic theory, Saussure (1995) had abandoned the analysis of meaning – both the hermeneutical search for the intention of the writer and the phenomenological account for the interpretation of the reader – in favour of that of signification based on the referential structure in the text itself. Similarly, Freud (2010, 2011) had abandoned both the study of corporeal stimulus-response relations of medicine and psychology’s interrogation of the mind as the site of conscious thoughts and emotions, in favour of the analysis of thought as a psychic apparatus or organization not coinciding with consciousness and perhaps not even with the individual. Braudel (1993, 2014) had complemented the study of historical events and their protagonists with that of processes of long duration, not only of whole societies, but also, for example, of geological formations. Finally, Lévi-

Strauss (1978) had re-oriented anthropology away from the study of people towards the study of, for instance, kinship structures based on an analogy with Saussurian linguistics. These and yet other developments had – in French post-war philosophy – come to contrast the phenomenological, existentialist, and humanist tradition epitomised by Sartre (Eribon 1994, 2011; Heckman 1974; Kelm 2015).

Foucault was clearly inspired by the notion of theoretical anti-humanism. As Osborne explains, it is thus a mistake when scholars claim that discourse is more or less the same this as “attitudes” (Osborne 2003:11). In *The Archaeology of Knowledge*, Foucault (2008:45) states that he seeks to avoid “all these little thoughtful unities and syntheses that refer to the speaking individual, to the subject of discourse, to the author of a text, in brief: to all those anthropological categories.” Similarly, as Fraser (1985:170; see also Hoy 1986) points out, when Foucault juxtaposes “the first-person subjective discourse” of individual criminals or madmen “to the contemporary objective medical and legal discourses about him or her,” then:

Foucault’s aim is not the humanist one of vindicating the subjective discourse over [or] against the objective one. On the contrary, it must be the anti-humanist aim of placing the two on a par, of showing that they depend on and require each other, that they are generated together within, and are illustrative of, the discursive formation of modern humanism (Fraser 1985:170).¹⁵

So, for instance, while we shall agree with Kologlugil (2010:21) that modern economics builds on theoretical humanism, it would be a mistake to accept his proposed alternative – what he refers to as the post-modern episteme – and seek to “construct a human subjectivity that is fragmented, decentred, indeterminate, and unstable.” On the contrary, theoretical anti-humanism holds that such a perspective would still ground itself theoretically in a subject-object divide and that it will therefore inevitably run into a set of theoretical problems related to teleology.

¹⁵ Fraser sees this “philosophical” break with humanism as suggested by Hoy (1986) as only one of three possible readings of Foucault’s anti-humanism, towards all of which she shows some reservations. Concerning the philosophical or theoretical anti-humanism, although she calls it “laudable,” she argues that Foucault fails to ground his allegedly “normative” critique of humanism on it. However, it is not clear that Fraser (1985:172) is correct in claiming that Foucault makes “normative political judgments... all the time” such as that “‘discipline’ is a bad thing.” Indeed, she does not provide a single quote from *Discipline and Punish* to support her claim. Her conclusions seem rather to be the product of the introduction of Foucaultian concepts into a post-Kantian discursive formation.

Postmodernism has attacked structuralism for being deterministic, but the question is not about structure in opposition to agency, it is about abandoning agency altogether as a theoretical concept to avoid entering the game about what is subject and what is not subject, or other similar debates.

All this is not to say that Foucault's project was essentially Althusserian. Besides breaking with historical materialism, Foucault also seems to have avoided Althusser's mistaken alternative to linear causality, namely "structural causality" and "over-determination" of a social formation as complexly constituted of heterogeneous and even contradictory parts (e.g. economic, political, and cultural formations) (Althusser 2005:206–24). As Hindess (1977b: chapter 7) argues, Althusser thus relapses into the very problems he has himself identified and tried to break with.

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The anti-teleological foundations of discourse analysis laid out above are not shared – or at least not made entirely clear – by most variants of discourse analysis approaches found in social research today. In European integration studies, discourse analysis is generally categorized under "sociological approaches," with reference to the rise of the "constructivist" alternative to neo-functionalist and liberal inter-governmentalist approaches that have traditionally dominated the field, initiated by a 1999 special issue of the *Journal of European Public Policy* (Christiansen, Jorgensen, and Wiener 1999). In this tradition, Bourdieusian field theory (Kauppi 2003), Latourian network theory (Adler-Nissen and Kropp 2015) and Foucaultian discourse analysis (Mangenot and Rowell 2010), have all been labelled or inscribed into a "social constructivist" framework. Within this framework, discourse has been pointed to as a factor that may contribute to the explanation of political outcomes, such as increased market integration – that is, to explain something other than discourse itself such as policies (Smith and Hay 2008; Diez 2001).

Schmidt and Radaelli (2004:184) present an "ideational" approach according to which discourse is defined "in terms of its content, as a set of policy ideas and values, and in terms of its usage, as a process of interaction focused on policy formulation and communication." These authors argue that discourse must be seen in its "institutional context" and categorize "discursive institutionalism" as a fourth alternative to rational-

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choice, historical, and sociological institutionalisms (Schmidt and Radaelli 2004:184). Like Hay (2013), they insist that the decisive question for discourse analysis is:

when does discourse matter, that is, when does it exert a causal influence on policy change, say by redefining interests as opposed to merely reflecting them... and when are other factors more significant? (Schmidt and Radaelli 2004:184).

Having posed the problem of discourse analysis in these terms, the issue necessarily becomes one of distinguishing discursive from other causes on policy outcomes. One particular difficulty, according to these authors, is that people – politicians in particular – do not always say what they mean. Schmidt and Radaelli (2004:193) therefore warn against adopting a radical social ontology according to which “reality is discursively constructed,” stating that “political discourse may conceal substance under rhetorical smoke.” But how, precisely, are we supposed to clarify when discourse truly represents intentions, meaning, or objective policies and politics and when it does not? The authors suggest that these are “matters for empirical investigation” (Schmidt and Radaelli 2004:184). Aside from academic references, the main sources of this research tradition, however, seem to be speeches, documents, and interviews – that is, discourse. Both Schmidt and Radaelli publish mainly on theory and methodology, but Schmidt’s (2012, 2013, 2014; Schmidt and Thatcher 2014) more recent works on discursive institutionalism suggest that she relies on mostly textual sources in her work. Similarly, and to provide another example, in the special issue of *West European Politics* to which Schmidt and Radaelli’s text is the introduction, Busch (2004:314) bases his study of discursive and ideational influences on national policy-makers in processes of Europeanisation of banking regulation on a “detailed analyses of legislative papers and interviews with policy actors.”¹⁶ If these authors had subscribed to Searle’s contention that it is ideally possible to express what one means and to understand what another says (cf. p. 67), then there would have been a theoretically solid basis for deciding “empirically” what textual sources are reliable and can be used to undermine the credibility of other sources as “rhetorical smoke.” If they do not, they have posed a problem they cannot solve because there is no solid reference outside

¹⁶ Busch (2004:312) sees discourse and “ideational factors” as similar and argues that these are of a secondary order to rationality, but become more important in times of uncertainty and crisis. This further complicates the picture, but does not change the structuring theoretical problematic.

discourse against which its veracity in reporting objective facts or reliability in reporting subjective ideas, meaning or intention can be measured.

This is exactly the kind of unsolvable problem that Foucaultian discourse analysis seeks to avoid by never posing the problem of subjects and objects. This includes not posing that problem implicitly by founding itself of concepts such as action, intensions, ideas, or power. Contrary to Schmidt and Radaelli's view, there is no "substance under" discourse because substance is itself an object of discourse. Discourse analysis cannot contest the claims of politicians and economists on "empirical" grounds. It can only seek out the moments where these claims create tensions, contradictions, or breakdowns. For some, this may not be "critical" enough, because it implies moving around within the discursive formation at hand, exploring and examining it, rather than going "behind" it. Yet, this is largely what Foucault did, and his writings are generally considered "critical" enough exactly because, through such exploration and examination, he demonstrates how claims to truth, universality, justice, and other values by specific political, economic, or medical discourses break down, run into problems, or are founded in contradictions.

This does not mean that we cannot develop theories about institutional change; about capital like the one found in Marx; about the political techniques of knowledge in the disciplining of bodies as seen in Foucault's work; or, about economic theory and European integration of financial markets, as I do in this dissertation. Nor does it imply that ethnography or statistics are more "real" sources than interviews and documents because they are not "contaminated" by discourse. It simply means that such theory must not be based on one of the many variants of a subject-object divide, if it is to avoid certain unsolvable problems. For this reason, discourse analysis commits to avoiding causal accounts, by which it abstains from "explaining" anything in the usual sense meant by social scientists, since doing so would require something external to discourse, such as political interests, to be explained or do the explaining. And for the same reason, it must avoid accounts based on action, and therefore also abstain from "understanding" action (including "speech acts") in the usual sense of interpreting it and thereby to abstract some essence beyond its immediate appearance. As argued in the following subsection – and contrary to the categorisation of it in European integration studies – this means that discourse analysis is in opposition to social constructivism.

2.3.1 The Social Construction of Markets: New Economic Sociology

The mainstream view of markets in economic sociology is founded in social constructivism, a theoretical framework that relies on notions of action and causality. After highlighting this aspect of the field in detail, this subsection argues that because of this reliance, economic sociology has not been capable of breaking decisively with the conception of the market in economic theory. As a consequence, it is unable to see certain problems related to that conception of the market. I then show how discourse analysis is more capable of excavating such problems.

It is a commonplace in economic sociology to argue that “markets” are not the free-floating entities they are often portrayed as by economic theory – especially by neoclassical economics. The Polanyian-Weberian social constructivist tradition of new economic sociology (Granovetter 1985; Swedberg 2003; Fligstein and Stone-Sweet 2001; Carruthers 1999; Zelizer 1995) has demonstrated in numerous studies as well as in theoretical works that markets are “socially embedded” and historically, politically, and institutionally constituted. This literature draws on Polanyi’s (2002) *The Great Transformation* to establish that, if left to themselves and to the *laissez-faire* of politicians, markets would drive themselves to destruction.¹⁷ Markets need social underpinnings to fulfil even the simplest of their functions. For example, Fligstein (1996:658) argues that markets have institutional preconditions that are generally provided by the state – notably property rights, governance structures, and rules of exchange. In sharp contrast to neoclassical economics, Fligstein further argues that competition is detrimental to the stability of markets and that the state therefore often supports strong market actors in reducing competition.

Another important source of inspiration to new economic sociology is the work of Weber, not least his definition of sociology in *Economy and Society* as the “interpretative understanding” of individual action directed towards other individuals – what Weber calls “social action” – with the aim to explain such action “in a causal way” (Weber 2006:12; see also Swedberg 2003:11–15). In particular, new economic sociology draws on the Weberian tradition of social constructivism initiated by Berger

¹⁷ More precisely: “Whereas Karl Polanyi had introduced the notion of embeddedness to emphasize that the economy was an organic part of society in pre-capitalist times, Granovetter’s point was nearly the opposite, namely to show that economic actions are truly social actions in capitalist society” (Swedberg 1997:165).

and Luckmann (1980) which focuses on the processes of social interaction through which individual norms and beliefs become objective social realities as “institutions.”

Weber (2000) himself described how the network of major stock exchanges made world markets possible through a tightly knit social structure.¹⁸ Zelizer (1989, 1995) has criticized as too abstract and universal the conceptions of money that are found, not only in economic theory, but allegedly also in Marx and Simmel, focusing instead on the “ear-marking” of money in situated social contexts of everyday life. At a more macro-historical level, Carruthers and Babb (1996:1556) argue that: “Money’s own value is socially constructed since *people attribute worth* to a medium whose physical characteristics are essentially irrelevant to its monetary role” (my italics). Sometimes the social trust in the attributed worth of money is shaken or contested – notably when the interests of different social groups change, as in the 19th century US debate between “bullionists” and “greenbackers,” supporting gold and credit backing of money, respectively.

At a more theoretical level, Carruthers and Babb (2012:2) “propose to stand Gary Becker on his head (so to speak),” with reference to the Nobel prize-winning economist who extended the principles of neoclassical economic analysis (individual pursuit of rational self-interest) to “sociological” issues such as education and the family, drawing on a notion of “human capital” (Becker 1994). Carruthers and Babb continue: “Instead of offering interpretations of *social* behaviour through the lens of *economics*, [we look] at *market* behaviour from the perspective of *sociology*” (Carruthers and Babb 2012:2 italics in original).

Whereas new economic sociology thus seeks to embed the notion of the market in society, it maintains a fairly economic conception of the market, one based on a competitive sphere of exchanging individuals (see also Lépinay 2008:99). What economic sociologists contest is simply the neoclassical assumption that such a sphere maintains a high degree of autonomy of from society at large. For instance, in *Principles of Economic Sociology*, Swedberg proposes a “sociological” concept of individual interests as developing in social and institutional contexts, but maintains (in agreement with economic theory) that what “gives the market its unique strength is that the actors use it *voluntarily*, the reason being that it offers both parties in an exchange the possibility of getting something better than what they had before”

¹⁸ In this text, Weber strangely goes at lengths to defend stock exchanges on moral grounds despite its foundations in inequality and social hierarchy.

(Swedberg 2003:133, italics in original). Similarly, to Fligstein (1996:658): “Markets refer to situations in which some good or service is sold to customers for a price that is paid in money.” Finally, Carruthers and Babb explain that:

A market is but one institution for governing economic activity, although it is the one most familiar to us today. In markets, goods are exchanged voluntarily on a bilateral basis rather than yielded under the threat of unilateral coercion, given as gifts, or offered in satisfaction of a traditional obligation. Market exchanges occur between individuals motivated by the satisfaction of their own desires but constrained both by their budgets and the rules of the marketplace (Carruthers and Babb 2012:2–3).

The problem with neoclassical economic theory, according to new economic sociology, it thus seems, is not its conception of markets as a competitive sphere of exchanging individuals, but that its “*abstract model of the market... [is] unsuitable for economic sociology*” (Swedberg 2003:115, my italics). The conception of markets in new economic sociology is based on voluntarily exchanging individuals according to their desires and needs, just like in neoclassical economics – only these individuals, their desires, and their exchange are socially, historically, and institutionally embedded in a social constructivist sense. Similarly, according to this tradition, causal processes in the economy are not the laws of economic theory which transcend society, but rather the results of societal institution-building. For instance, Fligstein and Stone-Sweet (2001:54) argue that over the decades following the *Treaty of Rome* (1958), the EU developed and consolidated “into a causal system”: integrated European markets have been constructed and shaped, rather than simply opened and freed, as economic theory would put it.

This conception provides new economic sociology with a “critical” thrust in so far as it reveals the interests, strategies, and power of specific actors behind the seemingly egalitarian dynamics of markets. Yet, it also implies certain theoretical problems. First, whereas the whole project of this tradition is to identify the “preconditions” of markets such as the “social constructions” of property, buyers and sellers, money, and information (Carruthers and Babb 2012:5–7), there remains a contradiction between the entirely “economic” definition of the market and the “social” preconditions of the market. Second, by basing itself on social constructivism and Weber’s definition of sociology (as understanding social action and explaining it causally), new economic

sociology is predisposed to the problems of teleology discussed above. For example, Carruthers and Babb claim that modern fiat money “is the ultimate social construction, because its value depends *only on our collective beliefs* regarding its worth” (Carruthers and Babb 2012:7, my italics). It is interesting to note that Searle makes exactly the same argument about money based on his speech act theory: “in order that the concept ‘money’ apply to the stuff in my pocket, it has to be the sort of thing that people think is money. *If everybody stops believing it is money, it ceases to function as money*, and eventually ceases to be money” (Searle 1996:32, my italics). A theory of action sneaks in via seemingly common-sensual and banally true assertions: money becomes the realisation of beliefs in some temporal order. As a consequence, it results in a teleological account of money.

The problem of idealism in the views on money above cannot simply be dismissed as misfortunate phrasing or didactic emphasis. The idealism of Carruthers and Babb is a consequence – a Bachelardian necessity – of the foundation of “the social” in individual subjectivity. Specifically in the case of Carruthers and Babb, it is also related to the effort to stand economics on its head: whereas economic theory, in order to be materialist, has reduced all subjectivity to the black box of “utility” and all extra-economic dimensions of society to “externalities,” economic sociology emphasises the diversity of markets themselves by emphasising the diversity of subjectivities – of values, norms, and beliefs – as well as of the social institutions produced by them.

As will be demonstrated in chapter 6, to new economic sociology, the difficulties around T2S and controversies over what “the market” is, and what the roles of the central bank and of market infrastructures are within it, would be evidence of markets not being as autonomous from society as certain economists pretend. However, having identified the main actors, situated them in a bargaining process over market integration, and shown how the conception of the market is actually flexible according to their changing interests and strategies would still beg the question of why the problems faced in the different controversies were all seemingly “economic” rather than “social” – concerning, as the analysis will show, monetary creation, public or private production, cost, and the legal framework of the market. By contrast, the discursive approach developed in this chapter will consider these problems as they occur in the material. This approach downplays the question of how conceptions of the market are used strategically to justify a particular policy or social order, in favour of

an examination of the discursive problems that a given conception of the market confronts processes of market integration with. On the one hand, this chapter thus supports the argument that “markets” are not the free-floating entities that neoclassical economic theory portrays them as. On the other hand, it approaches this as a problem that occurs in discourse about European integration of financial markets – and not as a truth claim made by sociology as a science superior to that of economics. In this, it moves the focus away from the question of “who wins?”, and towards the question of how major processes of market integration are structured by the fundamental conceptions it mobilizes.

Reconsider the example of Adam Smith’s “public works” discussed in the introductory chapter (p. 33). Swedberg (2003:161–62), too, notes how Smith – the founding father of modern economic theory – in *The Wealth of Nations* advocated the view that “the state should as a rule not interfere in the workings of the economy,” and yet he distinguished “three duties of the sovereign: defence, justice, and the maintenance of a minimal infrastructure, including education.” Swedberg reports this view with little commentary and seems to be mainly interested in its plain analytical truth value. By contrast, the example is at the core of the present work as a *problem* of markets as “integration of fragmentation,” entailing a paradoxical relationship between markets and market infrastructures. On the one hand, infrastructures must be available to everyone on an equal basis as a pre-requisite for markets to develop in the first place, and therefore must be provided by someone from outside markets. On the other hand, such infrastructures are themselves services from which some will benefit more than others because they will use them more. Consequently, infrastructures should be inside the market and users should pay for them, as Smith suggests (see also Swedberg 2003:163). The example thus illustrates how the discursive approach adopted here focuses exactly where new economic sociology does not and cannot look. Like in Althusser’s (2014b) reading of classical political economy, it is a structured and necessary blind spot in the structure of what new economic sociology *can* see, namely the problems of human interaction.

2.3.2 Markets as Conglomerates of Agency: Social Studies of Finance

According to Swedberg (2003:47), the sociology of Bourdieu is “the only existing theoretical alternative in economic sociology to the model of embeddedness.” I believe this is an overstatement – at least it would be today now that social studies of finance is an established field of scholarship. The social studies of finance literature is interesting here because it is more attentive than new economic sociology to the role of economic theories and knowledge within the processes of constructing and changing markets. In its early formulation, this tradition drew on speech act theory to argue that the assumptions of economic theory that were discarded as “unrealistic” by New Economic Sociology can in fact *become* real when economic theory is “performed” in markets (Callon 1998b; MacKenzie 2006). According to Braun (2016:259), “Callon’s understanding of the role of economics differs from the prevailing conception of economic “ideas” in constructivist political economy” (see also Abdelal, Blyth, and Parsons 2010:13). For example, Holmes (2014) argues that central bank communication today has taken on a performative capacity to affect expectations in markets, but that this was not always so. Rather, it gradually developed with the advent of inflation-rate targeting and the invention of communicative policy in the central banks. More generally, according to Callon (1998a:22), the rationally optimizing *homo economicus* of economic theory *does* exist, but only as “the result of a process of configuration.” Similarly, in line with the critique of teleology found in Althusser, he stresses that: “The economy is not a universe whose expansion is contained by other universes” (Callon 1998a:38). Social studies of finance insists on not upholding a conceptual distinction between “the market” and “society,” and thus avoids some of the problems identified in relation to new economic sociology.

One of the most convincing studies in this tradition is *An Engine, Not a Camera* in which MacKenzie (2006) traces the evolution of the modern finance theory of Fischer Black as it travelled in and out of markets. MacKenzie shows, notably, how finance theory did not initially *represent* any empirical market according to any statistical standards of economics, but only came to do so gradually as Leo Melamed at the Chicago Board of Trade (with the support of Milton Friedman, among others) managed to set up a market in financial futures and as traders gradually became incentivised to use Black’s formula.

One important problem with the early conception of the performativity view is that single specific economic theories rarely play as clear a role in the creation of markets. This is not the case with T2S either, as the analysis will show. To account for more complex cases, social studies of finance has more recently developed the notion of “*agencements*,” that is, of socio-technological ensembles of human and non-human actors (Callon 2008:320; see also Callon, Millo, and Muniesa 2007). The focus is no longer on a “narrow understanding of performativity as a remoulding of economic reality in the image of economic theory, which implies a static comparison of two states of the world” (Braun 2016:260). Callon (2005:13) specifically rejects a conception of performativity in which “norms, values and conceptions of the world” are isolated as autonomous “intermediary variables through which abstract economic theories could act upon real economic agents.” Instead, he prefers to examine “the production of agencies and the spaces in which they circulate and meet” (Callon 2005:13). As Braun (2016:259) comments, this means “the collapsing of the epistemological distinction between ideational and material structures.” What replaces it are socio-technological *agencements* of human and non-human elements in which academic economic theory “is mixed with engineering, life sciences, and management science” whereby not only economic calculation is made possible, but also optimization and the management of scarce resources (Callon 2008:338).

According to its proponents, this approach breaks with *a priori* conceptions about different kinds of agency (deliberate, reflexive, calculative, selfish, and so on), different levels of action (micro and macro) and the assignment of action to social or individual and to human or non-human entities (Çalışkan and Callon 2010:10). As Fourcade (2007:1025) explains, social studies of finance thus recognizes economics “not as a (misguided) science of capitalism” that can be corrected by a more adequate science (sociology), “but as its technology, that is, as one of the active ingredients in the production and reproduction of the market order.”

The mature outlook of social studies of finance is of great interest for our purposes here. Notably, the principle of generalised symmetry – between economic theory and markets, between humans and non-humans, and between such traditional distinctions as micro and macro, technical and political, important and unimportant domains – and the ensuing capacity to overcome the obstacles of established disciplinary divisions or scientific “truths” are valuable. In the following paragraphs, I shall consider three

specific works of particular interest to the study of T2S and European financial market integration and discuss the inspirations they offer as well as their limitations. This leads to a subsequent critical discussion of the concept of action in social studies of finance and, by extension, of the concepts of actor and *agencement* as well.

The first work of particular interest here is Millo and colleague's (2005) study of clearing houses in financial markets through history. As described by the contemporary author Babbage (1963 [1835]), the 19th century London clearinghouse was an address in Lombard Street where banks would throughout the day send delivery boys with the checks they received. By the end of the day, the net positions of each bank against all the others would be calculated, significantly reducing the amounts of cash each bank had to deliver and, moreover, concentrating cash transfers at one point in time at the end of the day. According to Millo *et al.* (2005), clearinghouses have traditionally played an important organising role in markets by separating a sphere of trading from one of settling transactions. In so doing, clearinghouses provide markets with "bureaucratised spaces" for handling risk, streamlining transaction processing, and optimising how counterparties attach and detach from one another. More recent developments in derivatives clearing, however, re-introduce markets into the sphere of clearing and settlement through risk-based calculations of margins¹⁹. This is because risk itself is assessed based on actual market prices and volatility in market prices – that is, based on the trading sphere (Millo et al. 2005:240–41). The authors conclude: "The failure to maintain an effective boundary between trading and clearing points at the more fundamental failure of the technological society to rationalise risk" (Millo et al. 2005:243). From Part II and III of this dissertation, it will be clear that these authors strike a problem of significant importance in European financial market integration, namely the problem of markets presupposing a non-market realm of universally applicable infrastructure services which nevertheless cannot be conceptually segregated from the market itself. But despite the technical and historical richness of the study by Millo *et al.*, they fail to provide a satisfactory conceptualisation of that problem and relapse into a highly abstract formulation about "risk society", entirely disconnected from the concrete problem of clearing and finance under examination. The challenge seems to be how to

¹⁹ Margins are amounts that the counterparties of an outstanding derivatives contract pay as collateral to the clearing house on a regular basis in order to offset changes in the market value of the products and thereby reduce the risk of default upon liquidation of the contract.

make this connection without “jumping” from the particular details to some abstract universally valid claim.

In the second study of particular interest here, Muniesa (2000:153) demonstrates how the creation of an electronic quotation system for the Paris Stock Exchange in the 1980s “corresponds to a certain Walrasian ideal” which “stages a representation of the market ... in which the current price can move away from or approach a perfect expression of the state of the market” (cf. also p. 32). The Walrasian model of fixing prices relies on a constant process of trial and error to find the market equilibrium, which in turn supposes the existence of an agent external to the market itself – an “auctioneer,”²⁰ whose function it is “to inform and coordinate” the market by calculating the excess supply or demand and listing prices (Muniesa 2000:141). The new “robot” at the Paris Stock Exchange, Muniesa (2000:142) argues, took the role of such a Walrasian auctioneer. Such “discovery” of market “equilibrium,” however, according to Muniesa (2000:142), is more like an “encounter” between the heterogeneous multitude that constitutes the market. The important point for Muniesa is not so much that the assumption of a price where supply and demand meet is unrealistic, but that such an encounter requires organized efforts and technology because it “must be transparent, that is, overcome the spatial and temporal (social) barriers... [and] the motives of the actors must be reduced to expressions of prices, anonymous and atomised” (Muniesa 2000:142). In an attempt to link the new practice at the Paris Stock Exchange with developments in economic theory, Muniesa (2000:135) analyses four academic articles containing the most commonly known propositions for automation – not in order to determine their influence on the industry in a direct relationship of performance, but to analyse “the kinds of conceptual images employed in economic science to illustrate price discovery in electronic environments” with particular focus on the arguments justifying electronic “fixing” of prices. For instance, modern finance scholar Fischer Black proposes to let technology improve liquidity and efficiency and thereby getting rid of intermediary “specialists” with their privileged position in the market structure (Muniesa 2000:137). Like the study of Millo *et al.*, that of Muniesa thus indicates a problematic relationship of distinction-bridging between a market sphere and a bureaucratic sphere of market infrastructures. Moreover, Muniesa links this to problems in economic theory to which

²⁰ On Walras’s notion of auctioneer, see footnote 83.

they appear to be parallel, without seeking to trace how “ideas” move into “practice.” This allows him to establish a kind of homology between the problems, debates, and solutions in economic theory and those at the stock exchange, respectively. Yet, his approach remains somewhat underdeveloped because he does not make clear wherein such homology may consist. This is exactly where the theory of discursive formations becomes relevant because it would suggest that it consists in the discursive structure in which utterances occur.

The third and final contribution to social studies of finance of particular importance to this dissertation is Panourgias’ study of Euroclear, a major international financial infrastructure provider. By trying to build a “Single Settlement Engine” across several European countries – a project that has been called “the first attempt to establish a truly cross-border marketplace for securities” (Panourgias 2015:318) – Euroclear plays an important role in the present study (especially in chapter 5). Panourgias shows how, in the different phases of the Euroclear project, a number of “controversies” developed, interacted and moved around between technological, political, institutional, and other spheres. By “controversies,” Panourgias, following Akrich (1992), understands moments of mismatch that lead to “disagreements, negotiations, and the potential for breakdowns” (Panourgias 2015:320). These moments, the argument goes, are usually where “the battles leading to the establishment of supremacy of a certain design or solution are waged” (Akrich 1992:223; cited in Panourgias 2015:320). One of the examples provided by Panourgias (2015:330) is a very technical controversy over how to process financial settlement which developed into “a much broader debate about the terms of broader European financial integration” In fact, this specific controversy constitutes the first of four controversies around the T2S project analysed in chapter 5 of this dissertation. I agree with Panourgias that an *a priori* distinction cannot be made between “technical” and “political” or between “important” and “unimportant” controversies. Yet, not unlike Millo *et al.* and Muniesa, Panourgias fails to conceptualise the links between the technical issue and that of European financial market integration – he simply observes how the one controversy metamorphosed into the other, concluding that the process and outcomes were “very much conditional on the resolution of a number of technical issues” (Panourgias 2015:330). Panourgias thus points out how studying market technologies can serve to trace the links between the seemingly distinct domains of

politics, engineering, banking, and economics. But the controversies that link these domains maintain a somewhat arbitrary character because no conceptualisation is provided of the links between them beyond their chronological occurrence in relation to the same market integration project. By contrast, the discursive approach developed in this dissertation would look more closely at the *problems* that the controversies concern and then seek to establish the concepts at stake, the relations between these concepts, and the contradictions and hierarchies they form. This analysis would then be used to determine the discursive formations underpinning the concepts and structuring their connections. As Panourgias (2015:330) rightly notes, “it is not just the resolution of isolated controversies that is important, but also the relations and dependencies between them.” Yet, rather than leading us to inquire about their simple sequence in order to establish how the settlement of one becomes a prerequisite for the settlement of another, as Panourgias proposes – a formulation that inevitably leads to a conception of history simply as a sequence of events – we can seek to determine whether or not the controversies are organised in the same discursive formation.

The three works thus inspire important principles for the study of financial market infrastructures, notably the principle of generalised symmetry which seeks to avoid *a priori* distinctions between theory and practice, technology and politics, humans and non-humans, important and unimportant, markets and market infrastructures, and so on. However, they all seem to encounter the same obstacle (in a Bachelardian sense) of being unable to push the conceptualisation of their findings beyond generic abstractions. I propose Foucaultian discourse analysis as a strategy to overcome this obstacle. However, for this approach to be successful, it is necessary to remove the obstacle with its roots. These roots, I argue, consist in the influence of pragmatist philosophy on social studies of finance and particularly on the role played by the concept of action in it.

Social studies of finance have several intellectual sources of inspiration, notably the actor-network theory of Latour, American pragmatist philosophy, the work of Deleuze and Guattari, and speech act theory (see Muniesa 2015 for an overview; see also Muniesa, Millo, and Callon 2009; Callon 2008; MacKenzie 2006). Following Latour, Muniesa holds that:

2. The Foundations and Principles of Problem Analysis

here constructivism becomes realism. For reality is indeed constructed, but it is so in the engineer's sense: the scientific facts stands objectively in the laboratory as the bridge stands firmly over the water, that is, insofar as it undergoes a laborious process of material assemblage (Muniesa 2015:11).

This is directly inspired by a version of speech act theory according to which “aggregate actors such as corporate organizations can grant themselves the capacity to act in their own names” through textual devices that are enacted symbolically in performative ways (Muniesa 2015:14). Muniesa (2015:14–16) refers to this as a “materialist understanding of semiotics” that resonates with both pragmatism (notably Peirce) and the actant theory of Greimas, all of whom see “signification as act” and hold that “a fact is an act: the act of taking place.”

This approach, however, does not overcome the distinction between signs and materiality; it only seeks to bridge between them in a two-side analysis of text and real actors. Muniesa (2015:15) provides the example of “France embraces nuclear power.” This statement, he argues, can be analysed, first, by examining “how agency (i.e. the capacity and position to act, force others to act or be activated) is rendered in both the sentence and the wider text where it originates;” and, second, by “the empirical interpretation – the ‘unscrewing’ (Callon and Latour 1981) – of this actor called France, this act of embracing and this thing called nuclear power.” This two-sided approach based on a distinction between “texts” (concerning signs and meaning) and “empirics” (concerning real, material actors) is quite striking, given the alleged symmetry of the social studies of finance approach. Muniesa may argue that he avoids the specific position of Schmidt and Radaelli where some texts had to take the place as “truth measures” of other texts (cf. p. 74), but the problem around which his argument is organised is the same: a distinction between textual (or speech) acts and empirical acts assumed at the outset will still have to be bridged in the analysis. As Althusser argued, the problem of theoretical humanism is not only found when one stipulates some universal anthropology, but also sneaks in whenever one operates with a distinction between human and non-human: “The couple human –unhuman is the hidden principle of all humanism, which then consists in living, bearing, or resolving this contradiction” (Althusser 2005:243–44). In Muniesa’s case, it is perhaps not immediately a human/non-human divide that is apparent; however, it is implicit and

latent to the distinction between a realm of signs and a realm of empirical reality. The concept of “action” in Muniesa then plays the role of bridging between the realm of text and the realm of things, since action can be both signification and non-signification. In fact, it occurs in both realms from the outset as speech acts and as empirical acts, respectively. Let us therefore take a closer look at the concept of action within this tradition, notably as developed by Latour.

In the actor-network theory of Latour, the concept of action holds an exclusive privilege. It is action which allows social researchers to “reassemble the social” which traditional social theory has erroneously cut into pieces by “Great Divides” – notably between human and non-human, nature and society, agency and structure, and micro and macro (Latour 1993b, 2005). Similarly, social theory has taken for granted many of the smaller divides in society, such as those between different scientific disciplines, between the inside and the outside of a company, or even between the existence of microbes in laboratories, in newspapers, or in medical articles (see Callon and Latour 1981; Latour 1993a; Latour and Woolgar 1986). Latour proposes to overcome these big and small divides by simply tracing and describing the “actor networks” of which reality, according to him, is made up, and which themselves crisscross these divides. Hence his credo to “follow the actors themselves” (Latour 2005:12). As he explains in a staged dialogue with a student having difficulties coming to grips with her field notes and interview transcripts: “When your informants mix up organization, hardware, psychology, and politics in one sentence, don’t break it down first into neat little pots; try to follow the link they make among those elements” (Latour 2005:141). Correspondingly, the researcher must open up the “black boxes” of what we have become used to see as meso or macro actors such as companies, nation states, and even more so “society,” “social structures,” and “capitalism.” “Scale is the actors’ own achievement” (Latour 2005:185). Once we start describing the actor networks that make up all these phenomena – which seemed to belong to another order: to the realm of “the social” above, beyond, or behind actors – vanish, according to Latour (2005:165–67).

The problem with actor network theory is not that it seeks to dissolve great and small divides, but that it makes a strong ontological claim about the omnipresence of action to replace them with. To be fair, Latour uses a variety of concepts (and metaphors) to explain how the world, according to him, is constituted. But the one of

actor networks and, by extension, of action holds a special place. The problem with ontological claims, however, is that they divide discourses in two in a universal and dogmatic way: those which are wrong and those which are right. To Latour, “critical theory”, notably postmodernism and deconstructivism, occupy the “wrong” side. But a distinction between wrong and right discourse based on its correspondence with the “world” also *a priori* installs a distinction between discourse and that which it is discourse about – between speech and reality. It is unsurprising, therefore, that Latour (2004) subscribes to “empiricism” – albeit of “matters of concern” rather than of “matters of fact”.

It may appear unjust to thus argue that Latour re-imposes Great Divides because he of all scholars has insisted so laboriously on overcoming these. And yet we can identify the problem in the structure of the argument. This becomes particularly manifest in specific works in social studies of finance. A striking example of this is MacKenzie’s (2006) study of Fischer Black’s “Capital Asset Pricing Model” (CAPM) and its road to success in modern financial markets which contains no discussion of “capital.” Why? It is indeed most strange, since “capital” is everywhere in the study, starting with the CAPM and the trading floors. Would it not precisely be “following the actors” to account for and discuss capital in these cases? I cannot help but suspect that “capital” is not in focus because it has a reputation of being a “big” concept of critical theory and therefore has a dogmatic status of being “wrong.” “Capital” appears to be a core object of knowledge in financial markets, and yet social studies of finance have not approached this object in any systematic way. In this, as an aside, they conform with mainstream social constructivist sociology from Weber (2000, 2013) to Boltanski and Chiapello (2006), speaking of “capitalism” without but a cursory discussions of “capital.”²¹

A truly generalised symmetry would require no ontological commitments at all and no privileging of some objects of study over others. This is precisely why Foucaultian discourse analysis avoids declaring anything about the ontological relationship between discourse and non-discourse, and why it also rejects measuring the truth value (or the “importance,” for that matter) of some utterances relative to others – either before considering any utterances or as the end-goal of the analysis of

²¹ A striking example of this is Beckert’s (2013) recent identification of “the four C’s of capitalism” of which “capital” apparently does not belong (the four C’s, according to Beckert, are: credit, commodification, creativity, competition).

utterances. It is important to recognise, therefore, that whereas Foucaultian discourse analysis unsurprisingly consists in the analysis of discourse, it does not imply a contention that “everything is discourse,” that “the world is discursively constructed,” that “discourse is more important than other phenomena,” or something of the kind.

Latour insists that action “is always dislocated, articulated, delegated, translated” (Latour 2005:166). However, that does not solve this problem of Great Divides because it concerns the privileged ontological status which the concept of action has in the argument – not the specific character of action. The conceptual contradiction is identifiable even in the concept of “actor network” or “assemblages,” the English equivalent to Callon’s *agencements*. The specificity of an action is dependent on its occurrence within a network or *agencement*. For example, the signing of a sheet of paper can only count as a contractual obligation within a specific network which constitutes what we usually call a company. This means that the substance of the part (“action”) is dependent on the organisation of the whole (“network”). But the *organisation* of the network is irreducible to the arbitrary juxtaposition of actions. So, as a paradoxical consequence of actor-network theory itself, we *need* to speak of companies and, for that matter, of societies and social structures. All of a sudden, “big” entities *do* exist and *can* act. The difference between Latour’s “networks” and Althusser’s “structures,” Bourdieu’s “fields,” and Durkheim’s “social facts” becomes blurry. The two words of the concept “actor network” form a contradiction – the classical contradiction between micro and macro. Latour criticises “critical” sociologists who sought to reveal society behind action, but by simply reversing the schema and revealing action behind society, he falls into the same conceptual paradox.

Yes, we should avoid embedding the connections we follow in a “larger” concept such as “society”, but not because these latter “do not exist,” as opposed to the “real” existence of the “small” connections. Rather, we should avoid this only to the extent that these concepts do not occur in, or are not implied by, the material under investigation. For example, if an interviewee talks about “capital,” we have no *a priori* grounds on which to ignore or reject it as “false.” In fact, we may also conclude that a “large” concept such as “capital” occurs in the discursive formation under question even when it is not explicit in the material – not by imposing it by “applying” a “theory” about society to “the data” (see Latour 2005:141, for a critique on the idea of

applying theory to data), but by assessing the possibility or necessity of its presence from the conceptual tensions, references, and relationships in the material.²²

In order to make up for the demolition of the House of Latour and the predominantly negational argument so far, section 2.4 seeks to deepen the post-Hegelian reading of Foucaultian discourse analysis. In particular, it specifies the role of contradictions, the use of logic, and the concept of generality. With these concepts, Foucault's idea of "problematization" in his later authorship is revisited. This paves the way for the development of "problem analysis" in section 2.5.

2.4 Post-Hegelian Social Theory

It may seem exaggerated to engage in a lengthy discussion of Hegel in a dissertation about European financial market integration. But this is necessary in order to clarify and conceptualise the reading of Foucault's discourse analysis adopted, and hence the analytical choices and the status of the arguments in the analysis. This section:

- introduces the Hegelian logic of contradictions because the study of T2S will prove to be predominantly about conceptual contradictions;
- establishes a distinction between the dichotomy universal-particular, on the one hand, and general-specific, on the other, as a way of escaping the indeterminacy and dogmatism of ontology, and in order to provide a first strategy of analysing discursive formations;
- develops a specific conception of change – and hence of history – that avoids the problems of teleology identified previously in this chapter; and
- establishes a mutually constitutive relationship between discursive "positivities," "problematization" analysis, and the "generality" of the arguments made, thus specifying the status of the discursive analysis of European financial market infrastructures and economic theory.

With some notable exceptions (Butler 1987; Gutting 2010; Kelm 2015; Muldoon 2014; Sembou 2010, 2015), the relationship between Foucault and Hegel has received little

²² For example, Freud thus concluded that there had to be thought processes which were not conscious although they could not be expressed by patients as "I think" based, for example, on the non-arbitrary character of gaffes and, more importantly, of thoughts emerging to consciousness (Freud 2009, see also 2011).

attention and Foucault is often read as an anti-Hegelian thinker exactly for his rejection of teleological and absolutist conceptions of history. Moreover, Foucault at several occasions engaged with Kant, notably with his essay “What is enlightenment?” (Foucault 1994). By contrast, I argue that Foucault’s critique of historical absolutes and his “relativisation” of knowledge must be conceived in relation to Hegel’s critique of Kant’s *a priori* conditions of knowledge and that both his critique of causality and action are post-Hegelian. Most existing discussions of Foucault’s inspiration from Hegel focus on mainly biographical details such as his encounter with Hyppolite (the most prominent Hegel scholar in France at the time), his (lost) dissertation on Hegel’s *Phenomenology of Spirit* at *Lycée Henri IV* in 1949, or the characterisation by Canguilhem of his dissertation at the *École normale supérieure* in 1960 (which later became *Folie et déraison : Histoire de la folie à l’âge classique*, cf. footnote 133) as marked “from one end to another by a dialectical vigour that is, in part, derived from the author’s sympathy for the Hegelian vision of history and from his familiarity with the *Phenomenology of Spirit*” (quoted in Eribon 2011:179). However, those few works which have attempted a thorough characterisation of the *theoretical* affinities between Hegel and Foucault have failed in important ways. A serious discussion of this literature would lead too far in this context (works that either remain mostly biographical or contain substantial problems in the reading Hegelian inspiration in Foucault include Butler 1987; Gutting 2010; Kelm 2015; Macey 1994; Muldoon 2014; Sembou 2010, 2015). Suffice it to say that I am unacquainted with any work that contains all of the elements identified in this section and masters the principles of theoretical anti-humanism and anti-teleology. For example, Sembou (2015) contrasts Hegel’s “holistic,” “hermeneutic,” “engaged,” and “immanent” phenomenology to Foucault’s “perspectival,” “interpretative,” “attached,” and “radical” genealogy. As should become clear from this section, I consider both this contrasting and the predicates to be erroneous (perhaps with the exception of “immanent”).

To Kant (1999), the *a priori* conditions of knowledge are universals – valid for all human beings at all time – that lie outside knowledge itself and frames and structures it. For example, according to him, no knowledge is possible that is not structured by time and space along with certain fundamental categories, including that of causality. Hegel (1988:44–46) criticises this conception exactly for being independent of knowledge itself and for pretending to be able to contain “all earthly and heavenly”

things in it.²³ Simply labelling, simply attributing predicates to things, he continues, turns categories into empty forms (Hegel 1988:57). Instead, “science should be organized through the very life of the concept” (Hegel 1988:47).

Hegel (1988:79–84) opens *The Phenomenology of Spirit* with an examination of sensuous perception – or rather of what he calls “sensuous certainty” – which the empiricist have either claimed provides a solid ground for knowledge or conceived of as some kind of bridge between subjective knowledge and objective reality (cf. Carnap’s primitive “observation statements”, p. 65). However, the argument Hegel gives is not the one familiar to sociologists that even all observation is always already interpretation and hence that no pure objective knowledge can be established. Hegel avoids this critique because it would still assume the existence of a subject of knowledge (separately from the object of knowledge) in advance of the knowledge process itself (Hyppolite 1974:47).

Consider how Hegel (1988:79–84) opens his example of sensuous certainty without a knowing subject. The most pure conception of sensuous certainty is the concept of “this thing,” which implies a “here” and a “now.” But sensuous certainty will quickly be forced to introduce some stratification into these concepts (Hyppolite 1974:91). For instance, sensuous certainty may conceive “this house” or that “now is day.” “House” and “day” are concepts, even if not philosophically or scientifically elaborated and refined, even if deprived of all generic qualities and only employed by sensuous certainty to designate the singular here and now. But sensuous certainty may then conceive “this tree” and that “now is night.” The sensuous certainty of here and now thus threatens to break down in the indeterminacy of plurality because “here” cannot both be a house and a tree, and “now” cannot both be night and day. Here and now is “different from itself” (Hyppolite 1974:91). Now “is neither night nor day and yet it can be both night and day” (Hyppolite 1974:92).

The problem here is not simply one of defining in sufficient detail what house, tree, day, and night “means” or “really is”, nor is it simply about a Kantian antinomy between words and things (both of which would involve ontology). The problem is rather that “here is a house” and “here is a tree” confront two different “here.” This

²³ Hegel compares such “schematic” Kantian philosophy to the neat little pots of the sausage stands in which all kinds of meat is casually distributed. Whereas Latour to my knowledge never quoted Hegel, except one rejection of his philosophy as “modern” (Latour 1993b:57), his warning against distributing material in “neat little pots” (cf. p. 93) resonates strikingly well with this image of Hegel’s.

tension can be lifted, though, if sensuous certainty realises that what unites the multiplicity of “here” and “now” is the mediation by sensuous certainty itself (Hyppolite 1974:92). Sensuous certainty “discovers” – or rather conceives – itself, or the “I”, which binds together the multiplicities of “this” and “now.” In this, sensuous certainty has evolved into “perception.” The I unites the *different* houses, trees, time of day etc., by *negating* the very differences between them. This is quite different from the empiricist conception of knowledge according to which the knowing subject *affirms* the existence of such things and orders them in *kinds* with *shared* characteristics. Sensuous certainty realises only through itself that it is not immediate and is therefore forced away from objectivism of towards subjectivism, according to which truth is always “my truth” (Hyppolite 1974:93–94). But this newly-formed subject of knowledge soon encounters new problems because in “my truth” a similar issue arises over what “I” designates: is it the “I” which perceives the house or the one that perceives the tree? If there is more than one I, there is a “we,” but that we is itself an “I” that negates all the different specific “I’s.” “When I say me, this singular me, I say in general all the me’s” (Hyppolite 1974:95). The tension between the many different I’s of perception is lifted into the general I (or we) of the “intellect.”²⁴

The dialectics of the perception is not simply a repetition of the dialectics of the sensuous certainty – although they may both at first sight appear to reiterate a universal antinomy between subject and object, there is evolution. Not simply evolution as a process of accumulation of knowledge based on the basic components or facts of sensuous certainty, but rather one in which sensuous certainty is pushed beyond the limits of itself – in which it is knowledge *itself* that evolves (we thus have a first glimpse of the Hegelian conception of history). According to Hyppolite (1974:96) this is the major difference from Kantian philosophy which implicitly assumed the existence prior to the knowledge process of a self-conscious consciousness, of an I identical with itself (I=I). For Hegel, by contrast, self-consciousness is a discovery or achievement in a passage from the specific to the general via negation. As a consequence, in Hegel, self-consciousness is not assumed from the outset, and when it finally arrives it is “different from itself.” We thus begin to have a more specific sense of what Foucault (1990) meant when arguing that “man” is only a transitory phase in

²⁴ In the above, I have simplified, compressed, and slightly distorted the exposition of the three moments of consciousness – sensuous certainty, perception, and intellect. The full argument is extremely dense and subtle (Hegel 1988:79–131; Hyppolite 1974:79–136).

the history of knowledge: “man” emerged at a point in history as a problem and as an object of knowledge, like the “I” emerged as a problem and object of knowledge in Hegel’s *Phenomenology of Spirit* – and it could consequently disappear again when that problem was overcome (or “lifted,” as explained below). Whereas Althusser saw Hegel as a theoretical humanist, we also see how he – at least in *Phenomenology of Spirit* – can be read as a theoretical anti-humanist: there is no foundational subject of knowledge or meaning which realises itself in the knowledge process. Consequently, Hegel can also be read as an anti-teleological philosopher: there is no “determinate inner principle” or “essence” at the outset which realises itself over time in the knowledge process – no objective cause and no subjective interpretation, only conceptions, concepts, discourse, and the dialectic of knowledge.

We have thus seen how knowledge evolves, according to Hegel, by overcoming contradictions – not by privileging one or the other pole of the contradiction, but by developing a concept that can contain the contradiction *within* it. For example, we saw how the “I” contains the contradiction between different “here” and “now.” This gives rise to Hegel’s notion of “general” (*allgemeine*) concepts as the coexistence of multiple determinations. A general concept is “the thing of many properties” (Hegel 1988:91–92; see also Hyppolite 1974:98). For instance, salt “is white, and *also* sharp, *also* cubic, *also* of a certain mass, and so on” (Hegel 1988:92). The concept of salt is thus *not* simply the list of these predicates – it is their unity *as* different. Put differently, the general is the unity of differences. As a general concept, salt is more than the simple list of predicates because it unites and organises them and turns them into something they are not themselves – that is, into salt. As a simple list of predicates, “white,” “sharp,” and so on would negate each other because white *is not* sharp, etc. The general concept thus negates the negation and thereby overcomes the contradiction – but in doing so it paradoxically also maintains the contradiction by containing it within. The general simultaneously negates and affirms the differences it unites. In Hegel’s parlance, the general concept “lifts” (*aufhebt*) the differences into a different moment (Hegel 1988:91).

Hegel thus formulates a conception of both knowledge and history which has no inbuilt subject or end. Knowledge is not defined as the appropriation of an object by a subject in a pre-defined game. As a result, the evolution of knowledge – that is, history – has no possibility of reaching an end where all contradictions have been removed.

Opposition and contradiction remains. Yet, the conception of knowledge and history is not simply arbitrary and indeterminate. On the contrary, it is always specific to the conceptual formation to which it belongs. As Desautels-Stein (2015:54) put it (cf. p. 47), indeterminacy is itself structured.

We thus see why Foucault is not simply the guardian of the “particular,” “unique,” and “always-different” character of “real” history facing the threatening pretensions of “universal” conceptions of history. This is not an effective opposition in Foucault. The analysis of epistemes or rationalities of government covering long spans of time in European societies does not stand in opposition to (as Latour would have it) the analysis of a forgotten physician or the hospitalisation of a prostitute in the 17th century. The former are rather the *general* totalities that determine a specific formation of problems and contradictions, into which new events are inscribed, but which also have the potential to lift (*aufheben*) these contradictions. Foucault may have insisted on the Nietzschean “eternal return” as a strategy to counter the deployment of government and to display the contradictions of the dominant episteme, but the historical premise and determination – and the premise and determination for him as a historian – is a very Hegelian conception of history. In his conception, historical totalities or ensembles are not unifying in the sense of *uniforming*, as is the case with universal concepts based on “shared” characteristics by a group of particulars. Rather, it is explicitly based on difference and negation – even on contradiction and crisis. When in “Nietzsche, Genealogy, History” Foucault (1992:145–46) opposes “linear history starting with some ancient principle and pushing forward all along” (developing with the “monotone finality” of a “slow curve of evolution”) to the genealogical study of “invasions, struggles, plunderings, disguises, cunningings” with a firm insistence that he will “identify the singularity of events,” he may very well be rejecting what is tending towards teleology and universalism in the late Hegel. However, Foucault here may also be read as affirming what is anti-teleological, anti-humanist, and oriented towards the specificity of knowledge in the early Hegel.

We can now formalise the distinction between the universal-particular and the general-specific dichotomies. Whereas particulars have to share the same predicates as their universals, specifics stand in a relation of negation and difference to their generals. Universals must be able to contain an infinity of particulars without changing even slightly themselves. For example, the “laws” of positivism must be able

to contain an infinity of “cases” without having to bend or bow. In this sense, the universal must be outside and around the particulars and contain them within. For example, Kant’s *a priori* conditions of knowledge are outside all knowledge and contain all knowledge within them. By contrast, the general is not outside specifics, but constituted by them in a relation of lifting (*aufhebung*), that is, of simultaneous negation and conservation.

We thus arrive at an important argument for something I have asserted many times already: Foucault’s discursive formations do not stand in a relation of determination to something outside and external to knowledge (such as political interests, real objects, or social structures), but are rather determined precisely as a formation of possible subjects and objects, concepts, theories, operations, and so on.

I have adopted the principle of “following” from actor-network theory, but within a post-Hegelian framework it assumes a specific meaning. We have already seen that we cannot establish *a priori* what we are following (e.g., action). What we can do is to be attentive to contradictions, tensions, paradoxes, and breakdowns and seek to trace the conceptual connections they deploy. Specifically, in the analysis of T2S, we are interested in the contradictions between different utterances, and shall discover how these pertain to the discursive formation of economic theory, which constitutes the general ensemble within which the utterances analysed are made possible and structured as different. In the analysis of Part II and III we shall thus follow several examples of the dynamics between general and specific – particularly in relation to the concepts of market and money which economic theory has tended to conceive in a universal manner as a list of predicates (such as the “functions of money”) without paying much attention to the contradictions between such predicates and to the dynamics they impose on theory.

All the empirical determinations fixed by the intellect are fundamentally contradictory. But empirical thought attempts to avoid that contradiction, although it would give it its life back and allow it to substitute a coherent, but unreal and formal theory with a dialectics which is real but which uses contradiction as an internal motor (Hyppolite 1948:58–59).

2.4.1 History as a Process of Conceptual Contradictions

We have seen that, whereas the universal cannot itself be particular, any general is itself specific (or rather “concrete”). Contrary to the universal, the general can therefore change. In fact, to Hegel:

Motion itself is a contradiction: even simple mechanical change of place can only come about through a body at one and the same moment of time being both in one place and in another place, being in one and the same place and also not in it. And the continuous assertion and simultaneous solution of this contradiction is precisely what motion is (Colletti 1973:22).

In other words, “motion is existent contradiction itself” (Hegel quoted in Colletti 1973:21). All change is general because it is a unity of being and non-being. But change is also concretely determined as the result of a specific set of contradictions. This is not to be confused with “pre-determined” – change is rather *structured* by that concrete configuration of specific contradictions. There is no end-goal of the process of change pre-given in a “determinate inner principle,” not even ideally.

We have thus seen that the post-Hegelian conception of knowledge and history rejects three tenets of the more dominant post-Kantian tradition of social theory in a sole and integrated argument: 1) that logic is based on coherence (the logic of non-contradiction, including between cause and effect and between intention and action); 2) that knowledge is based on correspondence between subject (speech, theory, or whatever) and object; and 3) that social processes are based on consensus (the shared beliefs of different groups or communities, but also of a single individual with him-/herself). Althusser’s (1973:69) famous characterisation of history as a process “without Subject, nor End” neatly summarises the post-Hegelian position. In the post-Hegelian conception, history is a process of conceptual contradictions, tensions, conflicts, and attempts to overcome (lift) these. This process is long, hard, conflictual, and unhappy – and it is never given in advance that a specific tension will be overcome and that the passage into another configuration will be realised.

Whether Hegel believed in a final relieving lifting and whether this was what he meant by his concept of “the absolute” is a topic of ongoing debate, but Althusser and Foucault clearly considered that this would be an illegitimate assumption. The

absolute might be a general totality that contains all existing specifics in it, but exactly for that reason it cannot have abolished all tensions and cannot free itself from the possibility of change imposing itself anew from these tensions. We may say that the absolute is itself specific.

As already mentioned, Foucault often employed the word “ensembles” to designate heterogeneous totalities. I propose to specify it as concrete general totalities that do not obliterate the differences between the specific elements that it unites. An ensemble is “different from itself” or, in other words, contradictory, unresolved, and moving in their concrete determinate tensions. The word “determinate” here does not mean simply to fix. Contrary to what Laclau and Mouffe (2001:111) suggest, to determinate does not open a game of degrees of fixity in which “neither absolute fixity nor absolute non-fixity is possible.” Rather, it designates the concrete structure of relations and contradictions that constitute tension and movement. By contrast, as mentioned in the introduction (p. 37), “definitions” are attempts to abstractly provide a longer formulation that corresponds to and is identical with a word – for example a list of predicates. For definitions, there may be a problem of “overflow.” By contrast, *determination* identifies a series of predicates to a concept in a given discursive material and seeks to account for the relations between them *without* filtering them through a criterion of non-contradiction.

2.4.2 The Analysis of Positivities

In *The Archaeology of Knowledge*, Foucault (2008) formulates his endeavour as the analysis of “positivities.” “Positivities” is not a notion that he continued to use systematically in his later work and it certainly has not caught on in the Foucault reception. It is nevertheless illuminating for the analysis of discourse and utterances. To analyse positivities, he explains, “is to show according to which rules a discursive praxis can form groups of objects, ensembles of utterances, plays of concepts, series of theoretical choices” on the basis of which “coherent (or non-coherent) propositions are built, more or less exact descriptions are developed, verifications are carried out, and theories are deployed” (Foucault 2008:245). We would thus be mistaken to think that the term “positivity” is derived from logical positivism (Carnap 1956). Whereas Foucault is not explicit about it, it is quite straightforward to assume, as Agamben

(2009) suggests, that it is inspired by Hyppolite's (1948) rendition of Hegel's early philosophy of history.

To Hegel, the positive is not simply the concrete historical variation or specificity, but the sediment of history in and of specific societies, or “the dead element that has lost its living sense and is no longer but a residue of history” (Hyppolite 1948:38). According to Hegel, for example, Jesus is a positivity of Christian history. Hegel employed the concept of positivity when he was engaged in the discussion between the Enlightenment theory of “natural religion” based on man's universal nature and the historical account of the variety of “positive” religions. The problem in this debate was the “overflow” of religion in its historical variations compared to any formulation of a universally shared proto-religion or proto-religiousness that one could come up with – and yet *as* religions, they all seemed to share something. Kant had proposed that “practical reason” mediated between the two, but this was not satisfactory to Hegel. Practical reason itself, he concluded, varied according to society and epoch – according to the lived life of a people. For example, with the disappearance of the Ancient Greek city-state, the union of individual and social “spirit” was broken and gave way to an instrumental relationship between the two based on self-interest. In this way, Hegel broke altogether with the opposition between pure ideals and empirical variation, and with the conception of historical variation as “overflow” (Hegel cited in Hyppolite 1948:38). Historical variation is not the product of some degree of freedom in the manifestation of a causal law or arbitrariness in that of human nature. Rather it is the outcome of a specific relation of contradiction between what is currently living and what is established and dead within a given society and epoch.²⁵

When Foucault (2008) analyses utterances as positivities, he seeks to avoid a conception wherein something like Kant's “ideal” or historical “reality” lies behind or beyond the utterances produced by it, but where utterances nonetheless “overflow” it with meaning. He does so by avoiding implying assumptions about something “unsaid” beyond language – be it the “intentions” of the speaker or the real objects

²⁵ The concepts of (mechanical) cause and purpose (of action) are more closely intertwined than is admitted by positivism and critical realism: if we follow backwards the chain of causes' causes, we end with a first cause which must have the status of either arbitrariness (or “error,” as the statisticians say), which is unsatisfactory, or of Will (divine or human); if we follow backwards the chain of choices and motivations, we can distribute that Will across the chain as an overflow of freedom over determination. It is revealing to see that Popper (2002b), of all people, as well as Berlin (2002a), defended the concept of free human will in history for the concern of political freedom and moral responsibility (see Carr 1990:chapter 4).

“represented” in speech. Instead, analysis should follow the connections between utterances at the level of language itself. For example, in *The Birth of the Clinic*, Foucault (2009:15–16) seeks to avoid the endless game of hermeneutical commentary of discourses that seek to capture the essence, meaning, or intention of historical utterances in new utterances – and he does so precisely “by not assuming any residue, no excess in what has been said, but only the simple fact of its historical appearance.” Following this principle, he goes on:

we would have to treat the discursive facts not like autonomous cores of multiple significations, but as events and as functional segments forming a system little by little. The meaning of an utterance would... [be defined] by the difference that manifests it in relation to [l’article sur] other utterances (real and possible) which are contemporary to it or to which it opposes itself over time. This would be a systematic history of discourse (Foucault 2009:15–16).

Utterances form rules as they occur because they imply relations to other utterances. This is the sense in which they can be analysed as “functions” (Foucault 2008:120). This leads to a seemingly outrageous assumption: “That everything is always said in an epoch is perhaps Foucault’s major principle of history” (Deleuze 2004:61). But the assumption that “everything has been said” is not a claim with ontological commitments – on the contrary, it serves to avoid the ontological assumption of something “unsaid” beyond language which could ideally have been “expressed” or “represented” in it (but was not), be it intended meaning or objective reality. As Deleuze (2004:17) explains, Foucault employs Blanchot’s passive expressions “there is speech [on parle]” and “there is language [il y a du langage].” Discourse must always be approached as an ensemble and one must examine the dynamics of contradiction, determination, lifting, and so on by “following” these in the material. Strictly speaking, we cannot object against a specific discourse analysis simply because it has not taken into consideration this or that source of utterances. To do so would be based on some *a priori* methodological criteria that assumed something unsaid beyond discourse itself. However, we can expect for utterances that appear in the material to be followed systematically. We cannot assume – in the image of probabilistic statistics – the existence of a true function, distinct from the “estimated” function which is based on

limited “data.” Such an assumption would invoke the (teleological) distinction between universal and particular. As a consequence, the analysis of general ensembles must assume that “everything has been said.”

The anti-empiricist position of post-Hegelian theory does not imply a doubt *in absurdum* about whether we can actually say, for instance, that the historical person Marx “really wrote” this sentence we have just quoted from *Capital*, or whether the author Marx “really meant” it. In both these alternatives, we would have to assume the existence of a reality as a kind of goal (*telos*) outside language and towards which the analysis of utterances must strive. The empiricist problem is not a problem in post-Hegelian theory because a primordial separation of the subject and object of knowledge has not taken place. But this does not mean that analysis is a free game of disjointed speech. Instead, post-Hegelian social theory *commits* to follow discursive connections, and to avoid repeating the fallacies that have already been corrected in the past (such as the introduction of action or causality into our conceptions). To put it formally, post-Hegelian social theory is not committed to the three Kantian criteria for truth: correspondence, coherence, and consensus (Höffe 2010:185). Correspondence between words and things requires their *a priori* separation; consensus requires subjective reality such as theories be shared by a (scientific) community; and coherence requires a principle of non-contradiction.

In order to underscore his approach to discourses and utterances as positivities, Foucault (2008) designates his analytical practice as “description” (see also Diaz-Bone et al. 2007:3; Gutting 1989:242). This is similar to Latour (2005). I have already mentioned that this choice of words is problematic, even if the *concept* implied is not the empiricist one since it may occasion confusion. In a strict sense, post-Hegelian history neither allows for “explanations,” nor “descriptions.” Accordingly, I shall prefer to speak of “accounts” of processes and the conceptual tensions that structure them. Rather than going below what is said via interpretation or beyond it by referring to something outside language, discourse analysis stays at the level of the said and follows around the references between utterances (cf. Deleuze 2004:24).

Contrary to descriptions, “accounting” for discursive formations implies a certain conception of critique. Obviously, it cannot be the kind of critique which reveals real reality behind apparent reality. The problems that discourse analysis reveals are – so to say – already discovered by discourse itself. In this sense, discourse analysis is the

least critical of approaches. On the other hand, discourse analysis reserves the right to tarry at these problems – especially when speech itself has a tendency to rally on and cover its cracks and contradictions (cf. Foucault 2015). For instance, as the analysis of this dissertation will show, the competitive conception of the market forming processes of European financial market integration produces tensions between market and market infrastructure, necessitating the constant imposition of disciplining measures. However, as long as these measures do not bring to light or correct the underlying conception producing these tensions, they will look like coercion exercised upon the free competition between private actors from the perspective of the very conception that provoked them in the first place. This is also how an analysis of “single phenomena” such as the T2S project and the controversies around it can reveal a broader structure of coercion. Where Hegel used the “force” of the non-identity of the concept with itself to build a system, Adorno (2007:65) suggests that “negative dialectics” can be used to criticise the system from within. Again, this is why discourse analysis is not simply “describing” a random miscellany of utterances, but also accounting for the structure of a discursive formation based on a critical examination of its dynamics.

Such an assignment to the researcher is perhaps not as different from the early Hegel as suggested by Adorno and others, although it may rightly be held against the late Hegel:

Positivity is considered by Hegel as an obstacle to the liberty of man... To examine the positive elements of religion and, we may add, of a social state is to discover what in them imposes itself on man as constraints... [T]he positivity must be reconciled with reason which thus loses its abstract character and becomes adequate to the concrete richness of life... A new conception of liberty – not purely negative as in Kant – must thus manifest itself – a living liberty, a reconciliation of man with his history (Hyppolite 1948:36–39).

When revisiting Latour (2004) and Foucault’s (2015) discussions of critique, we realise that they could have been substantially more clear and specific. We also see that they were seeking a formulation within a post-Hegelian tradition (Foucault more consciously so than Latour). Post-Hegelian critique is not one understood as refusal

based on a different set values or a more accurate formulation of truth. Rather, it is in a certain sense a contribution to the realisation of the system itself in overcoming (or lifting) its specific contradictions in a process of conceptualisation.

In “What is Enlightenment?” Foucault (1994) characterises critique as “a kind of philosophical interrogation that problematizes at once the relation to the present, the historical mode of being, and the constitution of one-self as an autonomous subject,” – not through fidelity to a doctrine, but rather through “the permanent re-activation of an attitude, that is, of a philosophical ethos that one could characterise as permanent critique of our historical being” (Foucault 1994:571). Foucault thus seemingly accepts Kant’s (2015:1) definition of Enlightenment as “man’s release from his self-incurred tutelage,” but only does so by “Hegelianising” him (like he historicised the notion of *a priori* in *The Archaeology of Knowledge*) (see also Muldoon 2014:106–7):

But whereas the Kantian question was to know the limits that knowledge must renounce from transgressing, it seems to me that the question of critique today must be inversed into a positive one: what is the part in what is given [donnée, i.e. as data] to us as universal, necessary, mandatory, which is singular, contingent and due to arbitrary constraints? That is, to transform the critique exercised in the form of the necessary limitation into a practical critique in the form of the possible transgression (Foucault 1994:574)

The Hegelian conception of liberty is not a negative absence of external constraint. Nor is it one whereby significant room for manoeuvre is provided within a framework of constraints. Rather, Hegel’s idea of liberty is the very process of liberation from the specific constraints in which one is historically immersed. For example, if European integration of financial markets is constrained by a contradictory conception of the market, the critical scrutiny of that conception can be a process of liberation. Although Hegel, Marx, Adorno, and Foucault may be far apart in certain respects, they are quite close when it comes to this general conception of liberty as a process of critique. In this sense, all four of these thinkers oppose themselves to liberal conceptions of liberty as a state free of coercion based on theoretical humanism. This conception is considerably more subtle than the supposedly “positive” view of liberty provided by liberal philosophers (cf. Berlin 2002b).

I said above (p. 103) that discourse analysis is the least critical of approaches because it simply accounts for problems and contradictions that are already present within discourse itself. But since accounting for these contradictions is also to counter the coercive and disciplinary technologies and strategies of the specific discourse that is subsuming and tutoring such problems, it is at the same time a potentially very strong kind of critique. Discourse analysis is not just “writing off” (*de-scribere*) existing utterances. It is also following them around through their connections, and thereby also an account of the structure and dynamics of a given discursive formation.

2.4.3 Problematisation and Generality

Foucault has sometimes been characterised as a scholar of deviance and exclusion. However, the more precise characterisation of his general interest concerns the processes of “problematisation” that have led to the constitution of scientific disciplines as well as to the institutions and rationalities of government in contemporary society (Osborne 2003:4). In his early works on discourse analysis, Foucault did not systematically emphasise a notion of *problems*. Foucault developed the concept of “problematisation” from the 1970s onwards in relation to his analyses of liberalism and biopolitics as rationalities of government (Rabinow and Rose 2003a). Since this is often characterized as his “genealogic” as opposed to his “archaeologic” period (Dreyfus and Rabinow 1983), attempts to combine discourse analysis and problematisation in a systematic way are rare, if they exist at all (I am aware of none). These authors criticise Foucault’s project in the *Archaeology of Knowledge* because, first, “the causal power attributed to the rules governing discursive systems is unintelligible and makes the kind of influence social institutions have... incomprehensible” and, second, because archaeology does not in itself procure critical analysis (Dreyfus and Rabinow 1983:xxiv–xxv). We have seen how both these critiques of Foucault’s archaeology are misguided because he deliberately avoids causal explanations and because archaeology involves a distinct conception of critique. These points, therefore, do not provide a tenable ground for a clear distinction between an “archaeologic” and “genealogic” period in his authorship. On the contrary, the sparse reflections on problematisation in his later works may be employed to develop the discursive approach further. As Foucault stated at the end of his life: “What I tried to do from the beginning was to

analyze the process of ‘problematization’ – which means: how and why certain things (behavior, phenomena, processes) became a *problem*” (Foucault 2001a:171).

The notion of problem does not fall from the sky (see also Gutting 1989:32–42). Hyppolite (1948:26) had suggested that Hegel’s conception of contradictions leads him to the study of historical crises as the moments in which contradictions manifest themselves. In his history of science, Bachelard (2000) had focused on obstacles to knowledge, as we have seen. Canguilhem (2013), in his history of scientific concepts, had argued that scientific disciplines have tended to treat phenomena only in their specificity, while the historian must seek to determine their generality as problems. For example, medicine has treated “a congenital clubfoot, a homosexual, a diabetic,” and so on as isolated pathologies, but the historian should seek to determine the general problem between the normal and pathological in medicine (Canguilhem 2013:7). Febvre (2003) had argued that to understand “the problem of unbelief in the 16th century,” we would have to abandon our contemporary conceptions of atheism and situate, for example, the seemingly blasphemous works of Rabelais in the broader mentality of the epoch and look carefully at, among other things, the different reactions his works provoked from his contemporaries. Inspired by these authors, Althusser (2014b:14) had developed a philosophical conception of “problematic” as an organising principle of any science, both enabling it to conceive and conceptualise certain things, and disabling it from conceiving other things. To Althusser (2014b:19), a science can only pose questions and formulate propositions within the “horizon of a specific theoretical structure, its problematic, which constitutes its specific absolute condition of possibility” (see also Althusser 2005). A problematic is not defined by the “view” of a subject or the “nature” of the object, but determines its own objects and subjects as a structure of knowledge. Contrary to the *a priori* status of the limits to knowledge in Kant, there are thus no external limits to it, according to Althusser – the “invisible” is not external to the “visible,” but determined by it (Althusser 2014b:20–21).

Foucault developed a notion of problematization analysis along similar lines. Problematization analysis is not only an object of study, but also a research strategy (Bacchi 2012:1). Problematization must necessarily have this double character because it is not:

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the representation of a pre-existing object, nor the creation through discourse of an object that doesn't exist. It is the set of discursive and non-discursive practices that makes something enter into the play of the true and the false and constitutes it an object for thought (whether under the form of moral reflection, scientific knowledge, political analysis, etc.) (Foucault 1988:257).

As an object of study, problematisation is the discursive (and non-discursive) practices that establish something as a problem of knowledge and of control. As a research approach, problematisation commits the researcher to not subscribe to a particular vision of truth and not to respect boundaries – e.g. between different scientific disciplines and between science and non-science – but to consider “symmetrically” all utterances about a given problem (on the notion of symmetry, see also Adler-Nissen and Kropp 2015; Krarup and Blok 2011).

Problematisation analysis replaces the analyses of facts or meaning with a focus on break-downs (Pedersen 2016:34). Based on the development of post-Hegelian discourse analysis above, we may focus more specifically on breakdowns or crises in *conceptions*. The formation of objects is closely related to contradictions, tensions, and problems in specific conceptions of, for instance, the market, and in the discursive formations of which they are part. As we saw in Hegel's *Phenomenology of Spirit* above, such contradictions can be productive in the sense that they provoke the emergence of new concepts in attempts to solve or overcome (lift) the contradictions. It is in this sense that an account of knowledge is also historical – even if it is not a genealogy spanning centuries. Wæver (2009:173) explains that the European project can be seen as a “productive paradox,” motivating the researcher to examine “the way the integration project as such is conceptualised,” while also seeking to avoid the pitfalls of alternative approaches to depict language as a controllable “tool used in power games.” Similarly, as Rabinow and Rose (2003b:13) argue, contrary to classical critical theory which attempts to undermine the “naturalness” of phenomena by “explaining” them as the contingent product of history, Foucault's problematisation “remains on the surface” by addressing “that which has already become problematic” since for a problematisation to have been formed, something prior “must have happened to have made it uncertain, to have made it lose its familiarity, or to have provoked a certain number of difficulties around it” (see also Foucault 1998a:114).

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The fact that new events always have a specificity in relation to the pre-existing problems to which they must relate as positivities, means that these problem relations – even when concerning new events which are not pre-determined by some causality or intention – manifest a certain “generality.” Therefore, the purpose of “a history of thought” is not simply to insist on the uniqueness of singular events or responses, nor to judge which ones were correct, true, useful, and so on, but:

to rediscover at the root of these diverse solutions the general form of problematisation that has made them possible – even in their very opposition; or what has made possible the transformations of the difficulties and obstacles into a general problem for which one proposes diverse practical solutions (Foucault 1998a:118).

The sense in which one can speak of unity “is not the visible and horizontal coherence of formatted elements, but must reside immanently [*en deçà*] in the system that renders possible and governs their formation” (Foucault 2008:99). Elsewhere, he explains that:

if I evoke this generality, it is not to say that one must retrace it in its meta-historical continuity across time, but not that one must follow its variations either. What must be grasped is how what we know, the forms of power that are present in that knowledge, and the experiences we have of ourselves are only historical figures determined by a certain kind of problematisation that defines objects, rules of action, and modes of relations to oneself. The study of (modes of) problematisation (i.e., of what is neither anthropologically constant nor chronologically varying) is thus the way in which to analyse questions of general reach in their singular historical forms (Foucault 1994:577).

The word “generality” is quite fortunate. First, it captures the Hegelian distinction between *general* totalities and *specific* elements: the generality of a problem is the contrary of the *a priori* or universal character of Kantian “antinomies” of knowledge. Speaking of the generality of a problem only makes sense with reference to a specific discursive formation. Second, it is different from the empiricist notion of “generalisation” in both its descriptive and causal versions (cf. King, Keohane, and

Verba 1994). In the standard logic of inference (deductive, inductive, or abductive), based on the principle of non-contradiction, “generalisation” designates the process of extrapolating a universal truth claim to other particular cases than the ones examined. The challenge, in that case, is to assess the capacity to make such a move, the likelihood of the claim to apply to cases that have not been investigated, and the extent to and way in which particular cases “overflow” the universal (i.e., the dependence on “context,” “situation,” and so on). By contrast, “generality” is not about inference, but about accounting for the general problems that constitute the positivity of a given discursive formation. New utterances occurring within that discursive formation will enter a system of references to it and be structured by it. As Osborne (2003:7) explains: “the problems essentially determine what solutions are available,” not in the sense of pre-determining an outcome or dictating a concrete solutions, but by provoking new utterances that seek to overcome existing contradictions.

In Foucault’s later work on rationalities of government, he sees government as involving a certain problematising kind of practice that “poses the obligations of rulers in terms of the problems they seek to address” (Rose and Miller 1992:181). Rose and Miller (1992:187) argue that “expertise” emerged with the problem of liberal government to regulate the conduct of “private” enterprises, families, and individuals. In particular:

One of the central mechanisms of neo-liberalism is the proliferation of strategies to create and sustain a “market”, to reshape the forms of economic exchange on- the basis of contractual exchange (Rose and Miller 1992:199).

In contrast to traditional “critical” conceptions of governmental institutions as the instruments of domination of some ruling class or group of individuals (not only the state, but also in the EU), the object of inquiry in our study of the discursive formation of European integration, is the rationality of government of the European population and its institutions (see also Foucault 1991).

We have seen how Swedberg skipped over a serious reflection on the foundation of economic theory in conceptual paradoxes related to the market as a social order instrumental to the liberal rationality of government (p. 81). By contrast, Hindess (1998:73) points out that Adam Smith saw political economy as “a branch of the

science of a statesman” with the principle objective being “to enrich both the people and the sovereign,” not by police, but by “promoting the free interaction of economic agents.” By making inquiries into discursive formations such as the liberal one of the market, and by following the connections between utterances and accounting for the contradictions, problems, tensions and solutions they structure, we pursue a research strategy that reveals the kind of knowledge that operates in European market integration today.

2.5 Discursive Formations and Problem Analysis

Before forging what I term “problem analysis,” from a combination of discourse and problematisation analysis, let us briefly recapitulate the main tenets of discourse analysis. In the Foucaultian formulation, there is a hierarchical structure in discourse, “not all discursive strategies are equally possible,” but on the other hand discourse is not immobile, but change is largely structured by the established configuration and the rules of, for instance, the transformation of objects it implies (Foucault 2008:100, 103; see also Diaz-Bone et al. 2007:4). Discourse is a “space of order” within which “ideas could appear, sciences be constituted, and experiences be reflected” (Sabot 2006b:17). To recapitulate, discourse analysis:

- avoids establishing fixed theoretical relationships between language and non-language, notably relationships of causation and action running from language to reality or in the reverse direction;
- is not the analysis of meaning, propositions, ideas, or theories, but of utterances and the *structure* of relationships between utterances through references and significations internal to discourse itself;
- concerns a whole discursive *formation* which simultaneously enables and structures the relationships between *different* utterances (views, theories, etc.);
- is organized around seemingly irresolvable conceptual problems with a high level of generality such as madness, crime, sexuality or, as in this work, money and markets;

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- involves a constant flow of new utterances in relation to the tensions and conflicts produced by these fundamental problems, constantly pushing towards new solutions;
- conceptualises history of thought as social processes of conceptual contradictions.

The analysis of discursive formations begins with an “archive” of utterances about a given problem and seeks to establish the ways in which these – disregarding their degree of formalisation as well as their genre (scientific, theoretical, empirical, poetic, religious, etc.) – are ordered “immanently,” by the way in which they refer to, and thus assume or anticipate, each other (see also Sabot 2006b:16–17).²⁶

In the preceding section, I have argued that “problematization” analysis should not be seen as a breach with discourse analysis, but rather as a development in accordance with its fundamental commitments. To formalise this view, I shall refer to *problem analysis* as characterised by the principles summarized below. It is worth noting that Foucault (2008:263) already in *The Archaeology of Knowledge* suggested that discourse analysis could possibly be conducted of “political knowledge.” Such an analysis, he continues, would not be based on political theories, nor on economic determinants, but would rather concern “that in politics which can become object of enunciation, the forms that such enunciation can take, and the concepts that are at stake and the strategic choice that operate in it” (Foucault 2008:263).

As suggested by the previous sections, problem analysis should be particularly useful when discourse analysis goes beyond the narrow domain of scientific knowledge, and in particular when it approaches problematics of government, not least those related to the economy and to the (neo-)liberal rationality of government. On this background, we can state the following general principles of problem analysis as an elaboration and specification of the general principles of discourse analysis provided above. Problem analysis seeks:

²⁶ Foucault refers to this as “archaeology” by which he seemingly passes the modern meaning as “the study of old things” in favour of something closer to the etymological meaning in Ancient Greek: “old knowledge” or simply “lore.” However, I have found no etymological discussion of the concept in Foucault or elsewhere, except in Sandywell (1995:143) and Sabot (2006b:16) who emphasise *archè* which they suggest Foucault might have translated with “birth” used in the titles or subtitles of several of his books, which would suggest “the birth of knowledge.”

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- to conduct immanent and *non-teleological* analysis of discourse that does not seek to establish relationships between language and non-language;
- to identify the formation of objects, concepts, modalities, and strategies as in classical Foucaultian discourse analysis, and also more specifically how these are organised around *problems*;
- to thus account for the *formation of problems* and thereby for the (hierarchical) problem structure in a given discursive domain;
- to focus not only on disagreements but on *breakdowns* in discourse, that is, on the points where incoherence and contradiction emerges;
- to not equate problems with disagreements and different positions of a debate, but focus instead on how they appear even in seemingly coherent speech of a single position or even a single speaker;
- to examine how these points of breakdown or instability in discourse come to structure *controversies* and thus the organization of different and contrasting views, theories, and policies;
- to employ a generalized principle of symmetry, not distinguishing *a priori* between, for instance, political and technical, scientific and non-scientific, or important and unimportant utterances, topics, domains, controversies and so on;
- to pay particular attention to the rationalities of liberal government, that is, briefly, the government through individual freedom; and, in our case,
- to analyse the central position occupied by the conception of *the market* as the sphere in which “free individuals” exchange and through which government must work.

Compare this to a less fortunate formulation: Bacchi (2012:4) has called this kind of analysis “problem representation” and directs focus towards how phenomena are problematised and how “every policy or policy proposal is a prescriptive text.” She further proposes that such an analysis can begin with “any policy proposal and “work backwards” in order to deduce how it produces a “problem”” (Bacchi 2012:4). By contrast, *problem analysis* avoids speaking of “representations” and of how policy texts are prescriptive in the sense of having “performative” effects in the real world.

Moreover, it proceeds in the reverse direction of the one proposed by Bacchi: not from final policy texts to problems produced by these, but from discursive problems structuring the conflicts and solutions of which policy proposals are only one kind (one could also think of technical, organizational, legal, etc. solutions).

Foucault's problematisation approach has sometimes been claimed to imply "a willingness to suspect the self-evident and useful" as well as the active engagement in "the unpacking, deconstruction, and critique of concepts and categories that belong to the received cultural and scientific traditions and wisdoms, and that also form the major input for our thinking and construction processes" (Alvesson and Kärreman 2011:41). By contrast, the reading of Foucault implied by problem analysis emphasises that such instability – if there is any – must be traced in the positivities of discourse themselves rather than created through "critical" analysis. It is in this way that criticism in Foucault's (1998b:201) sense "brings to light transformable singularities." From the perspective of problem analysis, it is not discourse that is part of politics, but politics that is part of discourse (see also Diez 1999:604).

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In the preceding chapter, I explained that problem analysis is not about establishing causal relationships between a realm of language, ideas, symbols, or theory, on the one hand, and a realm of material reality, nature or political outcomes on the other; nor is it about interpreting (social) meaning of speakers and listeners. Rather, it is about the structures of signification between utterances in relation to a set of problems within a discursive domain. Problem analysis must be achieved by following the relationships between utterances, focusing in particular on contradictions and breakdowns and on how they provoke and structure new utterances. Moreover, whereas it is possible to position the discourse analysis of processes of European integration of financial market infrastructures in dialogue with a list of literatures – notably with political economy, European integration studies, new economic sociology, and sociology of money – I engage primarily with the social studies of finance literature because of its interest in knowledge and technology in markets. But while the concept of performativity is indispensable to social studies of finance, discourse analysis looks at the relationships between different economic theories as they are manifest in speech and writing – sometimes within a single utterance. Far from a single more or less coherent theory, discourse analysis is about a field of possible theories and utterances in relation to a set of fundamental problems, which structure the formation of objects, concepts, theories, and enunciative modalities.

3.1 Analytical Approach

To see how problem analysis may work out in practice, consider the example of money. Problem analysis would begin with the concept of money as it occurs in the material and examine what other concepts relate to it. Once these relationships are established, one is better positioned to ask a series of questions about why they are in place and how they came to be. For instance, why is there a distinction between central bank and commercial bank money? Why is there a distinction between money and credit, or between money and commodities, when apparently money is at the same time both credit and commodity? However, the interesting part is not simply whether we find answers in the material, e.g., whether a central banker explains to us the

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difference between central bank and commercial bank money or not. There may be answers given, but perhaps there are different answers, and so the same questions can be raised at another level: why is the relationship between central bank and commercial bank money (or between money, commodities, and credit for that matter) so seemingly problematic? How is it possible that there is a problem (or controversy) in the first place?

Certainly, it is also possible that the material contains no explicit answers to these questions, and yet we find the same concepts still operating, perhaps under different names. For instance, an interviewee may explain that settlement using custodian banks is not entirely safe because such banks are private companies that may go bankrupt and, accordingly, can impose risk on the clients they service. This indicates a problem with settlement conducted by market actors on market conditions, and thereby also that some kind of system of money and settlement rooted outside the market (e.g. in the central bank) may be required. This requirement is suggested to us – even if it is not part of the *proposition* of the interviewee – because it appears to be an operating necessity or implied reference according to which *utterances* are organised (cf. the distinction p. 66). In such cases where we sense a deeper problem structuring utterances, one research strategy is to clarify how the different concepts that occur are related to each other. For instance: has the introduction of central bank money removed the problem of risk in settlement or only reconfigured it? Or does the problem re-emerge in new ways?

This research strategy thus pays particular interest to cases of contradiction, problems and breakdowns. Such moments potentially render visible why a concept was there in the first place as an attempted solution to a problem. They also show how that solution transformed the problem, linking it to yet other concepts.

In Parts II and III, I argue that the concept of money as it occurs in European financial market integration implies a fundamental contradiction between a safe, efficient, and common medium of exchange, on the one hand, and the provision of services at a cost of removing risks, barriers, and fragmentation, on the other. As such, it illuminates how the distinction between central bank and commercial bank money seeks to impose order, and yet is also prone to multiply itself as a problem in different ways across various domains.

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In a more general formulation, asking the following kinds of questions can help us approach problems: “How can it be that X is there in the first place?” For instance, how can it be that there is a controversy over the way to have simultaneous delivery versus payment (DvP), if DvP is fundamentally a simple practicality of exchange, conceptually independent of it? By posing this seemingly trivial question, we are aiming at the discursive problems rather than, for instance, the conflicts of interest. For a conflict of interest to occur it is necessary that there is something to conflict about in the first place. Therefore, we are not satisfied with the solutions eventually provided as answers to the problem that preceded them: T2S was a solution to the DvP conflict, as we shall see, but T2S does not clarify what the problem was that made that conflict possible. T2S may have “won” as a solution, but it did so only by “lifting” – rather than eradicating – the contradiction.

It is not enough to observe that there are different conflicting “views” and theories in the material. Whereas the analysis of controversies is important in its own right, it also serves as a starting point for the higher purpose of problem analysis, namely to display the discursive structures according to which controversies are organised. If the different controversies do in fact belong to the same discursive formation, this way of “following the problems” should also help link the controversies beyond their trivial occurrence in time around a given topic or set of events. This procedure also conforms to the principle of symmetry, according to which one cannot delimit the study from the outset to, for instance, “political,” “technical,” “theoretical,” or other domains. Rather, one must go where the discursive problems lead.

A broad sociological audience may be easily convinced that the four controversies identified around T2S can be linked. A more conspicuous example of symmetry in this dissertation is the link made between T2S and economic theory. This is because many sociologists either (a) conceive of theory as existing at a different ontological level than, say, settlement technology, or (b) hold that since the domain of academic literature and the domain of financial settlement cannot *a priori* be assumed to be linked, a convincing demonstration of a chain of historical actions or other links between the two must be provided. As I have argued in the preceding chapter, however, problem analysis questions whether such an approach is always meaningful (or even possible) and opts instead for a kind of homology approach between the two domains. For didactic purposes, one may in fact think of this, not so much in analogy

with MacKenzie's (2006) back-and-forth between Fischer Black and the Chicago Board of Trade, as in terms of homology in Bourdieu (1979:196) according to whom "practices and goods associated with different classes in the different domains of practice are organized according to perfectly homologous structures of opposition because they are all homologous with the space of objective oppositions between conditions." But while in Bourdieu the question concerns the homology between a space of conditions and a space of practices, problem analysis focuses – at least in the present case – on homologies between two domains of discursive practice. Consequently, the structuring principle is not oppositions at the level of conditions (e.g., between different volumes and compositions of capital) as in Bourdieu, but rather discursive problems at the level of discursive practices.

At the same time, problem analysis does seek to establish one specific kind of link between the domains of economic theory and financial infrastructures, namely discursive links between utterances. Two important such links established in the analysis of this dissertation illustrate the point. First, we find that a conception of the market equivalent to the one found in economic theory is inscribed in the foundational documents of the EU (the *Treaty* and the *Statute* of the ECB). This, in turn, provides a main motif for the integration of financial markets and of financial market infrastructures. Second, we see that utterances directly mobilising economic theory are found in the process of European financial market infrastructure integration. These exist not only in the interviews and documents (such as the *Giovannini Reports* commissioned by the European Commission), but also in a series of studies conducted by economists about the question in the mid-2000s. The aim of the present research, however, is not to trace historically the links, for instance, between economic theory and the formulations of the Statute of the ECB, which would be a wholly different exercise. Rather, it is enough for the present research to observe that such links have been established at a very fundamental level, and then proceed to examine the ways in which discursive structures across the two domains are homologous. By this we mean that they are organised around the same discursive problems in equivalent ways – just as the seemingly different controversies can be shown to be.

The value added of such a demonstration does not relate to some theory about the economic "ideology" of Eurocrats or to the "performation" of economic theory in European market integration processes. The question is not about a more or less

coherent theory that invades a virgin field of politics, but rather about a structure of knowledge problems, contradictions, relationships, and so on that deploys itself in two seemingly different domains (just as it deploys itself in four seemingly different controversies surrounding T2S). This, in turn, casts new light on the well-known fact that the EU is based on market principles and is predominantly a liberal project. Notably, it casts new light on the structures of integration processes and on the problems around which they are organised. It moreover points to some of the limits and inbuilt contradictions of the European project as it stands. It finally gives weight to the argument that the controversies are indeed the products of very stable problems at a deeper conceptual level, since the academic treatment of these very same problems in economic theory for decades, if not centuries, should otherwise have been expected to provide viable solutions to them. But as Snowden and Vale (2005:6,8) write in their history of modern macroeconomic thought: “disagreement seems to be the norm for macroeconomics” and that “many contemporary debates bear an uncanny resemblance to those that took place between Keynes and his critics in the 1930s.” Like many other historians of economic thought, Snowden and Vale refer this observation to an allegedly necessary back-and-forth between theory and an ever-accumulating mass of data. By contrast, this dissertation suggests that disagreement within the field of economic theory is continuously re-produced by fundamental conceptual problems. Observing a homologous problem structure and re-productive dynamic outside the academic field of economic theory in the case of European market integration processes only further strengthens this argument.

However, it deserves mention that all the benefits of establishing a homology between academic economic theory and European financial market integration were not identified before the inquiry as in a kind of “most-different cases” design for comparative research (see, for instance, Ragin 2014). Indeed, this would have been contrary to the principles of symmetry. Rather, they are the product of that inquiry itself, which has led to the said connections being established between European market integration processes and economic theory.

The above directions imply that it is necessary to go into the details of the problems as they present themselves – even if they often do so in a highly technical, juridical, or economic manner. The end-goal is not to make a generic claim about the “social construction” of T2S or of integrated financial markets, and so a profound

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understanding of the problems as they present themselves as positivities cannot be dispensed with. To be clear, this does not imply assessing the truth value of propositions made in the material. For instance, in one interview on T2S I ask a question about the “functions of money” – implicitly referring to economic theory:

But this is something that has nothing to do with your thesis, it is about the monetary transmission process and how money is created by the central bank. We could also talk about that, but I don't think it has anything to do with your thesis (I25).

Utterances such as this one are obviously important in characterizing the problem at hand, but not because we seek to accept or reject its *proposition*. For one, other interviewees proposed that the distinction between settlement and monetary policy is less stylized, as we shall see in the analysis. But even in the absence of such disagreements over true and false propositions in the material, we may trace problems operating in the discourse, which are producing tensions and solutions between allegedly separate domains. The degree of awareness of the interviewee to these processes is of secondary interest at best. This is an important difference from phenomenological approaches (see, for example, Fischer 1989; Polkinghorne 1989). More importantly, it marks the difference between problem analysis and the simple study of controversies, as argued in the preceding chapter.

One important example of propositions found in the material are the causal explanations provided by both interviewees and documents and by economic theory (see Marcussen 2000 for a social constructivist analysis of these in the case of Economic and Monetary Union). For example, as shown in Part II, there exists disagreement as to the effect that T2S will have on European financial markets, and whether it has a sound legal basis. It would, of course, provide the present study with an aura of relevance and importance if we sided with those who claim that T2S will have important implications in the future – but that is not the question.

3.2 Steps and Pitfalls in the Research Process

In their *Qualitative Research and Theory Development*, Alvesson and Kärreman (2011:67) suggest that it is not only important for social research to *solve* what they call “mysteries,” as it can be just as big an effort to *pose* the presence of mysteries in the

first place. Indeed, no guarantee can be given in advance that mysteries *can* be solved at all. In order to further specify the problem analysis approach, it is worthwhile to consider the analytical steps they propose for establishing mysteries, as this concept bears some resemblances to that of “problems” developed in the dissertation. The steps are the following (Alvesson and Kärreman 2011:67–72): 1) “Familiarization with the setting under study and making inquiries about themes in a fairly open way;” 2) “Encountering/constructing breakdowns in understanding;” 3) “Moving from breakdown to mystery;” 4) “Solving or reformulating the mystery through the development of a new idea that offers a new interpretation of the phenomenon that inspired the mystery; and 5) “Developing the (re)solution of the mystery so that it gains a broader relevance for a specific terrain and... [positioning] it more clearly in relationship to other theories.”

As for the three first steps, they are largely corresponding to the principles of problem analysis: one must go into the details of the problems that present themselves in the material; one must focus on breakdowns; and one must seek to trace the sources of these breakdowns in general problems produced by the conceptual structure within which they appear. The main difference concerns steps 4) and 5). On the one hand, problem analysis does seek to reformulate the problems it encounters, in so far as it seeks to display a discursive formation. Also, it does seek a level of generality, in so far as it demonstrates how such a formation covers seemingly independent domains (such as economic theory and European market integration). On the other hand, the purpose of problem analysis is not to *solve* the problems encountered, but to show how solutions are generated in a structured way in the material. This is why problem analysis does not go beyond or behind what is being said, but stays at the level of the said, as explained in the previous chapter. One could perhaps say that the sequence of problem analysis returns to 1) after 3), seeking to understand how solutions push contradictions and problems onto new planes in a process that problem analysis must attempt to follow. One example of this examined in chapter 7 is how the concept of liquidity – which bridges and seemingly resolves the contradiction between money as credit and as commodity in settlement – re-produces that problem at a different level, posing a new question about the concepts of collateral and collateral fluidity.

Concerning the breakdowns in step 2), problem analysis draws on Panourgias’ (2015) notion of controversies as a starting point for identifying these. Recall from

chapter 2 (p. 86) that “controversies” refer to “disagreements, negotiations, and the potential for breakdowns” (Panourgias 2015:320). Panourgias explains that controversies “provide a good setting from which the mechanisms of adjustment amongst the various actors can then be described” (Panourgias 2015:320). Drawing on Akrich (1992), Panourgias suggests that one approach is to follow the negotiations between different parties in a process of technological development – for instance, between designers and potential users – and to “study the way in which the results of such negotiations are ‘translated into technological form’” (Panourgias 2015:320). But whereas Panourgias (2015:320) – in line with Latour – proposes simply to map the sequence of transformations of subjects and objects ensuing from such negotiations, how they are stabilized in socio-technical solutions, and how they gradually gain acceptance, problem analysis proposes to link the controversies at a different level according to the discursive relations they deploy in relation to a general problem structure.

Consider another set of methodological reflections. In their *A Political Sociology of the European Union*, Mangenot and Rowell (2010:3) forward a classical sociologist critique of discursive approaches to the study of the EU for lacking social context, actor interests, and sound methods. The authors warn against denying agency to actors “exposed to the normative pressures of appropriateness” and propose instead to:

theorise agency as the ability to recognise and pursue individual interests, which varies according to the quality and types of resources held by social agents, pre-existing dispositions more or less adjusted to dominant norms in a given context of interaction and finally the changes in the configurations and structures of power relations which create opportunities for a strategic reinterpretation of norms (Mangenot and Rowell 2010:3).

Their approach is interesting here because, on the one hand, they come up with a specific list of methodological proposals for discursive approaches to the study of EU integration while, on the other hand, their clear rooting in traditional sociology enables us to point out some important methodological specificities of problem analysis.

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Mangenot and Rowell emphasise the role of agency as fundamental to the study of the EU. This makes them “theoretical humanists” in the sense that they clearly grant a fundamental theoretical privilege to the notion of “actors” – even if these are not completely free, nor completely restrained, but rather “socially embedded” (Mangenot and Rowell 2010:6). It also brings their vision of discourse closer to that of speech acts (Austin 1975; Searle 1969) than to that of Foucault (2008), whom they do not mention in their discussion of discourse analysis.

Specifically, Mangenot and Rowell (2010:6) criticise the “ideational exclusivity” of existing discursive approaches to the study of the EU on the following grounds: 1) they tend to be “disconnected from the institutional, social and political context of its [the discourse’s] elaboration and reception;” 2) little attention is given to “the specific resources and legitimacy of certain strategic actors who seek to impose new cognitive frames and group norms, thereby missing the essential problem of authority, symbolic resources and power relations;” 3) they focus “uniquely on the most visible and institutionalised discourses” which “raises the problem of seeing failed attempts to contest or impose new norms... [that would] bring to light powerful mechanisms of domination such as gate-keeping and agenda denial;” and, finally, 4) “the empirical dependency on visible texts and discourse to identify ideational forces therefore tends to leave out tacit norms which can be all the more binding as they ‘go without saying’,” on the one hand, and “‘hard norms’ such as institutionalised procedures, rules or cognitive categories inscribed in policy instruments,” on the other. Now consider how problem analysis deals with these critiques.

First, to avoid “disconnection” from institutional and political context, rather than simply adding this “on top” of the discursive analysis, it is important that this “context” is integrated into discourse analysis in a coherent manner. I therefore propose to pay full attention to how institutional and political issues occur *within* the analysed discourses themselves, as objects of discourse and as situated elements in the discursive formation under question. Notably, a substantial part of the interviews in this dissertation have been devoted to the (chronology of) events, identification of the involved parties, and their doings. But rather than conceiving of these statements as either true accounts of, or as situated perspectives on, some (ontological or constructed) “reality” of T2S behind or beyond discourse, these utterances will be treated simply as what they are: elements of discourse.

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In relation to the second issue raised by Mangenot and Rowell, concerning the symbolic resources and power of strategic actors in affecting norms of individuals and groups, I propose a solution that is also in line with discourse analysis itself. The implication here is not to develop a concept of power that acts externally on the strategic formation of “norms” in discourse. Instead, a conscious effort has been made to give interviewees room to reflect upon the (changing) constellation of power during the T2S project and upon possible explanations for its success. This approach has the advantage of not depending on a theory of action (of whatever kind), because “power” here can be treated as an object of discourse.

Third, the problem of relying only on “the most visible and institutionalised discourses,” excluding, notably, any account of “failed attempts,” appear to be mainly an issue of thoroughness in the construction of the archive (see below). Specifically, the principle of symmetry prohibits stepping back from problems of any kind – technical, legal, economic, political – even if this implies very demanding efforts from the sociologist to engage in the jargon, specificities, and details of other disciplines, or to follow problems into domains that were not envisioned in the original research plan. It will become clear in the analysis of settlement techniques and in the discussion of the relationship between the market and the state, for example, how important the compliance with this requirement has been in the present work.²⁷

Finally, the problem that “the empirical dependency on visible texts and discourse” tends to leave out tacit norms and institutional routines is responded to by the principle of looking for breakdowns, problems, and contradictions. Moreover, entering the details of, for instance, a settlement system, naturally brings out in the open things that may be “tacit” in the domains of politics and economics. For instance, as we shall see in chapter 7, more than half-way through my interviews, I realised that the taken for granted notion of what central bank money (and, by extension, monetary policy) is was actually destabilised by seemingly unrelated issues in settlement infrastructures.

Adopting these responses to the critiques of discourse analysis in Mangenot and Rowell, problem analysis avoids entering the circular structure of social constructivist theory as discussed in its different variants in the preceding chapter.

²⁷ This requirement thus also responds to the critique of discursive approaches in European integration studies for remaining at the level of political discourse in “parliamentary debates, public speeches of politicians, party pamphlets, and other public speeches and papers” (Diez 2008:267).

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At a more practical level, Mangenot and Rowell (2010:7–8) propose “three possible paths” for improving the often (in their view) lacking and unclear methodological soundness of discursive and constructivist approaches to the study of the EU. First, they propose to employ “more formalised methodologies of text analysis.” In this dissertation, I have sought to develop the principles of problem analysis above, and will present the employed strategies for coding and treatment of the material in section 3.4 below. Second, Mangenot and Rowell suggest using methodological “triangulation” through “combined research methodologies and diversified empirical sources... first and foremost a differentiated treatment of discourse produced and collected in different contexts or through different techniques,” but also by “multiplying the points of view and varying methodology and the types of sources to tell a more complete story.” Correspondingly, this dissertation has sought to cover as much variation in both interviews and documents as possible in relation to T2S, as explained in more detail in section 3.3. Third, Mangenot and Rowell suggest to specify “the sociological and institutional coordinates of ideational factors,” asking questions such as: “Who is producing the discourse being analysed? In which institutional and social context is discourse produced, and for what purpose? What are the procedures and explicit and implicit rules governing discursive acts?” This dissertation will not attempt a sociological embedding of discourse as these authors propose. However, as stated by Foucault in *The Archaeology of Knowledge*, such questions of positions can be posed within the structures of discourse itself. The difference is whether that position refers to something outside discourse or remains an object within it.

Given the “radical” insistence on the immanent character of problem analysis in this dissertation, one final consideration deserves special mention. Considering history, actors, institutions, interests, social positions, and so on as internal to discourse does not imply that a historical course of events cannot be described in simple terms as part of the analysis. Indeed, Part II will consist to a large extent in such an historical account of the T2S project. But this is a strategy for presenting an argument rather than a consequence of some empiricist structure of that argument: emphasis and detail is given to some aspects while other aspects serve merely as background. The important thing is that this historical account does not theoretically assume the character of a given reality against which utterances (in the material or of the researcher) can be measured. On the contrary, each time we encounter attempts to

privilege some utterances as “true,” it is an indication that there is some problem or contradiction at play. In that case the analysis must change its modus and begin to treat the topic as a problem of discourse, inquiring its character and structure. This research process, however, is not depicted in the final presentation of the argument, where the results of the analysis structure the choices of foregrounding and backgrounding the different elements.

3.3 Constructing an Archive

Foucault (2008) refers to the materials analysed as the construction of an “archive,” that is, an ensemble of utterances in relation to a given phenomenon, in this case T2S. There are no *a priori* limits to the kind of materials that can be included: scientific works, political and institutional documents such as decrees, regulations, registers, judicial precedent, or practical and prescriptive texts offering “rules, opinions, and advice on how to behave as one should” (Foucault quoted in Bacchi 2012:3). Similarly, there can be made no *a priori* distinction between disciplines, science and non-science, right or wrong propositions, morally sound or evil phrases, big or small, important or unimportant utterances (Deleuze 2004:28–29). What matters is the problem that organises them. On the other hand the amount of utterances forming a discursive formation is not infinite because in order to belong to it they must occupy relations within it. As mentioned in the previous chapter (p. 102), the construction of an archive thus rests on an assumption that the amount of utterances of a discursive formation is finite because they are limited by the discursive formation to which they belong and within which they occur (Deleuze 2004:25).

As described in the previous chapter, problem analysis focuses on breakdowns and controversies. According to de Goede (2005:9), discourse analysis should focus on “the exclusions made for financial discourse to emerge as a rational, normal, scientific, and respectable practice.” Accordingly, “Foucault selects his sites – his “problematizing moments” – by identifying times and places where he detects important shifts in practices” (Bacchi 2012:2). In the construction of an archive of utterances about processes of financial market infrastructure integration in Europe, it was therefore only natural to begin with a seeming break that occurred in 2006 when – after years of relying on private initiative, the ECB proposed a solution led by itself based on the insourcing of settlement activities from private CSDs. However, the end goal of the

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analysis is not to explain this change in causal terms, but rather to understand how it was possible in the first place by inquiring into the character and structure of the problems that led to it. Following these problems further ahead in the T2S project enables a richer account of them.

In order to identify problems and the structures of the formation of objects, concepts, and enunciative modalities and strategies, it is important to cover as much variety within a discursive formation as possible (see also Diaz-Bone et al. 2007:3–4). Since the character of the discursive formation is not known in advance, and is, in fact, the product of the analysis itself, such variation can initially only be provisional. However, by gathering a variety of utterances about a given topic (here T2S) and the problems already identified, the gradual development of analysis can be pursued. In the present case three kinds of material were gathered: interviews, documents and economic theory. These are discussed in turn below.

3.3.1 The Interviews

59 interviews have been gathered in five countries; from the EU, national, and private institutions; and across a close-to-full variety of institutions involved in or affected by the T2S project: central banks, custodian banks, big and small commercial banks, national and international financial infrastructure providers (private and public), regulators, and securities-issuing financial institutions.

It has been relatively easy to access interviewees through a transparent ECB webpage with lists of parties involved in the project from different countries, as well as links to reports on T2S and related issues. I agreed with most interviewees that they spoke on their own personal behalf, rather than representing or reflecting the views of their institutions. Moreover, all interviewees have been promised anonymity. The exact meaning of this, however, was often negotiated during interviews. Whereas I initially proposed anonymizing names, several interviewees have explicitly required that I would not mention the name of their institution. This has complicated the writing somewhat and has an impact on the transparency of the data. There is only one central bank and CSD per country, for example, and each EU institutions is totally unique. In the cases where an interviewee requested his or her institution not be named, it is thus not even possible to report that a quote or piece of information is taken from an interview with a German CSD employee or a French central banker. I

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have decided only to fully comply with these precautions when quoting interviews in the cases where this was explicitly requested, but because some interviewees made this stipulation, I cannot provide a complete list of interviewees with their country and institutional affiliation, nor can I crosstab the two. What I can provide is the number of interviewees by country and sector in *Table 1* and *Table 2* below.

Interviews are referred to in the analysis with an “I” followed by a chronological number, for example, “I24” for interview number 24. Interviews were produced between late 2013 and mid-2016, but the bulk of them (45) were produced between summer 2014 and spring 2015. 59 interviews have been conducted with a total of 72 interviewees. The interviews have a mean duration of about 01:45, with 11 interviews exceeding two hours.

Table 1: Interviews and Interviewees per Country

	Interviews	Interviewees
Germany	14	19
France	15	16
Denmark	19	24
EU Institutions^a	6	6
Belgium^b	4	6
Greece^c	1	1
Total	59	72

^a European Central Bank and European Commission; ^b excluding EU institutions; ^c Greece was not a part of order to clarify the reasons for the CSD for stocks not joining T2S before 2017.

Table 2: Interviews per Sector

	Interviews
Central Bank	20
CSD and ICSD^a	10
Bank	19
Other^b	10
Total	59

^a Central Securities Depositories and International Central Securities Depositories; ^b clearinghouses, stock exchanges, covered bonds institutions, banking federations, and regulators.

In the attempt to cover as much variation as possible, three main countries of focus were selected: Germany, France, and Denmark. Germany and France are the two main euro countries and host two central banks in the so-called “3CB” and “4CB” that are responsible for the Target2 (cash) and Target2 Securities projects respectively.²⁸ Moreover, these two countries were the main opponents in the technical controversy described in chapter 5 which resulted in the initial conception of T2S around 2006. Denmark, on the other hand, is not only a small country with no financial players of major importance at a European scale²⁹, but also one of the few non-euro countries to join T2S in the first round of migration waves between 2015 and 2017.³⁰ Other countries may join at a later point but have made no commitments to do so at the time of writing. Moreover, a few interviews have been conducted in Belgium (excluding EU institutions) which hosts important international players in the field, notably two ICSDs and some global custodian banks. In Belgium, therefore, interviews have not been done with local authorities, but with international players. Finally, EU level institutions were included, notably the European Central Bank (ECB) and the European Commission. The ECB initiated, owns, and operates T2S, while the Commission has played an important role in initiating and facilitating integration processes in the field and in pushing through new regulation.

Ideally, the United Kingdom, a Southern and an Eastern European country would have been included in addition to these. The UK is the financial centre of Europe, but is not in the Eurozone and has decided not to join T2S despite initial support from the Bank of England. A better understanding of the reasons behind this choice as well as interviews with global investment banks could potentially have added further nuance to the study. Had more time been at my disposal, I would have prioritized including the City in the study. Southern European countries might have a different story to tell due to their different financial and economic history, in particular after the crisis. One interview was conducted in the Greek CSD, however this informant did not provide a substantially different account. Settlement appears to remain a domain that is semi-autonomous from the ups and downs of financial markets and political life in the European Union. Finally, Eastern European countries are relative newcomers in the

²⁸ 3CB also include the Italian central bank and 4CB the Italian and Spanish central banks.

²⁹ Excepting its mortgage covered bonds system which is one of the biggest in the world. The biggest Danish banks are medium-sized regional banks (Danske Bank and Nordea).

³⁰ The others are Hungary, Romania, and Switzerland (ECB 2015c).

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field. These countries did not have financial markets before exiting the Soviet Union and many countries have only recently established CSDs. Moreover, the small CSDs in some of these countries are the ones in most risk of being pushed out of the market from the increased competition that will result with T2S. This problem is already partially represented with the inclusion of two small countries, Denmark and Belgium.

Six interviews have been conducted with persons from European institutions. While the quality of these interviews is very high, this is admittedly still a somewhat low number. However, these two institutions are heavily represented through the selection of documents (see below).

Most interviews have been conducted with central banks, CSDs and ICSDs and banks (both commercial and custodian banks, big and small banks, banks actively involved in the T2S project, and banks not involved). In addition, eight interviews have been conducted with representatives of other institutions in the post-trade sector: clearinghouses, stock exchanges, covered bonds institutions, banking federations, and regulators.

In accordance with the idea of “following the problem,” interviews can – somewhat stylistically – be categorized chronologically in three different phases according to their focus. The first phase was exploratory in the field of payment and settlement systems, before the choice about focusing on T2S was made. Most but not all of these interviews were conducted in Denmark. Second, the bulk of interviews are either fully or substantially devoted to T2S and the European integration of settlement systems. A third and final phase was increasingly oriented towards issues of collateral mobility, securities lending, and repo – phenomena known from contemporary financial markets which have specific uses in the world of settlement, as discussed in Part III. These issues gradually emerged as I sought to follow the problems surrounding T2S. Eventually, they also led away from any specific relationship with T2S and the problems around it, and therefore provided an opportunity to end the production of interviews.

A good deal of the interviews was concerned with technical and legal understandings of the issues at stake. Moreover, whereas a list of questions was always prepared in advance of each interview, these would generally concern the work of the interviewee, technical matters, or other issues, events, and discussions related to T2S with which the interviewee could be expected to be familiar. In accordance with the

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principles of discourse analysis, this interview format gave interviewees the opportunity to utter concerns, views, problems, and knowledge claims in a relatively free manner. However, this principle was complemented by another one which was sometimes implemented when interviews were well underway. This more critical technique could range from persistent questioning as to the alleged coherence of some argument made by the interviewee, the presentation of divergent views from other sources, or (only by the end of an interview) of certain analytical ideas or reflections of my own. Responses to these interventions were varied. The important thing is that it provided a way to de-naturalise the discourse of the interviewee and so provoked a series of more or less pre-given solutions, counterarguments, and so on. In more than one case this led to surprising expressions of political views or to unexpected lines of reasoning.

With the exception of a few cases where recording was denied by the interviewee or where the interview was conducted by phone, all interviews were transcribed, producing more than 435.000 words (1.500 pages).

The analysis of the transcribed interviews posed a challenge because empiricist methods of hypothesis testing or induction could not be applied off-the-shelf, while Foucault provided no explicit reflections on the issue. However, the guiding line was to consider the material as a comprehensive archive of utterances in order to follow the relationships between these with particular attention to problems identified in controversies and breakdowns of coherence. For this purpose, the coding proceeded in several steps. First, a provisional list of simple topics and problems was created and quotes were distributed under each one of these, together with analytical comments and ideas attached to them.³¹ This manual technique had the advantage over coding software that comments attached to a citation (containing analytical ideas, references to other sources, etc.) could be carried over in an output document. Most coding software does allow attaching comments to quotes, but not maintaining that attachment when coded quotes are exported to an output file. The manual procedure, by contrast, allowed comments to be added continuously and to build the analysis across several steps without interrupting the “following” of problems.

Based on the first step, a revised and more elaborate list of topics was created, corresponding, in part, to that of the final structure of the analysis in this dissertation,

³¹ Early interviews were about payment systems and were motivated by a theoretical interest in money. This theme also guided some, but not all, of the problems in focus in the first step of coding.

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including a heading-subheading hierarchy. A second round of coding was conducted in which the organisation of each quote in the structure of problems/headings/codes was reconsidered and more developed commentary was attached to it, with more references to other codes, quotes, and problems across the ensemble of the material. In this second step, codes were increasingly motivated by problems and contradictions compared to generic themes which dominated the first step.

In both steps, the exact wording of the codes as well as their organization was open to modifications. However, in accordance with the principle of staying at the level of utterances themselves, no “theoretical” codes were used about, for instance, the “social construction” of T2S.

In a third step, writing the analysis was based on the collection of quotes and comments under each code, but maintaining a certain flexibility in moving elements around. This meant that the writing process of each chapter began with a manageable volume of semi-organised quotes about a problem, set of problems, or simply a topic (usually about 30-60 pages).

The procedure was heavy but well adapted for the purpose. By treating the material as an ensemble and only gradually identifying and examining conceptual objects, problems, and contradictions, I was able to follow relationships between utterances through a long process of analytical treatment (this work occupied the bulk of my time for almost half a year).

Leaving aside the rejection of empiricism for a moment, we may say that the treatment of the interviews thus combined deductive and inductive elements in a procedure that was at once step-wise and continuous (Miles and Huberman 1994; Miles, Huberman, and Saldana 2013). More specifically, it corresponds to the advice given by Alvesson and Kärreman (2011:42) that the researcher first conducts a quick coding process and then continues to look for less obvious and less easily revealed patterns, bearing in mind the totality of the text. In particular, these authors emphasise the importance of the fact that “variation and contradiction are seriously considered, and not suppressed or neglected” (Alvesson and Kärreman 2011:42). This is an important point shared with post-Hegelian problem analysis. Indeed, a substantial part of the analysis of the material consisted in identifying contrasts, controversies, contradictions, and problems, and then in tracing these through the material to establish the relationships between them.

3.3.2 The Documents

The documents that have been produced in relation to T2S are legion – at least if one includes both private and public legislation and regulation, the material available at the project website³² and other Internet sources, reports by the Commission, central banks and other involved parties, consultations, hearings, and speeches. The first and main principle for inclusion was whether a document was mentioned by an interviewee or in a cross-reference from one document to another. In addition, various searches have provided complementary documents. Most of the documents mentioned by interviewees were legislation and reports produced within the sector itself; however, in a few instances there were references to academic work. In particular, the technical and legal documents are heavy loads. For instance, the *T2S User Requirements* (ECB 2015e) counts more than 500 pages and the *CSD Regulation* (European Commission 2014b) counts more than 70 pages of pure legal text. The reading of these documents has been selective based on indications from interviews and other documents. By contrast, the many reports produced in relation to T2S by or for the Commission, the ECB, and other central banks, as well as CSDs and various industry federations have generally been read in full and provided with extensive commentary. *Appendix* provides a full list of the documents consulted.

Notes were taken and commentary made while reading. Those elements that were deemed of relevance to the analysis were copied into the coding documents (on a continuous basis) where they counted as quotes on equal footing with those from the interviews. Ideally, documents would have been fed into the transcribed interviews from the outset. Although this was not possible, the analysis of the two sources was highly integrated nevertheless.

3.3.3 The Economic Theory

Except in one notable case where MacKenzie (2006) examines the performance of Fischer Black's Capital Asset Pricing Model in the creation of modern financial markets, social studies of finance do not have a strong tradition for very formalised selection processes when it comes to economic theory included in studies. Muniesa

³² www.ecb.europa.eu/paym/t2s

(2000) simply indicates that the four articles chosen for his study of electronic listing on the Paris Stock Exchange contain the most known propositions for automation. Riles (2011) argues that Hayek's attack on bureaucratic knowledge at once contains at least the germ of important insights about the role of private law in global financial markets and also an almost ideal-typical example of views that are widespread in the sector. But in either case there does not seem to be a formalised selection procedure behind these choices. This choice may be motivated by the decision not to trace the back-and-forth between academic economics and financial markets in favour of identifying a homology between the two, as discussed above: wherever homology is identified, it exists, and that is a sufficient criterion for inclusion. But since this dissertation seeks to establish more profoundly that processes of European integration of financial market infrastructures are structured by the discursive formation of economic theory, it is appropriate to consider the selection of economic theory more thoroughly.

The first criterion for introducing economic theory as a source was its specific occurrence around the T2S project. First, a number of economists have conducted studies on European integration of financial infrastructures, and a broader literature also exists on modern settlement and payment systems. Second, notably EU documents, but also some interviews, contained utterances about, for example, competition and efficiency that clearly seemed to resonate with neoclassical and other strands in economic theory.

I began to read economic theory sporadically. I knew that taking economic theory as a uniform whole was an untenable stereotype, so I was attentive to debates and disagreements within the field of different positions. However, I also began to sense how these debates appeared to be united in their differences by some deeper epistemic premises. For example, the debate between commodity and state theories of money seemed to be reoccurring under different names and in different versions across different times and contexts. Similar, the role of government in the economy appeared to be recurring – not simply as a vague theme, but in a rather structured way. Moreover, the underlying epistemic structure of these debates seemed to me to resemble exactly what I was excavating in the case of T2S. I thus began to realise the homology between the two domains in problems and paradoxes, but also in the structure of differences. I therefore gradually conducted a more systematic review

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based on various sources. Economic theory is obviously a gigantic domain to enter. Based on the character of the studies on European financial infrastructure integration and of utterances found in interviews and documents, however, I decided that the classical debates in the field seemed to largely cover the horizon of the discursive formation. This includes many Nobel Prize winners and other authors who are (often implicitly) represented in textbook material or standard textbooks on the history of economic thought. More specifically, I drew inspiration from various sources in my selection, as described below.

Social studies of finance has been particularly interested by the work of Fischer Black (e.g. MacKenzie 2006; Muniesa 2000), neoclassical (e.g. Callon 1998a; Garcia-Parpet 2008), and Austrian microeconomics (e.g. Riles 2011), as well as Keynesian, monetarist, and new classical macroeconomics (e.g. Braun 2014). In addition, Foucault (1990, 2004) was interested in – among other things – classical political economy, ordoliberalism, and in the theory of human capital of Gary Becker. These preferences already cover substantial variation within the field of economic theory. In addition to this, I have had a personal interest in theories of money and the work of Marx. Moreover, I have relied on the work of Mehrling (1998, 2010b, 2012; Mehrling et al. 2015) as an important guide to the history of economic thought in the field of money, banking and contemporary finance, and I have consulted more traditional works on the history of economic thought (Blaug 1997; Snowden and Vane 2005; Tsoulfidis 2010). *Table 3* provides a list of the main works of economic theory consulted. The list is not complete but contains the most important works and illustrates the variation covered in the selection. The works are cited in the analysis when used - *Table 3* simply offers an overview.

As the analysis progressed, I have come to the conclusion that the work of Marx does not belong to the discursive formation of economic theory. Contrary to Foucault (1990), but in accordance with Althusser (2014b), I believe his writings are not organised by the same problematic of theoretical humanism and teleology. For example, “class” could not possibly have been a problem in economic theory, but is at the centre of the work of Marx. Where economic theory is post-Kantian, Marx is a post-Hegelian social theorist, and the divide is deep: even if he discusses objects of classical political economy (Smith, Ricardo, and so on) such as money and prices, these are, discursively speaking, different objects. I have nonetheless included Marx in *Table*

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3 because his work has been carefully considered. I have had difficulties deciding the appropriate characterisation of Keynes. I tend to include him in the discursive formation of economic theory, but admit the existence of certain doubts. One has the impression when reading the *General Theory* that an epistemic break is carried out, albeit shrouded in theoretical humanism. If such a break were carried through, though, it immediately gravitated back into the black hole of economic universalism in the hands of his successors.

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Table 3: Works of Economic Theory Consulted

Tradition in economic thought	Works consulted
Neoclassical economics	Walras (1988), Arrow and Debreu (1954), Mankiw and Taylor (2011), Fisher (2012), Becker (1994)
Austrian economics	Menger (1892), Hayek (2002), Brunner and Meltzer ^a (1971)
Ordoliberalism	Eucken (1950, 2004)
Keynesianism and post-Keynesianism	Keynes (1965), Robinson (1970, 1982), Wray (2012), Lavoie (2015)
Monetarism	Friedman (1966a, 1966b; Friedman and Schwartz 1971)
New classical consensus in macroeconomics	Lucas (1972), Woodford (2010)
Efficient market hypothesis	Fama (1980, 1985)
Institutional economics	Coarse (1990a)
Classical political economy	Adam Smith (2012), Marx (1990, 1992a, 1992b, 1993)
Modern finance theory	Black (2009), Mehrling (2012; Mehrling et al. 2015)
Macro-prudential finance	Bagehot (2012), Goodhart (2003, 2007), Mehrling (2010), King (2002)
Shadow banking and repo	Mehrling <i>et al.</i> (2015), Pozsar (2013), Gorton and Metrick (2012), Gabor and Ban (2016)
Financial infrastructures	Manning et al. (2009), Van Cayseelse and Medinging (2004), Milne (2007a, 2007b), Serifsoy and Weiss (2007), Rochet (2006), Kempainen (2007)
Financial infrastructures and financial crises	Bernanke (1990), Flemming and Garbade (2002)

^a Brunner and Meltzer do not belong to the Austrian school, but their use in this dissertation in contrast to Arrow and Debreu on the question of money in market equilibrium arguably corresponds to the Austrian position.

The inclusion of economic theory in the analysis was the result of the continual work with the material. It has largely followed the identification of homologies between problems encountered in relation to T2S and contrasting views held by different strands of economic theory. The discovery of this relationship came only gradually during the research project. Whereas from the outset I had an interest in economic theory, only gradually did I make the connection in terms of discursive structures.

Economic theory could not have been included in the coding process from the outset because it was a discovery made only in that process by following problems. But the analysis of this material was gradually worked into the same documents in order to highlight that problems identified at the core of T2S had parallels in economic theory.

3.4 Some Further Considerations

From the empiricist perspective of traditional political economy it may be objected that I am studying a project that has yet to be completed – as T2S is implemented 2015-2017 while my construction and analysis of the archive took place 2014-2015 – and so that we do not know the result or outcome of the project. However, as discussed in the preceding chapter, the objective of this study is not to predict or explain outcomes in a causal way, but rather to examine the discursive structure of the problems that emerge in processes of European market integration. So far, T2S is to my knowledge being successfully implemented, but I have not made additional efforts to inform myself on the issue and, for instance, re-contacted interviewees following the first migration wave in June 2015. To put it bluntly, it would probably not matter very much to the analysis here if T2S had failed. Other comparable projects – like Taurus in the UK (Drummond 1999) – have failed, and as the analysis shows it was at no point certain that T2S would not fail as well. The focus is on the different *utterances* about T2S, about its past and future successes and failures, and about its consequences for financial markets in Europe. The discourse formation structures the solutions that are possible, but it does not pre-determine one outcome over others. If that was the case, there would not be a problem in the strong sense in which the concept is used here.

PART II

European Integration of Financial Infrastructures

The analysis of T2S consists of three chapters. Chapter 4 provides a simple introduction to the field via a historical account of financial market infrastructures, along with an overview of the events that led up to and surrounded the T2S initiative in 2006. It ends by posing the opening puzzle for the analysis: since T2S seemingly goes against both the ethos of EU market integration as formulated in the *Treaty* and by the Commission preceding 2006, what was the problem that led to the T2S project? To examine this question, chapter 5 goes into detail with the four controversies identified around the T2S project: one technical, one legal, one economic, and one political controversy. The first of these provides the most immediate answer to the question posed, while the others serve to elaborate on the question posed. Chapter 6 discusses the merits of alternative accounts of the T2S project that could be provided from political economy, new economic sociology, and social studies of finance perspectives. By examining the strengths and limit of each of these accounts, the analytical contribution of problem analysis is made clearer. In Part III, the analysis of the discursive problems identified is pursued further. But, in accordance with the principle of “following the problem,” this part of the analysis is permitted to move well beyond the T2S project.

One way to read the analysis is thus as a gradual specification of problems. The introduction to financial infrastructures in chapter 4 is highly stylized, largely reproducing existing accounts of the history of problems and solutions produced by and for the sector itself (ECB 2007e; Lee 2010, 2011; Norman 2007; Werner 1975). This is only the beginning of our examination, however. The analysis continues with a detailed account of the four controversies in chapter 5, which is then further developed in chapter 6. In Part III, we pursue things further still with a fully “symmetric” plane of problem analysis. From the perspective of the subsequent chapters, the historical introduction to the field in chapter 4 may therefore not seem strictly necessary. Indeed, it may be asked why it is necessary to background the analysis through such a “naïve,” almost empiricist account. First, chapter 4 introduces the reader in a convenient fashion to a vocabulary of a very technical sector with which few sociologists are accustomed. Second, it gives the reader a background against which the generality of the problems encountered around T2S can be observed. Third, without further discussion for the time being, it provides the standard conception of

the history of problems and solutions in the field, thus providing the reader with an account with which the subsequent problem analysis can be compared.

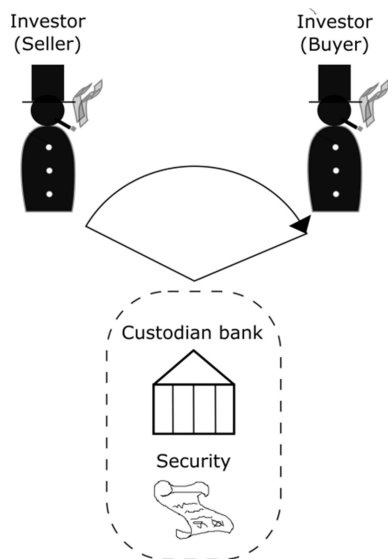
4. A Brief History of Financial Infrastructures

Modern financial infrastructures have existed at least since the nineteenth century, when London bankers organized the multilateral clearing of checks, as discussed in chapter 2 (Millo et al. 2005; Muniesa et al. 2011). When a client of a bank makes a payment by check, the receiver will take that check to his bank, which in turn will have to get the money from the payer's bank. To facilitate this process, every day, the London banks would send delivery boys with checks they received to the Bankers' Clearing House where by the end of the day the net position of each participant (between cash receivable and cash payable) was calculated (see also Babbage 1963). This centralized organization dramatically reduced the number and thereby the inconveniences and costs of cash deliveries. This small example captures many of the general characteristics and problems of post trade up to this day, as this chapter will illustrate, notably the logic of centralisation and the gap between trade and settlement. Centralisation can also be conceived as a hierarchical structure where the clearinghouse, the banks, and the individual clients constitute three layers in a pyramid (see also Pistor 2013). Moreover, the temporal gap between trade and settlement can be conceived as a certain kind of credit outstanding where the checks received by the payees are still only *promises* to pay (the payer's bank may default on it, or even go bankrupt in the meantime), which introduces the complexity of risk and capital into the seemingly trivial settlement process and blurs its separation from the market (Millo et al. 2005; see also Riles 2011).

Like in the case of cash in the Bankers' Clearing House in the 19th century, when stocks are traded at stock exchanges today, the transaction is not settled immediately. The market standard in Europe since 2014 is for the delivery of securities against payment of cash to settle only two days after the trade has been concluded – or rather the night before that day so as to be finalized by the morning when the stock exchange opens. Historically, when stocks and bonds were material sheets of paper held by the owner, even more days could be needed to allow for physical transportation. Professional “custodian” banks are generally used to take care of the practical aspect of settlement. In the case where the transacting parties are clients with the same custodian bank, the sheets of paper do not need to move at all – not even to a different box in its vaults – but can simply be ascribed to another account (Norman 2007:11).

This is the principle of “immobilization” of securities: if all transacting parties – directly or indirectly through other banks – had deposited their securities in accounts with the same custodian, then settlement would in principle be simple bookkeeping, as illustrated in *Figure 2*. But everyone does not use the same custodian – custody is a competitive business.

Figure 2: Custody (Immobilisation) of Securities



In addition to a fragmented and competitive custody industry, the differences between national jurisdictions, technical standards and systems, language, and even culture means that most custodian banks do not provide services outside their domestic context, or only across a few countries in a particular region. This can make the network of custody and settlement institutions that has to be mobilized for cross-border transactions very complex and costly (see also Muniesa et al. 2011:12). In the 1960s and 1970s, the back offices of banks and settlement institutions started experiencing recurring pressures and had difficulties keeping their systems fit to process ever-increasing volumes of paper transactions, and complex cross-border transactions as a result of the increasing financial activity and growing internationalisation of finance. By 1968, this led to the New York “paperwork crisis” (Norman 2007:41).³³ “You have to remember,” one Eurobond trader explains, “that in

³³ Norman gives other examples of similar crises, such as Euroclear’s electronic jam around 1978 (Norman 2007:50). Another kind of pressure comes from financial crises (Bernanke 1990; Flemming and Garbade 2002).

those days, systems were manual, with armies of low paid, incompetent and seemingly non-English speaking clerks in New York, shuffling huge mountains of paper around” (quoted in Norman 2007:21).

In New York, these problems eventually led to the establishment of a “Central Securities Depository” or CSD, owned by the stock exchange and the securities dealers, where all domestic securities could be immobilized and transferred by book entry (Norman 2007:41). The CSD would only occupy itself with the actual settlement – all the services related to trading, issuing and holding securities such as credit provision, dividend payments, cross-border settlement, and underwriting would still be the domain of commercial banks. Some European countries already had CSDs (Norman 2007:39), but like their US counterpart they were not linked across borders. The continuous rise in cross-border financial activity, therefore, also provoked important developments in “global custody.” Major US banks like Chase Manhattan, State Street, and Bank of New York pioneered this business by offering their clients “a single access point to national CSDs through a network of intermediaries” (Norman 2007:86). One of the major US custodian banks, JP Morgan, set up a so-called International CSD, or ICSD, in Brussels. The ICSD later became Euroclear and was sold off to its users – notably the community of international custodian banks. Together with its main competitor Clearstream – set up in Luxembourg a few years later by a consortium of European banks (ECB 2007e:10) – it played an important role in the events that led to the T2S project about three decades later.

During the following decades, the computational power of information technology increased dramatically. In time, this allowed for the complete “de-materialization” of securities which would no longer be issued in physical form, but only as numbers in electronic accounts – as pure bookkeeping (ECB 2007e:7). Physical existence and movement of paper was thus eliminated altogether. By the late 1980s and early 1990s, this was exploited in many countries to create new, automated, highly efficient, and safe CSDs. The ECB (2007e:7) writes that “CSDs were initially set up as market utilities serving all market participants,” so as to not favour one existing custodian bank over all the others. The idea was thus to entrust all securities in the domestic market to the national CSD. The CSDs were often set up in close corporation between private and public parties. For example, in France a CSD for government bonds was created by the central bank (later merging with the CSD of the stock exchange), and in

Denmark a CSD with cutting-edge technology was set up by the financial sector (pushed by the central bank). Moreover, these modern CSDs would often be integrated with the domestic central bank for safety and efficiency reasons. In this way, first, the cash leg of a transaction would be settled in central bank money, which was safer than commercial bank money because, as already mentioned, commercial banks can in principle go down during the time gap between trade and settlement. Second, delivery of securities in the CSD and payment of cash in the central bank could take place simultaneously so as to eliminate any risk that the one would settle without the other. The technique became known as “delivery versus payment” or DvP. “The first securities settlement systems to do DvP were introduced in the late 1980s. Before this they could not really get a link between the cash and the securities for settlement without default risk” (I29). The question of DvP played an important role in the birth of T2S, as we shall see.

But despite the modernisation of European CSDs, cross-border settlement remained in the hands of the ICSDs and the local and global custodian banks. For instance, if a bank in France wants to offer trading in Spanish securities to its clients, it can open a branch in Spain to have an account in the Spanish CSD in which it can hold the securities. But this would be a very costly and complicated affair. A simpler and cheaper solution would be to pay a local Spanish bank – which already has an account with the local CSD, the technical systems, and legal expertise necessary – to function as a “local custodian” for it (I14). The Spanish bank will “send them messages in English which they can pass on to their clients” whenever there is a dividend payment, tax collection, splitting, or some other legal action, right, or responsibility that regards the securities (I18).³⁴ However, whereas this might be a good solution for a larger French bank with substantial activity in Spain, it would still limit the number of countries where it could profitably offer trading to its clients. Few banks can afford to have such bilateral relations with local custodians in more than a hundred countries across the world, let alone in 28 countries in the EU. Therefore, many banks – especially small and medium-sized banks – use a third option: hiring one of the 5-10

³⁴ The European cross-border settlement landscape has historically been heavily reliant on this model which was throughout the 20th century the “usual channel for settling cross-border equity deals in Europe” (Norman 2007:84). In 1990 the Federation of Stock Exchanges in the European Community (later World Federation of Exchanges) complained that the G30 approach to financial integration had relied too heavily on an idea of settlement “as a natural monopoly function at the national level” and pointed to continued inefficiencies at the cross-border level which were, according to them, exploited by local agent banks (Norman 2007:83–84).

global custodian banks which manage a regional or quasi-global settlement network of sub-custodians and CSDs. As one interviewee from a regional bank explains: “If a client in our bank wants to invest in something exotic, like securities from Bosnia or Malaysia, we will use our global custodian. It may cost \$1000 but they can do it” (I20).³⁵

Despite adding an extra layer to the “settlement chain” (cf. *Appendix A*), global custodians can offer “the whole package” cheaper than many banks would be able to provide by themselves. Due to their size, custodians have a bigger capacity to internalise and automate settlement (I55).

Even if a bank holds its securities in one of the ICSDs, they will need a custodian bank because the ICSDs only handle certain aspects of custody (I18). Although the ICSDs increasingly resemble global custodians and provide a wider range of services on a wider geographical scope, because they work under the stricter regulation of CSDs (I53; ECB 2007d:10–11; Giovannini Group 2001), they are cut off from providing some services – especially banking services and other risky activities, such as most proprietary trading (ECB 2007e:10–11). Some commentators claim that global custodians deal mostly in equities, while ICSDs focus on Eurobonds (de Carvalho 2004:22). However, one interviewee stresses that the regulatory status is the most important difference, allowing custodian banks to offer services that ICSDs cannot offer (I53).³⁶

As depicted in *Figure 3* below, the landscape of cross-border settlement in Europe thus remained complex even after the euro was implemented, compared to the streamlined domestic systems. This meant that cross-border settlement was substantially more expensive, less efficient and less safe than domestic settlement (Giovannini Group 2001). One central banker working on financial infrastructures explains that as soon as cross-border settlement gets a little bit complicated transactions could take up to 5–6 days (I11).³⁷ Contrary to domestic settlement, cross-

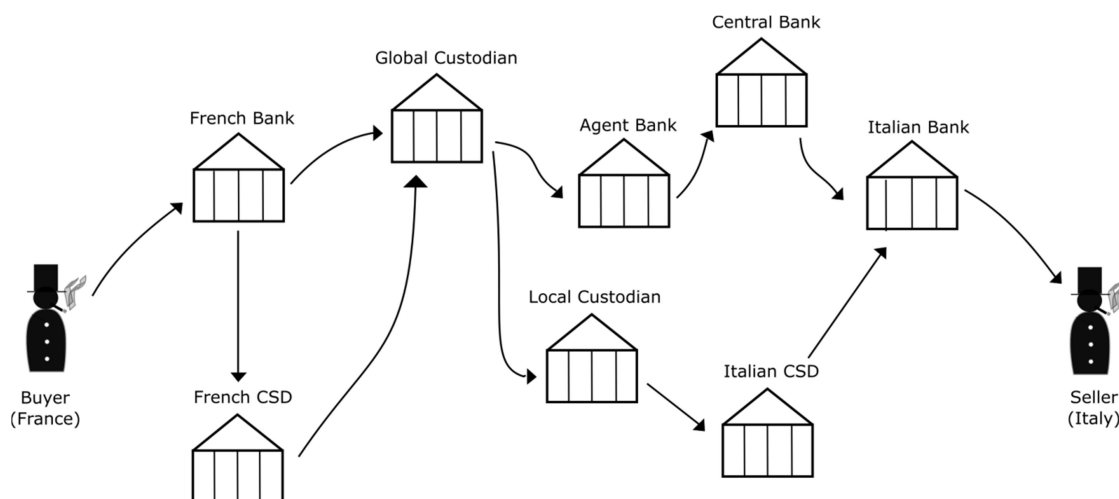
³⁵ There is a fourth option as well: that two national CSDs set up a “link” between themselves, but even in cases where such a link has been established, it is rarely used because a relation to a custodian bank will still be needed to service the securities which is generally not done by the CSDs (cf. Norman 2007:83).

³⁶ For instance, one global custodian offers a wide range of asset management services, investment services on both issuer (corporate trust, notably Eurobonds) and investor (custody) side, but also offer account services (e.g. for investment funds), depository bank services, securities lending, collateral management services, and cash management services (I54).

³⁷ Even settlement between the two ICSDs could be complicated before the two ICSDs established efficient account relations with each other, Euroclear and Clearstream securities were carried physically

border settlement is not always in delivery versus payment (DvP) mode, nor does it use central bank money.

Figure 3: Cross-Border Settlement in Europe before T2S



While *Figure 3* gives the impression of a highly fragmented cross-border settlement landscape, it should be stressed that the business of linking between fragmented markets is highly concentrated – and increasingly so. As of 2007 the 15 biggest global custodian banks in the world held a staggering \$78 tn. of total assets under custody while the next 35 banks held “only” about \$10 tn. – BNP Paribas being the biggest European custodian on the list with almost \$5 tn. under custody (ECB 2007e:14). JP Morgan alone held almost \$13 tn. and Bank of New York Mellon \$12 tn. Similarly, in 2015, the two major ICSDs Euroclear and Clearstream held €26 tn. and €12 tn. under custody, respectively (Clearstream 2015; Euroclear Bank 2015).

In the words of economists, post trade is highly concentrated because it is a “network” industry and a “fixed cost” business. The logic of network effects is captured in *Figure 2*: the more clients you have, the more you can settle internally, and the cheaper it can therefore be done. As one global custodian interviewee puts it: “We net flows” (I55). Moreover, although the big clients – investment funds, pension funds,

between their respective headquarters in Luxembourg placed on either side of a river connected by a bridge. One interviewee narrates: “They would drive the securities out there in carts and wheelbarrows and settle out in the middle of that old iron bridge” (I19; also I44). Years later, when the ICSDs finally managed to calm their mutual hostilities sufficiently to set up mutual account relations, the system was naturally dubbed “The Bridge” (I52).

banks, brokers – all seek to invest the money they have there is always something left by the end of the day:

So custodians sit on a huge pile of money and what do they do, they invest that money... and the margin that you get is huge... So managing your liquidity flow for a custodian is really critical (I55).

The custodian will seek to constantly optimise liquidity across the different countries and systems in which it is active – avoiding surplus in one country and deficit in another at a penalty overdraft rate of interest.³⁸ Based on the historical record, for each country or system it will be able to distinguish a part of the liquidity flow that is stable from another part that is fluctuating: “The way you manage the part that fluctuates is that you invest it for one or two days. The part that is more stable you can invest for one week, one month, three months or in government bonds” (I55). Custody is also a fixed cost industry: if a custodian bank settles between two countries, it needs experts to deal with the differences in things like legislation. But once these are in place, it carries little extra cost to treat 1.000 transactions instead of 100. As one custodian banker explains: “We are basically in a business of economies of scale, this is processing, the cost is the same so the more volume you get.” (I54).

The two mechanisms of network effects and fixed costs will be returning themes in this analysis. For now, it is enough to observe that post-trade seems to be simultaneously characterised by a problem of fragmentation and a logic of centralisation. The dynamic between the two seems to be related to the long trend in financial infrastructures for the last 50 years or more towards more integrated and more exclusively accounting-based settlement systems based on immobilization, dematerialisation, and automation. The dynamic also appears to be related to the public-private character of many initiatives in the sector, as we will also see in the case of the

³⁸ “When I started in custody [20-30 years ago] the cash interest revenue of a custodian was roughly a third of its total revenue” (I55). More broadly, the revenues of the custodian are 1) fees, transaction fees, and safekeeping fees paid on tax services, corporate action services, and so on; 2) interest on the cash balance, but today this is low, 3) forex revenue, “there is a lot of forex activity;” 4) and securities lending activity: “if you look at the gross numbers 40 % of the fees come from the transaction side and 60% come from safekeeping. But the risk and complexity is much more on the servicing side than on transactions where they make a lot of money because it is extremely automated but they charge a fee. ... Depending on country and volume fees can range from \$5-20 dollars. The fees a global custodian pays to its subcustodian ranges from \$1-7 roughly. The fees paid by the subcustodian to its CSD range from €10-\$2.” (I55)

T2S project. The integration of infrastructures has allowed transaction volumes to increase, just like increasing transaction volumes have pushed for infrastructure modernisation and integration. For instance, in 1965 the international bond market was literally non-existent before it increased exponentially to almost \$18 tn. outstanding by 2006 (BIS figures reported by Norman 2007:34). The financial markets of today would not exist without the highly developed and integrated infrastructures that have evolved over more than half a century.

4.1 Towards Target2 Securities

Already the Treaty of Rome (EU 1957:Art. 3.c) had established the objective of “the abolition, as between Member States, of the obstacles to the free movement of [goods], persons, services and capital.” The free movement of capital is thus one of the four basic freedoms of the European Union. It attracted increasing political efforts from the mid-1980s on (Grossman 2012:195). But for capital to move – as we have seen – post-trade infrastructures need to be in place. Discussions on clearing and settlement of securities in Europe “started as early as October 1977 when a study on a new system for the settlement of securities transactions within the EC [European Community] was completed” (CESAME 2008:17). Yet, change was slow.³⁹ Only with the European and Monetary Union (EMU) project and notably with stage three (the euro) in 1999 did things start to move at a noticeable speed. To support the single monetary policy under the common currency, the European central banks and the European Monetary Institute (later ECB) had created an infrastructure for transferring central bank money across the Eurozone in real time. While individuals who do not have access to the systems of central banks would have to wait many years to be able to make same-day payments to other euro countries at no additional cost⁴⁰, the big banks and other financial institutions thus had access to cheap, fast and safe cash transfers across the Eurozone. The ECB payment system was called Target⁴¹. The system was important to the common monetary policy because it allowed

³⁹ Vardi (2010:42) ascribes the European Court of Justice importance in the slow development of capital market integration since it favored “the maintenance of existing member state legislation on exchange rate controls.”

⁴⁰ The Single European Payment Area (SEPA) only became “fully operational in all Eurozone countries” in August 2014 (European Commission 2014a; see also Schmitz and Wood 2007b:4–5).

⁴¹ TARGET stands for Trans-European Automated Real-time Gross settlement Express Transfer (see ECB 2016d).

immediate arbitrage to take place between the money markets in different countries so as to offset differences in short-term interest rates. Whereas the first version of Target consisted in a somewhat primitive interlinking of existing central bank payment systems, it was replaced in 2007 by Target2, or T2, which was a genuinely single common system (Lucas 2008).⁴²

An *Action Plan* (European Commission 1999) was adopted for the integration of financial services by the European Council in 2000, marking the “starting point of Europe’s new wave of progress in terms of integrating financial services across the Union” (Grossman 2012:198). The plan was followed up by a directive in 2004 (MiFID⁴³) which effectively harmonized securities trading across Europe and thereby created competition between stock exchanges, leading to a wave of mergers and acquisitions in the field (Haan, Oosterloo, and Schoenmaker 2015:90–94).

However, financial harmonization and integration in Europe was not done with the introduction of the common currency, a common payment system, and the harmonization of trading in the first half of the 2000s. Settlement infrastructures remained fragmented with CSDs firmly rooted in technically, legally, and linguistically different national environments. The European Commission appointed the so-called Giovannini Group which identified “barriers” to cross-border clearing and settlement in European securities markets. In the eyes of the Commission, the custody landscape of Europe was not “a level playing field” (I57), but constituted by an asymmetrical network of institutions linked between each other. The Giovannini Report therefore also defined a strategy for private and public action to remove these barriers by 2006 (Giovannini Group 2001, 2003). Looking back on a process that would eventually take another 10-15 years, it clearly underestimated the problems: “That was in 2003 and people thought that by 2006 it would be done” (I32). The first Giovannini report (2001:ii) also provided an admittedly rough, but often cited estimate that as a consequence of the barriers the cost of settlement of cross-border securities transactions in Europe was about 11 times higher than domestic settlement. This referred essentially to the costs of settling in the two major International CSDs (ICSD), Euroclear Bank and Clearstream Banking, situated in Brussels and Luxembourg, respectively.

⁴² In fact, each national central bank runs its own version of T2 (“T2 France” etc.), but the system and interface are now shared.

⁴³ MiFID stands for Markets in Financial Instruments Directive.

4. A Brief History of Financial Infrastructures

For a major bank or a specialized financial institution like a London broker-dealer, the ICSDs might provide everything you need: all your main counterparties are there so you can settle easily; you pay the ICSD to take care of the practicalities; and even if a transaction costs you a few euros instead of a few cents, it does not really matter that much in the big picture since you are trading hundreds of millions of euros in each transaction. However, if you are a private investor or a smaller financial institution from a badly-connected “periphery” location (in the sense of being badly connected to the infrastructure centres), these cross-border infrastructure asymmetries may matter. The situation around 2000 was thus that cross-border settlement of securities was possible on a commercial basis and for some (important) purposes working quite well. Although the underlying infrastructure (ICSDs and custodian banks) was more complex and not evenly distributed across Europe, and although costs were substantially higher, in principle “everything was possible” if only you had time, money, and connections to the right systems. On the other hand, as one custodian banker explains, these very barriers were so high that no really integrated capital market could blossom under them: even “today a French investor will work 80% on French stocks and 20% non-French, of which again 80% will be American” (I31).

The Commission saw fragmented financial infrastructures in Europe as an important reason for this lack of market unification. Overcoming barriers and fragmentation became an official policy goal. As Internal Market Commissioner Frits Bolkestein (1999-2004) said: “Making cross-border clearing and settlement as efficient, safe and cost-effective as at national level is crucial to a real single securities market in the EU” (European Commission 2004). Similarly, the 2001 Lamfalussy Group (2001:16) was “convinced that further restructuring of clearing and settlement is necessary in the European Union.” A Commission expert group expressed the same view in more detail some years later upon the failure to remove the Giovannini barriers by 2006:

Post-trading arrangements constitute the point of convergence of all aspects of the life of securities. Where securities movements meet cash movements; where the law meets operational arrangements; where the tax collection mechanisms meet dividends and transfers; where issuers, infrastructures, intermediaries and investors create interdependent networks to channel investments and benefits; where insolvencies might

threaten the stability of financial systems. Hence the importance, the complexities but also the necessity to have smooth, safe and sound post-trading arrangements in the EU. Without being able to provide this, a true single European securities market will never exist and the entire process of financial market integration will be suboptimal (CESAME 2008:7)⁴⁴.

Not only was capital market integration considered an ambition of the Economic and Monetary Union (EMU), the *Treaty on European Union*, and of the “ever closer union” in the *Treaty of Rome* (see European Commission 2015), it was also widely seen as something that would bring economic growth to Europe through increased capital and labour productivity stemming from more efficient capital supply (Lamfalussy Group 2001:9). The new Commissioner for Internal Markets and Services, Charles McCreevy (2004–2010) stated that: “No-one has contested the basic premise of our analyses – namely that there are important economic gains to be had from improving the efficiency of cross-frontier clearing and settlement. What has proved more elusive is finding the best way of achieving this.” (McCreevy 2006:2). Supporting this view was a 2006 study conducted for the Commission economists estimating that: “A more efficient post-trading system leading to lower transaction costs of up to 18 percent can result in a higher level of GDP around 0.6 % in the subsequent years.” (Schulze and Bauer 2006:18).

The Commission was well aware that “Integration is something that is done by governments, who must decide what is done and to what extent,” as one top executive at the time puts it (I58). While the Commission recognised its role in legal harmonisation, it also continued to see the integration of settlement systems as a private-sector responsibility. Integration should be driven mainly by industry initiative and supported by public action only where this was necessary. Such a distinction between the appropriate roles of public and private actors was in line with the fundamental principles of the European Union about market-based competition. As Hatje (2009:594) explains, “A characteristic feature of Community law is the systemic choice in favour of an open market economy with free competition. This choice is equipped with a series of legal guarantees....” Notably, the Treaty of Maastricht (EU

⁴⁴ CESAME stands for European Commission’s Clearing and Settlement Advisory and Monitoring Expert Group (European Commission 2004).

1992:Art. 3.a) establishes the “principle of an open market economy with free competition” as foundational for policy. Similarly the Statute of the ECB and of the Eurosystem of central banks (ESCB) states that “The ESCB shall act in accordance with the principle of an open market economy with free competition” (EU 2012:Art 2). Norman (2007:103) argues based on documents from 1998-1999 that the Commission believed that “financial integration was ‘within reach’ and suggested that the post-trade sector could be left to market forces.” The Giovannini Group had explicitly emphasized private initiative as the key to integration:

there is a consensus within the [Giovannini] Group that the EU clearing and settlement landscape could be significantly improved by market-led convergence in technical requirements/market practice across national systems. This would provide for inter-operability between national systems and could deliver considerable benefits within a significantly shorter timeframe than that required for full system mergers (Giovannini Group 2001:1).

Of the 15 barriers to integration identified by the Giovannini Group, technical requirements to be resolved by private action and market practices accounted for 10 of these. Public initiative was to play an important role, but one limited to the five remaining barriers related to harmonization of taxation and legal certainty. Similarly, the Lamfalussy Committee (2001:16) was convinced that further restructuring of clearing and settlement “should largely be in the hands of the private sector.” However, the Committee also stressed that the public sector should actively fight “obstacles and impediments” to both competition and consolidation and perhaps even take action “if in due course it emerged that the private sector was unable to deliver an efficient pan-European clearing and settlement system for the European Union” (Lamfalussy Group 2001:16). As late as 2006, Commissioner McCreevy stated that “an industry-led solution is the best outcome for improving the efficiency of clearing and settlement in the EU” (McCreevy 2006:4).

While the ultimate goal was more integrated and competitive financial markets, and the means to achieve this was private sector initiative, in the eyes of the Commission, the approach was still a kind of “public-private partnership” in the sense that “the private actually do what is necessary in the private sphere and [the

Commission does] what is necessary in the legal sphere for things to proceed” (I57). Moreover, expert and dialogue groups were commissioned by the Commission and comprised of both public and private players. For instance, following up on the Giovannini recommendations, an expert group was appointed in 2004 by the European Commission to provide “advice on market-led initiatives to bring down notably the private sector barriers to integration” (European Commission 2004). The group was chaired by the Commission but composed of “around 20 high level representatives of various mainly private bodies involved in clearing and settlement, along with four observers from public authorities” (European Commission 2004).

In sum, for the Commission and the Eurosystem securities settlement was a market like any other market, albeit one hampered by legal and technical differences between countries and by the high economies of scale and network effects that characterise any infrastructure industry (cf., for example, ECB 2007d:24). Indeed, its approach to the integration of settlement systems seems to be largely consistent with how it addressed the European integration of other infrastructure sectors like telecommunications and electricity, where “a new form of political control over the economy,” which has been given the label of “competition state,” had been created (Levi-Faur 1999:203). One study of telecom markets in Europe suggests that there is a trade-off between competition (promoted via lower access costs and open standards) and investment (and thereby innovation) in infrastructures (Grajek & Röller 2012). However, since the very notion of “competition state” sounds like an oxymoron – indicating that some deeper conceptual problem or contradiction is being covered by it – we should inquire further into these issues. This can be done by taking a look at the academic studies conducted by economists on the question of how to advance European integration of financial infrastructures, notably in the early 2000s.

4.1.1 Are Financial Infrastructures Natural Monopolies?

Like the Commission, economists working on the topic saw financial infrastructures largely as a market like any other, with the sole caveat that this market happens to be characterised by a high level of fragmentation in Europe as well as high economies of scale and network effects. And like the Commission, they saw the solution to this problem as creating a “level playing field,” along with open standards so as to promote market entry and competition.

According to the economists, settlement systems like most infrastructures have high economies of scale because fixed costs are high and variable costs comparatively low. In addition, there are high network externalities because the more links an institution can service 1) the more valuable the service to clients and 2) the more it can process internally, which is substantially cheaper. This has led some economists to suggest that the “securities settlement market” is – or at least approaches – a “natural monopoly” like those in utility network industries such as electricity, water or telecommunications (Milne 2007a). There is “a tendency towards a strong concentration of the activities or even a natural monopoly on each stage of the value chain,” Serifsoy and Weiß argue (2007:3037; see also Van Cayseele and Mededinging 2004). A natural monopoly, according to neoclassical theory, exists “when a single firm can supply a good or service to an entire market at a lower cost than could two or more firms” (Mankiw and Taylor 2011:311). In that case, the biggest firm will have a competitive advantage and drive out all its competitors. Once the monopoly is established, however, the firm will have “monopoly power” and therefore be able to charge a higher price and make a “monopoly profit.”

The concept of natural monopoly was used implicitly or explicitly by several interviewees. We have already seen the concern of one interviewee (I19, cf. p. 28). One banker explains that the ECB was constrained in various ways, but that ideally: “they would simply have created a single CSD like in the US” (I20). A CSD interviewee regrets that the Giovannini report (and many others following it) compared settlement costs in Europe to those in the US:

You may have heard that in Europe CSDs are less efficient than in the US and blablabla, it is a major analytic error against which I object. If you look at DTCC [US CSD] it is a domestic system, not an international one... You should not compare DTCC with Europe, but with each domestic CSD in Europe. If you gave the same volumes to one of the big European CSDs we would be even more efficient than DTCC... we are clearly ahead technically... It is true that Europe as a whole is less efficient, but because of lack of harmonisation and of fragmentation, of non-standardisation... You have to compare what is comparable (I14).

Finally, a retired CSD CEO reflects:

Will we eventually have a European CSD? It would make a lot of sense – put them all together in one. I can say that today. It would be a good idea, but it would imply that Euroclear and Clearstream would disappear – and who owns them? Deutsche Börse owns Clearstream and Deutsche Börse is owned by the big banks. That is not something you just do like that. It would make sense, but there a way too big bank interests in it (I24)

The concept of natural monopoly, however, presents economists with a problem because it abrogates competition as the single most important driver for economically efficient social outcomes. If “monopoly profits” are curbed by informed regulation, as suggested by some authors (Serifsoy and Weiß 2007:3048), one might have expected monopoly to be immediately identified by economists as the optimal solution. After all, most existing domestic systems were monopolies and they were quite efficient. After all, the US CSD – which was used for comparison with settlement costs in the EU by the Giovannini Group (2001) – is also a monopoly. Yet, the economists working on the problem of European settlement infrastructures argued that, in the absence of competitive pressures, “innovation” would be lost (Serifsoy and Weiß 2007:3038; Van Cayseele and Mededinging 2004:3). Whereas a monopoly would be “economically efficient” in reducing costs, it would not be “dynamically” or “technically efficient.” As such, it would create a stand-still which over time would produce sub-optimal solutions which were disadvantageous to consumers (“end investors”). A central banker agrees:

In a breakthrough where you have to invent something completely new you may need a central bank to make it happen because they have the will and the money etc., but I think it is only natural then that they pull out again once it is up and running (I8).

We have seen that cooperation within the financial sector, as well as between private and public institutions, driven the major innovations in the field, including the establishment of CSDs. Yet these authors argued that competitive pressure was highly important to innovation. Indeed, economists almost unanimously advocated for “contestable quasi monopolies” in the field of European clearing and settlement (Van

Cayseele and Mededing 2004; see also Kemppainen 2007; Milne 2007a, 2007b; Rochet 2006; Serifsoy and Weiß 2007).

The strategy of “contestable quasi monopolies,” it may be noted, was effectively followed in the related field of stock exchanges where legal harmonisation (MiFID) led to a wave of mergers and acquisitions. Then in 2012 a merger between Deutsche Börse and NYSE Euronext was blocked by the European Commission on anti-trust grounds (European Commission 2012). As Li and Marinč (2015:134) explain: “the merged company would have obtained near-monopoly power in trading and clearing European exchange-traded derivatives”. This seems very paradoxical indeed. How is it simultaneously possible for competition to be the sole way to achieve efficiency, while at the same time making both competition and efficiency disappear? How can a monopoly both be efficient and inefficient at the same time? Is it simply because infrastructures *happen* to have high “economies of scale” and “network externalities”? Or is it because their status within economic theory is different from other “markets”? One interviewee indicates the latter:

There is another element which contributes to the natural monopoly [of securities settlement]: that you cannot split a securities issue between two CSDs. Why? Because if you issue in more than one CSD, at some point you will have a problem of reconciliation between existing and circulating securities. An essential function of a CSD, and one essential to the trust in the market is that at any given point in time the quantity of circulating securities corresponds exactly to the quantity issued. It sounds stupid when you put it like that, but it is fundamental. Why do you think you never have to ask yourself whether the security really exists when you invest? You ask yourself: "should I invest in this or that company?" But never whether the security exists. It is like money: okay, there is counterfeit money, but in general when the shopkeeper gives you money back you don't verify if it is not counterfeit money he gives you. Securities is the same thing.... Today securities are dematerialised, they are just a code. If you issue 2000 securities in one CSD, it will make sure that all the time there is exactly 2000. If you issue in two different CSDs, 1000 in each, then at some point the one will hold 1500 and the other 500 because securities circulate. Then, of course, they can communicate, but this is where it starts to become difficult – if they have to be in tune all the time. It is risky. So the only solution is to say: "if you want to issue in

two CSDs, you should give them two different codes." But then they are not fungible, they are no longer the same security. You cannot have the same issue in two different CSDs (I14)

Similarly, in economic theory, the problem of sub-optimal “economic efficiency” re-emerges with the concept of contestable quasi monopolies because multiple systems are in place where only one would be more economically efficient. However, like monopoly pricing, the economist argued, this too could be countered by informed regulation imposing strict “open standards” for technology, as well as pricing transparency requirements to avoid market power being used to exclude competitors from accessing each other’s networks (Milne 2007b:2949; Van Cayseele and Mededinging 2004:26). According to these authors, such regulation would mitigate barriers raised by 1) firm-to-firm hostilities, such as the missing link between Euroclear and Clearstream; or 2) by exclusive technical standards, such as in most integrated domestic systems where the CSD, stock exchange, and central bank formed a close-knit whole – “silos” where you have to either buy the whole package or not be connected at all. This was essentially the vision adopted by the Commission:

The question is: how can you make a competitive market work efficiently, maintaining that competition angle, but without creating a fragmented market? It’s a delicate balance to get right and it is something that you have to keep continually under review. The approach that the Commission has taken in a lot of market infrastructure regulation is that: “yes we promote competition and multiple players to encourage competitive markets, but to do so we have to make sure that these different players are interoperable – that they can work together, that they can access each other, that links are established, that the market can flow, that people use common IT standards across borders and so on. That is what the Commission has been trying to do: creating competitive markets where private entities can compete with each other, but on a common basis, on a level playing field, if you want” (I57).

Contrary to a monopoly which could, in principle, be established or appointed by the public sector, contestable quasi monopolies would have to be firmly rooted in a competitive market. This is the sense in which the views of economists and that of the

4. A Brief History of Financial Infrastructures

European Commission can be said to converge: in the early 2000s the Commission relied on competition-driven private-sector initiatives to carry through the integration of clearing and settlement infrastructures. Public monopoly seemed out of the picture, scepticism to private monopoly was widespread, and to the extent integration meant consolidation, it should be driven by competition. But, more importantly for our purposes: the EU institutions and economic theory appears to be dealing with the same *problem*. The economists approach it as a problem of “efficiency,” assuming that an optimum exists which can be identified and used as a reference point for policy, while the Commission conceived of a “balance” between competition and a level playing field. But both the concept of “efficiency” and that of “balance” seem to cover a deeper contradiction in the conception of “the market,” related to the role of financial infrastructures: how can the conception of competition as efficient lead to a problem of infrastructure monopoly?

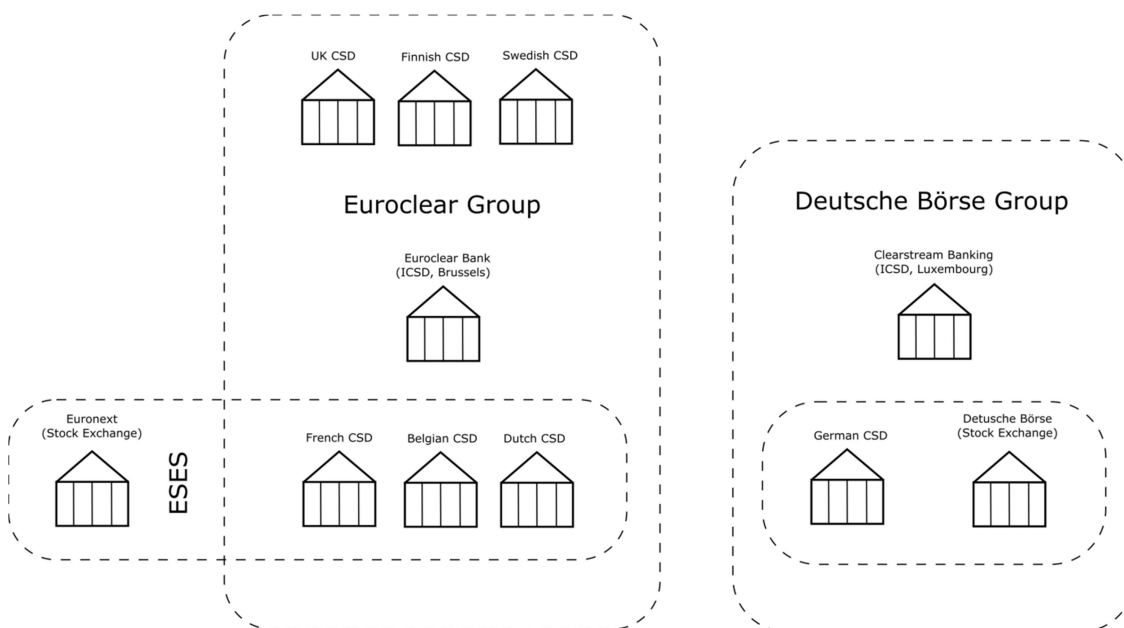
The Commission wanted consolidation – and consolidation there was. With the coming of the euro there was a widely held belief that trading would become easier. To meet the expected increase in demand and new possibilities in settlement, the focus in the industry turned towards mergers (I52). The Scandinavian CSDs attempted to merge in the late 1990s, but failed, probably due to power struggles and a lack of a clear business case (I17; I22; I24). The general intuition was that of an uncertain future combined with the notion that scale matters: “no-one knows how it will be in ten years with the euro, competition and everything – we better strike a deal now” (I14). Around 1999:

everybody tried to merge with everybody, but the big question was if Euroclear and Clearstream would merge. There were propositions, there still are. We will have to see whether with T2S there is still room for both of them (I36).

There was an attempted merger between the French and German CSDs as well as the Luxembourg ICSD (I14). Whereas the German CSD and the ICSD eventually merged in 1999 under the common name Clearstream, owned by Deutsche Börse (but remaining separate legal entities), the attempt with the French CSD failed (Norman 2007:141–49). Shortly after, the other ICSD, Euroclear, acquired the French, Dutch, and Belgian CSDs with the explicit ambition to create a “Single Shared Platform” for

the three countries in close corporation with their common stock exchange, Euronext – the so called “ESES”⁴⁵ platform. This was “the first attempt to establish a truly cross-border marketplace for securities” (Panourgias 2015:3). The idea was to integrate not only settlement, but also the other elements of the CSD business – notably issuing securities and servicing the various events that occur during the “life” of a security, such as coupon and dividend payments, tax claims, splitting, etc. – all summarised under the term “corporate actions” (I14). With this project well underway, Euroclear continued acquiring further CSDs – the UK (2002) and the Finnish and Swedish (2008) (I16; Euroclear Bank 2016). Euroclear was moving towards a successful first step in its overall ambition with a Single Settlement Engine for all its CSDs, but full integration would soon prove difficult (see Panourgias 2015). The result of the principal mergers is depicted in *Figure 4*.

Figure 4: Euroclear and Clearstream Groups



But the wave of mergers soon died out again: “Then at one point people start to realise the difficulties, they started to wait and see. Then nothing happens” (I14). Clearstream did not pursue expansion any further. With its acquisitions, Euroclear CSDs now covers 70 % of the equities markets in Europe, but the process of integrating them showed signs of stagnation already from around 2005. For the standards of the sector,

⁴⁵ ESES stands for Euroclear Settlement for Euronext Securities.

Euroclear's project was huge, loosely estimated to around €4-500 m. (I27; I55). The market – that is, the major international banks who were also the owners of Euroclear – was positive, but by 2005 they called for Euroclear to speed up the integration process – insisting that another four years would be too slow. In response, Euroclear began to focus their efforts on their solution for the three ESES countries which was eventually launched in 2009 (I52; Euroclear Bank 2016).

One interviewee recounts a joke told at a major international conference for the financial services industry (SIBOS⁴⁶) in 2005: God had gotten interested in payment and settlement systems; he meets Alberto Giovannini (of the Giovannini Group) who asks him if the Giovannini barriers will be removed by 2006 as the ambition had originally been. God replies: “Not even in your lifetime.” God then meets Pierre Francotte (CEO Euroclear 2000-2010) who asks him when Euroclear will have created a Single Settlement Engine for all of Europe. God replies: “Not even in your lifetime.” God finally meets Commissioner McCreevy who asks when we would have a completely integrated market in the EU. “That is not even going to happen in *my* lifetime.” God then replies: “That was in 2005 and it was very accurate. The barriers were not being removed, the Euroclear strategy was far off, and the Commission made many promises and reports but it just did not happen” (I17).

4.1.2 The Target2 Securities Project

Then, in 2006, something arrived that would turn things upside down. The European Central Bank (ECB) announced that it was “evaluating opportunities to provide settlement services for securities transactions” setting up a new service “which may be called TARGET2-Securities” (ECB 2006). Following a feasibility study (ECB 2007a) and a public consultation (ECB 2007c), the Target2 Securities (T2S) project was launched by the Governing Council of the ECB on 17 July 2008 (ECB 2008a). In the press release the ECB stated that “T2S constitutes a major step forward in the delivery of a single integrated securities market for financial services... T2S will provide a single, borderless pool of pan-European securities, as well as a core, neutral, state-of-the-art settlement process” (ECB 2008a). The ECB essentially set out to create a single securities settlement platform for not only the Eurozone, but for the whole of

⁴⁶ SIBOS is an international conference for the financial industry organized by SWIFT (see note 49).

the EU, owned and operated by the Eurosystem (the ECB and the national central banks).

Commissioner McCreevy's reaction to T2S was immediately positive. As one important figure in the T2S project explains: the Commission immediately supported [the project and the ECB],” even though Commissioner McCreevy, according to one interviewee, was only informed about the project the day before the 2006 press release (I27). A year later in a speech the Commissioner stated:

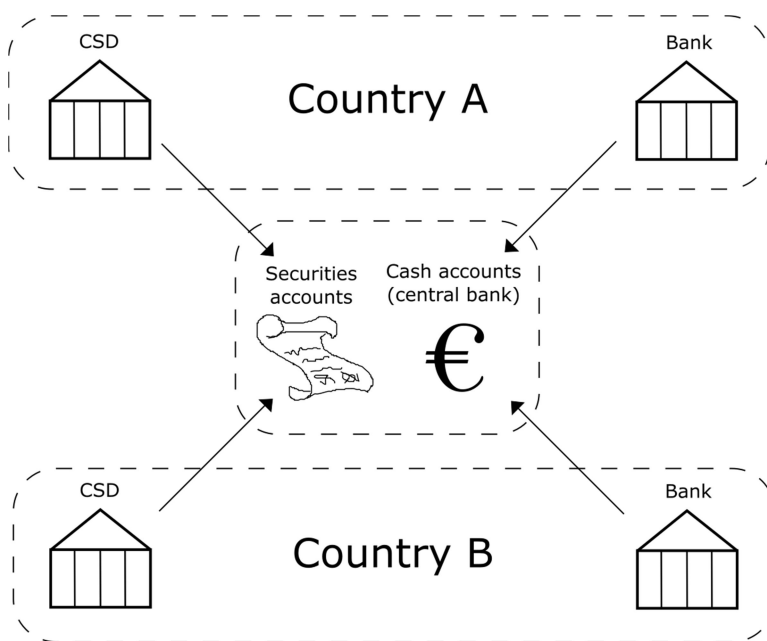
The ECB has launched T2S which I regard as a very important initiative in the area of post-trading, I broadly support it. As long as T2S complies with competition law, and remains open to non-euro countries and currencies other than the euro. And as long as T2S has in place an inclusive and transparent governance structure (McCreevy 2007).

Expressing the lost hopes for quick integration, he continued: “T2S is a long term project – it is likely to be 2013 before its benefits materialise. That is another reason to press on now with the code⁴⁷ and drive out inefficiency” (McCreevy 2007).

The simple principle of T2S is to bring all securities onto the same pan-European settlement platform where transactions can be settled in delivery versus payment (DvP) mode and in central bank money. This is illustrated in *Figure 5*. A bank will thus have a cash account with its central bank which is connected to the whole Eurosystem of central banks via T2, and a securities account with its CSD which is similarly connected with the whole Eurozone via T2S. In this way, the ECB-operated T2S platform will provide cheap, safe, and efficient settlement in DvP mode and central bank money for the whole Eurozone.

⁴⁷ The Code of Conduct on Clearing and Settlement is a set common of clearing and settlement rules contributing to harmonisation developed by the sector on the request of the Commission. The Code has been criticised for its non-binding character and soft-touch approach, but also for being essentially privatised rule-making (Iglesias-Rodríguez 2012:461). A similar critique is reported to have been raised by the European Parliament against the different standards that the central banks, IOSCO (2001 principles), and BIS (Principles for Financial Market Infrastructures) were imposing on CSDs and payment systems (I17).

Figure 5: T2S - A Pan-European Settlement Platform



See also ECB (2015e:18)

The ECB initiative surely came as a surprise to many. Firstly, few had expected the ECB to take initiative – let alone a major one like T2S. As one CSD CEO explains, during the 1999-2006 discussions about integration, when Euroclear was pushing its single platform initiative: “the ECB was not really involved, they were interested but they were not the overseers and regulators” (I52). Secondly, T2S would “insource” securities settlement – a major source of revenues – from private CSDs and create a public monopoly. Thirdly, it broke with the trend of central banks over the last decades to disengage from owning and operating financial infrastructures. Fourthly, it went counter to the Commission’s line of industry-led integration prior to 2006. More broadly, why not push for “contestable quasi monopolies”? Why, all of a sudden, was securities settlement in Europe a “core” service that had to be delivered on a “neutral” basis by the central banks (ECB 2008a)? Where settlement had previously been seen as a competitive market, it was now seen as something that should “not favor or discriminate against specific countries, securities holding models, market infrastructures or groups of market participants,” but constitute a “level playing field” for the market (ECB 2015e:25).

As we shall see in the following chapter, certain interviewees consider this whole list of questions as misguided and as based on largely false premises. T2S, they argue,

was simply the solution to a problem that was not being solved by the market itself, and so the pragmatic institutions of the EU took action. This was the view of the interviewee quoted in chapter 1 – a quote worth replicating here:

[The decision to support the T2S project] was not about economic theory. We could not exclude that something would happen [in the market], but in 2007/8 it was clear that T2S was the best bet. Not that other things could not have delivered... The question is not private versus public but efficiency versus inefficiency. We wanted to make a level playing field, but there was a coordination failure [in the market] (I59).

Very well, but what was the problem, then, that forced this action forth? Why does it appear to parallel problems in economic theory? And how is it possible, as we shall see, to have such strong disagreement about central questions like whether T2S is a monopoly or not and if the T2S project constitutes a break with the previous line (and, by extension, with the free-market principles of the EU)? Can these questions be satisfactorily answered by considering the power interests of the ECB and the Commission, a change in their ideas, or a process of strategic or pragmatic “muddling through” by actors constrained by economic and political realities?

Motivated by these questions, the next chapter identifies and examines four controversies surrounding the T2S project. The first of these concerns the problem of providing delivery versus payment (DvP) – which some interviewees argue provoked the T2S project. The other three controversies occurred later in the project, but examining them helps deepening our understanding of the problems of financial market infrastructure integration and their relation to economic theory. I argue that the four controversies are instances of some more fundamental discursive problems related to the contradictory character of certain conceptions underlying the market integration project. Chapter 6 discusses this argument in relation to possible alternative accounts from political economy, new economic sociology, and social studies of finance.

5. Four Controversies

The four controversies surrounding the T2S project are analysed according to the principles of problem analysis laid out in section 2.5. Controversies are taken as indications of conceptual breakdowns related to underlying discursive problems that may be revealed upon closer examination. It is important not to set up *a priori* distinctions between domains. Indeed, the fact that the same set of underlying problems can be identified in the analysis of four rather different controversies (technical, legal, economic, political) with no apparent relationship between them other than their chronological occurrence around the T2S project, shows the relevance of these principles.

The first controversy (“technical”) concerns delivery versus payment (DvP) – the seemingly simple principle, which nevertheless occasioned a severe conflict in the Eurosystem (ECB and national central banks), and which eventually gave birth to the conception of T2S. The second controversy (“legal”) concerned the legal ground of the T2S project, notably whether the ECB was entitled to initiate such a project or not. The third controversy (“economic”) concerned the fees the ECB would charge for settlement, how it would have its costs recovered, and whether it could make a profit from settlement activity. The fourth controversy (“political”) concerned the reach of the legal consequences and requirements of T2S which turned out to be substantially wider than anticipated.

5.1 Who Creates Central Bank Money? The Technical Controversy over DvP

The ECB is responsible for ensuring the soundness of core financial infrastructures in the Eurozone. Since about 1990, the international community of central banks has become keenly occupied with the question of “settlement finality” (European Commission 1998). In 1974, due to time differences, a German bank (Herstatt Bank) had famously engaged in foreign exchange trade been declared bankrupt *after* having received Deutsche Marks in Frankfurt but *before* having paid out the corresponding dollar position in New York. In 1986, a widely cited simulation study of the US clearinghouse for cash payments (a modern equivalent to the Bankers’ Clearing House

in London) had indicated that it was not legally clear whether a transaction had been settled before or after the netting and consequently who was liable if someone could not meet their net position after the clearing (Humphrey 1986). Another worrying indication of this study was that if the party with the largest payable position failed, the net position of other players would drop and possibly cause a chain reaction of defaults (see also Millard and Saporta 2008:26). Although its conclusions were later put into question (Selgin 2008), the study is said to have had an immense impact together with the 1987 crash on Wall Street (Manning et al. 2009:57–58; see also BIS 1990; Bernanke 1990). Several interviewees mention the main problem evoked in this study (I8; I13; I15; I17). But the same issue goes for securities settlement as for payments. As one central bank interviewee explains, the question of settlement finality is:

of natural interest to the central bank because if the CSD gets into trouble it will also affect the central bank that delivers the liquidity. If you expect to receive €1 bn. and you don't, then what? We made a study that showed that if we completed settlement although one participant had gone down we would risk violating the bankruptcy law because when a bank goes bankrupt it loses its rights over its assets, but our mandate to move their assets around rests on that right. So we would not be authorised to settle on behalf of it (I17).

A group of central bankers put it more generally in their handbook on large-value payment and settlement systems (see also **Appendix C**):

With its liabilities used as the ultimate settlement asset, a central bank has an incentive to maintain their value by setting the terms on which they are made available to the banking system. There is therefore a clear synergy between a central bank's roles in providing the settlement asset and promoting monetary stability. Furthermore, to ensure that balances held in bank deposits... can continue to function as a medium of exchange, the central bank will take a natural interest in the payment systems employed in the transfer of bank deposits... there is a link between the provision of the ultimate settlement asset and a central bank's financial stability objective. The

provider of the ultimate settlement asset can, in times of crisis, increase the supply of its liabilities to ensure that payments continue to be settled (Manning et al. 2009:4).

Central banks face a challenge in that the money they issue as credit – as liabilities or promises to pay of the central bank (see Bank of England 2014a; Ryan-Collins et al. 2014) – serves different but related functions. On the one hand, credit is always a bilateral relationship with a risk of default – that is, a standard market practice. On the other hand, credit money constitutes an accounting system used to make payments in the whole economy and is therefore a “medium of exchange” that covers in principle all participants in a given market. Additionally, according to economic theory, for such a medium to be efficient, it must be essentially frictionless, costless, and riskless. These two functions turned out to be in contradiction with each other around netting because if anything went wrong it could lead to either systemic breakdown (if the central bank did not intervene to save the creditors) or make the central bank assume a major and non-explicit risk (if it did). The international community of central banks promoted two attempts to solve this problem.

The first was the international standards forged by the G10 countries that promoted the abandonment of net settlement for large-value payments in favour of so-called Real-Time Gross Settlement (RTGS) (Bech 2008:200; BIS 2001; see also Riles 2004, 2011). By settling each transaction individually – rather than accumulating and netting them throughout the day – systemic spill-over from the default of one payment on another was considered to be removed from the settlement process (see Haldane, Millard, and Saporta 2008:6; Schmitz and Wood 2007a:10). There will still be a problem, of course, if bank *A* does not pay bank *B* in time so that it, in turn, will not have the funds it expected to pay bank *C*. But at least the problem is not part of the *settlement* process as such.

The second was the concept of delivery versus payment (DvP) developed by the Bank for International Settlements (BIS 1992).⁴⁸ DvP means that the delivery of

⁴⁸ The ECB in dialogue with regulators and the private sector was adopted the international (CPSS-IOSCO) standards, including the DvP principle (ECB 2004a: notably 2, 12). CPSS stands for Committee on Payment and Settlement Systems – since June 2014 renamed CPMI or Committee on Payments and Market Infrastructures – and is a committee under the Bank for International Settlements that works “to promote the safety and efficiency of payment, clearing, settlement and related arrangements, thereby supporting financial stability and the wider economy” (BIS 2014). IOSCO stands for International Organization of Securities Commissions. It is “the international body that brings together the world’s

securities takes place exactly at the same time as the money payment “so that no-one ever delivers or pays without receiving,” like Herstatt Bank had done in the 1970’s (I12). DvP was thus promoted “in order to shield the two parties from the risk of losing the full value of the transaction following the non-delivery or default of their counterparty” (ECB 2010e:84). With transaction values very often exceeding €100 m. and with some €30 bn. changing hands every day in a small CSD like the Danish alone, this is generally considered of high importance (I17; I51).

Together, RTGS and DvP thus served to remove risk from settlement – not unlike automated CSDs (and now T2S) removed costs and frictions from settlement. While the contradiction between the different functions of (central bank) money appeared to have been overcome at this moment, the same problems would soon re-emerge. Domestically, DvP settlement was implemented by central banks and CSDs in most European countries. The problem was what to do in the European environment. The ICSDs provided DvP settlement, but this was fragmented between their respective systems. And since they settled in commercial bank money (and not central bank money) there was still a default risk in settlement. Default risk included that of the settlement institution itself: “If the bookkeeping is done even by the biggest commercial bank there is a risk they will go down... And all the others will need to have an account with that bank and will therefore be exposed to it. Whereas the central bank cannot go down” (I8). What central banks wanted was DvP in central bank money.

However, the reason why DvP became a topic of controversy in the Eurosystem was not primarily because it would require substantial harmonisation to implement on a European scale. It was rather the reverse: the increasing harmonisation confronted different ways of doing DvP and made them conflict. This is somewhat surprising because DvP is seemingly a very simple principle of delivering securities and paying cash simultaneously. Yet, as of 2004, there were not only different models for conducting DvP in Europe (ECB 2004b), but these differences also became a topic of heated debate over principles.

securities regulators ... [which] develops, implements and promotes adherence to internationally recognized standards for securities regulation” (IOSCO 2016).

5.1.1 A Technical Detail and a Pan-European Project

As already indicated, in order to conduct cash payment and securities delivery simultaneously, DvP requires the CSD “to interact with the payment system” (ECB 2010e:84). It was this interaction that was organized in different ways in different European countries (ECB 2004a). In some countries, there was simply an *interface* between the CSD and the central bank linking the two systems. In other countries, the two were essentially *integrated* into a single system (see *Figure 6*).

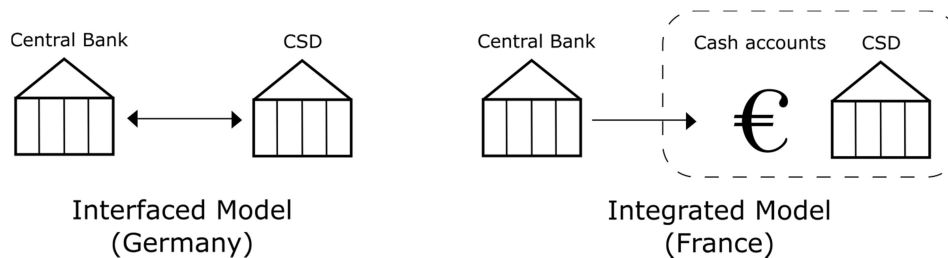
Most countries used the “interfaced” model for DvP settlement. In Germany, for example, cash accounts remained with the central bank and securities accounts with the CSD. For DvP settlement to take place, “a bank first [1] sends an instruction to the CSD; the CSD then [2] blocks the securities; [3] sends the transaction to the central bank; which [4] processes the payment; and [5] sends a confirmation to the CSD; so that [6] the CSD can release the securities” (I27; also I14). For every transaction a series of messages between the two systems was thus necessary, introducing an element of technical risk and inefficiency, but also of cost, since messaging is provided by the international communications network SWIFT⁴⁹ at a price (cf. Scott and Zachariadis 2012). In order to keep messaging to a minimum, therefore, interfaced DvP systems are based on net settlement (like clearinghouses) – that is, they would not also be able to settle in RTGS mode. Interfaced systems thus implied a build-up of liabilities during each cycle, amounting to a build-up of systemic risk in settlement, according to the established view. Traditionally, CSDs would have just one netting cycle each day, but by 2015 both the German and the Danish CSD had several daily cycles, making them *almost* as effective as a real-time gross settlement system in the eyes of many (I18; I44; I47).

By contrast, some central banks had outsourced special cash accounts for settlement purposes to the CSD which it could debit and credit to finalise transactions. This “integrated” model meant that transactions could be settled in real-time (RTGS mode) with no additional risk, processing, or messaging (I27). The integrated model was considered by many to be: “the most effective way to organise DvP” (I52). Notably, in France the CSD for government bonds had originally been created by the central bank. Later, in the mid-1990’s, when it merged with the CSD of the stock exchange, the central bank would still hold a 40% share as well as board seats. In this

⁴⁹ SWIFT stands for Society for Worldwide Interbank Financial Telecommunication.

way, the central bank had permitted the outsourcing of the settlement accounts in order to maintain the integrated DvP model in RTGS mode (I13; I14; I27).

Figure 6: Interfaced and Integrated DvP Models



The cash accounts outsourced are not the current accounts where the banks have their reserves and which are used, for example, in monetary policy operations. They are intraday accounts that banks can move cash to in the morning and then move it back by the end of the day. Nevertheless, these accounts became the topic of heated controversy within the Eurosystem in 2004. By then, the question of DvP in the Eurozone had moved up from the depths of technical engineering to the ECB Board of Governors, where an “extremely difficult” and “quasi-religious” debate took place (I14).

The German Bundesbank, along with the Spanish, Italian, and yet other central banks, voiced their opposition to the integrated model. For “philosophical” as well as “technical” reasons, they were under no circumstances willing to accept an integrated model involving the outsourcing of central bank cash accounts (I14; I44; I51). According to one interviewee, they considered it “heretic” that the settlement of central bank money could take place outside the full and direct control of the central bank itself, leading to their position that: “there can be no outsourcing” (I27; also I44; I51). Several interviewees independently described the Bundesbank attitude as unusually hard (I13; I14; I15; I48). But since the French, Dutch, and Belgian central banks would under no circumstances abandon the integrated model – which they saw as both safer and more efficient – this led to a deadlocked conflict that would last until 2006. For two years there was no solution in sight for providing DvP settlement on a European scale.

That the “DvP conflict” began only in 2004 was not a coincidence: for securities settlement to be integrated in Europe, the Member States would have to agree on a

DvP model, and this was about the time when integration showed the first signs of being realised with the Euroclear project. As we have seen, Euroclear had by then acquired the French, Dutch and Belgian CSDs, and they adopted the integrated DvP model for their ESES platform (the French central bank accepted to keep the outsourcing model, even though it no longer had a share in the CSD). One interviewee argues that the conflict began because Euroclear had asked the central banks to specify which model they would prefer, simply to have some clarity (I51). Others argue that it was under the prospectus of increased competition from Euroclear that the issue was brought up by the German CSD Clearstream Frankfurt and its owner Deutsche Börse, who “went to the Bundesbank to say: ‘we are increasingly in competition notably with the French and their model is more efficient – either you adopt that model or you ban it’” (I14; also I13; I52).

According to some interviewees, the problem was simply the outsourcing of central bank cash accounts (I27). According to others, it was a bit more subtle than that, related to the so-called “autocollateralisation” technique which the French had developed (I14). Using this technique, the CSD not only debits and credits the special intraday cash accounts of banks as a part of the settlement process. If a situation occurs in which a bank has an incoming security, but does not have sufficient cash ready to pay, the CSD will automatically see if the incoming security or some other security in the bank’s possession is eligible as collateral with the central bank. If this is the case, it automatically pledges the incoming security to create credit, which, in turn, is used to settle the transaction (I14). Because the system is integrated, all these steps can take place simultaneously. Consequently, DvP is upheld, even if the logical sequence is that the purchased security needs to be first delivered and then pledged to create the cash to pay for the delivery in the first place (cf. *Appendix D*).

The settlement credit created by autocollateralisation was thus intended to make settlement flow smoothly. It had to be paid back by the end of the day, before the closing of the system. Since it is free of charge, it essentially creates the same effect as netting when you look at the day as a whole. But settlement is not deferred in time and is considered to be safer because there is no build-up of liabilities that can impede finalisation.

What was challenged by the Bundesbank and others in the integrated model, according to several interviewees, was that autocollateralisation was seen as

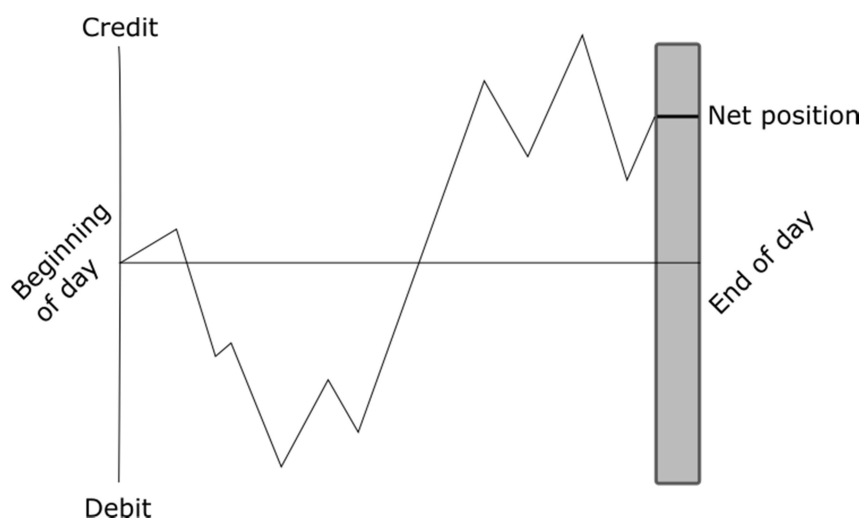
essentially central bank money creation outsourced to a private institution. A then-ECB employee explains: “If you have autocollateralisation you are actually technically creating money intraday, and this was not well-received by the Eurosystem, that someone outside the Eurosystem can actually create central bank money” (I48). A French interviewee elaborates:

The core critique of the Bundesbank was not so much that the CSD had a transitory account in the central bank, but that monetary operations could be carried out only by the central bank, that it could not be delegated to another institution, and even less so let it be managed by automatic repos [i.e., autocollateralisation⁵⁰], because then the repo is created completely without the intervention of the central bank ..., out of the control of the central bank so to speak, ... even through legally it is very very well delimited. This is what the Bundesbank criticised, it absolutely did not want that central bank operations could start to be made elsewhere (I14).

Autocollateralisation is well-known from cash systems like T2 where it helps payments flow (Manning et al. 2009). But in T2, there is not the same problem because the central bank is in full control. Moreover, it is worth noting that autocollateralisation was not just an emergency technique, but the fundament of liquidity in the integrated DvP model. In a system that settles transactions in real time on a gross basis, inflows and outflows of cash will be unevenly distributed throughout the day for each bank – even if its net position by the end of the day is close to zero (see also Riles 2004, 2011). *Figure 7* illustrates a bank in need of cash in the first hours of the day to finance a net outflow (purchases), while its position for the day as a whole is a surplus (net inflow).

⁵⁰ A repo or “repurchase agreement” is a technique used by central banks to take collateral (safety) against the loans they extend to banks – predominantly securities (bonds). A repo resembles a collateralised loan, but is structured as a sale with an obligation to buy back at a future date. The difference between sale and buyback price corresponds to the interest rate on a loan and is called the repo rate.

Figure 7: Real-Time Cash Flow versus Net Cash Position



The deficit early in the day, however, is not just a problem for that bank, but for the whole system: if the bank has no money on its settlement account, it cannot settle its purchases; and this means that the sellers do not receive their expected inflow of cash, potentially starting a chain reaction of fails (Bernanke 1990:149; BIS 2003:8). In fact, without autocollateralisation, settlement may not even take off in the morning, or run into constant gridlocks. Banks could, of course, reserve huge amounts of cash in the morning, but this would be inefficient because that cash would then not be invested.

Autocollateralisation is used during the day to finance the flow of settlements that need to take place in real time. Whereas these are generally the transactions of the highest *values* (open-market operations of the central banks, money market and repo transactions), the biggest *volumes* are settled during the night (I30). These are mainly all the trades concluded at the stock exchange two days before. According to one interviewee, Euroclear for this reason has fewer suspended settlements and lower funding costs than other CSDs in Europe using the integrated model (I35). Not only does the technique bring down the amount of cash which participants need to reserve in advance –since autocollateralisation works for securities on stock as well as on flow, fewer securities need to be reserved in advance. Moreover, although the outcome of night-time settlement is effectively a net balance for each participant, the French CSD still settled these transactions one by one in gross mode for the same reasons of safety as applied during the day. As one central banker explains: “You don’t talk of netting anymore, it is impolite, you talk about optimization (laughs) – meaning that you don’t take any risk, like we talked about the netting systems taking systemic risk etc.” (I15).

But during night-time settlement, the cash accounts in the CSD are empty – the money is moved back to the central bank for reasons that will be clearer in chapter 7 – and the accounts are not open for the banks to manage them either. As one interviewee quipped: “Anyway by 20:30 the bankers are in the restaurant or they are sleeping (laughs)” (I15). In this situation, autocollateralisation is used to create the cash necessary to get the settlement started in the first place. Even a small initial credit creation will allow settlement to take off. According to one interviewee close to the French system, when the CSD was created around 1997-1999, autocollateralisation meant that about 85 % of the night-time transactions could be settled on average *without any cash in the system*: “So it is not just a question of back-up if you don’t have any cash left, no, it is the whole system which is based on this” (I14). Only the remaining transactions would wait for the morning to be settled when the banks could move cash to their settlement accounts (I30). This “netting efficiency” is close to that of many classical netting systems, usually somewhat above 90 % (e.g. Nationalbanken 2005:159). One central banker recapitulates:

The Euroclear France system [RTGS] was at best as efficient as the Clearstream system [netting]. ... You are always aiming to get as close to the net as possible. But the netting system has the disadvantage if a bank goes bust (I48).

Note how the attempt to remove risks, costs, and frictions from settlement – an integral project to that of integrating financial infrastructures and, by extension, the financial market in Europe – bring out in the open a set of problems or contradictions around which the technical controversy over DvP was organised: as illustrated by the Herstatt case, the efficiency of financial markets hinges upon the exclusion of risk from settlement because settlement concerns the systemic role of money as a medium of exchange. Paradoxically, net settlement is the most efficient, but it is not entirely safe. On the other hand, RTGS is not efficient without free settlement credit. But for settlement to be in DvP mode – another safety concern – central bank money then has to be outsourced to the (private) CSD. But this violates the central bank’s position as an entity outside the market. And the issue goes even deeper than this, as we will have occasion to discuss in chapter 7.

In a certain way, the problem here thus seems to parallel the one discovered in the previous chapter, where the provision of settlement services was caught in a dilemma between, on the one hand, competitive provision and, on the other hand, a level playing field for all – that is, between being part of the market and being outside the market and grounding it.

This process around a set of contradictions did not remain in the anonymous rooms of technical specialists; instead, it provoked the idea of T2S as a major project to integrate financial infrastructures in Europe. The debate over DvP in the Eurosystem remained deadlocked for two years until 2006, when the ECB came up with the following idea: “Instead of outsourcing cash accounts from central banks to CSDs, why not insource securities accounts from CSDs to central banks?” (I27). “This is in fact the true origin of T2S,” an interviewee close to the debate explains (I14; also I27; I29; I35; I48; I51). A CSD CEO explains that the ECB “was not really involved” in the discussions with the Commission running up to 2006 about integration: “What happened – and this is the genesis of T2S – was that the ECB was very involved in one particular topic: DvP [delivery versus payment]. That is what generated T2S” (I52). T2S was first conceived by a former employee of the French CSD, Marc Bayle, who later became T2S Programme Manager, and first accepted by his superior at the ECB, Jean-Michel Godeffroy who had a background in the French central bank and later became chairman of the T2S board at the ECB (I14; I27; I29; I35; I51). It is generally admitted that T2S is “extremely inspired” by the system in the French CSD (which was now owned by Euroclear which had adopted the model for other CSDs as well) (I35; also I14; I44).

However, whereas T2S was first conceived as a solution to the DvP conflict, it was quickly given a new motivation: market integration and efficiency (I14). According to one interviewee, the reaction of the ECB Board⁵¹ to the T2S solution to the DvP conflict was: “Yes, but we need to put it differently because we cannot simply say we will take business away from CSDs... But we can say that it is European integration of the post-trade market” (I51). Similarly, the idea “was clearly very interesting for the ECB Governing Council⁵² because it is part of its mission to deliver integration – it is Lisbon Agenda implementation” (I29). The sector was consulted in

⁵¹ The Board is comprised of the President of the ECB and five other members appointed by the European Council.

⁵² The Governing Council is comprised of the Board and the Governors of the 19 Eurozone central banks.

July 2007 and the responses were taken to be largely positive (ECB 2007c). The idea was also brought before the ECOFIN,⁵³ which immediately supported it exactly as a financial market integration project, providing a “boost to the project” (I30; also I51). This soon became the official goal of T2S:

The overall objective of T2S is to facilitate post-trading integration by supporting core, borderless and neutral pan-European cash and securities settlement in central bank money so that CSDs can provide their customers with harmonised and commoditised settlement services in an integrated technical environment with cross-border capabilities (ECB 2015e:24).

Thus the T2S project was conceived first as a solution to the DvP conflict, then as a major financial market integration initiative to provide these with a level playing field. Instead of outsourcing cash accounts to the CSD as the French had done, T2S insources securities accounts to a central bank settlement platform owned and operated by the ECB. T2S will thus be able to settle in real time and do autocollateralisation without giving up the full control of central bank money creation.⁵⁴

However, not all interviewees subscribe to this version of the events. One interviewee from the Commission argues that it is “extremely reductive – the idea was to enhance the efficiency of clearing in Europe; I find the DvP issue very marginal” (I59). This interviewee – in contrast to others, as we have seen – holds that between 2004 and 2006 there was an ongoing dialogue, also including the ECB:

I have no doubt if you speak to the industry they say it is about private versus public, but from an economic point of view it is about efficiency. Public/private is a secondary matter. ... We saw time passing and nothing happened – well, not that nothing happened, but there was a demand [for integration] and a supply coordination failure. So there was a need for something to happen at the central level with the ECB (I59).

⁵³ ECOFIN stands for the Economic and Financial Affairs Council of the Council of the European Union, composed of the finance ministers from the EU member states.

⁵⁴ One French interviewee argues that technically speaking T2S is not an integrated but an interfaced DvP system “because even though both securities and cash are with the Eurosystem, T2S will have to go to the T2 accounts to verify if the cash is there. But to be honest that is not important” (I15).

The interviewee reports how cross-border transaction volumes tripled between 2000 and 2007 in Europe, and how “everybody” demanded integration – it was a demand from the industry, according to him, not “the caricature of the bureaucrat who wakes up in the morning and says: ‘what can I integrate today?’” (I59).

Recall the interviewee quoted in chapter 1 who argued that T2S did not mark a “a complete breach as such” in the Commission’s approach (p. 29). We shall examine the EU institutions’ view that T2S is in fact not a monopoly in section 5.2. But together with the rejection of the DvP explanation, it seems to shatter the whole narrative. But for our purposes it turns out not to be very important, because we have seen that both the problem of DvP and that of efficiency accentuated by the interviewee from the Commission (I59) refer to the same set of fundamental problems about the paradoxical role of financial infrastructures as both inside and outside the market. Even if we let ourselves be convinced, and reject the DvP version, what would remain would not be simply a pragmatic or strategic Commission, but a Commission trying to solve a *problem* – a problem of “efficiency,” as he put it, efficiency between competition and monopoly and between market and non-market.

This is not the generic point of Millo and colleagues (2005:243) about the “fundamental failure of the technological society to rationalise risk.” Nor is it the equally generic points of Panourgias (2015:330) to whom the DvP conflict illustrated how a controversy “spreads out from a question of technical interfacing to a much broader debate about the terms of broader European financial integration” and “a number of preceding smaller controversies coalesced around an issue.” Rather, it is a specific point about the contradictory nature of the concepts of money and markets. Nor is it the economists’ arbitrary observation that financial infrastructures happen to have high economies of scale and network externalities, but a conceptual contradiction between “markets” and “market infrastructures.” Finally, it is not the practitioners’ distinction between efficiency and safety in settlement systems, but the fact that the very concept of settlement is caught between, on the one hand, the frictionless and unfragmentedness of a “level playing field” outside the market and, on the other hand, the risk and frictions serviced inside the market on a conceptual basis.

The controversy over DvP may have been solved when T2S was conceived, but, as the analysis of the following three controversies will show, the underlying problem

was not. This demonstrates the argument that these controversies are structured by discursive problems related to the concepts of money and market.

5.2 Things are not What They Seem: The Legal Controversy over the *Legal Assessment*

The concept of T2S as conceived in 2006 was to “insource” the securities accounts from the national CSDs onto a single settlement platform owned and operated by the ECB (I12; I27; I30; I43; I48; Quaglia 2010:122). Obviously, this was not immediately well-received by the CSDs as it deprives them of an important business activity and source of revenues: settlement fees. Further, it was not even clear from the outset whether such insourcing was within the mandate of the ECB – or, perhaps, even outright against it. Also, even if T2S was possible within the *Statute* of the ECB, it might be impossible for some CSDs to outsource settlement due to the national legislation protecting its core financial infrastructure. After all, CSDs are vital, not only to financial markets, but also to monetary policy – settling open market operations and blocking securities collateralised with the central bank. T2S thus potentially touched upon the sovereignty of states – even in the Eurozone where, for example, each Member State still has a central bank. In 2006 all these issues were shrouded in mystery. Due to these uncertainties, in their line of defence against the T2S project, CSDs and ICSDs relied mainly on legal arguments. As one interviewee recalls:

You never say: “I don’t like it”, because that is weak ... so they said: “Actually it is not so much that we don’t like it, but legally we can’t do it” (I54).

Similarly, the ECB was not even itself certain if the project would be feasible:

we were not exactly sure, we had to check the legal background of every country, discuss with them and ask if it was possible to outsource the business to someone else. In the beginning it was really a big question: can we do it? (I48).

It is difficult if not impossible to establish with any precision how big a waiver the outsourcing of settlement to T2S was for the CSDs. What is clear is that, together

with issuance and corporate actions, settlement is considered one of the three core functions of CSDs⁵⁵. One interviewee reports that settlement accounts for about 30% of turnover in his CSD (I24), another CSD interviewee says it is just a “small part” (I16), while a third mentions 70% of business activity (although not of revenues) (I15). According a fourth interviewee, the CSDs were going to lose “between one third and two thirds of their revenue depending on their model” (I27). Whatever the exact numbers, many CSDs had a substantial part of their revenues coming from settlement fees. As one custodian banker explains: “T2S was perceived by many of the CSDs as a big threat, many of them were *vehemently* opposed – well, perhaps vehemently opposed is an exaggeration, but opposed in the early years, you know, fought it” (I54). Jean-Michel Godeffroy (2014:1) the Chairman of the T2S Board at the time,⁵⁶ recounts in a 2014 speech: “Like all major innovations, T2S initially raised some fears and scepticism. I remember a conference taking place here in London back in 2007, during which T2S was even accused of being like the Spanish Inquisition!”

Euroclear in particular opposed T2S. Not only was it the biggest group with six CSDs and one ICSD, and so the player with the most voice and weight behind its words, but it was also in the middle of a €500 m. project of European consolidation, as we have seen. Euroclear also objected to T2S that it was a public project to market infrastructures (I16). As late as in October 2011 at a conference organised by the ECB in Frankfurt, where participants had been asked to present their vision of securities settlement in 2020, “the Euroclear CEO Tim Howell showed a car that got run over by a train... The car had “Euroclear” written on it and the train “T2S”” (I36). On the other hand, Clearstream with its CSD in Germany and its ICSD in Luxembourg had not pursued a similar strategy of expansion and consolidation. Moreover, they had an old settlement engine which they would soon have to renew. T2S could potentially take off some of the investment cost, or at least they would be able to kill two birds with one stone (I51). Nevertheless, they, too, seem to have been hostile in the beginning. One interviewee reports: “they said: ‘it is like de-privatisation!’” (I30).

A sense of expropriation was in the air, no-body knew on what conditions the ECB intended to carry through its project. One CSD interviewee explains:

⁵⁵ Corporate actions consist in servicing events on securities such as coupon payments, tax claims, reclaims, and so on.

⁵⁶ Godeffroy was the responsible Director General of the Payment Systems and Market Infrastructure Department of the ECB when T2S was conceived in 2006. When the T2S project was officially launched, he became the Chairman of the T2S Programme Board established and served until 2015.

In the very beginning there was a debate about whether this would be mandatory or not which was, how should I put it, very very touchy because if the ECB said so, it would be an expropriation so to speak, a kind of nationalisation if you like (I14).

Quaglia refers the European CSD Association for arguing that T2S:

was an attempt by the ECB to expand its competence, that it could potentially be detrimental to the bank's primary task (conducting monetary policy with a view to price stability) and that it would lead to the creation of a public monopoly in this field (quoted in Quaglia 2010:121).

In a similar vein, the Eurosystem had to defend T2S against notably the German conservatives in the European Parliament who thought it was “an intrusion of the public sector into the private sphere” (I27). Some Members of Parliament were afraid that T2S represented a “Mission Creep” of an increasingly stronger ECB, gradually laying its hand on ever-more domains (I27). In addition, the UK and Sweden (non-euro countries), as well as Finland and Holland, initially saw it as “an intrusion of the public sector into the private sphere” (I27). The Parliament and Member States were soon calmed down. Notably, the four central banks (4CB) who took on the management of the T2S project – the French, German, Italian and Spanish central banks – successfully convinced their respective politicians about the virtues of T2S (I27).

But the controversy with the CSDs was more difficult. Certainly, there was a widespread confidence among central bankers close to T2S that it was feasible. But the CSDs raised concerns about the project's legal basis. One describes the opposition to the project in almost satirical terms:

Then there was a series of studies being made that really fattened the lawyers and the barista cabinets because it went really high up, all the way to ECOFIN etc., in order to deprive the ECB of any legitimacy to enter this business even if – as an aside – some central banks had had some small parts like the Banque de France in Saturne [a CSD for government bonds] in the 1980s (I13).

Another interviewee recounts the central bank reaction to the claim that outsourcing of securities settlement to the ECB was illegal:

And this is when the lawyers came in and said: “Really? Lets see!” And then we analysed it legally and came to the result that there is not a single legal system that strictly prohibits T2S. Some things had to be amended, changed, maybe some things had to be widened, but only slightly in most countries... Then in 2008 we concluded that: “Yes we can!” (I48).

This was the *Legal Assessment* (ECB 2008b). But how was this conclusion possible? Or, rather: how could it be so simple as “Yes we can!”, given not only the widespread opposition, but also the apparent violation of free-market principles? Let us consider the *Legal Assessment* more closely.

5.2.1 The *Legal Assessment*

The ECB initiated a *Legal Assessment* of the T2S project which was concluded in May 2008 (ECB 2008b). It was prepared by the ECB’s Directorate General Legal Services and reviewed by the Eurosystem’s Legal Committee (ECB 2008b:1). It advanced the argument already encountered in the DvP debate that T2S would reduce risk in the financial system and thus contribute to the “preservation of financial stability,” as well as the view that, by providing settlement services in central bank money, T2S would support the safe and efficient implementation of monetary policy (ECB 2008b:10 and 2 respectively). But its main focus was on the legal status of T2S and its compliance with the *Treaty of the EU* and with the *Statute of the ECB*. Notably, it revolved around the questions of whether T2S would, legally speaking, be a CSD, a securities settlement, system or simply a service provided to the CSDs. The answer to that question, as we shall see, had important consequences for the feasibility of T2S.

One interviewee reports that very early on, the ECB had considered a full-blown CSD, but quickly abandoned the idea. First, it was too complex, notably because most central banks have no expertise on custody services like corporate actions and issuer services. Second, that solution would have required full expropriation of the existing CSDs (I29). Because T2S only takes settlement and puts it on a central platform and

leaves the other activities with the CSDs, it is not itself a CSD (I14). Less intuitively, however, the *Legal Assessment* argued that, despite T2S being a system that settles securities, it would not be a “securities settlement system” in the legal sense as defined by the *Settlement Finality Directive* (European Commission 1998). This was crucial to the surprising argument that, legally speaking, T2S is not a monopoly, nor does it take business away from the CSDs. The argument was the following:

Securities and dedicated cash accounts will be technically maintained and operated on the T2S platform, while they are legally maintained under the responsibility of the CSDs and [the national central banks], which are the account providers (ECB 2008b:7).

Legally speaking, the ECB argued, settlement would take place in the CSDs – T2S would simply make sure that settlement was coordinated across Europe. This became an important argument not only for the legal feasibility but also for the Commission’s support. Recall the interviewee quoted in the introduction arguing that T2S is:

a kind of public-private partnership because the ECB does not perform the actual settlement – the settlement remains in the national CSDs. What is provided through T2S is a platform for settlement. It is very complicated, but I would not necessarily say that it is a public initiative – there is a public element, and a strong public element, obviously, but there is also the private sphere which has been very much involved in how the project has evolved (I57).

T2S would not, strictly speaking, insource settlement from the CSDs and, consequently, it would avoid becoming a monopoly. T2S would simply be “a purely technical platform providing specific services to central securities depositories” (ECB 2008b:1). More precisely, the argument was that T2S will, in fact, provide *technical* settlement of both cash and securities accounts, but *legally binding* settlement will still take place on accounts in the CSD and central bank (ECB 2008b:7).⁵⁷ As one legal expert puts it: “The accounts are on T2S, but legally they are with Euroclear France”

⁵⁷ A similar organisation was found in the existing integrated DvP model in France, only there the accounts were legally with the central bank and settlement on the private CSD platform (I13).

(I48). Another interviewee is equally dazzling: “Final settlement takes place on the T2S platform, but it takes place legally within the national CSDs” (I57).

It is not a coincidence if these phrasings appear contradictory. On the one hand, for settlement to take place in DvP mode in an integrated and harmonised environment for the whole Eurozone, it has to be centralised. On the other hand, for T2S to not be a securities settlement system, but simply a service and hence legally feasible, settlement had to be decentralised in the CSDs. T2S is a “technical platform” owned and operated by the ECB whereby “DvP bookings are carried out” (ECB 2008b:9). Principle 6 of T2S states that “Securities account balances shall only be changed in T2S” (ECB 2007b:3). Yet, settlement will legally take place in the CSDs.

T.K.: What I have heard is that T2S is based on the insourcing from the CSDs to T2S, at least de facto

I: De facto, yes.

T.K.: Because settlement is no longer a source of revenue for them

I: Yes, that is right, yes, I think there is a business perspective and then there is a legal perspective (I57).

The *Legal Assessment* essentially distinguished two steps to make its argument (ECB 2008b:21). The first is the “transfer order finality” which is the legally binding establishment of the transfer order between two CSDs on the T2S platform. The other is “final settlement,” which subsequently takes place in the CSDs. Technically speaking, the CSDs simply mirror the transaction order settled on T2S: “what the CSD does with it has no legal implications on what has happened...The settlement has already taken place on the platform, so everything they do is a mirror image” (I48). But, legally speaking, T2S mirrors the final settlement in the CSDs (I11).⁵⁸

However perplexing its legal constitution, settlement had been centralised in a single DvP bookkeeping system. As one legal expert explains:

⁵⁸ The legal argument is in fact even more complicated than this since “Settlement” does not in itself have a proprietary effect. “Settlement” refers to the completion of a transaction involving the discharge of obligations in respect of funds or securities between two or more parties” (ECB 2008b:24). There is thus a distinction made between settlement and proprietary effect. In addition, there is a distinction between *three* levels of finality (I57).

It was actually a pretty long discussion for the CSDs to accept that it is legally taking place on the platform. There is no other way, everyone understood that. If you relied on any of the existing platforms all the others would say “no no no, it is ours as well,” and you would have two different moments in time of debit and credit in, say, Germany and France. With the same platform there can never be an argument if something goes bust (I48).

The argument had important implications in favour of T2S. First, since T2S would only conduct technical settlement, the *Legal Assessment* argued that “T2S does *not* envisage the *outsourcing* of CSDs’ *core functions*,” i.e., of final settlement (ECB 2008b:5, italics added). This was important because many jurisdictions distinguished between critical and non-critical CSD functions – while the latter was being open for outsourcing in many jurisdictions, the former was not, in order to maintain a connection between execution and legal responsibility. This is surprising and indeed confusing because the original concept of T2S had been precisely to reverse the outsourcing of cash accounts and to “insource” securities accounts to the central banks – a formulation widely used to this day (I12; I27; I30; I43; I48; Quaglia 2010:122). One retired CSD CEO puts it as follows:

Certain companies, the CSDs, had to hand in – they [the ECB] call it outsource, but that is ridiculous – a part of their business... Normally outsourcing is hiring others to run non-strategic activities at a lower cost, but clearing and settlement is a damn strategic activity! ... Many of these companies are listed, they had to pass in their business free of charge! They will never put it this way, but that is how it is... And then the CSDs have to pay a fee to T2S. Will the CSDs save costs? I doubt it my dear (I24).⁵⁹

⁵⁹ A related problem was that “a board of a company cannot outsource its responsibility away and when financial institutions outsource they need acceptance from regulators and the regulator needs access to the contractor. But you cannot have a T2S with 23 regulators asking weird questions and making change requests all the time. So you have a section in the CSD Regulation [a “MiFID for CSDs” adopted in 2014 (European Commission 2014b)] about outsourcing that describe T2S in generic terms” (I18).

Another retired CSD CEO personally doubts that T2S was indeed legal under the *Treaty* and *ECB Statute* and suggests that the CSDs could still have chosen to challenge this:

But, honestly, that would not have made sense, because legally charging the ECB would mean to go to the European Court of Justice. Okay, they would have made a decision ten years later, and so what? Also you need to recognise that this project has the political advantage of being a dynamic of European consolidation (I14).

What is interesting for our purposes, however, is not whether T2S was “really” legal or not – that is, whether it *corresponded* with existing legal texts or not. What is of interest here is that the *problem* of the legal feasibility of T2S – approached analytically via the controversy surrounding the *Legal Assessment* – exhibits some of the same structural dimensions that we already encountered in the technical controversy over DvP and, more broadly, reiterates the general problem of the configuration of the relationship between competition amongst fragmented market players and a centralised accounting system providing a “level playing field” for competition. Where some central banks contested the outsourcing of cash accounts, as we saw in section 5.1, on the grounds that they represent a critical activity for central banks, CSDs contested the outsourcing of securities accounts on similar grounds. The spectacular argument of the *Legal Assessment* thus seeks to unite the contradictory aspects of securities settlement: a service to be provided by the market and an infrastructure to be provided outside it. In securities settlement, the horizontal principle of markets, in which a *division* of labour develops contractually via outsourcing and services, collides with the hierarchical principle of market infrastructures, in which the *organisation* of labour is imposed via expropriation and regulation. In section 5.3 we shall go into more detail about the involuntary outsourcing in voluntary contracting.

A second important consequence of the *Legal Assessment*'s conclusion was that T2S would not be a “securities settlement system,” but merely a “facility” providing “services” to the CSDs by the ECB (ECB 2008b:9, 2007b:2). The designation “facility” was very convenient because Article 22 of the *Statute of the ECB* states that “The ECB and national central banks may provide *facilities* ... to ensure efficient and sound clearing and payment systems within the Union and with other countries” (EU 2012,

my italics). For this reason, Article 22 was “the principal legal basis for the launch of the T2S platform” (ECB 2008b:1). Had T2S been a full-blown “securities settlement system,” arguing this case would certainly have been more difficult.

Finally, a consequence not discussed in the *Legal Assessment* is that the complicated legal status of T2S makes it more difficult to label it a monopoly. Had T2S been a securities settlement system, this would have been clearer. It also allows the EU institutions to uphold a narrative about industry-led integration in which government intervention only occurs “when necessary” (157) – despite the fact that T2S is a central bank project that has been running for more than 10 years with direct costs of around €500 m. The concept of monopoly may also have caused more tangible legal and political problems.” Article 2 of the ECB *Statute* states that the Eurosystem (ECB and national central banks) “shall act in accordance with the principle of an open market economy with *free competition*, favouring an *efficient allocation of resources*, and in compliance with the principles set out in Article 105 [now 119] of the Treaty on the Functioning of the European Union” (EU 2012, my italics). We saw in the preceding chapter that financial infrastructures are an area where competition and economic efficiency do not marry as easily as the quasi-ontological juxtaposition of the two concepts in the *Statute* pretends.

The equation made by the *Statute* between competition and efficiency produces problems when it comes to market infrastructures. According to its proponents, T2S will be systemically less risky, economically more efficient settlement, and bring path-breaking innovation to an otherwise stagnated field. In the language of the economists, it will be economically, dynamically, and statically efficient (Serifsoy and Weiß 2007:3040; see also Milne 2007b). But this is not obtained *via* competition. Rather competition may be a *consequence* of T2S as we will see in more detail later on. One of the main reasons provided by the *Legal Assessment* for why T2S “fully complies with the open market economy principles” is that “T2S will contribute to transforming the existing local/domestic monopolies and will introduce potential competition between CSDs” (ECB 2008b:3).⁶⁰ So, T2S complies with market economy principles because it creates competition, but it paradoxically does so precisely by abolishing it:

⁶⁰ The other three reasons mentioned are that: “(i) the establishment of T2S will promote technical and economic progress, (ii) this progress will be to the benefit of consumers, (iii) the establishment of a single technical platform to enable DvP settlement in central bank money” (ECB 2008b:3).

without efficient cross-border clearing and settlement arrangements in the EU, the ability and willingness of participants to trade in EU securities will be sub-optimal, the liquidity of financial markets will be adversely affected and the cost of capital will be higher than need be (ECB 2008b:13)

T2S needed to be a centralised monopoly to provide safe and efficient clearing and settlements for markets, and it needed to be driven – or at least closely integrated with – the central bank to do so safely, as we have seen. Paradoxically, then, centralisation and even monopoly in market infrastructures – *de facto* monopoly from a business perspective, pseudo-monopoly from a legal perspective – appears as a precondition for competition and thereby also for the market to be efficient.

The complex argument of the *Legal Assessment* was structured by the correspondence-cum-contradiction character of the market concepts of competition and efficiency. The ECB was clearly not in a position to simply argue that the implicit assumption of the *Statute* did not hold. Instead, the *Legal Assessment* followed a strategy of separating efficiency and competition concerns, arguing, on the one hand, that centralisation of settlement on the T2S platform would bring safety, efficiency, and economic progress for consumers and, on the other hand, that T2S would “introduce potential competition between CSDs” (ECB 2008b:3). Technically, settlement was centralised, legally it was left to competing market participants. In this way, a configuration was created to stabilise the contradictory relationship between market and market infrastructures organising the legal controversy over T2S. But the general problem was not solved. In the third controversy discussed below, we will see yet another variation of the problem.

All in all the *Legal Assessment* concluded that there was “a sound legal basis for the development and operation of T2S” (ECB 2008b:2). In July 2008, the Eurosystem published a communication that launched the T2S project and entrusted it to four central banks – the French, German, Italian, and Spanish, or 4CB (ECB 2008a). The *Legal Assessment* had been accompanied by economic and technical feasibility studies (I30; ECB 2015e:15). There had also been a hearing in the sector and “a big outreach to market participants” around 2006-2008 to get views but also to get expertise, according to one global custodian (I54). In addition, part of the T2S team was

recruited from the industry (I54). After establishing the feasibility of T2S, the question was how it should be built more specifically (I54).

5.3 Inside or Outside the Market? The Economic Controversy over Cost Recovery

With the positive conclusion of the *Legal Assessment*, the T2S project was officially launched in July 2008 (ECB 2008a). However, with their proposed model for T2S, the ECB faced a new problem. T2S was based on the principle that “CSDs will have to open and hold accounts with the other CSDs in T2S and thus in fact participate in the other [security settlement systems]” (ECB 2008b:21–22). If T2S were to fulfil its acclaimed *raison d’être* and provide harmonised DvP settlement for the whole of the Eurozone, it would not be enough for willing CSDs to join and unwilling CSDs to stay out – T2S would have to insource settlement from *all* CSDs. For every CSD that did not join T2S there would be an interface between systems and the complexity would grow exponentially with each additional non-participating CSD. Along similar lines, the ECB had early in the process thought about limiting T2S to government bonds, but the big custodian banks, notably BNP Paribas, expressed a condition for supporting the project. According to one interviewee:

They said: “We have a problem in Europe, there are too many players. If you tell us you are going to create a platform which will replace the 20, 30, 40 existing platforms in Europe, then we support it, but if you say you will create a 41st platform we don’t see the interest.” This instantly became the position of all the custodian banks but stunned the CSDs” (I27).

If T2S was to work – both technically and politically – all CSDs would have to outsource all their securities accounts. But the fear of expropriation had quickly pushed the ECB to state that: “CSDs’ *participation* in T2S shall not be mandatory” (ECB 2007b:4); and the *Legal Assessment* had added: “the CSDs are not forced to *use* T2S (ECB 2008b:14, my italics). Asked if mandatory insourcing would have been possible, one central banker reflects:

No, I don't think so. Because it's not actually in the core mandate of the Eurosystem. I mean, it should have been for financial stability reasons, or whatever then, but I couldn't give a reason because there were no defaults. ... It had to be voluntary ... Considering how many CSDs signed the framework agreement, it was really amazing, it was a great success (I30).

The insourcing of securities accounts to T2S had to be “voluntary,” and indeed this is what eventually happened. However, the goal was not achieved spontaneously out of enthusiasm or immediate utility of so doing. Rather, paradoxically, voluntary participation was only achieved “involuntarily.”

When the criticism of expropriation was brought on the table, one CSD interviewee recounts, “the ECB did not want to enter into this debate so they said: “No no, it is optional... I mean, let's be serious!” (I14). A banker elaborates the problem of voluntariness: “The CSDs don't have any interest in letting anyone into their own environment as competitors” (I43). This is exactly what T2S – together with the legal harmonisation following it – would do: open CSDs to competition because, ideally, with T2S, banks (at least the major ones) will be able to choose more or less freely among the European CSDs, which one to use for settlement because they all connect to T2S. This is how T2S is thought to bring competition between national CSDs. “It is illogical,” the interviewee explains, the CSDs will have to spend huge sums adapting to T2S and being an active part in the project, “and at the end of the day maybe you are not going to survive” (I43). It was not with the zeal of the martyr that CSDs would sign the outsourcing contract – but what was it, then, that could make the free agents of market competition sign voluntarily in accordance with market principles?

In particular, small CSDs would clearly be threatened on their life in view of such a development. For example, the Slovakian CSD has only 63 employees and settled only 98.000 transactions in 2013 with a value of €18 bn., compared to around 300 employees in the German CSD which settled 61 m. transactions with a value of €60 tn. (ECSDA 2014), but they will both have to spend comparable amounts on adapting their systems to T2S. How could the Slovenian CSD, for example, afford to spend millions on adapting to T2s while at the same time losing transaction fees and, perhaps, its biggest clients too?

For the big CSDs there was another problem: T2S will allow big custodian banks to instruct directly on the platform, bypassing the CSDs. They will therefore be able to provide more of the same services as CSDs do, increasing competition between the two types of institutions. The question of directly connected participants is therefore “the big competition point” of T2S (I44).⁶¹

It is easy to see why making CSDs outsource on a voluntary basis would not be an easy task. To be sure, central bankers had been frustrated with the short-sighted narrow-mindedness of CSDs. As one interviewee puts it:

Not all the CSDs were happy to join T2S and lose their little sand pit. There were some hard and long negotiations where the CSDs said: “We are outsourcing our settlement, so we have some requirements which you have to meet.” Then the central banks said: “Listen, we are not IBM, we offer services at cost price, we are not making profits but do it to improve the market structure” (I17).

The concept of “cost price” indeed played an important and quite interesting role in this controversy. As we shall see in section 5.3.1, the ECB argued, on the one hand, that T2S was “in the market” because it recovered its costs based on user fees, thus leaving room for commercial alternatives or even competitors to T2S, while, on the other hand, being able to insist, at the same time, as the interviewee above, that it was providing a market infrastructure on a non-profit basis, so that the outsourcing contract could take a special bend.

5.3.1 Walking the Tightrope between Profits and Subsidies

While T2S was still a somewhat unclear concept, the CSDs had objected, or at least insinuated, that it was based on *de facto* expropriation. With this objection dismissed, they argued that the ECB could not legitimately engage in competition with private players on providing services – and perhaps even make profits from it – because that competition would not be equal. As one central banker explains more generally: “it is

⁶¹ The list of banks having declared an interest in becoming a directly connected party in T2S counts about 16 institutions (ECB 2015a). Some interviewees argue that only a handful of the very biggest banks is likely to do it because benefits only multiply for those active in many countries and because banks need to cover extra costs of, for example, a real-time communication with every CSD in order to be in sync and in full control over custody internally (no sub-custodians) (I22; I31; I43).

not appropriate that we compete with private companies that have to make a profit” (I8).

The ECB therefore had to promise that T2S would not be a source of profit for it. Already the economic feasibility study provided the argument that the coexistence of economies of scale and network externalities that create a push for concentration among CSDs and thereby a risk of “a profit-maximising monopoly” emerging:

T2S, by contrast, will be provided by a public entity and will therefore purely act on a cost-recovery basis, realising the benefits linked to large-scale provision, but avoiding the main concern related to concentration (ECB 2007d:24).

At the same time, while making profits would amount to unfair competition, running a deficit would amount to subsidising T2S users. The principle of cost recovery was thus also how the ECB “sold” T2S to the reluctant Member States and to the Parliament by saying: “We are not outside the market, but in it, because we will recover our cost” (I27). It is the double character of the principle of cost recovery which means that “the direct [economic] impact for the Eurosystem will be neutral” (ECB 2008c:15). Thus, the seemingly redundant wording of the principle is that “T2S shall operate on a full cost-recovery and not-for-profit basis” (ECB 2007b:6). Cost recovery is the “neutral” point between these “excesses” of subsidy and unfair competition. Because based on the principle of cost recovery, T2S is apparently at once both inside and outside the market, while also resting on the infinitely infinitesimal point *between* the inside and the outside of the market.

From the point of view of economic theory, finding the point of cost recovery is in principle very simple: it is the point where revenues and costs equate. An interviewee explaining the calculations made by the ECB says: “It is a rather simple model, arithmetic, I would say, it is not complicated” (I27). But, as in most empiricism, “theory” is simple, but “practice” is complex. First question: what costs and benefits should be included? The economic feasibility study of T2S takes into account only the revenues of the Eurosystem – not the benefits for other institutions or citizens, for the state, or for society as a whole (ECB 2008c:15). Similarly, costs encountered by CSDs and others in adapting to T2S are not included.

In 2010, the T2S project was estimated to cost a little less than € 400 m. (ECB 2010a). Combined with an estimate of future transaction volumes in Europe, a transaction fee could be estimated that would cover this cost. The ECB had first calculated that the transaction fee should be somewhere between 12-24 cents, but when the central bank presented this to the Advisory Group (hosting representatives from CSDs, central banks, and big user banks) there was a reaction primarily to the 24 cents which was considered to be too high (I27). It was apparently during this meeting that the parties settled for the lower, if seemingly arbitrary transaction fee of 15 cents (I27). 15 cents soon became an official commitment (ECB 2010a).

In addition to the direct costs for the ECB of €400 m., banks, CSDs, central banks, and other institutions in the sector would have to spend considerable amounts in adapting to T2S: “It is a gigantic project in which the costs are quite opaque” (I36). This sum is harder to estimate, but most sources seem to agree that it will cost at least another €400 m., probably more, making total costs run up to somewhere between €1-2 bn. (I14). In 2010, when Denmark had to make a decision about joining T2S or not, “no-one could tell us how expensive T2S would be, but we soon found out it would most certainly be more expensive than what we have today” (I23). An important thing to note here is that the transaction fee of 15 cents comes on top of whatever the CSD will charge – directly or indirectly. One CSD interviewee asks: “How is that possibly going to pay off? It is a political project, you need to understand that” (I24). The interviewee – as well as another CSD interviewee (I52) – further complains that the ECB *de facto* makes it mandatory to process domestic transactions via T2S too, thus forcing big volumes – and thereby fee revenues – onto T2S (I24; also I25).⁶² Global custodians, who are more likely to gain from T2S, see things differently: “Cost was a false topic,” says one, “if you compare the cost of T2S to what updates every five or ten years of 22 different national settlement systems would cost it is not really an issue (I31).

The commitment to 15 cents soon faced another challenge. The basis of the 2010 calculation was figures of European financial transactions volumes running up till late

⁶² Had T2S been reserved to cross-border settlement alone, volumes would not have been sufficient to finance it (I24). More precisely, the eligibility requirements to CSDs as formulated by the Eurosystem avoids to make it mandatory to put all securities directly on T2S by formulating the relevant criteria as follows : “Any CSD, which wishes to join T2S, must make each security... for which it is issuer CSD (or technical issuer CSD) available to other CSDs in T2S upon request” (ECB 2010b:2). It would not make sense, however, for a CSD to run two different systems when at any time a foreign CSD can demand that securities in the domestic system be put on T2S.

2009. At that time, volumes had only just started to decline as a result of the financial crisis, but “later figures dropped 20% below our forecast” (I27). Another problem came on top of that. The Eurosystem had had to defend T2S against the non-euro countries in the ECOFIN, and had accepted the UK’s suggestion that T2S was made a platform open for all EU countries (I27). Now most of these countries – with the exception of Denmark and a few others – backed out of the project: “there alone goes 25% of the total transaction volume” (I22; also I52). The ECB itself estimates the total blow to transaction volumes, compared to the original forecast, to be 36% (ECB 2010c:9, see also 2010d).⁶³ With dramatically lower transaction volumes it looked like unit costs would have to increase to maintain the principle of cost recovery.

The ECB adopted two main strategies to address the problem. One was to extend the cost recovery period from 8 to 10 years (I27). The other was to introduce pricing on “a lot of services that we thought would be part of the package (laughs)... We are used to that data is for free but now you have to pay every time you update your browser to have your cash balance” (I22; see also ECB 2016c).

Unusual or not, the ECB has maintained its commitment to 15 cents per transaction. However, not everyone is convinced that the measures taken so far suffice. Some believe they will eventually have to increase the transaction fee (I52), while others consider breaching this important commitment to be “politically unacceptable” and that the ECB will rather extend the cost recovery period once more (I22). Yet others, like this global custodian, tend instead to consider the whole issue negligible: “It is a strange argument that: “no, we should not do it because the crisis has lowered volumes” since this is a condition for the domestic CSDs too, “either way T2S should reduce costs – in fact we should rationalise because of the crisis” (I31).

Is all this simply the problem of striking the infinitesimal point of “neutral” cost recovery between the excesses of profit and subsidy? Or is it, rather, a *problem* in a deeper sense, related to the paradoxical role that cost recovery is supposed to fulfil as at once inside and outside the market? The ECB seems to have difficulties reconciling the conception of “neutral” cost recovery with the argument that T2S is a major public

⁶³ Contrary to what one might have expected, “the crisis never led to a reconsideration of the T2S project” (I32). It is surprising how little mention is given to the crisis by interviewees in relation to the T2S project. One topic was the issue of cost recovery and transaction volumes, another the increased importance of collateral as we shall see in chapter 7, but the fact that in the eyes of many observers the euro was at the brink of dissolution and that financial markets have suffered hard blows both economically, politically, and morally has left little trace in the accounts of the people interviewed for this research.

investment that will reorganise the post-trade market in Europe entirely, create new dynamics of competition, and impose a new structure of costs. Moreover, the neutrality targeted with the principle of cost recovery is arbitrarily determined, in so far as the costs and benefits of T2S are not clearly definable, nor are they evenly or symmetrically distributed. Indeed, cost recovery does not look like an infinitesimal point where the market and the non-market meet and rejoice, but a point of paradox where the two collide and provoke a contradiction. As such, it reflects a deeper concept of economic theory expressed by some interviewees: what is known as “public,” “collective,” or “common” goods:

Infrastructures typically do not yield a profit. It is a common good (I19);

This is also my personal view as an economist: if you have a real public good then the state should offer it (I44).

In Europe we have an approach based on governmental sovereignty, meaning that no matter whether you are conservative or socialist, the state has a role to play in the transfer of value between people. I personally find it logical that it is a governmental structure that operates T2S, that is, the Eurosystem – that it is not a commercial enterprise, for profit, that does this kind of work (I31);

But how do we know a real public good when we see one? If securities settlement is a public good, then why was T2S so contested? Why does it take so long and why is it so complicated to create a solution? The underlying problem is the same, however: can a distinction really be made between public and private goods, or between the public and private provision of goods, or are such distinctions the products of a contradictory conceptual structure? But, in addition, we see the concept of “government” clearly emerging – not just because there “is” a government, that it “exists” (indeed, it would seem an approximation at best to call the ECB a “government”), but with a certain “functional necessity,” to use Bachelard’s expression. We shall explore this further in chapter 9.

It also relates back to the topic briefly alluded to in the introduction to this section: the fact that the outsourcing contract had to be simultaneously “voluntary”

and imposed upon the ensemble of Eurozone CSDs (cf. p. 191). Paradoxically, it had to be both conforming and nonconforming to the freedom in the market to enter or not enter contractual agreements. While the ECB – in alliance with the big custodian banks – eventually pushed the CSDs to sign, the episode was more than a free-floating showdown between forces: it was structured as a market/non-market game.

5.3.2 Signing one's own Death Sentence

What the ECB would do was first to put pressure on the CSDs by “playing on” the major international custodian banks – who were not only very important clients, but also the owners of Euroclear – to make them support the project: “So eventually the CSDs found themselves stuck between the Eurosystem and certain big European banks who said: “No-no, this is a brilliant idea”” (I14; also I54). One central banker explains:

The CSDs had to find a good reason to say no, which they didn't... Saying no to T2S for a CSD implied a risk of getting out of business as soon as a critical mass adhered to it – and it was the case for the bigger CSDs early on. When you talk to big custodians the advantages are so big that they are very supportive and they pushed the CSDs to support the project. For them, T2S is a utility and if they can have only one for Europe it is better than 24 (I29).

The benefits of T2S to the banks concerns predominantly those who do extensive cross-border trading (I48). For every separate pool of cash and securities a bank possesses – that is, for every CSD it has accounts in without being able to move assets around freely – the financial institution will need extra buffers and thereby will not be able to optimise its allocations money and securities in real time. The issue has only gained in importance in the wake of the financial crisis. Another benefit from a more harmonised European settlement environment is that regional custodians such as BNP Paribas and Société Générale can provide European custody at a lower cost, while increased competition between CSDs is likely to lower prices and improve services (I13). Bank of New York Mellon even set up its own CSD in Belgium to be directly on the T2S platform: “I know they have done a lot of lobbying... they have a great interest there” (I23). One central banker close to the negotiations explains:

Especially before 2012 it was important that we had the support of the CSD clients because we were still negotiating the Framework Agreement [the outsourcing contract (ECB 2011a)]. Do you know the expression “turkeys voting for Christmas”? Well that was the problem of the CSDs. It was only the pressure from their clients that made them accept. It was this pressure that made Euroclear accept, first of all by BNP, but not only, who said: “whether you join or not we will join, one way or another.” So there was a strong pressure, but we needed that pressure to last until they CSDs had signed. The negotiations over the contract with the CSDs were very hard (I27).

The Euroclear management had decided to fight T2S, now its owners turned against that strategy: in 2010, the Euroclear CEO Pierre Francotte was replaced by the shareholders (I51). At one point, but this is probably only later, Euroclear realised that clients would still have a vital interest in the custody services it could provide under T2S, which might also have contributed to a change in its position (I52).

Whereas Euroclear was very vocal and active in its critique of T2S, Clearstream was more moderate. Contrary to Euroclear, it was not in the middle of a consolidation investment. Further, as already mentioned, its settlement engine was 20 years old and would soon have to be replaced anyhow: “The ECB project came at the worst possible moment for Euroclear because our project aimed at replacing theirs... So, at one point, Euroclear was fighting T2S while Clearstream did what they could to support it” (I27). In that situation:

it is telling about the strong support in the French banking community that Euroclear voted “Yes” on T2S before Clearstream... Banque de France and French banks were very vocal. In Germany there was not a big interest except perhaps from Deutsche Bank who had global business. They were more like: “OK” (I51).

Concerning the smaller CSDs, who unlike Euroclear and Clearstream might be threatened on their existence, one interviewee suggests that pressure from the national central banks – who are the overseers of and work in close cooperation with the CSDs – should not be underestimated (I43). Moreover, they may not have believed that the

T2S project would succeed against all odds or they may have feared being abandoned by their big clients if it did.

Only one Eurozone CSD – the Greek settler of non-government securities – will not join T2S in one of the planned migration waves running up to 2017 due to problems adapting their model with that of T2S (I56).⁶⁴ Furthermore, one central bank apparently actually tried to officially say no to T2S:

All euro countries have to participate. I think they put it differently... they had a nice invitation of course. There was at least one central bank that said “no thanks” to begin with, but they changed their mind, that was Austria. They probably had a call or two. You have to be in because of monetary policy (I22).⁶⁵

Once the CSDs were on board, there was no way back. As one central banker explains:

It is a marriage contract with a divorce cost so high that you will not divorce. Why? Because the CSDs have accepted that this is a kind of outsourcing, but it will cost us €400 m. over the years, so if Euroclear all of a sudden quits they will have to pay the commissions that they would have had to pay gradually up till 2024. This would mean they would go bankrupt because their clients would never accept such an enormous premium. So, since 2012 the CSDs do not have a choice, so their interest is to make T2S a success. The problem changed when they signed the contract (I27).

The ECB thus gathered the momentum necessary to push CSDs to “voluntarily” sign the outsourcing contract that would enable T2S. But in doing so, it was not simply manifesting a show of brute force or strategy to make CSDs comply with its interest or ideas – rather, it was seeking to overcome a contradiction between the market and non-market principles both intrinsic to the T2S project. For the same reason, I argue, the T2S project was not home safe with the CSDs’ signing of the outsourcing contract. Soon, a new issue became the topic of controversy, namely that the legal

⁶⁴ Cyprus will have to find a different connection to T2S as they normally use this one (SIX 2014). Ireland will not join because they use the English CSD which will not join T2S.

⁶⁵ The event is confirmed by another interviewee (I24), but I have not been able to find written documentation on this.

harmonisation necessary to make T2S work went much further than expected – involving national parliaments in several cases.

5.4 Ferrari on a Bumpy Road: The Political Controversy over Harmonisation

By late 2011, the major controversies preventing an agreement with the CSDs had been settled and the ECB President Mario Draghi could send the Framework Agreement (outsourcing contract) to the CSDs for them to sign (ECB 2011a). Euroclear had had a new CEO and their Single Shared Platform project had essentially failed, so T2S started to make more sense to them (I16). The contract was signed in 2012. The T2S project was not home safe with the CSD signatures, however. Soon, a fourth controversy emerged: a political controversy over the legal and technical harmonisation needed to make T2S operational and efficient.

The ECB gradually realised that although T2S would provide “technical settlement,” much legal harmonisation would be necessary between Member States if it was actually to improve efficiency and safety (I11). One interviewee even goes as far as to claim that harmonisation is the real wager of European financial market integration and that T2S was just “a means to get there” (I14).

Integrated settlement would not in itself alter much to custody, the main source of costs in cross-border settlement. As explained in chapter 4, custody involves servicing all the events on securities besides settlement: “As long as you don’t have the custody side as well, I don’t really see the big market change” (I22; also I25). Notably, coupon payments, tax reclaims, and other “corporate actions” would still demand high cross-border costs as long as rules were not harmonised across countries: “you still need to buy the whole custody part in addition to the 15 cents” of T2S settlement (I22). T2S alone is thus unlikely to alter the cost of custody much because “the limits are not set by technology, but by other issues,” notably by legal differences (I14).

We have already seen that the assessment of the European Commission around 2000 that integration was “within reach,” and the ambition of the Giovannini Commission to remove barriers by 2006 had turned out to be too optimistic. Similarly, the ECB seems to have greatly underestimated the complexities of securities settlement when they first conceived and launched the T2S project (I11; I52). One

CSD interviewee who “knows very well the people at the ECB” and who had a phone call before the public announcement of the project “to test their idea,” recalls:

The first thing I told them was: “Wait a second, you cannot imagine how complex the securities world is.” They said: “Yes but we know how to do it for cash with T2, you debit, you credit – securities is the same.” “But wait a minute, it is not at all the same thing! Securities have corporate actions, every security is complex, every security is particular, cash is just one asset.” I sincerely think they underestimated the complexity at the beginning. The proof is they started the project in 2006 and if everything goes well the first CSDs will migrate in 2015, 9 years later. That’s quite a long time for such a complex project (I14).

Moreover, the complexity of these issues was a problem in itself. How many unknown problems remained to be discovered in the process? Would harmonisation even be feasible? Would Member States comply in time? “Barriers” to integration could be small but important technical details like common opening hours, but often seemingly simple issues turned out to be quite complex because they form integrated parts of the different systems that Europe was trying to synchronize. The harmonisation effort, therefore, turned out to be enormous. One interviewee proposes that “it is debateable whether the technical adaption to T2S or the legal harmonisation part is the most difficult in terms of man hours” (I18). Among the different domains of harmonisation, “corporate actions are the most complex ones” (I15), in fact they are “of an absolutely unbelievable complexity” (I14). One central banker complements:

It is often feasible to harmonize 90% but the last 10% are cumbersome. Then you wonder if you can bend the standards a little, but if everybody bends 10% we will not have the harmonization we wanted. It’s an uphill battle, but we have to do it, otherwise we will not be able to harvest the fruits of this enormous work later on (I17).

One particularly important problem relates to the time gap (two days as a market standard) between the conclusion of a trade in a market and the settlement in a CSD. With so many transactions, this means that there will inevitably be corporate actions

(e.g. dividend payments) occurring within this time gap: how are they to be treated between two different legal systems? In particular: if there is a mistake, which of the two domestic sets of rules and procedures will apply? How is the reclaim going to be effected, and how much of this will have to be done manually due to lack of automation? “In Italy today a tax reclaim takes 8 years” (I55). With problems like this outstanding, the question is how much is actually gained by integrating settlement on T2S if all the old sources of cost and complexity remain. One interviewee puts it in metaphorical terms:

If there is no regulatory harmonisation behind T2S it will be like if I gave you a Ferrari, but you would be driving small country roads with bumps on it. Then you cannot drive 250. If you want to do that you need a track, a circuit, something completely flat... European harmonisation is key to the success of T2S (I14; also I27).

The harmonization work had begun with the Giovannini report (2001) and had continued in different working groups, including two expert groups appointed by the European Commission (European Commission 2004, 2008), but progress was slow. As one ECB interviewee states:

I call them talk shows, it is discussions without end and little efficient... Since our project [T2S] was not at the core of our business we wanted to consult the Governors [of the ECB⁶⁶] on the question. And I said: “I want to do something, but not another talk show, not another place where people are happy to come.” Because you see, it’s easy, you create groups, and at the ECB in particular you eat well – the ECB is better than the Commission for lunch, we offer wine, we know how to live, and there are people who are so happy that they certainly do not want the group to end. When we created a group we wanted the goals to be reached as fast as possible... And so we fixed 25 specific objectives to be achieved alongside T2S (I27).

⁶⁶ The Governing Council of the European Central Bank is composed of the six members of the Executive Board (President, Vice President and four others) along with the Governors of the 19 euro country central banks.

An encompassing new *CSD Regulation* went a long way in harmonising rules (European Commission 2014b). It is sometimes compared to MiFID for stock exchanges because it simultaneously liberalises the sector and opens domestic markets for foreign CSDs. Around 2013-2014, a special corporate actions working group finally arrived at a definition of common standards after about five years of work (I14; cf. also ECB 2016b). But the implementation remains outstanding in the midst of both T2S launch and post-crisis regulation: “There is really an implementation risk here” (I14).

One important example of difficulty was the implementation of a harmonised “record date,” that is, the date of the annual general meeting of a company. Harmonisation of the record date was important because “it matters whether a security was sold before or after a record date to who is going to receive the coupon payment etc.” (I15). This is a case where actually legislation had to be changed and therefore national parliaments had to be engaged (I15). In Germany in particular, opposition occurred because changing the record date would affect the whole German “Mittelstand” of 20-30.000 small and medium-sized issuers who would have to change the way the general meetings happened and the time at which dividends were paid. The Mittelstand resisted and the issue received little attention from political authorities. One interviewee recounts: “I can tell you that at the beginning of 2014 I was doubtful that we would achieve it” (I55). On the other hand, not admitting a major country like Germany on the platform because it lacked harmonisation seemed impossible. Not only had Clearstream made big investments and efforts to adapt to T2S, but, without the German market, T2S would also not be as beneficial: it would not achieve the same efficiency gains and cost-reduction and it would be less attractive to users; plus, the exclusion of Europe’s largest economy would be a clear symbolic defeat. (I55).

Whereas the German example is perhaps among the more spectacular, several countries were in fact lacking substantially behind in the harmonisation process: “The tension is that I have my national specifics and everything works well, my clients know it, and then we have to migrate to a harmonised thing... There can be competition issues as well” (I11). In order to speed up the harmonisation process, the Eurosystem introduced a “name and shame” method, listing all harmonisation points for each country in the yearly Harmonisation Progress Report (e.g. ECB 2015d) with

red, yellow, and green fields depending on the implementation status (I15). One of the masterminds of the strategy explains: “We had countries with 4-6 red marks and then Belgium and the Netherlands with 0” (I55). The lists had been included in annex since the first Harmonisation Progress Report (ECB 2011b), but were now put centre stage, “widely published, commented by Mario Draghi, etc.” (I55). The ECB also started emphasising that those who did not harmonise would impose an extra burden on all the others. Finally, they made an effort to explain the reasons behind each contested standard: “making it visible, explaining to people the reason why the standard has been set that way” (I55).

Eventually, the pressure spread through the system: central bankers would meet with ministers and members of parliaments to explain the necessity of taking action. Even the German Mittelstand had to bend:

The challenge in Germany is the Mittelstand, small and medium-sized companies that have no entity which represents them all. You have one that represents the big ones, Mercedes Benz etc., those in DAX [Deutscher Aktienindex], but they are all in favour, they understand why. But the 20-30.000 of the Mittelstand... You know I'm impressed by Germany, but these guys, to make them change (laughs). I think it is more resistance to change, and then you try to find an argument and say: “My investor will never accept it.” And then you ask them: “Who is your investor?” “BlackRock, Fidelity, Templeton [major international asset managers].” “Do you think that these guys accept it in the US and the UK, but not in Germany?” “Yeah, but!” (laughs) (I55).

Eventually, German legislators were convinced and they will implement the record date in 2016. T2S was launched as planned with the first of four migration waves on 22 June 2015 with the CSDs of Italy, Greece, Malta, Romania and Switzerland (ECB 2015c, 2015f).⁶⁷ The issue has not entirely disappeared. Technical specifications are more than 2000 pages and one banker describes how identifying problems in advance of the launch has been far from evident (I25).

⁶⁷ One interviewee calls it the “kamikaze wave” (I19) while another explains that the first-wave countries had substantial fee reductions as a compensation for the problems they are likely to encounter (I27).

The seemingly simple technical project of T2S thus had deep and wide legal consequences, reaching into seemingly unrelated domains like the organization of the general assemblies of companies. However, the argument here is not so much that these legal changes had devastating consequences for some or greatly benefitted others. Nor is it that they necessarily constitute a game changer by altering the structure of European finance. On the one hand, harmonisation was indeed necessary for T2S to be a success; on the other hand, the changes were generally very mundane, albeit complex and difficult to push through. The interest of problem analysis in the fourth, political controversy over harmonisation is not so much whether legal changes were “important,” as defined by some extrinsic standards. Rather, it simply observes that there was a problem and seeks to understand its discursive structures. Here, the formulation about a Ferrari on a bumpy road is very telling indeed: To drive 250 “you need a track, a circuit, something completely flat” (I14). But how do you iron out the frictious cloth of European financial markets? Why, with an iron, of course – with all the cunning and strategy of intrigue and alliance, with the formation of overpower, and so on – in brief, through hierarchy and governance. Recall the alliance between the ECB and the big custodian banks in section 5.3. One central banker explains how:

BNP Paribas Securities Services will suffer a bit on sub-custody but win on global custody. ... It [T2S and harmonisation] allows them to become a wider player geographically without much additional cost. One of the difficulties of going abroad is the costs of entering a new market which is very expensive because you have to adapt to new legislation and context... With our reforms you can go with a much lower cost. That is why the banks were quickly convinced, they would even have wanted us to create a fully-fledged European CSD. But we didn't have the authority, nor the appetite (I29).

In fact, the big custodian banks not only had it their way with T2S which consolidates settlement and ideally requires only one entry for the whole Eurozone, enabling a pooled management of cash and collateral – they arguably also had it their way with respect to legal harmonisation. Custodian banks make money on bridging between heterogeneous systems, but whereas there has been a harmonisation of corporate actions *on flow* (i.e., on the temporal gap between trade and settlement) alongside the

T2S project to make settlement safe and efficient, corporate actions *on stock* will remain comparatively unharmonised. One CSD interviewee suggests that the ECB did not include corporate actions on stock in T2S to further increase the support of the custodian banks (I52).

The point here, again, is not so much that “behind” harmonisation lie interests or that one interviewee is right or wrong in his or her speculations. It is rather the inverse: rather than explaining harmonisation by politics, the controversy over harmonisation adds a political dimension to the structure we have already observed in post-trade of a contradiction between lateral unrestrained competition and the need for vertical hierarchical integration. The custodian bank – or the “dealer,” to use Smith’s term (cf. p. 35) – occupies this contradiction as a kind of “general” concept (in the Hegelian sense). It is not simply because banks are powerful that they get it their way, but because they are in a social position to lift (*aufheben*) fundamental contradictions in the competitive conception of the market that they are powerful.

*

By following the problems of the four controversies around the T2S project, we have thus come to account for a deeper problem structure to the whole process of European financial market integration which relates to the conception of the market motivating such integration in the first place. This problem relates to the contradictory conception of the market as a “level playing field” for free competition between private actors. On the one hand, competition leads to efficient social outcomes; but on the other hand, the provision of the “level playing field” for competition to play out on must consequently be provided both from the market itself (as a service produced on a competitive basis with investments, risks, capital remuneration, etc.) and from outside the market (as an imposed, but neutral order and as a friction-, cost-, and riskless sphere comprehending everyone on equal – on “integrated and harmonised” – terms). In brief, it is the contradictory conception of “the market” as “integration of fragmentation.” Etymologically, “integration” means “turning into a whole,” but it obviously matters how one conceives of that whole – in universal terms of non-contradiction or in general terms of contradiction).

Chapter 6 challenges this account from more traditional perspectives of social theory on power, interests, and ideas, and seeks to honestly grant as much “explanatory power” to these perspectives as possible. Yet, as we shall see, there remains a hole to be filled by problem analysis. Chapter 6 also discusses the account with selected works in social studies of finance. These discussions serve not only to repeat the critiques forwarded in chapter 2, but also to clarify and develop the arguments further and push them towards the systematic analysis of the discursive formation of economic theory in Part III.

6. The Political Economy of Financial Infrastructure Integration in Europe

Whereas the preceding chapter provided some first indications and reflections of the discursive structures of the T2S project, the present chapter engages in a more profound discussion of the four controversies and of some alternative approaches: political economy, new economic sociology, and social studies of finance. Whereas chapter 2 has provided some general critiques of these approaches, the discussion in the present chapter will thus result in a more specific acknowledgement of the merits of problem analysis of European processes of market integration. In addition, it will serve as a strategy for further substantialising the analysis. This chapter thus constitutes an intermediary step between the four controversies in the preceding chapter and the discussion of the discursive formation of economic theory in European market integration more detached from the T2S project in Part III.

In political economy studies of European financial market integration, emphasis is put on explaining the integration process as such, distinguishing the most effective and fundamental causes from those more cursory and derived, which is generally done with reference to the interests and ideas of some or all of the main involved parties (politicians, industry, bureaucrats). The field has a strong tendency to organise around schools of thought such as neo-functionalism, liberal intergovernmentalism, historical institutionalism, and constructivism (Carstensen and Schmidt 2015; Rosamond 2000; Wiener and Diez 2009). For the purposes here, however, it would be too schematic and unnecessary to seek to establish the relative merits of domestic power struggles (Moravcsik 1997), functional spill-overs at the level of EU institutions (Haas 2003), the construction of norms, identities, and ideas (Christiansen et al. 1999), and so on as universal explanations applicable to the particular case of T2S. Instead, I prefer to briefly discuss a selection of texts in order to construct political economy as a broad alternative to problem analysis focusing on the interests and ideas of powerful actors rather than on discursive structures. This exposition thus underplays the disagreements within the field of political economy in order to emphasise the ones between this field as a whole and problem analysis. Consider some important examples:

Pollack (2003) stresses the relevance of rational choice theory and principal-agent models for explaining European integration. From this perspective, the Commission is generally in a position of “agent” acting with degrees of autonomy from the Member State “principals” depending on the salience of the issue, the conflicts and alliances between principals, and so on. The Commission is not simply on a quest for European integration and the public good, but has its proper interests, competences and resources that – together with its position in the principal-agent game – largely explains its conducts and its degrees of success in attaining its goals. Pollack’s study does not include the ECB, but he does study another federal EU institution, namely the European Court of Justice concerning which he draws similar conclusions to those about the Commission.

Posner (2009) in his study of European stock market integration in the 1990s and, more broadly, the increasingly clear positioning of the EU as a global financial centre, rejects the principal-agent approach of Pollack and others, but maintains a focus on the strategic action of powerful parties, arguing that change was “incremental” and, first of all, driven by unelected bureaucrats who “promoted stock markets as a way to stimulate entrepreneurial activity in part because doing so circumvented politically sensitive issues more typically associated with social welfare reform” (Posner 2009:182). The role of Member States is not neglected, but the patient strategy and effort of the Commission over several decades gave it – and thereby its market integration agenda – the upper hand in the long term.

McNamara (1999, 2001) emphasises the role of ideas even further, but stresses the importance of a broad consensus. In her analysis of the creation of the ECB, the euro and the common monetary policy, she rejects a unidimensional account based on the political hegemony of Germany and the Bundesbank, even if the European scheme was modelled almost entirely according to the German model. Instead, McNamara stresses the importance of a policy consensus that emerged among central bankers and regulators well before the negotiation of the Maastricht Treaty based on largely monetarist ideas. McNamara does not neglect the importance of interests, but rather sees these as inseparable from the ideas within which they are formulated; and the adoption of certain ideas in policy is explained as a choice of the political elite.

Jabko (2006) similarly emphasises the role of ideas – notably those of the Commission. However, in contrast to Posner and McNamara, he seeks to explain

integration processes as the result of ideational conflict, rather than consensus. More precisely, the largely unified Commission played on different meanings and uses of “the market” in a strategic effort to gather support for its integration agenda among a variety of players with disparate and often conflicting views and interests. In its pursuit of integrated financial markets and regulation, of liberalised energy markets, and of Economic and Monetary Union (EMU), the Commission adapted the notion of “the market” to the strategic objective and situation at hand.

Some further examples can be mentioned. Howarth (2000) in his study of *The French Road to the European Monetary Union*, as well as Story and Walter’s (1997) account of European financial integration, emphasize the role of national politicians and bureaucrats. Grossman (2012) argues that protectionist opposition to financial market liberalisation and integration gradually succumbed as financial markets themselves developed and came out of hand. The combination of Member States looking for European solutions and an opportunistic Commission essentially explains the large steps taken in this direction over the last couple of decades. Quaglia supports a vision of “fluid and fragmented coalitions” between financial industry and notably the major member states (Quaglia 2010:163). More narrowly, Mügge holds that European capital market integration was first of all driven by “the (perceived) material interest of a relatively small group of firms” (Mügge 2010:145). Finally, political economy often emphasises the revolution in information technology that began in the 1960s and 1970s – Cerny (1994:319) even argues that “technological change is the main independent variable [explaining financial globalization], by reducing transaction costs and dramatically increasing the price sensitivity of financial markets across borders, while at the same time making possible a range of economies of scale.”

Whereas these authors assess differently the importance of different actors (member states, EU bureaucrats, big finance, technology), they all seek to explain European market integration causally as a historical outcome by some configuration of ideas and interests of powerful actors acting more or less strategically under given circumstances. Indeed, taking one step back from the theoretical debates in which they are engaged, it is striking how the discussions between them appears to concern the specific configuration of these different factors, their historical sequence, and their relative importance, rather than some more fundamental differences in theoretical commitments. Whereas the debate between, for example, liberal intergovernmentalists

and constructivists may at times be heated, their shared pretensions of causality nevertheless positions them in the same game of scrutinising human action as simultaneously an explanatory force and something to be subjectively or objectively explained. But while the explanatory logic of political economy is thus somewhat circular – “explaining” human action with reference to other human action, distributed in a schema of “causes” and “effects” – it may still be suggested that, as a whole, it provides a useful framework with which to structure an account of the controversies identified around the T2S project. In section 6.1, I therefore seek to structure an account of T2S along the lines of political economy and to establish the specific composition of interests and ideas of powerful actors at play in the project. In section 6.2, I argue that whereas such an approach will indeed cast light on some aspects of the T2S project, it not only tends to leave the questions raised by problem analysis untouched, but also runs into specific problems of explaining T2S on its own premises. Section 6.3 turns attention to new economic sociology and social studies of finance and consider whether these perspectives can satisfactorily close the gap. On this basis, section 6.4 returns to problem analysis and reconsiders and develops its merits in accounting for T2S.

6.1 A Political Economy Account of T2S

The main narrative of T2S needed for political economy can be summarised quoting Lee (2011:236–37) who writes that: “The decision by the ECB to establish the T2S project in the EU can be interpreted as an instance of public ownership being proposed in response to these types of institutional weaknesses,” i.e., that simple regulation is not enough “to respond appropriately to market failures.” Lee reports a senior ECB executive for explaining that they had “a clear preference for the market delivering” integration, but that “more than seven years after the launch of the euro, the market is still very far from providing a coherent settlement platform for euro-denominated securities, despite the demand of the users who want to benefit from economies of scale allowed by the new currency” (Lee 2011:237). Whereas there was little competition between CSDs, legal barriers, and “problems of coordination in the sector,” the ECB executive explains that the Bank was “in a unique position to drive T2S” because of its commitment, neutrality, possible function as a facilitator “in balancing different requirements,” and experience from T2 (Lee 2011:237).

Following the general tenets of the political economy perspective, it may be argued that T2S was the result of the clear agenda of the European institutions to foster financial market integration through the integration of financial market infrastructures. When this was not procured by the private sector, bureaucrats played strategically on the vague and general notion of the market to push through alternative solutions. The ECB project to provide delivery versus payment (DvP) to the Eurozone came at the right time – and the ECB knew it could have its project accepted by inscribing it into the Treaty-based integration agenda of the Commission. By doing so, the ECB substantially expanded its size and scope of competence, while at the same time finding new employment for the 3-400 people that were about to finish the work with the T2 payment system in 2007. Moreover, when the T2S project encountered opposition from CSDs and Member States, the ECB, the four central banks responsible for the T2S project, and the Commission acted strategically at multiple levels (legal interpretation, convincing domestic policy makers, and so on) to carry the project through. The EU institutions benefitted, on the one hand, from the low political salience of financial infrastructures: “politics – there must be blood in the streets; the moment it becomes technical it is no longer interesting” (I27). On the other hand, they benefitted decisively from an alliance with big finance: a handful of the biggest custodian banks in the world that would benefit considerably from the T2S project. All this came at the reasonable expense of taking away one among several business activities from a comparatively miniscule CSDs industry which, according to many, primarily served an auxiliary role to the market anyway. From a certain perspective, T2S can even be seen as the natural extension of the monopoly central banks already occupy on certain provisions of payment and settlement infrastructures – for instance, T2 is also a central bank system.

Moreover, like Lee above, we can easily find interviewees ready to support our claims and to help fill the holes. For example, when T2S was first conceived in 2006, nothing guaranteed the success of the project – let alone that the project would be launched in the first place. Several interviewees point to the unique position, power, and strategic skills of the ECB to explain why T2S eventually succeeded. The insourcing of CSD activity – viewed by some as *de facto* expropriation, as we have seen – strikes the eye: “It is really impressive that the ECB has been able to do this without much resistance... I would like to see what would happen if [major bank] had to hand

in 30% of its turnover to the EU!” (I24). The same interviewee, a retired CSD CEO, exclaims:

The law of gravity has been abolished in the T2S project! All rules for IT development have been pushed aside. You don't do a project of ten years; you don't do such a big project in a closed room, switches on, and hope that it works. Why is it the 4CB [the four responsible central banks] that runs it, why is it not outsourced? It could have been IBM or Tetra. That question was raised at a meeting, I mean, it is obvious. Then the President said “that is how it is.” Then someone says “you cannot just do that.” So the President says: “well, we happen to have someone from the Commission with us today, let us ask him.” Then the guy stood up and said “It is OK.” Gravity is abolished (laughs). It is crazy! ... We have never seen an architectural description of T2S. There was a big cost specification, but using very old-fashioned methods. [Our CSD] would never have gotten away with that. Some of my colleagues had a very hard time with this. I realized that this was how it was and we would have to make the best of it (I24; some of the points here are also mentioned by I22; I23; I36).

Another executive from the financial infrastructures industry complements:

T2S to a certain extent was one of the means chosen by the ECB to assert its power in the EU. It is about prestige, but not only ... There is a certain logic to the fact that T2S is succeeding – that it is pursued by the institution that has gained the most during the crisis. The ECB of Draghi today has nothing to do with that of Duisenberg [ECB President 1998-2003], it has become an unbelievably strong institution, probably the most powerful institution in Europe today, everything included. They succeed despite critiques that have mostly died out again: costs, delays, implementation risk, not knowing when it would be launched, if it would be beneficiary to markets or not (I36).

The arguments forwarded by these interviewees thus resonate well with those developed above based on a general political economy perspective: with the T2S project the ECB succeeded in exploiting a political vacuum in financial infrastructures

and in forging strategic alliances to push its own agenda and interests. Echoing arguments also found in Posner, Jabko, and others, the latter interviewee continues: the ECB “is by far the participant who reasons on the longest term” (I36). According to this interviewee, contrary to ministries, central banks have prestige to attract “the best and brightest” and employment safety to keep them in the same posts sufficiently long to develop expertise: “It is not a coincidence, as I see it, that T2S is the project of the central bank – the European Commission would have been incapable of doing it” (I36).

Furthermore, behind the ECB stand the four major central banks of the Eurosystem – the German, French, Italian, and Spanish – who formed the “4CB” responsible for T2S. The 4CB together own 75 % of the ECB (cf. also E. C. ECB 2015) and form the voting majority: “Nothing can be done if the three of us [the Spanish excluded] do not agree” (I40; also I27).⁶⁸ For these central banks, the launch of the T2S project in 2008 followed conveniently upon the finalisation of the T2 project in 2007: “One reason why T2S was launched, I think, was that they had to find work for the team that built T2. It was not the main driver, but it was certainly an important part of the decision because T2 was not a small project, I think 400 people worked on it” (I55).⁶⁹

The argument that the success of the T2S project was contingent upon the power and strategic capacities of the Eurosystem can also be supported by the failure in 2012 of a similar – albeit smaller – project undertaken by the Dutch and Belgian central banks (ECB 2012).⁷⁰ Although supported by the ECB, the two central banks did not manage to push through the necessary legal harmonization (I22; I29; I51). But perhaps

⁶⁸ The interviewee elaborates: “For monetary policy it is a bit different [one vote for each central bank and two for the ECB], but it is still important because it is the 3 main central banks of the Eurozone” (I40).

⁶⁹ One interviewee reports how the 3CB responsible for T2 simply appointed itself at a meeting without warning to the other central banks (I22). When the new ECB project had tentatively been called Target2 Securities, the German Bundesbank replied: “Okay, but you need to build it on T2,” implying the 3CB team (I51).

⁷⁰ The project, called CCBM2 (Collateral Central Bank Management), was intended to create a single platform for collateralisation of securities with the central banks of the Eurosystem (I17). In this way, a bank would be able to collateralise securities with the Italian central bank and have credit from the French central bank (I32). CCBM2 would replace the first version of CCBM created in 1999 as a simple interlinking of central banks’ collateralisation systems (like the first version of the cash payment system TARGET which was also replaced by the common platform in T2) since the old system was inefficient and could take 2-3 days to process (I22). For some years, the Eurosystem employed a notion of the “magic triangle” related to the three new “applications” for cash (T2), securities (T2S) and collateral (CCBM2) (or a square if you include foreign currencies) (I51)

with the power, political influence, and technical capacities of the French, German and Italian central banks the project would have succeeded?

Similarly, one could consider how Euroclear's massive private initiatives to integrate financial infrastructures in Europe starting from about 1999 eventually failed – at least partially. Whereas in the three Euronext countries (France, Netherlands and Belgium) Euroclear had enjoyed the necessary support from not only the domestic financial sectors, but also from central banks, regulators, and even legislators to successfully launch its platform in 2009, this seems not to have been the case – at least to the same degree – in the four other countries where they had purchased CSDs. “There was no harmonisation,” one interviewee close to the issue explains (I14), while another interviewee elaborates: “To harmonize market practices you need big incentives for the involved parties – you had that in the Euronext zone [i.e. with a single stock exchange], but not between the more diverse markets” (I16; also I24). The same interviewee argues that the ECB succeeded with the T2S project for two reasons: “First, settlement is the easiest part to integrate. Second, it is the ECB, so no-one can say ‘no.’ In fact, that is the incentive [in the T2S case], whereas in the private sector you have to find a business incentive” (I16). Whereas the ECB managed to put pressure on the member states to harmonise rules, as a private company Euroclear seemingly did not have sufficient leverage in that regard.

But even the ECB had to act strategically to make T2S happen. One of the strategies of the ECB was to ensure broad support for its project. The governance structure of the T2S project included an Advisory Group with representatives from CSDs, central banks, and big user banks; National User Groups with representatives from each country; and a list of technical working groups with the participation of about 190 people from 80 institutions (see ECB 2015e:29). Members of the different groups in principle represented their sector or country and would report to these in other forums (I20). The ECB also built an encompassing web page and published minutes of meetings on the same day as they were held in order to counter the formation of “conspiracy theories” in the sector – “and so we gained credibility gradually” (I27). This strategy was based on lessons learned from the failure of another major CSD project 15 years earlier: in the UK, a major project to automate settlement at the London Stock Exchange called Taurus had turned out as “one of the major fiascos of business history” in 1993 – despite being “supported by the entire

securities industry and the Bank of England” (Drummond 1999:11). The £500 m. Taurus disaster was still remembered by some continental interviewees in 2014 and used as an example that emphasised the project risk in T2S: “People still talk about that you see” (I36; also I28). It was, to some extent, based on an analysis of the Taurus outcome as a result of lack of trust and corporation that the ECB implemented a transparent and engaging project management (I28).

But perhaps the most important strategy of the ECB was to ally with the big banks – notably the big custodian banks – the private businesses that most likely will reap the biggest advantages from T2S. These banks outsized by far even the biggest CSDs (I24) and had the legitimacy of being “the market” and not just an “infrastructure” to the market which the Commission sought to integrate. As explained in chapter 5, major custodian banks – notably BNP Paribas Securities Services – will be able to expand across Europe at a substantially lower cost, while harmonisation still lags sufficiently far behind to not disturb their business model. Recall that one interviewee even suggests that harmonisation was pursued in the most convenient way for custodian banks – possibly to maintain their support for T2S (I52). The same interviewee – a retired CSD CEO – further suggests that the invitation of non-euro countries to join T2S was *pro forma* – again to uphold a European custody market:

Then they said other EU countries were invited but that all decisions were to be taken in the Governing Council of the ECB. You don't have to be a political scientist to realise that the Bank of England would not want this (I52).

Going even further, the interviewee finally suggests that the same perspective helps explain why the ECB decided only to integrate settlement, but not other CSD services (I52). Whereas these suggestions seem partially speculative, their general tenet is supported by other interviewees. For example, when the new *CSD Regulation* was adopted in 2014 to unleash competition between CSDs and to create a “level playing field” for competition in European post-trade (European Commission 2014b), one interviewee observes that here, too, the big banks won out over the CSDs:

It is funny to see the influence of the custodians against the CSDs. Generally speaking it is the banks that win at all levels of the chain of financing the economy. They said:

“the CSDs take risks and that they should be banned from certain activities because it could produce systemic risks.” It is a joke! It is bullshit altogether! To me, this shows that there are people at the big banks who spent time in the hallways of the European Commission and at the Parliament, and who explained them all this. And since the poor CSDs do not have the same resources, it is difficult to establish the truth behind ... It is all the auxiliary services that they no longer have the right to do (I36).

Finally, one interviewee suggests that the so-called “direct holding model,” used by CSDs in the Scandinavian countries and in Greece, was de-selected by the Eurosystem as the model for T2S out of respect to the custodian banks (I56). In the direct holding model, individual investors have securities accounts directly with the CSD. In most other countries, individuals have securities accounts in banks, which, in turn, have an omnibus account in the CSD. The proponents of the direct holding model insist that it increases transparency and safety, and facilitates tax collection, thereby countering money laundering and tax evasion (I56). Critics claim that these benefits are negligible and that computational power is most likely insufficient to run hundreds of millions of accounts in Europe⁷¹ (even if China is building such a system) (I22; I29; I30; I48).⁷² The more important observation for the argument here, however, is that the direct holding model would deprive banks of a profitable intermediary position in the settlement chain. Furthermore, custodians would have had to change their systems fundamentally. Judging from my interviews with people close to T2S, the option was never really on the table. T2S will have a highly tiered structure with only CSDs and a handful of banks being directly connected, and all other institutions accessing indirectly via one or more CSDs and/or custodian banks – something that allows these

⁷¹ The Danish CSD has around 3 m. accounts for 5.5 m. citizens compared to around 1.500 in Germany for 81 m. citizens (I24; I56).

⁷² Another discussion related to the choice of holding model concerns the risk involved in not holding securities directly in the CSD. According to one interviewee, the direct holding model in Greece is an important reason why they never had a run on banks related to securities, as they experienced in the case of money when depositors lost confidence in that the banks would be able to pay out the money – there was never any risk because the legally binding ownership is in the CSD (I56). Other interviewees claim that this is a non-problem since the custodian banks are legally responsible for keeping the securities clearly apart (I48). There are, nevertheless, anecdotal stories about banks having delivered securities from their omnibus account – willingly or by mistake – on behalf of clients that were not entitled to them (that is, using the securities of other clients to deliver with the expectation that the omnibus account would soon be filled again and the concerned investor would never know that the securities he was entitled to were momentarily not there) (I43). Even in cases where there is no such deviation, accessing the securities to which one is entitled in a bankrupt bank (such as Lehman Brothers) may take days or weeks – the transparency (e.g. using central counterparties) and capacity to resolution of banks in case of bankruptcy is therefore an important part of post-crisis regulation (I17).

institutions to charge fees and puts them in a privileged position to offer additional services (I56).

Just how far the deliberate manoeuvres of the ECB to win the support of the big banks go is difficult to assess. But in all cases, the result was ideal for major custodians who would still be intermediaries while further consolidation was facilitated. Still, not only CSDs, but also local custodians suffered a major blow. The local custodians were not at the table when the Eurosystem, CSDs and big banks negotiated T2S - according to one interviewee because they were not “important enough to affect the discussions” of T2S (I29). Similarly, many smaller and medium-sized banks only heard about T2S for the first time quite late in the process - around 2010, or even later (I23; I34). Several interviewees suggest that smaller banks who have traditionally offered local custody services will lose that business to the regional and global custodians that offer services in the whole Eurozone, such as Bank of New York Mellon, JP Morgan, BNP Paribas, Citi Bank, Deutsche Bank, and Société Générale (I23; I27; I31; I32). Finally, despite the talk about T2S eventually benefiting the consumers, these were not represented in the governance structure of the project since “end retail consumer would gain only a couple of euros in the end, so we could not go that far” (I27). It is rather a technocratic dialogue with the important institutions.

However, from a political economy perspective the success of the ECB in its T2S project is not simply a case of strategic pursuit of power interests. Rather, it must be inscribed in the ideational agenda of EU institutions to work continuously for more market integration between the Member States. Several interviewees evoke the ideological and institutional objectives of the EU institutions, set down in the *Treaty* and other legal documents, being oriented towards more integration: “Ever since the euro was created, the ECB and the European Commission have worked to realise the benefits of a single currency... If it costs you a fortune to send a payment from Italy to Germany, then what is really gained?” (I17). Other interviewees complement this perspective:

European politicians want a big Europe without any borders, especially in financial infrastructures (I43).

We [the Eurosystem] are building the financial infrastructures of Europe, our role is to integrate the financial market to establish a single market in Europe (I29).

From the moment the decision to create Europe and the euro was taken, the central banks engaged without qualms in the project, it is part of our mission (I33).

The wording “without qualms” in the last quote might refer to the acceptance of a monopolistic design of T2S and to the expropriation-like insourcing of private business from the CSDs to a central bank. From this perspective, the political barriers to infrastructure integration and the strategic situation of the EU institutions forced the latter to rank their interests: if the secondary market of infrastructures would need a monopoly to be integrated, then let it be, so as long as financial markets in the broadest sense are hereby integrated on a competitive basis.

All in all, the whole issue seems very simple and intuitive indeed: the interests and the ideas of the most powerful players prevailed in the pursuit of European financial market integration.

6.2 Problems in the Political Economy Outlook

Intuitive and satisfying as the strategy to explain the emergence and success of T2S with power, interests and ideas may seem, it nevertheless encounters some considerable difficulties once subjected to closer inspection. Whereas the perspective may provide a reasonable framework to structure the historical account of the T2S project, its value as a theoretical framework to causally explain historical outcomes is more dubious. Notably, the ambiguous concepts of actors and action on which the theoretical models of political economy are founded constitute a source of tautology and/or teleology. Moreover, even if this line of critique is not accepted, the approach has a tendency to overlook how discursive problems structure the conflictual social processes of European market integration because it lacks a proper theoretical vocabulary to discuss it.

There seems to be a conceptual problem. For something to be designated the “cause” of something else it must – by definition – precede it in time and determine it. But, as we have seen, at no point was the success of T2S certain. Was there no cause, then? This is where political economy toggles to the reverse of the concept of cause –

to that of action. It was the actions of the ECB and the Commission, we are now told, that emerged *in medias res* as ontologically novel first “first” or “uncaused” causes. This, however, runs into two difficulties. Theoretically, action here appears as just another word for “freedom” or “arbitrariness” which, at best, leads us to moral appreciations, but not to more elaborate conceptualisation of history. Moreover, action itself appears, after all, to be determined by motivations, constraints, beliefs, and so on. But are we then simply back to our search for the causes of T2S which we abandoned just now? Or are we simply caught in a futile conceptual back-and-forth which does not help our understanding beyond the *account* already provided in section 6.1? We saw in the few works discussed above – of Pollack, Posner, and Jabko in particular – that the attempts to “explain” European financial market integration by political economy are very much caught up in such conceptual back-and-forth, where some say it is caused by interests, others by ideas, yet others that ideas are themselves caused by interests, and so on, until we reach the pragmatic dull outskirts of social theory, concluding that it was a “complex interplay” between these different causes and actions.

Consider the following problems that emerge if we seek to translate the account in section 6.1 into a causal explanation. Firstly, if T2S is the product of EU integration ideology, then why did it have to be a public monopoly created on the basis of insourcing of private business? Would not “power” imply exactly the ability to manifest one’s ideas? And why did T2S have to break with the principles for integration based on private initiative pursued up until 2006? Where did the new principle come from on which T2S was based and how were they possible? Secondly, could the emergence of a new principle be explained by “interests” then? Indeed, T2S served the interests of all the powerful players. But in that case “interests” are no longer doing the work of explanation; by shifting radically around 2006 without a clear reason, interests become the phenomenon that needs to be explained. Thirdly, we grant that if T2S is the product of some complex interaction between ideas and power interests, then how do we account for the fact that T2S was not originally conceived in the context of financial market integration? Is this simply the due part played by chance? Rather, this brings us to the problem that T2S was an attempt to solve in the first place. How can it be that there was a problem in the first place? Moreover, was this problem only coincidentally related to the seemingly different and much “bigger”

problem of European financial market integration? How was it related to the problem discussed by economists in the language of natural monopoly and the relationship between public and private sectors? How did it relate to the parallel foundation of the EMU and of contemporary central bank principles for securities settlement in the late 1980s? How did it relate to the other controversies around the T2S project? Even if only some of these questions find a positive answer, it seems unlikely that these can be provided in the form of a network of causes and actions and of interests and ideas because none of these abstract concepts would in itself be able to determine the *problems* which the questions concern. “Problems,” in the sense used here, are not simply “challenges” waiting for solutions, or power vacuums waiting to be filled, but seemingly unresolvable contradictions in the discursive formation by which the T2S project is structured.

The following two subsections discuss two specific difficulties to the political economy account of T2S: the break that T2S marks with the general trend in Europe for to central banks to disengage with settlement infrastructures (6.2.1) and the change in the European Commission’s principles (6.2.2). Subsequently, I return to the discussion of problem structures.

6.2.1 Central Bank Involvement in Financial Infrastructures

We have seen already how the ECB was only marginally involved in the question of financial market integration in the early 2000s and only became so with T2S beginning in 2006. This absence of engagement was first and foremost due to the institutional distribution of responsibilities in the EU and the programme of industry-led integration combined with regulatory harmonisation. However, it also followed a general trend among central banks to disengage with direct involvement (ownership and operation) in financial infrastructures that can be dated back to the late 1980s or early 1990s. In any case, T2S clearly turned out as a break with this tendency which would need to be accounted for in some way within the political economy perspective. One ECB senior executive recalls that when they had the first idea of T2S in 2006:

At first, I did not believe it would work because for 20 years the tendency was more that central banks abandoned all the functions that the private sector could do (I27)

As a general trend in the 1990s and 2000s, central banks have tended to withdraw from many areas of activity in which they were previously active – including securities settlement – in order to leave as much as possible to private players and the market. This tendency can be situated in a broader trend in central banking. Friedman’s (1968) monetarism had argued that central banks should be unpolitical stabilisers of the quantity of money in correspondence with movements in the real economy, such as the growth rate and the balance of payments. Lucas’ (1975) real business-cycle theory – an important element in the development of contemporary central banking (Mehrling 2012:208) – adopted a slightly different perspective, but essentially argued the same thing: central banks should stabilise the influence of money aggregates on the economy (i.e., inflation) so as to allow the forces of competition to optimize market outcomes. This perspective fitted well with the German case, where the Bundesbank had been created on the experience of hyperinflation during the Weimar Republic and other historical traumas (Story and Walter 1997:162). In the EU and elsewhere, support for central bank “independence” from political influences and for a separation of monetary and fiscal policies grew, and the role of the central bank was increasingly seen as pursuing the technocratic objective of “inflation targeting” as a framework condition for markets to develop in an efficient way (Bowman et al. 2013; Holmes 2012; McNamara 1999; Svensson 1997). Inflation targeting became the principal objective of the ECB (EU 2012:article 2). A retracted central bank would counter the risk of “moral hazard” intrinsic to any public “intervention” in markets. For example, commenting on the responses to the financial crisis, one interviewee explains: “Central banks prefer to let the market organise itself and to push the banks to prepare their own resolution mechanisms to reduce the cases where the central bank can be led to intervene to refinance a bank in stress as much as possible” (I15).

In the domain of financial infrastructures, a similar tendency towards a more passive soft-touch approach from central banks can be found. In most countries, central banks are responsible for assuring safe and efficient financial infrastructures. Yet, this can be done in many ways – not only through ownership and operation of systems, but also through regulation, monitoring, and oversight (Manning et al. 2009; Millard and Saporta 2008). Hence there was a tendency for central banks to withdraw from direct ownership and operation to more oversight and framework regulation during the 1990s and 2000s.

One interviewee working in infrastructure oversight explains that central banks today seek to leave all financial infrastructures to market players if possible, as they see it as their “business” to own and operate them, except the core payment system, like T2, which banks use to transfer central bank reserves between each other and which the central banks use in their monetary policy – that is, the large-value real-time gross settlement (RTGS) system (I18).

That is what central banks supply as the bank of banks. Some own the retail payment systems too – we used to do so ourselves back in the 1980s, I think it was, but we pushed it out. I think we don't consider it a central bank domain. It is an advantage if there is competition between different ways of paying and then central banks cannot really be in the game anymore. It is not appropriate that we compete with private companies that have to make a profit (I18).

For example, when the Danish central bank sold the retail payment system – the system used for the payments made by individuals and most non-financial firms – it argued that the company was now an international provider (having merged with similar companies in Sweden and Norway) exposed to competition: “In that situation the central bank is no longer a natural co-owner of NETS [the company]” (Nationalbanken 2014). The reason why RTGS systems are exempted from the weight of this consideration is that “it is bookkeeping... Even if [the biggest bank in the country] did it, there would still be a risk they would go down even though they are big. It would be even more too big to fail” (I18). The central bank, by contrast, cannot bankrupt, so there is no settlement risk there. We have already seen this logic once before in the ambition of central banks to make all important financial settlements in delivery versus payment (DvP) mode and in central bank money (chapter 4).

In some countries, such as France in 1988, central banks developed a separate CSD for settling government bonds distinct from the CSD for stocks created by the stock exchange or by a consortium of banks (I37). In France, however, users soon started asking for one single system. So the small CSD team of the central bank – only three people – moved the private CSD where the Banque de France got four board seats and a 40% share in 1995. With the coming of the euro, the CSD was bought by Euroclear, the private settlement company owned at the time by big Anglo-Saxon

banks who did not want a central bank on the board (I13). The Banque de France then sold its share but maintained its close relation with the French CSD – including the autocollateralisation service they had developed.

In Denmark, the CSD had been created as a private company from the outset, but under strong pressure from the central bank and with the creation of a distinct CSD legislation in the first half of the 1980s (*Appendix I* recounts the colourful story of the origins of the Danish CSD). When in 2002 the biggest bank in the country bought a major covered bonds issuer, it had to sell part of its share in the CSD for anti-trust reasons which the central bank accepted to buy (Christensen 2002). In 2014, however, the central bank announced that it wanted to sell its 24 % share in the CSD along with its shares in two smaller special-status credit institutions (Bentow 2014) as well as its share in the retail payments infrastructure (Nationalbanken 2014). As one interviewee comments: “They don’t want to own anything in the infrastructure” (I19). The Danish central bank also outsourced the printing of banknotes and the night-time monitoring of the core RTGS cash system to private actors (I24; I9). I was a bit surprised to learn this, but when I asked about the outsourcing of the printing press, the answer was: “That is a good thing, why the heck should they have the printing press themselves? ... You save costs; it is much cheaper” (I24).

In an academic work, two central banks argue that while public ownership and operation of financial infrastructures provide an effective way of reducing systemic risk in these systems, it may also undermine continued engagement by members to use these infrastructures and may effectively be subsidising an industry for taxpayer money, leading the authors to discourage this solution as a general rule (Millard and Saporta 2008:29–31). The authors concede that in cases where the private sector does not produce satisfying solutions “the public sector may seek to solve the problem by building and operating the service itself, for a period at least.” Nevertheless, they maintain that:

permanent public sector operation of the payment infrastructure is unlikely to be as beneficial to this objective as private sector ownership subject to regulation because the public sector is unlikely to be as innovative as a private sector provider in developing efficient, high quality and cheap IT network solutions (Millard and Saporta 2008:31).

Financial infrastructures were thus no exception to the general trend towards privatization of public utilities in the 1990s and 2000s (see Bognetti and Obermann 2008:465–66): after having been very active in the development and implementation of ground-breaking technology in financial infrastructures, central banks have tended to gradually withdraw from ownership and operation in the field. On this basis, from a political economy perspective it is confusing that the ECB – with the support of the European Commission – proposed to take business away from private CSDs in 2006. Political economy may seek to explain the break with this trend away from direct engagement in infrastructures by the power interests of the EU institutions, but that would not account for why they only did so after 2006 and why they followed the broader ideational agenda before that date. So what must be explained switches from ideas to ideational breaks. It may, then, seek to explain that break with the ideational integration agenda of these institutions. Yet, that would similarly leave unexplained why a shift in principles was necessary around 2006- this time from private to public integration. Finally, political economy may attempt a complex explanation based on the changing strategic situation of the EU institutions and on contingencies such as the coincidence of Euroclear’s stalled initiative and the DvP conflict in the Eurosystem. But such an account would hardly rise above the level of particular description of the historical series of events and identify general causal mechanisms. As a *theoretical* model, it would be fuzzy at best.

The problem in all these cases is that political economy sets out to *explain* a historical outcome *causally* – that is, seeking to identify some essence in a historical outcome which was already there at the outset (in the cause) constituting the *coherent* “inner principles” (or truth) of that history. But there is obviously a *problem of non-coherence* at play here. The question is not so much what the central bank ideology is or how it changed or was dominated by other forces external to it (such as the market integration agenda), but why – even *despite* seemingly uniform ideology – the involvement of central banks and financial institutions continues to re-emerge as a problem? In particular, explanations based on the interests and ideas of powerful actors constantly send us back to the solution to the DvP conflict in the Eurosystem in 2006, but does not provide a way for us to understand where that moment came from and what it consisted in; nor the problem at stake in it, even if it seems to be of a very

general amplitude; nor how it relates to a series of other problems that occurred over the years; nor why these problems seemingly transgress established boundaries between technical, legal, economic, and political, between big and small, between important and unimportant, and so on.

By contrast, problem analysis provides a way to understand these questions. Consider again the trend towards central bank retreatment from financial infrastructures. Why did they not simply abandon them altogether? Why retain control over CSDs and other private institutions via oversight and regulation if the market will provide optimal solutions? The answer that keeps returning is that if market infrastructures are left solely to the forces of competition, we would not have “a level playing field” and therefore – paradoxically – a level playing field must be provided or cultivated by someone from outside the market in order for the competition to provide efficient outcomes. This is a conceptual problem *within* the conception of the market as a realm of free exchange between private entities (ultimately *individuals* or, in the language of the EU: consumers or, more specifically in our case, end investors), producing optimal *social* outcomes. It all comes down to a problem of theoretical humanism in economic theory: wherein should that “individual freedom” consist – should it be entirely negative, or positive too, in order to remove “frictions”? And who is going to provide that freedom? Something from outside the market, it seems, and yet it must come from within it to be efficient. On the one hand, central banks want settlement to be a frictionless and all-encompassing realm of efficient and safe DvP settlement in central bank money; on the other hand, they want financial markets to provide the “dealer” (Smith) services that overcome frictions in transactions on a competitive basis. Moreover, they see that this problem does not simply disappear if they take their hands off, but re-emerges in the shape of market failures or natural monopolies. They have to simultaneously insist on their own unique capacity to create innovative breakthroughs to solve these problems *and* also that “dynamic efficiency” (innovation) is a characteristic of market competition. Hence the first theme we observed reoccurring in this section: that settlement should take place in central bank money because the central bank cannot bankrupt and thereby impose risk, cost and competition in settlement. And hence the second theme that reoccurred in this section: the problem of configuring the opposing concerns of what may be called “monopoly innovation” where central banks push or develop major new projects

(such as the French and Danish CSDs or T2S) and “dynamic efficiency” produced by the forces of competition. While it is generally admitted that there is a role to play for central banks as well as for private players in the domain of financial infrastructures, there is a certain arbitrariness as to where the line is drawn between their respective activities. For example: why is the central bookkeeping in the case of money generally held to be in good hands with the central bank while the central bookkeeping of securities is not? The arbitrariness is not indeterminacy, however, but is structured as a problem of knowledge.

The next section analyses a second difficult aspect of the T2S project for political economy to account for.

6.2.2 The Puzzling Rupture of 2006

The attempts to explain T2S continuously return to the puzzling change around 2006 where the idea was first conceived and where the European institutions seem to have more or less radically changed, not only their strategy for the integration of financial market infrastructures, but also the principles guiding it. It is unnecessary at this point to repeat how some interviewees reject how embracing the T2S project came anywhere close to a rupture in principles, while others remain angry to this day about what they see as treason to the principles of a free market economy. These different views notwithstanding, if we as researchers seek to *explain* the emergence and subsequent success of T2S, 2006 remains a decisive moment because it was the moment of its unexpected conception. An important question from the perspective of political economy, then, would be how to explain that moment.

Note, in passing, that this is *exclusively* a problem for causal explanations, and not for problem analysis. To problem analysis, the DvP conflict is indeed highly interesting because it is the moment where the general problems were provoked that would later become the successful T2S project. But it does not occupy the same decisive theoretical position where the *coherence* between cause and effect must be proved, as in the explanatory perspective.

The explanation in the interviews that lends itself most easily to a political economy explanation is clearly that of the Commission staff who argues that the importance of the DvP conflict is strongly exaggerated and that something would have happened in any case because there was a firm insistence on integration amongst

the European institutions and a broad support in the private sector (p. 178). This argument could seemingly make it legitimate to neglect the problem of the DvP conflict because the “real” causes were elsewhere: the DvP conflict may have played a role in the particular configuration of T2S, but this is secondary to the fact that there would have been integration in any event. As an illustration of such downgrading, the longest account of the DvP conflict available (to my knowledge) in the political economy literature is short enough to be reproduced here:

Companies providing settlement services use central bank money to reduce the risk involved. Whereas some central banks, such as the Banque de France, allowed the operation of such accounts by the private sector, others, such as the Bundesbank, did not. Market operators wanted some harmonisation, so as to create a level playing field in the euroarea. Consequently, the ECB-Eurosystem faced two choices: either to outsource the use of central bank money or to insource the settlement of securities with T2S (Quaglia 2010:121–22).

Quaglia (2010:122) contrast “two schools of thought in central banking,” but she does not go further into the problem over which they disagreed.

Indeed, insisting on the power of the DvP conflict in explaining T2S would seem as pedantic as insisting on that of Cleopatra’s nose in explaining the Roman civil wars.⁷³ T2S, from this perspective, is simply the contingent form that the essence of integration took on as it manifested itself – it was the opportunity seized by the EU institutions. On the other hand, this becomes an easy game to play if the researcher can decide both what counts as an outcome (e.g., whether the specifics of T2S are part of it or not) and what causes are to be taken into consideration in the first place (e.g., whether the DvP conflict is a genuine cause or a mere circumstance).

We may attempt another strategy from the political economy perspective, though: accepting the DvP conflict and the conception of T2S as a solution to it as an important moment in the chain of causes and effects. In that case, we are confronted

⁷³ Pascal’s famous thought experiment that if Cleopatra – the Egypt pharaoh – had had a less beautiful nose, general Marc Antony would not have fallen in love with her, he would not have engaged in the events that eventually led to his defeat at Actium by Marcus Agrippa, and Octavian would not have abolished the Roman oligarchy and become the first emperor of Rome.

with the issue of explaining why T2S became the solution to that conflict. From one perspective, the answer seems obvious:

There were only three possible solutions: Yes to one camp, yes to the other camp, or the middle way with the T2S solution. So it was the second best option for both camps, I would say (129).

The options – indeed the *only* viable option was given in advance. But this raises the question of where that opportunity structure came from. And so we return to the problems implied by the conception of the market motivating integration in the first place: on the one hand, we have a “level playing field” and, on the other hand, free competition.

Or we may reject the above quote as too easy and seek to trace the origins of the T2S idea. We then get to the actors Marc Bayle and Jean-Michel Godeffroy, who both had a past in French securities settlement (cf. p. 177). But in that case we re-enter the game between actors as autonomous originators of change and as carriers of broader causes. In our case, for instance, we would have to decide between the arbitrary creativity of these two individuals and the determinism of French dirigist ideology imposing itself in the DvP conflict through their biographies.

It seems as if we become caught up in games of indeterminacy – the same games that seem to haunt the political economy literature at the most general level as it debates, unremittingly, whether interests or ideas are the main causes behind European integration, whether interests causes ideas or ideas cause interests, and to what extent these are “theoretical” questions or “matters for empirical investigation,” as Schmidt and Radaelli (2004:184) would have it (cf. p. 75).

The problem is not accounting for events in an organised manner, as we did in section 6.1 above, but seeking to abstract (draw out) causes and effects from that account because this opens arbitrary problems of universals vs. particulars and of pre-determined vs. creative action. In the meantime, we casually pass over the whole issue of the problems that structure these processes, even though they emerge time and again: the problem of reconciling the concept of the market with itself, so to speak – the level playing field with the realm of unhindered competition. The DvP conflict is interesting from a problem analysis perspective, not only because this problem

manifests itself in it, but because it becomes the decisive moment where the major reconciliation attempt is first conceived for financial infrastructures: T2S.

Within the problem analysis framework, it is questions such as whether T2S is “really” a monopoly or whether there “really” was an ideational shift or not that are downgraded. There are enough truth claims and ideas present in the material already, and no need that we add yet others. Such additions would only force us to decide between utterances which ones to accept as true and which ones to reject as false. Consider, for example, the number of normative utterances about public monopoly in the material. Recall, firstly, the custodian bank executive lauding the principle of “governmental sovereignty” in financial infrastructures (p. 196), or the covered bond expert who appreciated T2S as “the biggest [public] monopoly in Europe” (p. 28). Other executives from private companies join them:

I: There are many ways of organising a market. The optimum, in my opinion, ought to be [pauses]. I may shock you, but the optimum should be largely defined by public authority, in my opinion.

T.K.: In the case of infrastructures?

I: Not only, in general. The ECB is a great institution. It has an expertise that no-one contests, from bottom to top. It has time on its side and it has shown with T2S that it knows how to use it even when it was still young. I think this is good news for the European market (I36).

I don't know what you think, but to me a public monopoly is not terrible. There is something worse than that – a private monopoly – because then there is no longer any control. Boom, prices explode! (I14).

On the other hand, other interviewees express highly critical views on the monopolistic tendency of T2S. One even compares T2S to Italian dictator Mussolini's corporatist state, arguing that: “no-one ever raised their hand and said: ‘we want this solution’ – it is not a private initiative” (I21).

The interesting part, however, is not so much these ideas or opinions in themselves, but the problems that motivate and structure their utterance in the first

place. One quote from a retired CSD CEO neatly captures the difference between ideas and problems:

Ideally you need one European CSD... Everybody recognise that. So when the Commission says: “No, no, we need competition between CSDs ... [But] the Commission said: “No-no, we need competition between CSDs.” Then we said: “Wait a minute, this is illogic because, on the one hand, you acknowledge that to have a unified and efficient European capital market you need one CSD, and then you want more competition?” And the Commission escaped by an intellectual pirouette saying: “Yes, but the competition is an intermediary step that will lead to consolidation” (laughter). Which is a bit easy to say (I14).

Monopoly, as well as competition, is neither a reality nor a non-reality. It is not a political ideal, nor is it a dystopia. Rather, it is a problem – a possibility in the structure of knowledge organised around the competitive conception of the market. From this perspective, there was *no break* in 2006 because all along public monopoly was a possibility within the problem structure of European financial market integration.

Similarly, the whole process cannot be reduced to a power struggle, or even a “complex” historical series of encounters, between free-floating interests and ideas. Ideas themselves are structured by the problems in relation to which any argument must operate – here, a distinction-cum-connection between a *private* realm (the market) and a realm of the *public* (politics). Indeed, several interviewees insist on the “political” character of T2S:

T2S is a political project more than anything (I22);

It is simple – politicians wanted an integrated capital market for years (I18);

There is no doubt that this is a political project (I23);

It is a political project, you have to understand that (I24).

T2S is not a product of the market, of private players, and of the forces of competition, these quotes suggest. As the etymology goes: in Latin *privatus* means “set apart from” or “outside” the *publicus* – that is, the people as an ensemble – or from the *politicus* – that is, the affairs of civil society.

The following section briefly comments on two other alternative approaches to the analysis of T2S: new economic sociology and social studies of finance. The objective is simply to reiterate a few points from chapter 2 in light of the analysis and thus to clarify the contribution made possible by a problem analysis approach.

6.3 T2S beyond Social Constructions and *Agencements*

From the perspective of new economic sociology (Granovetter 1985; Swedberg 2003), it could be argued that T2S is a case of how states – or rather European institutions – help “to construct markets” by institutionalising and setting up rules for competition and cooperation (Fligstein 1996:173). Such an approach would emphasise the role of action taken by individuals, like the ECB staff in a specific “organizational context,” in order to understand “what their projects might be” (Fligstein and Stone-Sweet 2001:33). The difficulties encountered by the project and the controversies over the relationships between private and public, or markets and infrastructures, would simply be evidence that markets are not as autonomous from society as certain economists pretend, and that European market integration must be understood instead as a kind of culturally embedded bargaining situation (Fligstein and Mara-Drita 1996).

Such an approach would clearly not be too far from that of political economy – or at least from certain positions within it. It would identify the main actors, situate them in a moving bargaining process, and show how the conception of the market is actually flexible according to their changing interests and strategies. Much like the conclusion of Jabko (2006), new economic sociology might conclude that the Commission was “playing” with the vague notion of the market in its own interest. “The market” – in this case an integrated European financial market – would thus largely be a “social construction” produced and structured by state or quasi-state actors such as the EU institutions rather than a pre-given state of the world as in much economic theory.

However, this approach would not bring us much closer to an understanding of the problems of financial infrastructure integration. In particular, grounding the perspective in the concept of “social construction” would beg the question of why the

problems faced in the four controversies were all seemingly “economic” rather than “social”: monetary creation, public or private production, cost, and legal market framework. As discussed in chapter 2, economic sociology seeks to stand neoclassical economics on its head, but in so doing it reproduces the same problems in a different configuration.

Now turn to social studies of finance for an approach that is more attentive to the role of economic concepts and theories in processes of constructing and changing market realities. As discussed in chapter 2, the early formulation within this tradition drew on speech act theory to argue that the often “unrealistic” assumptions of economic theory can become real when economic theory is “performed” in markets (Callon 1998b:22; see also MacKenzie 2006). Yet, no single specific economic theory seems to lie behind T2S. Later, social studies of finance has developed a more complex notion of “*performance*” by “*agencements*” – that is, the action of socio-technological ensembles of human and non-human actors (Callon 2008:320; see also Callon et al. 2007). The present dissertation has been inspired by the tradition’s emphasis on technological details and the importance of economic theory. However, it is not clear how the notion of *agencement* would further the analysis at this point. Indeed, with problem analysis, we seem to have transgressed a point at which social studies of finance have systematically stopped, dropped short, or changed direction. For example, Panourgias (2015) identifies a series of controversies around Euroclear’s consolidation project, but he arguably fails to determine the relationships between them beyond chronologies of events; Riles (2004) abandons her analysis of the whole tension between real-time and net settlement halfway, in favour of Japanese family relations. In their study of clearinghouses, Millo and colleagues (2005:243) point to “the failure to maintain an effective boundary between trading and clearing,” but do not develop their analysis of the conceptual problem of separating markets and settlement or its relation to economic theory.

By contrast, based on the problem analysis thus far, we may return to the four controversies around T2S identified in the last chapter in order to reconsider the relationships between them and further develop these.

6.4 The Competitive Conception of the Market

Whether we accept the DvP as “the true origin of T2S” (I14; also I27; I29) or not, we face the question of how a “small” and anonymous technical problem could provoke an – evitable or inevitable – turning point from industry to ECB initiative in a much “bigger” political process of financial market integration and, moreover, come to shape the specific design of T2S as a solution to the problems of that process. While we can relatively easily account for the many aspects of the whole process, the moment we seek to draw out (abstract) a limited set of causes from the complex mass of circumstances, we are faced with great problems of indeterminacy: was the origin of the T2S project the DvP conflict, the ECB staff member’s brilliant idea, or the support of his superior? Or did it result instead from the will of the Commission to push integration, the demand of the big banks, or the objectives set down in the *Treaty*? Or, alternatively, was T2S conceived as a consequence of the economic necessity of natural monopolies in infrastructure sectors, financial globalisation, or technological conquest? Or was it Cleopatra’s nose?

The attempt to draw out (abstract) causes and effects from the complex mass of historical circumstances runs into problems of arbitrariness and absurdity because, for reasons that are entirely *a priori*, such a project seeks coherence, correspondence, and consensus in accounts that are full of contradiction, tension, and controversy. It eventually presents the intellect with a choice (or a series of choices) between universals and particulars – between the exaltation of some elements over others as causes, and the resentment of total egalitarianism (or an arbitrary ensemble) of circumstances. We can only escape this desperate situation if we switch gears and enter the contradictions as they appear in the account, examine and follow them as they link and relate to each other in surprising ways.

It is in this way that we arrive at the problems intrinsic to the process of “integration of fragmentation” and the (seemingly) impossible reconciliation between the conception of the market as at once a “level playing field” and a competitive realm of unhindered exchange between individuals.” This is precisely how the “small” DvP conflict is related to the “big” project of European financial market integration: as forming part of the same problem structure. In the DvP conflict, the paradox of “integration of fragmentation” manifests itself as a technical problem and, upon closer inspection, as a problem of money and its role in exchange.

The opposing parties of the DvP conflict were not simply defending their own interests – they also occupied two positions in relation to the problematic role of money in settlement made possible by the structure of that problem itself. To simplify, the Germans, with their “interfaced” DvP model, had opted for a position where money in the last instance had to remain outside the market as a medium of exchange that is external and neutral to exchange itself; while the French, with their “integrated” model, had adopted a notion of money slightly more internal to exchange itself.

None of the two models was the “better” or more “correct” one. As we have seen, the interfaced model encountered the problem of netting, but the integrated model encountered the problems of control and of intraday credit (we shall develop this in chapter 7). Rather, they formed two possible attempts to overcome the same fundamental conceptual problem of money being rooted simultaneously internally and externally to the market.

This links directly to the broader problem of European financial market integration, where a “level playing field” had to be provided from the outside, and yet at the same time, as a service to overcome frictions, had to also be provided from the inside on a competitive basis. Furthermore, it links to the problem of monopoly and, more broadly, hierarchical structures in the post-trade sector and in banking in general (cf. Appendix C). It is not a coincidence that financial infrastructures suffer from high “economies of scale,” and “network externalities” while at the same time being itself a fragmented market in services because financial infrastructures form the core of the market as an integrated, harmonised, and frictionless realm of exchange.

The problem analysis perspective also allows us to link the DvP conflict to the three other controversies beyond the trivial chronology of their occurrence in relation to the T2S project. In the legal controversy, the “integration of fragmentation” meant that T2S would simultaneously both have to expropriate business activity from private CSDs *and* to leave it untouched by “intervention.” Even if we abstain from making legal judgements and accept that T2S “balances” well, this only leads us to a distinction between “a business perspective and ... a legal perspective” (I57), which is of little interest to the purposes of problem analysis. In the economic conflict over cost recovery, similarly, the “balance” to be struck was that between public subsidy and public profit-making in the market. But if there ever were such a balance it, too, would

have to rely on an artificial distinction between a narrow budget line of the ECB and a broader re-structuring of financial markets with its heroes and casualties. Finally, the political controversy over legal harmonisation once again re-opened the broad problem horizon of a seemingly simple project to build a settlement platform for Europe that can transfer securities and central bank money in DvP mode. This was the moment when the technical, legal, and economic controversies around the T2S project turned into a “political” controversy. It was also the moment that revealed the inherently political character of the whole notion of a “level playing field” – not simply because “everything is political,” but because, for example, custodian banks occupy a bridging position between markets and market infrastructure, so that any attempt to harmonise will have to happen in accordance with them.

The competitive conception of the market, and the problem structure that it implies, seem to have emerged in the late 1980s with the specification of the project for Economic and Monetary Union (EMU) and of international central bank standards for payment and settlement systems. Here, processes of European financial market integration became structured along the lines of much older problems in economic theory which can be traced back to classics such as Smith and Walras. It is possible that the formation of this problem structure in Europe goes even further back – the question goes beyond the scope of this dissertation, but some scholars have indicated that important shifts took place in the 1980s (Grossman 2012; Mudge and Vauchez 2012). The affinity with economic theory is visible not only in foundational legal documents such as the *Treaty* and the *Statute*, but also in the role played by economic theory in various analyses made around the T2S project, and in the mobilisation of it in various utterances by interviewees.

We thus end this part of the analysis with an overview of the problem structure organising processes of European financial market integration, related to the discursive formation of economic theory via the competitive conception of the market, which can be summarised by the notion “integration of fragmentation.” Part III seeks to further specify that problem structure across European integration and economic theory. But now we are in a position to gradually follow the problems we encounter outside the T2S project and its most immediate surroundings, thus building a stronger sense of the generality of that structure.

PART III

Economic Discourse

Part II analysed the T2S project by proceeding from four controversies to the argument that these were related in a specific problem structure characteristic of the discursive formation of economic theory. Part III seeks to further develop, the latter argument. It does so in three consecutive chapters. The ambition is to let the fences deliberately but artificially used to structure Part II – that is, the focus on the T2S project – fall and, in accordance with the analytical principles adopted in this dissertation, be guided entirely by the problems encountered and the relations of signification they reveal. Chapter 7 below thus takes up the problem that Part II identified at the core of the T2S project: The first, technical conflict over delivery versus payment (DvP) and the central role that money turned out to play in it. The chapter examines this topic further, focusing on the autocollateralisation technique. It finds that the concept of money is contradictory and produces disagreement among settlement professionals that is comparable to certain disagreements in economic theory over the nature of money and its role in markets (especially to Walrasian and Austrian theories). Chapter 8 takes up a related theme that was evoked around the final stages of the T2S project: the role of collateral in credit creation and the emerging notion of “collateral fluidity.” The chapter also refers the discussion to the contradictory conception of money and to economic theory – this time to modern finance theory. Chapter 9 deals with the concept of government that emerged from the discussion of the concepts of money and collateral . It is demonstrated that a concept of government emerges from within the discursive formation of economic theory itself. This is interesting because economic theory has the reputation of neglecting or even opposing government.

The three chapters thus follow logically upon each other because the problem of money leads to the problem of collateral which in turn leads to the problem of government. Chapter 10 discusses and concludes.

7. Do We Know Money When We see it?

This chapter is perhaps the most important one of the dissertation – at least for the purposes of demonstrating the relevance of problem analysis. It will analyse two parallel debates about money – one around T2S; one in economic theory – and argue that the two are organised around the same fundamental problems and structured by the same discursive formation. In T2S, the debate concerns whether credit created intraday to make settlement flow smoothly in real-time gross mode (as well as in delivery versus payment mode, cf. section 5.1) is money or not. In economic theory, the debate is the classical one between (neo-)Walrasian and (neo-)Austrian theory. Neo-Walrasian theory argues that money in the perfect market becomes a pure *accounting system* and can therefore generally be abstracted from in economic theory. By contrast, neo-Austrian theory argues that money is precisely the special *commodity* that allows exchange to continuously arbitrage and optimise in an ever-changing world – money is thus not something that can be ideally abstracted from, but at the heart of the analysis of exchange. The two debates – in T2S and in economic theory – are not explicitly linked by interviewees evoking one of the two theories, or by the latter evoking the question of financial infrastructures. Rather, they are linked because the same problem organises them both: the double “nature” that money must necessarily have under the competitive conception of the market as a pure accounting system “outside” the market and as a community exchanged “inside” the market. Whereas economic theory tends to speak of different “functions” of money as a list of predicates, the double nature of money forms a veritable contradiction.

This particular parallel debate between T2S and economic theory is so important because it concerns the core of our theoretical problems of understanding T2S as identified in chapter 6: the DvP conflict (cf. section 5.1), the outsourcing of central bank money creation via autocollateralisation, and thereby the birth of the T2S project around 2006 – including the apparent shift in principles of the ECB and the Commission. If it can be convincingly demonstrated that this moment was entirely structured by a problem occurring with necessity to economic theory based on the competitive conception of the market, it will provide decisive support to our overall argument that European integration of financial markets is structured by the discursive formation of economic theory. In other words, the analysis of the debate

over whether intraday settlement credit in T2S (and in the French CSD before it) is money or not, sheds new light on why there was a DvP debate in 2004–2006, and thereby why T2S was conceived. It may even shed light on how a shift in principles among the EU institutions was possible. The argument here is not that T2S was pre-determined, but that it was a structured attempt to solve a deeper discursive problem. That problem, in turn, can also be found in age-old debates in economic theory (the debate between Walrasian and Austrian theory dating as far back as the late 19th century).

But whereas the argument of this chapter thus further entrenches the problem analysis of the T2S project, it also pushes it beyond the narrow focus on that project. We could hardly think of a question more general in scope than that of the “nature” of money. One of the specific problems that emerge is one about risk in intraday credit. This leads to the discussion of collateral in chapter 8 – both in relation to T2S and beyond. Chapter 9 takes up a concept emerging from the two preceding chapters: that of government in economic theory.

Section 7.1 analyses the debate over whether intraday settlement credit in T2S is money or not, demonstrating that it relates to a deeper problem of central bank money being simultaneously inside and outside the market. Section 7.2 relates this problem to the broadly accepted definition of money in economic theory by a list of “functions” that money allegedly performs – notably as a “medium of exchange,” a “unit of account,” and a “store of value.” Section 7.3 focuses more specific on a debate in economic theory over the “nature” of money between Walrasian and Austrian theory that parallels the one analysed in section 7.1 in relation to T2S. Section 7.4 identifies the organising problem of these debates in the competitive conception of the market and in problems of theoretical humanism and teleology in economic theory. Section 7.5 concludes.

7.1 Return of the DvP Conflict: Money, Credit, and Pure Settlement

Chapter 6 above argued that at the core of the four controversies around the T2S project was the problem of market integration as “integration of fragmentation” which means that infrastructures paradoxically must be simultaneously inside and outside the market. I argued that a traditional political economy focus on explaining outcomes with reference to interests and ideas of powerful actors is not sufficient to understand

this and that any attempt to do so again and again brought us back to the first, technical controversy over delivery versus payment as a puzzling historical moment. I further argued that the problem there was about monetary creation in settlement via autocollateralisation. This chapter therefore seeks to examine further this technique to gain a more complete understanding of the problem of money in markets as conceived within the T2S project as a process EU market integration.

Recall how the DvP conflict – according to some – was not simply about the cash accounts of central banks being outsourced to a private CSD, but about the technique known as autocollateralisation that allowed the CSD to create settlement credit intraday against securities (incoming or on stock). In the eyes of some, autocollateralisation amounted to the creation of central bank money outsourced to a commercial actor (the CSD).

As explained in section 5.1, the technique was invented to remedy the inefficiency of settlement of transactions as they occurred in real time on a gross basis because the in- and outflow of cash of each bank during a day may create system gridlocks, even if the flows balance on the day as a whole (see also Baglioni 2007). Autocollateralisation allows settlement to flow even if banks have no cash left on their settlement account – they can then pay back the credit later in the day when cash flows in from sales. As Riles (2004, 2011:161) argues, although continuous settlement of bilateral transactions without the interference of other parties may look more like the free market ideal than the bureaucratic centralization of settlement around a netting system, it simultaneously makes market participants more dependent on central banks through credit provision in settlement. France was one of the few countries in the 1990s to build an RTGS system not only for cash, but also for securities settlement. Combined with the principle of delivery versus payment (DvP), this led to the first conflict around T2S because the creation of settlement credit had been outsourced to the private CSD.

The problem of money in settlement is bigger than the controversy over outsourcing of central bank money creation analysed in section 5.1. It concerns the very definition of what money is in the first place. When talking about the DvP debate, several interviewees explicitly mention the creation of *money*. For instance, one central banker explains:

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They outsourced the cash of Banque de France to Euroclear which of course politically is a very complicated thing – to create money. If you have autocollateralisation you are actually technically creating money intraday, and this was not well-received by the Eurosystem that someone outside the Eurosystem can actually create central bank money (I48).

Another central banker explains that

The integrated DvP model seems a little more efficient, but on the other hand central bank money is outsourced – that is the disadvantage (I44).

Similarly, the Bank for International Settlements writes in its review of French settlement systems that the CSD “provides for continuous intraday final DVP [settlement] in *central bank money*” (BIS 2012:7, my italics).

I was therefore quite surprised when a central banker working in the monetary policy back office (rather than on T2S), suddenly denied the view that autocollateralisation is monetary creation. Concluding an explanation of how credit is used to prevent gridlocks in the flow of settlements he stated:

I: The credit facilitates the fluidity of operations. By contrast, it does not work for end-of-day liquidity. That is, it is not cash.

T.K.: It is intraday?

I: Yes. At night the line goes to 0. If by the end of the day they [the banks] are still debtors, they will have a permanent facility⁷⁴ – granted that they have eligible collateral. At a penalty interest rate, just for the overnight, knowing that the next morning they should bring in cash ...

T.K.: So you make a distinction, cash is overnight?

I: Yes. Well, in fact cash is not just overnight, it is all the time actually, if they have cash on their account it is permanent.

T.K.: OK, but an intraday credit you don't consider that cash?

⁷⁴ The permanent facility is a monetary policy instrument that allows banks to borrow from the central bank at a penalty interest rate (cf. section 9.2.1).

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I: No, exactly. It only becomes cash during the night, if you pass midnight ... It is almost central bank money if you like... because at night if they are still debtors it will become central bank money [via the permanent facility as mentioned above]. So there is assimilation. ...

T.K.: I often encounter this distinction between intraday and then what is considered real money.

I: Well, it is not money, but then it is somehow after all.

T.K.: But it is not cash?

I: Yes, it is not central bank money in the pure sense of the term, but it facilitates because it is a credit line. You can use it or not, but if you use it you are obliged to pay it back, that is how you should think of it. You should not think: “Is it cash after all since it is on the cash account?” because, yes, except it is a loan, it has to be paid back at night. It is intraday credit, really, that facilitates the movement of cash, makes it fluid. But it is not cash. Because at night it is no longer cash – the end of the day [at 18 P.M. when T2S daytime settlement ends] is the term of the loan... I think you will find the same distinction in most central banks – the Federal Reserve, the Bank of England (I40).

The interviewee thus explains that intraday settlement credit is not money, even if it is in a central bank account and used for final settlement of obligations, because it has to be paid back before the end of the day. There are two caveats to this, however. First, if the institution is not capable of paying back the credit by the end of the day, it will be “rolled over” into an overnight credit at a penalty rate of interest, as the interviewee explains. It will thus become money proper. Another central banker explains that the conditioning of the roll over on the possession of adequate collateral mentioned by the interviewee is trivial because the intraday credit is already collateralised. This collateral is simply kept with the central bank to back the overnight credit (the collateral requirements being the same) (I30; see BIS 2003:31). Second, and more importantly, the interviewee distinguishes credit from money because the first has to be repaid within the day. Repayment in itself is not a characteristic pertaining to intraday settlement credit only; it applies to money proper as well, because money is created as credit when (central) banks make loans (Ryan-Collins et al. 2014). For instance, monetary policy affects the

short-term interest rate in markets is because money is created as short-term loans (I49).⁷⁵ When a bank grants a loan, it does not take the money from somewhere else, but creates two corresponding credits: the loan, which the borrower will have to pay back; and a deposit corresponding to the loan, which the bank will have to pay out upon demand (cf. *Appendix B*). For the same reason, the deposit – or, more precisely, a sum of money corresponding to it – will disappear again when the loan is paid back. So there is a doubleness to any loan. The loan is money because it can be used to buy, and the receiver of cash from a sale has no obligation in relation to the original loan that created the money. For the seller (cash receiver), the credit is money, but for the buyer (cash borrower) it is only a credit that has to be paid back. This goes for intraday settlement credit too: it may be created as a loan that has to be paid back within hours or even minutes or seconds, but immediately when it is transferred to a seller in the settlement of an obligation it has become money proper.

The distinction made by this interviewee between money and intraday credit is thus somewhat confusing. On the one hand, the creation of intraday settlement credit is distinct from the creation of money in the monetary policy of central banks. On the other hand, settlement credit and money are both credits created as the liabilities of central banks to facilitate purchases (and thereby transactions). I argue that the confusion is provoked by a fundamental *problem* within the discursive formation of economic theory. Let us examine the issue in further detail.

Economists and central bankers use the notion of a money supply, a specific quantity M . This quantity circulates in the economy at a given velocity V – that is, it changes hands in exchange and is “recycled” a number of times within a given time period. The curiosity is that the velocity of money in a year is about 10, while the velocity of intraday credit is between 2 and 100 *in a single day*, depending on the system (Manning et al. 2009:70). How can the velocity of money in one day possibly be *higher* than the velocity in one year? Exactly for the reason that M only includes *overnight* (and longer) deposits and credits.⁷⁶ Similarly, when a bank

⁷⁵ Since the crisis, the ECB has also granted long-term loans to affect the long-term interest rate – notably in LTRO and TLTROs (Targeted Longer-Term Refinancing Operations).

⁷⁶ It is a widespread view that measurements of the money supply have no detectable stable relationship with the velocity of money because many different credit instruments exist that can be used in payment (Bank of England 2014a:22–23; Bryan and Rafferty 2006:136). Post-Keynesians have added that credit –

runs its balance sheet figures: “they are running over night, and a transaction that opens and closes within the day does not have any exposures with you end-of-day balance sheet,” as one liquidity manager from a major European bank explains (I50).

The distinction between intraday credit and overnight money is also found when it comes to monetary policy. Several interviewees stress that T2S has nothing to do with monetary policy, that it will not affect the monetary situation in Europe and that it even has no substantial link with questions related to money whatsoever (see also Bindseil and Würtz 2007). Thus, asked if T2S will change anything concerning monetary policy in Europe, interviewees responded:

No. it only facilitates the settlement of operations (I40);

No, because the money market is already completely integrated, it is the most integrated market in Europe, in fact (I27);

I really doubt that autocolateralisation will interfere with market realities. They only do it in T2S to improve settlement efficiency. This is the only purpose. I don't think they want to add liquidity to the market for other things (I48);

Autocolateralisation is not linked to monetary policy. It is only there to settle a maximum of operations in the fastest way possible. ... This is not monetary policy but market liquidity... it is not linked to the value of the euro etc., it is rather linked to financial stability (I33).

According to BIS (2003:22), the arguments in favour of the central bank being the settlement institution concern 1) risk-free settlement; 2) settlement unaffected by crisis; 3) unlimited settlement liquidity; 4) “competitive neutrality;” and 5) efficiency. The distinction between intraday settlement credit and overnight money appears to belong to the same structural distinction established here between, on the one hand, a

including central bank money – is created for payment when needed, so the concept of money supply makes little sense in the first place (Lavoie 2015:182). But I have never seen a reference to settlements taking place using intraday credit as a further complicating factor in discussions of the money supply.

sphere of risk-free, liquid, stable, neutral, and efficient settlements and, on the other hand, markets.

Settlement credit thus appears to belong to market infrastructures which are ideally free of risk, cost and frictions. Money, on the other hand, belongs to markets where risk is traded, frictions are serviced at a cost and investments are made. For example, intraday credit is free of charge because it is simply there to make settlements flow – to avoid gridlocks and to delay and introduce risk into the system. Overnight credit, by contrast, comes at an interest rate. If central banks lent money for free there would be no money market and it would have outcompeted the commercial banks. This is specifically warned against by the Bank for International Settlements, which states that:

The convention exists that central banks avoid competing with commercial banks in most of the payment services provided to the non-bank public. It is this convention that generates the dichotomy between banknotes, that are available to all, and central bank accounts, that are available only to some. At the same time, a symbiotic relationship exists by which, on the one side, commercial banks help to extend the use of the currency while not putting its stability at risk and, on the other side, the central bank provides them with privileged access to its credit and, where appropriate, to some form of safety net (BIS 2003:6).

This is the hierarchy of money also described in *Appendix C*. It is interesting to see how BIS emphasises that central banks should not compete with commercial banks on the provision of credit, but nonetheless insists that central banks should provide the backbone as well as the core payment system – resulting in a hierarchical structure that keeps the two levels apart and yet connects them (BIS 2003:2).

According to one bank liquidity manager, the central bank provision of intraday credit is one reason why there is no market in intraday credit – no platform where banks can bid and offer intraday liquidity – although this has been a discussion “for 15-20 years” (I25). More precisely, for banks to rely on commercial intraday credit for settlement would be risky because it may be withdrawn exactly when you need it (in times of systemic crisis). Moreover, guaranteeing the credit lines requires capital

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reserves to back it which is costly. By contrast, central bank settlement credit is for free and always available as long as banks hold eligible collateral (I25).

The whole sector appears to have largely structured itself according to the distinction between intraday settlement credit and overnight money. For example, the liquidity management of big banks appear generally to be organised around a distinction between three types of liquidity steering: 1) of maturity and value differences of loans and deposits by the treasury; 2) overnight and term liquidity by the front office; and 3) intraday settlement liquidity and the settlement queue by the back office (I37; also I25). Moreover, the distinction between different liquidity domains corresponds to different regulation and infrastructure concerns. For example, liquidity coverage ratios apply to money management in the front office. Similarly, ICSDs and custodian banks provide intraday settlement credit in commercial bank money to their clients but the position by the end of the day has to be settled in central bank money (I25).⁷⁷ One liquidity manager of a big bank insists:

Intraday and overnight are very different things... In the settlement process it is intraday liquidity steering... Someone has to be a first mover at put money in the system for it to work. Then it's a question how much money you put in the system for it to work smoothly. End-of-day is a totally different thing. There you have to fulfil your minimum reserve requirements... End-of-day is about what products we have to square up on the balance of the bank... There are some links because if I trade a product with an impact on my intraday liquidity situation I have to take care of it. But overall these are two different things... at the end of the day you have to square up your commercial bank position with central bank money (I25).

The liquidity steering of the front office is about investing any cash reserves in more profitable instruments and match or hedge maturities and risks. By contrast, intraday settlement liquidity steering in the back office is dependent upon the flow of transactions that has to be settled – as a consequence of client and proprietary trading, credit, securities, derivatives and yet other operations (I37). Intraday liquidity steering

⁷⁷ Another commercial example is the role of intraday triparty repos between banks and special entities as a core funding mechanism shadow banking (FRBNY 2014; Tarullo 2013).

is for the most part an expense that the bank seeks to reduce through flow optimisation (I25).

On the other hand, the two worlds of infrastructures and markets have to be connected. For example, whereas we saw above a list of interviewees drawing a sharp distinction between intraday and overnight credit, between settlement and monetary policy, it is interesting to see that we also find competing utterances about the consequences of T2S on monetary issues – as here in the case of two central bankers:

T.K.: T2 cash was driven by monetary policy perspective – is that the case for T2S too?

I: Yes, we are doing this to have a more integrated money market in particular since the secured money market has gained so much importance [this is discussed in chapter 8]. As well the support of an efficient pan-European intraday liquidity market is important to support the smooth functioning of our RTGS [real-time gross settlement] processes. We want an efficient use of liquidity in Europe (I29);

T.K.: Is there an aspect of monetary policy in T2S?

I: Yes, absolutely, to the extent that T2S allows autocollateralisation where T2S provides liquidity at any time to all European actors. The fluidity of the market is much higher due to T2S (I33).⁷⁸

Yet other interviewees categorise such improvements of liquidity efficiency and safety outside monetary policy proper, even if used for faster mobilisation of collateral to pledge with central banks (I17; I15). Similarly, in the *Legal Assessment* (ECB 2008b) T2S was said to support monetary policy.⁷⁹ Finally, if a bank does not repay its intraday credit, the central bank is in principle entitled to the collateral which it can sell in the market to recover the loss. However, instead of thus seizing the collateral, the credit is automatically rolled over at a penalty interest rate as we have seen:

⁷⁸ This interviewee seemingly stated the exact opposite above (p. 7). However, from a problem analysis perspective this should not lead us to neglect the utterances since the contradiction may itself be structured by the discursive formation under consideration – particularly so when other utterances point in the same direction. This is a consequence of the principle of theoretical anti-humanism.

⁷⁹ As an aside, we may also point to Flemming and Garbade's (2002:45) analysis of settlement fails in the weeks following the terrorist attacks on the World Trade Centre on 11 September 2001, eventually leading the Treasury to intervene because "the price discovery process and the smooth operating of the Treasury [securities] market" were threatened by the events.

“Refinancing today is at 0.005%, but [the roll over] is between 1.5 and 1.7%, so that the next morning the institution will usually try to have their securities back – they need them to trade or deliver” (I40; also I49).⁸⁰ The penalty interest rate is there “so as to avoid that this becomes a means to automatic refinancing” (I14). Seizing the collateral would probably be considered to be an unnecessarily drastic measure because default on the intraday credit is most likely due to a kind of coordination failure: the bank did dispose of eligible collateral for an overnight credit, but for some reason it did not (or could not) move the pledge. Yet, it is interesting to see that the separation of intraday settlement credit and overnight money is thus re-connected: first a distinction is made between markets and infrastructures; then a bridge is made; then a toll is put on using the bridge so that it will only be used in emergency to avoid a too strong connection between infrastructures and markets to be established.

In sum, the distinction between intraday settlement credit and overnight money appears to have more to do with regulation and organisation than with some fundamental conceptual distinction. Apparently, markets and infrastructures are not distinguished because they are essentially different matters and therefore an effect of the one on the other would be hard to find – rather, it is because they are inextricable as problems that so great effort is made to keep such an effect from occurring. In other words, it appears to be the organisation of settlement that accounts for the approximate appropriateness of the distinction rather than the other way around. Why, then, this separation? What is the problem to which this organisation is a response?

One central banker from a markets department contends that there is sometimes only a thin line dividing intraday payments and monetary policy (open market operations and standing facilities, cf. section 9.2.1) and explains that the distinction “is of course based on a convention, but it is not published anywhere that this is so” (I49). However “sociological” the reference of market realities to conventions may sound, this is not a satisfactory answer to the question, but simply leads us to restate it: why is this distinction being maintained if it is ambiguous in the first place? If it is a “convention,” then what is the problem that makes such a convention necessary?

⁸⁰ Another way to put this point is that banks the next day will try to finance their securities. This formulation, however, emphasising the credit rather than the exchange language, shows that the central bank is essentially filling a financing gap for the banks (even if the banks are solvent or have cash on other accounts but did not manage to move them to the settlement system for some reason). This function can perhaps be named “technical lender of last resort.”

Characterising something as the result of a convention only provides us with an arbitrary determination which in itself contains little or no understanding of the problem at hand.

Following the principles of problem analysis, the objective here is not so much to decide whether some interviewees are right and others wrong in the sense that their utterances correspond or not to some (future) reality. Nor is the argument that intraday settlement credit creation is “really” monetary creation or that there are important “spill-over” effects from the one to the other. Rather, the inquiry is directed towards why this seemingly clear distinction turns out to be unclear, ambiguous or problematic to an extent where it even structures social conflict, as we saw it especially in the first controversy over delivery versus payment (section 5.1). In the remainder of this chapter, I argue that the problem of defining money pertains more broadly to economic theory and to the contradictory character that the concept of money occupies in it. On the one hand, money is a commodity of which a given quantity is distributed and circulates in the market. On the other hand, money is an accounting system for “pure” settlements wherein it must be created and destroyed as credit to make transactions flow. Parallel debates around this issue can be identified in the case of settlement credit in European financial infrastructures and in the case of classics of economic theory respectively. The discussion eventually brings us back to the more general problem of distinguishing the inside from the outside of the market.

7.2 The Contradictory Functions of Money

In this section, I argue that the problem identified around settlement systems, such as T2S in section 7.1, is also found as structuring the standard conceptions of and debates about money in economic theory.

In economic theory it is routine to distinguish between different “functions” of money. Indeed, listing and briefly discussing these different functions serves as a conceptual definition of money (Bank of England 2014b:7; Mankiw 2012:82). This dates back at least to Jevons (2012) – one of the fathers of the “marginalist revolution” in economic theory in the late 19th century, together with Walras and Wicksell (see Steedman 1997). In the modern formulation, macroeconomists and central bankers generally agree to distinguish three functions of money: medium of exchange, unit of account, and store of value (Bank of England 2014b:7; Mankiw 2012:82). As a store of

value, money “is expected to retain its value in a reasonably predictable way over time;” as a unit of account, money is “the thing that goods and services are priced in terms of;” and as a medium of exchange money is something that “people hold because they plan to swap it for something else, rather than because they want the good itself” (Bank of England 2014b:7).⁸¹

Economists in general do not seem to regard these different functions as contradictory – they are often simply provided as a list of predicates.⁸² By contrast, from the perspective of problem analysis I argue that the concept of money must be understood as a general term that unites the contradictory differences between the different functions. These contradictions provoke and structure controversy over the nature and role of money in economic theory, on the one hand, and over its role in European market integration on the other hand. These debates can undoubtedly be traced back a long time. For example, two parallel debates in the UK and the US in the 19th century famously opposed “bullionists” who argued that money is essentially a commodity and that credit should be backed by precious metals, and advocates of a credit view (called banking school, chartalist, or greenbackers, depending on the time and place) who argued that more or less unrestrained credit creation is necessary to allow transactions to flow, and thereby to optimise the development of the economy as a whole (see, for instance, Carruthers and Babb 1996; Grossman 2010; Lapavitsas 2005; Le Maux 2012). Similarly, as briefly pointed out in chapter 2, the history of economic theory provides numerous debates about which of the functions of money is the most fundamental – logically or historically – and from which the other functions derive. Menger (1892) argued that money emerged from barter as a medium of exchange while Knapp (1924) contended that money emerged as a unit of account imposed by the state. Classical equilibrium economics such as Walras inherited the first position, albeit in a moderated form, as we shall see (Cirillo 1986). Keynes (1965:40; 131) largely sided with Knapp and criticised the commodity view of money for fatally misunderstanding how government credit is not a “burden” that one

⁸¹ Recently, some scholars have taken up a fourth function which was previously distinguished from the others but has been subsumed under them: means of payment – especially a means of final settlement of debt (Gabor and Vestergaard 2016).

⁸² For example, Jevons (2012:16–17) insists that the different functions must be distinguished at all times because they can be carried out by different means, but he does not mention that they can be in contradiction with each other. Instead, the goal of his work is to find the material praxis that best accomplishes the ideal unity of the functions. Thus, problems are referred to a realm of material practice while unity is referred to a realm of theory (cf. chapter 2).

generation passes on to the next, but rather a technology to employ people and fill the effective demand gap during slumps. Later, monetarists defended the commodity view and argued that, even if modern money was no longer material commodities, it *ought* to be disciplined to behave like a commodity, available at a certain quantity in the market (Friedman 1968). By contrast, Keynes had rejected notions of economic quantities altogether, except money prices and the volume of employment.

According to the “quantity theory of money,” generally supported by monetarists and classical economists alike, the quantity of money determines the level of inflation and cannot be manipulated so as to improve the level of employment in the long run. The basic argument behind lies in the following relationship: $MV = PT$, where M is the quantity of money, V the velocity of money, T the number of “real” transactions in the economy, and P the mean price of all commodities transacted. The equation is thus a tautology, because the left-hand side measures the money value of purchases and the right-hand side measures the money value of sales. The analytical interest in the equation has nevertheless been enormous in the history of economic theory. Keynesians argue that, since money is created as credit to enable transactions (rather than preceding them), the notion of a measurable quantity of money makes no sense, and so they reject the equation (Lavoie 2015:188; Kaldor 1986; Robinson 1982). For neoclassical and monetarist economists, by contrast, the equation reveals not simply a tautology, but a causality. According to Fisher (2009), V and T tend to be stable. Therefore, M determines P , that is, the quantity of money determines the level of prices (inflation). If money is essentially a commodity – a specific good available in a specific quantity that can be possessed and used in exchange or to settle debt – then the quantity theory of money should have some merit. This theory has often been mobilised (implicitly or explicitly) in warnings against “printing” money excessively.

It has been said that very few economists are proponents of monetarist theory today (Jahan and Papageorgiou 2014:39). Even what was once believed to be the heyday of monetarism during the alleged money supply targeting of the “Volcker shock” that the Chairman of the Federal Reserve began in 1979 and which caused massive increases in interest rates was in fact not guided by money supply targeting (Krippner 2012:121). Nevertheless, we see many arguments related to the view that money is essentially a commodity in the material. For example, in the chapter on money in the undergraduate textbook on *Macroeconomics* by one of the most renowned

economists of our time, the quantity theory of money is presented as correct and it is persistently claimed that central banks control the money supply – claims that are repeated and not moderated or debated in relation to other theories in the following chapter on inflation (Mankiw 2012:82–130). Another example is that the so-called “real business cycles theory” of Lucas (1975) which laid the foundations of modern macroeconomic models (used by central banks in their policy decisions (e.g. Woodford 2003) with their “independent” central banks and inflation targeting), has been widely characterized as revised monetarism (Mehrling 2012:208; Braun 2014). Central banks today have abandoned fixed conceptions of a money supply in favour of one of degrees of “moneyness” measured by $M1$, $M2$, $M3$, and so on (including more and more credit instruments) (Bank of England 2014a:22–23). Yet, these measures still imply a quantity of “real” money, namely central bank money, $M0$. Indeed, the degree of “moneyness” is defined exactly by the extent to which a credit instrument comes close to or is used as a means of final settlement (or payment).

To be sure, these conceptions also continue to be contested. For example, we have seen above how post-Keynesians maintain a credit view of money. One central bank economist explains that Mankiw’s view is erroneous, that central banks control the interest rate, and that the quantity of money is an effect of demand for credit to which the central banks respond fully at that rate – going so far as to utter that “sometimes it would be better if you had not learned economics” as a central banker (149; see also Bang-Andersen, Risbjerg, and Spange 2014; Bank of England 2014a:21). Another example is that one of the founding fathers of modern finance theory, Fischer Black, adopted Fullartons’s (1844) “reflux theory of money,” according to which: “an overissue of bank notes or deposits was simply impossible because people can always get rid of any excess by repaying their bank loans” (Mehrling 2012:156). Thirdly, proponents of the so-called “real bills” doctrine (dating back at least to Tooke 2012) argue that the “moneyness” of liabilities should not be defined by the degree of similarity with central bank money, but rather be defined or categorised “by how they are backed, that is, by the characteristics of the balance sheets and prospective return streams of those who issue them” (Sargent and Wallace 1981:2).

Although these are different arguments, they are all based on a notion of money as being created as credit largely upon demand when needed for transaction (possibly against good collateral), and destroyed again when loans are paid back – not unlike

what we have seen in the case of settlement credit and autocollateralisation. From that perspective, the concept of the quantity of money is largely irrelevant or at least of secondary importance to economic analysis. Where monetarism warned against “printing” money, these different scholars see the money supply as “endogenous” to the economy – that is, credit creation, rather than commodity circulation, is what allows transactions to flow and it is driven by fluctuating demand. From that perspective, money is ideally fully fungible (exchangeable) with commodities and securities because any commodity or security can simply be collateralised with a credit institution or the money returned to it in order to free up the collateral. As a system of debits and credits, money is ideally just an accounting system.

The recurring debate in economic theory between credit and commodity theories of money thus parallels the difficulty of deciding whether intraday settlement credit is money or not in section 7.1. In both cases, money is divided between two “functions”: on the one hand, it is a commodity of a limited quantity and fragmented in so far as that quantity is distributed unevenly amongst private actors, but can be *exchanged* and has an exchange *value*; on the other hand, it must be an integrated accounting system comprehending everyone and simply responding passively to the credit needs of exchange. In T2S and other contemporary financial infrastructures, the relation between these two functions is organised by the intraday/overnight distinction. But the problem appeared to re-emerge nonetheless in the disagreement over whether intraday credit is money or not. Moreover, the identification of a broader version of the problem in economic theory attests to the generality of the finding.

From the perspective of problem analysis, it is interesting to observe that this age-old debate continues in the field of economic theory across academic, monetary policy, and financial infrastructure domains. The question of the nature of money, notably the relationship between the different functions of money, appears to form a fundamental conceptual problem from which economic theory in its many variants has not been able to escape. It would thus be a mistake (teleology) to assume that some specific economic theory has provided a satisfactory solution to the problem – or, for that matter, to assume that a solution to the problem can be provided at all.

The problem seems to be that, within economic theory, money is created as credit, but it is *also* a commodity in so far as it is used as in exchange. From the perspective of problem analysis, the reason why the debate between varieties of commodity and

credit money theories repeats itself over a long span in the history of economic theory is closely related to the reason why the problem of money emerges at the core of the controversies around the T2S project: money has to be both inside and outside the market; it needs to be simultaneously a commodity and a pure accounting system. This paradox points to the contradictory character of the functions of money: as a store of value and as a means of payment, money is a quantity; as a medium of exchange and as a unit of account, money is a frictionless and fully dynamic space. It thus appears that economic theory and European financial market integration are part of the same discursive formation. In this discursive formation, the functions of money cannot simply be considered a list of predicates pertaining to an object, but must be considered a contradictory and dynamic relationship between different predicates. The following section links the contradictory concept of money to the competitive conception of the market, drawing more specifically on the debate in economic theory between Walrasian and Austrian conceptions of money.

7.3 Money as an Accounting System and as a Commodity

In this section, I seek to demonstrate that the competitive conception of the market, which departs from individual owners of private property (goods) engaging in exchange, leads to two possible conceptions of money and credit. One is an “Austrian” conception of money as a commodity facilitating exchange; the other is a “Walrasian” conception of money as the frictionless accounting system necessary for exchange to optimise. Furthermore, I show how these two relate to a problem discussed previously in the dissertation: the problem of real-time gross settlement (RTGS) versus net settlement (cf. section 5.1). Paradoxically, either option leads to a conception of “final settlement” that contradicts the seemingly trivial understanding implied by the competitive conception of money with its exchange of goods between individuals. In this way, the seemingly trivial competitive conception of the market casts light on a fundamental problem structure that organises a series of more specific problems encountered in the dissertation.

The role of money in economic theory is contradictory. On the one hand, money is a commodity like all other commodities whose exchange value is primarily due to its use value as a medium of exchange. On the other hand, money is different from all other commodities – and arguably is not a commodity at all – exactly because its ideal

“function” is to be such a frictionless medium in which exchange can take place. This contradiction is well illustrated by the different views on money in Walrasian equilibrium theory and Austrian economics respectively.

According to Walras’ (1988) “pure” economics, a single market may relatively easily achieve equilibrium, but in order to achieve *general* equilibrium between *different* markets, it is necessary that an “auctioneer” centralises all information about supply and demand in these markets.⁸³ Once the assumption of such an organisation is made, however, the role for money is reduced to being a *numéraire* – that is, as a unit of account – because, under full information and absence of frictions, trade is essentially barter (Cirillo 1986).⁸⁴

By contrast, Austrian economists have abstained from the ideal of general equilibrium and insisted that money is used by economic agents precisely in the *absence* of full information – that is, under uncertainty about the future (Mises 2013, 2009; see also Hayek 2002; Menger 1892). In Austrian economics, equilibrium is “a moving target never attained” in the competitive process of trials and errors (Gaffard quoted in Ülgen 2005:394; see also Swedberg 2003:112). Mises (2009) considered Walrasian theory a “magical freeze” of the economy that artificially granted economic actors time to obtain general equilibrium through trial and error – and thereby to reach a situation where money would no longer be needed, due to full information (Rothbard 1997:309). The very notion of Walrasian general equilibrium “is not simply totally unrealistic, it

⁸³ Walras himself does not speak of an auctioneer (nor do Arrow and Debreu 1954 in their modern formulation of the theory) – he only speaks of brokers who *centralise* and *cry out* the bids and offers of their clients in *public* (Walras 1988:70–71). The notion of a single auctioneer emerged in microeconomic theory in the US only after WWII (Dockès and Potier 2005). It is worth noting, however, that the notion solves a problem in Walras’ distinction between real and ideal (or “pure”) markets. Walras (1988:70–71) considers first the market place with the most optimal institutional design for free competition, namely the Paris Stock Exchange, then other markets such as shops in the same street and doctors in the same city, and eventually contends that “*the world* can be considered a vast general market composed of diverse special markets” (my italics). He continues: “our objective is to acknowledge the laws according to which sales and purchases tend to happen by themselves. For this purpose, we always assume a perfectly organised market under competition, as in pure mechanics one assumes machines without frictions” (Walras 1988:71). The problem here is the passage from “real” markets which are stratified, fragmented and full of “frictions” to the “ideal” market where exchange “happen” anonymously. To assume all fragmentation away from the public announcement of bids and offers (as well as from the actual delivery process) essentially requires a single centralising entity which has come to be known as the “Walrasian auctioneer” (see also Muniesa 2000).

⁸⁴ For practical purposes, Walras did maintain an idea of money as a medium of exchange, but was a proponent of strict monetarist policy whereby the influence of *M* on *P* would be stabilized and money as a distinct *concept* disappears from the general equilibrium model of the economy. Walras was a self-proclaimed believer in the most simplistic version of the quantity theory of money where the money supply determines the price level: in order to “control” the price level and by extension to avoid credit instruments contaminating the transparency of exchange, Walras advocated full reserve backing of bank notes in gold (Cirillo 1986:216).

is conceptually impossible, since money and monetary exchange cannot be sustained in that kind of system” (Rothbard 1997:310). In general equilibrium no-one will hold money because they will have no unforeseen future expenses. But: “if no one holds cash and the demand for cash balances falls to zero, all prices rise to infinity, and the entire general equilibrium system of the market, which implies the continuing existence of monetary exchange, falls apart” (Rothbard 1997:309).

The debate between Walrasian and Austrian money theory is fundamentally over whether money is ideally 1) an accounting system for a perfectly informed system of barter (a *numéraire*) – that is, *outside* the market as a kind of auctioneer; or 2) a commodity with a specific use value attached to the “service” it provides of overcoming (but not eliminating) frictions of exchange – that is, *inside* the market. However, it would be too simplistic to oppose the two as simply “idealistic” and “realistic” theory. The Austrian critique of Walras is conceptual: the system is self-contradictory. Similarly, the Walrasian argument for abstracting from frictions is not just a simplification, but a consideration of a real principle in isolation from intervening factors: money reduced to a *numéraire* is the logical consequence of the competitive conception of the market considered in isolation from such intervening factors.

Consider a more recent variant of the above debate. In the updated Walrasian formulation of neoclassical theory “the market” is conceptualised as a fully integrated sphere of no time-space differences (Arrow and Debreu 1954). Arrow and Debreu provide an “integrated model of production, exchange and consumption” in which a “finite number of distinct commodities (including all kinds of services)” is bought and sold at a “finite number of distinct locations” at a “finite number of future time points” (Arrow and Debreu 1954:266).⁸⁵ The authors explicitly make these assumptions in order to be able to treat “a finite number of commodities” using set-theoretical mathematics (Arrow and Debreu 1954:266).

In this way, the definition of “commodity” by Arrow and Debreu internalises all differences in time and space, or, in other words, all “frictions” in the market. Fragmented information and transaction costs are thus dissolved from the analysis. In fact, there is no longer any concept in the theory to distinguish different commodities

⁸⁵ In addition, Arrow and Debreu consider that “the same commodity at two different locations or two different points of time will be regarded as two different commodities.” (Arrow and Debreu 1954:266). Due to these assumptions: “commodities are differentiated according to time as well as physical characteristics” (Arrow and Debreu 1954:268).

with different characteristics – only quantities (utility and money prices): there is no concept for *qualitative difference* because such a concept would amount to *friction* and the whole idea of “pure” economics is to abstract from friction. By collapsing time and space and by assuming away any difficulty related to the comparison of different commodities or to their exchange, Arrow and Debreu assume away any need and even possibility of money. Consequently, there is no – and there can be no distinct concept of money as determined in the model other than as Walras’ *numéraire*, or what Arrow and Debreu call money prices. There can be no problem of “double coincidence of wants” (cf. p. 263) in a situation where all traders are in unmediated contact and have full information about the present as well as about the future. In Arrow and Debreu’s model, there is thus no need for a “medium of exchange” because there is no distributed (frictionous) time-space for such a medium to occupy and be suspended in. The only “space” in the model is the “Euclidian” one of pure quantities (see Arrow and Debreu 1954:267). Thus, “equilibrium” here is a concept of pure quantities, it means a purely numerical equation: “supply equal demand on every market” (Arrow and Debreu 1954:265).

In a critique that parallels Mises’s critique of Walras, some economists attempt to account for the fact that money does exist and plays an important role in the economy, but to do so within the general equilibrium framework (Brunner and Meltzer 1971; see also Kiyotaki and Moore 2002). Brunner and Meltzer (1971:793) argue that when “knowledge of market opportunities and the qualities of goods is neither costless to obtain nor uniformly distributed, the use of money as a medium of exchange reduces the resource cost of exchanging.” By introducing costs of transactions and uncertainty (lack of information) in the market, Brunner and Meltzer (1971:791) show how traders “can engage in a sequence of transactions ... chosen so as to exploit differences in the marginal cost of acquiring information and exchanging.” As a commodity whose use value is to function as a medium of exchange, money allows traders to exploit arbitrage possibilities and thereby to bring down frictions and increase market efficiency.⁸⁶

⁸⁶ The authors assume “zero direct marginal utility for each transactor” of money, but that it “contributes to utility indirectly, however, by improving a transactor’s information and by reducing the variance of exchange ratios and thus the uncertainty about the bundles obtained in market exchange...” (Brunner and Meltzer 1971:797).

These authors are only able to demonstrate the irreducible role of money in exchange by compromising the fundamental principle of pure economics: the abstention from consideration of any “friction.” Brunner and Meltzer introduce specific frictions (imperfect information and transaction costs) into the pure model in order to force open a room for money to be conceptualised in.⁸⁷ They “externalise” anew the different positions in a stratified time-space so that money can then come to occupy it as a medium of exchange. In other words, qualitative differences re-enter, frictions re-enter, problems of “double coincidence of wants” re-enter, and a distinct conceptualisation of money is therefore needed to make exchange possible. *The* market in this version of the theory has been turned into a market *place*, that is, a structured and frictious time-space extension.⁸⁸ Money comes to play the role of infrastructure for the market. But an infrastructure that is itself part of and inside the market – that straddles the space-time differences between heterogeneous commodities in order for them to exchange. The very notion of “equilibrium” has to change meaning because it is no longer a purely quantitative equation, but a stabilised relationship between dispersed heterogeneous commodities.

In line with the approach of Brunner and Meltzer, today’s reasoning for central bank intervention to stabilise prices (notably Woodford 2003) is founded in neoclassical assumptions combined with a notion of “price rigidities” and not – as one might think – with a notion of market failure (Braun 2014:64–65). Indeed, there is seemingly a paradox between the insistence on the commodity theory of money up to this day (Bank of England 2014b:4; Mankiw 2012:82) and the insistence that a central bank is needed to stabilise the financial system, enable commercial bank deposits to exchange at par, and function as a lender of last resort. In the first case, money is a commodity, in the second it is an accounting system.

Consider how contemporary central bankers argue that: “Today’s complex web of market infrastructures – payment, clearing and settlement systems – is a response to frictions that arise when goods and financial securities are traded” (Manning et al. 2009:1). The Bank of England (2014b:4) writes that money is essentially credit created to resolve the problem that “different people want different things at different times,”

⁸⁷ The authors, however, do not always seem to realize that this is what happens. The following formulations are thus entirely my own.

⁸⁸ A similar analysis as the one conducted here of Brunner and Meltzer (1971) can be done of the more recent contribution of Kiyotaki and Moore (2002).

that is, the “double coincidence of wants” problem, but that a central bank is needed to coordinate and render “universally trusted” that credit money (see also Miller 1949). These two seemingly trivial quotes reflect the very problem we have just identified around money in economic theory. On the one hand, payment systems (and other financial infrastructures) are seen as a response to the stratification and fragmentation of markets in comparison with the ideal of pure economics. They may be provided in the market as a service to overcome some frictions, but they will themselves contribute to maintaining a certain stratification in the market – be it by the stratified access to markets via brokers (see the work of Baker 1984a, 1984b, 1987) or via a (“natural”) monopoly that will assume monopoly power in the market (see also Pistor 2013). On the other hand, exactly because the stratification that follows from having infrastructures being provided by the market constitutes a source of friction in itself, there must at least be a backstop to it. Specifically, private credit money provided by commercial banks would be stratified without a central bank: a euro in bank *A* would not be the same as a euro in bank *B* because the two banks do not have the same connections and because they have different risk profiles.

One solution to this problem would be to return to commodity money such as gold.⁸⁹ But this would impede the role of money as an accounting system facilitating exchange by the dynamic creation and destruction of credit (as we have seen a case of in the case of autocollateralisation). The modern-day solution of central banks is rather to *unify* the liabilities of different commercial banks by making them “promises to pay central bank money.” Thus, when I use my debit card to pay a shopkeeper, my bank transfers central bank reserves to the shopkeeper’s bank (cf. *Appendix C*). The shopkeeper, therefore, does not have to consider whether my bank is sound or not before accepting my euros.⁹⁰ In this process, central banks act as lenders not only of last, but of *constant* resort in order to make settlements flow. Central banks (or governments) may also impose deposit guarantees to prevent bank runs from forcing banks to default on their obligation to pay central bank money upon demand. Whereas such measures are usually analysed by economists as “macroprudential policies” that

⁸⁹ Walras appears to have favoured an effective ban on credit that was not based on full reserve coverage in gold (Cirillo 1986).

⁹⁰ An illustrative case of money exchange without a central bank is provided by Haveman (2015): during the free banking era in the US, different banks issued different dollar notes and clients and shopkeepers would have to negotiate what notes to pay groceries and change in. Magazines were used to provide information about banks in, but were largely unsuccessful in alleviating the problem.

reduce “systemic risk,” I argue that they emerge in relation to a more fundamental conceptual problem as attempts to uphold or at least provide a backdrop for the frictionless, riskless and costless medium in which competitive exchange will be fully efficient.

The debate over the pros and cons of gross and net settlement provides another example of how the problem emerges. We saw in section 5.1, clearinghouses settle transactions on a net basis, which is economically very efficient because they simply consolidate the fluctuating positions of traders. One consequence of this technique, however, is the build-up of multilateral positions during the settlement period and thereby of a systemic risk. By contrast, real-time gross settlement (RTGS) systems treat the flow of bilateral transactions but require free settlement credit to avoid gridlocks. This free settlement credit essentially provides an alternative technique for consolidating accounts over time. But the credit positions themselves involve a risk that must be handled, which is done by taking collateral. Moreover, in both cases – gross or net settlement – not only does a source of risk penetrate the infrastructure as a kind of market intrusion into settlement, settlement also requires heavy investment in systems and encompassing organisation of the marketplace. The creation of that frictionless space for settlement of transactions thus encounters the same problems as the ones that structure the debate between Walrasians and Austrians: it must simultaneously be provided from inside and outside the market.

Common-sensual understanding of “settlement” would perhaps define it trivially as the finalisation of an exchange (e.g., of money and securities) between two transacting parties. However, in either of the two cases under consideration here – net or gross settlement – we are no longer in this common-sensual world of proprietors of goods engaging in exchange and the “market” being simply wherever that exchange takes place. Rather, in both cases a specific market infrastructure is required *by the competitive conception of the market itself*. Deferred netting and the provision of settlement credit in real time both imply that exchange is not necessarily between an owner of money and an owner of securities (or some other commodity), but may take place between an owner of securities and a non-owner of money because the latter can have an (implicit or explicit) credit to settle with: in net settlement, participants only have to hold the cash and securities deliverable by the end of the cycle; in gross settlement, autocolateralisation kicks in when a participant does not have sufficient

money on its settlement account.^{91,92} In either case a specific infrastructure provides the efficient medium of exchange necessary for the forces of competition to optimise the market. More importantly, both systems rely on a “third” party outside the transaction to service it.

The problem of money is thus closely related to the problem of the competitive conception of the market. The role of money as a medium of exchange is ideally provided by the full fungibility of all commodities at all times into money and vice versa. This means that money is essentially not itself a commodity, but a system that accounts for the different credits and debits associated with exchange. And yet, credit is itself a commodity offered in the market by institutions that thus assume a risk and a cost, and it should therefore come at a price – credit is capital and capital bears interest, in the words of the economists. It is exactly because money is not immediately fungible into any commodity that exchange has to be serviced by some infrastructure provider. The separation of these two inseparable concepts constitutive of the competitive conception of the market is exactly what European central banks attempt to with the distinction between free intraday settlement credit and money.

7.4 Economic Order and Human Action

We may take one step further in our analysis of the problem of the competitive conception of the market. The effort to not only consider economic theory in its most contemporary formulation around T2S, but also at its roots in the classics or economic theory allows us to better observe a dimension of the problem that we may relate to the general problems of theoretical humanism and teleology discussed in chapter 2. From the outset of economic theory, “the market” is conceptualised as constituted by individuals who are engaged in exchange. The source of social change and dynamics is

⁹¹ In fact, it may take place between a non-owner of securities and a non-owner of cash. Financial institutions routinely “short sell” securities, that is, sell securities they do not possess, assuming that they can procure it before settlement date two days later (or with some more fraudulent objective in mind). Further, ICSDs and global custodian banks offer automatic securities lending mechanisms in case the financial institution does not succeed in procuring the short-sold security. It will then subsequently have to buy an equivalent security in the market to offset the securities loan. One could thus imagine a transaction between a non-owner of securities (based on short selling with securities lending) and a non-owner of cash (based on autocollateralisation or equivalent mechanisms). This principal possibility is a consequence of the concept of credit instruments as such, but I have no documentation about its legal and practical extension.

⁹² This does not necessarily mean that it does not have cash somewhere on some other account. This is not of importance to the argument here, except the caveat that a simple settlement fail is generally far from general bankruptcy of the institution.

action. Notably, the “market price” is simply the result of individual decisions to supply and demand. Whereas the market price is out of the hands of each individual, the process is nevertheless teleological in that the price is determined by the aggregate of individual decisions.⁹³ But something paradoxical happens in the process: prices become objective social conditions to which individuals must respond. In fact, to the extent that individuals are rational and enlightened, their actions are now themselves determined by this objective social reality. Where the market was just now conceived as the social result of aggregate individual action, the market is now conceived as the social cause of that individual action. Just now individuals were *a priori* singled out as the conceptual bottom rock of social theory; but this assumption immediately (with Bachelardian necessity) leads to its own opposite: the determination of all individual conduct by social reality. In other words, the methodological individualism of economic theory – or theoretical humanism – entails to double-determination and hence contradiction or ambiguity.⁹⁴

As Ülgen (2005:392) has argued, the Walrasian models of Arrow and Debreu and others may depart from the assumption of rational and freely acting individuals, but they eventually end up with a model where individuals’ comportments are passive responses to market structures. In turn, Ülgen continues, the market structure:

is itself structured by information which is homogenous and limited since agents can neither produce nor obtain other information than that which is imposed upon them by the model: prices. The importance of this question is related to the place that the neo-Walrasian representation [of the market] occupies today whenever economic problems are posed in our contemporary societies (Ülgen 2005:392).

Whereas originally based on “free” competition among individual market actors, neo-Walrasian theory thus “leads to a determinate outcome” (Lallement quoted in Ülgen

⁹³ Individuals here respond to the objective conditions of nature such as the character of the land, the force necessary to forge iron etc. In fact, according to Foucault (2008), both the physiocrats of the 18th century (notably Quesnay) and the utilitarians who are often considered their opponents both saw land (or rather the God-given fertility of the land) as the sole fundamental source of wealth (see also Gutting 1989:172).

⁹⁴ A similar structure is arguably found in all “methodological individualism.” In sociology, a famous example can be found in Coleman’s (1990) “boat” that explains “macro” phenomena by “micro” interaction. The very distinction between micro and macro grants *a priori* privilege to whatever is claimed to pertain to the former and implicitly assumes that the latter – being nothing but a composite – is the more “complex” level of analysis, cf. chapter 2.

2005:392). Rephrasing this in Althusserian parlance: the determination of a historical outcome within economic theory relies on a teleological structure where the effect is simply the cause in a different form occurring before it in time. But this implies that the “free action” of individuals be determined from the outset – and that it be so by something beyond individuals themselves such as “the market.”⁹⁵

In this way, the teleological structure leads to a fundamental problem of indeterminacy. As Ülgen argues, Walras’ conception of trial and error (*tâtonnement*) in markets ends up ascribing to the free market a kind of agency. As Debreu himself put it: “we introduce a fictive agent, the market, whose role is to choose a price vector” (Debreu quoted in Ülgen 2005:396). Arrow and Hahn similarly conceptualise competition as a situation where market prices impose themselves on agents (Ülgen 2005:398). Since agents cannot affect prices, they are by definition passive – simply responding to the agency of “the market” (Ülgen 2005:400). The passivity of the actors (who by definition should be act-ive) is closely related to the status of the concept of information in the Walrasian conception of general market equilibrium as a state of affairs. Since all information is public, no information is private, so there is no basis on which private individuals can act:

If the equilibrium is not determined before any exchange, a part of the exchanges can be concluded outside equilibrium, which is likely to remove the mean price of the entire market away from equilibrium (Ülgen 2005:402).⁹⁶

This problem of theoretical humanism leading to teleology in neoclassical economics is thus grounded in an *a priori* conception of markets as constituted by competitive exchange among free individuals. The problem here is the *a priori* conceptual separation of two realms that theory must then necessarily reconnect. This time, it is not realms of reality and ideas or of nature and society as discussed in chapter 2, but of individual and society. Again, etymology is illustrative: a distinction between a realm of the *privatus* and a realm of the *publicus* requires some medium of *communicatio*. But, as we saw in the discussion of Searle’s speech act theory in chapter 2, *communicatio*

⁹⁵ In sociology the same determination is generally termed “society.”

⁹⁶ A similar paradox of the concept of subject is revealed by Adorno and Horkheimer’s (1996:265) critique of rationalism in which the subject oscillates between being the closed universe of knowledge and an infinitesimal point appropriating universal truth.

requires a *communis*, that is, that something is *shared* by a group. But, in that case, the very principle of *privatus* is violated and the theory enters a play of contradictions and indeterminacies.

It would not suffice to replace neoclassical with Austrian economics. According to Mises (2009) “praxeology” – the study of human action – the most fundamental cause in economics remains individual purpose: “In economics, therefore, the proper method is to proceed from the causing action to its consequent effects” (Rothbard 1997:308–9). The Austrians thus remain within the same problematic: Only, by denying that the ideal state of market forces can be known, they paradoxically have to claim that there an ideal *exists* which can never be *realized* in the double sense of the word (materialize and be perceived). This is exactly the paradoxical premise of Hayek’s (2002) critique of Keynesian government planning and intervention: there is an ideal that cannot be known but which the free interaction of individuals will come closest to, even if they can never reach it finally. To maintain free *and active* individuals, Austrian theory tries to be simultaneously teleological and anti-teleological.

We thus see a pattern of the competitive conception of the market entailing problems of theoretical humanism and teleology that emerge in particular around such concepts as money and market infrastructures, because these concepts play a double role as being both inside and outside the market. This pattern matches strikingly well the pattern of European financial market integration, where the competitive conception of the market is inscribed in the foundations of the EU project (e.g., in the *Statute* of the ECB and the Eurosystem), and where controversies have emerged and been structured precisely around the concepts of money and market infrastructures.

7.5 Conclusion

This chapter is perhaps the most important one of the dissertation. It has demonstrated that the autocollateralisation technique, which was at the root of the first controversy around T2S over delivery versus payment (DvP), concerned the concept of money. More precisely, the controversy turns out to be structured by a much deeper and broader discursive problem of economic theory that is closely related to the competitive conception of the market. This problem manifests itself in the contradictory character of the concept of money as being simultaneously inside and

outside the market; a commodity and an infrastructure; and serving different functions, which are inherently contradictory.

The distinction between money and settlement credit – and, by extension, between monetary policy and autocollateralisation – conceals a conceptual contradiction and is more porous than may seem at first sight. To be sure, major efforts are made so as to uphold a separation and distinction between the two – the argument here is not that this distinction will not hold (nor is it that it will hold). The problem also became visible in the comparison of gross and net settlement systems: in both cases credit must be used as a technique to consolidate the flow of transaction over time, but the two systems differ in their configuration of this. Consequently, the ways in which the contradiction between the two objectives of settlement efficiency and efficient markets appear differ too: where net settlement must remove risk from the accumulation of multilateral positions, gross settlement must ward off spill-overs from autocollateralisation to monetary policy. In gross settlement, the central bank is not a lender of last resort, but a lender of constant resort.

Autocollateralisation is thus important for the profound understanding of the contradictions intrinsic to the concept of money. Autocollateralisation illustrates how, between the market and the non-market, we have money – situated in a double position as simultaneously and paradoxically inside and outside the market. The *problem* with money is that it has to remain within the limits of the market and simultaneously transgress them. It is not just a question of striking the right balance or agreeing on some conventional break in a continuum, but one of a contradiction between money as a commodity in exchange and as credit in a system of accounts. On the one hand, money must be a (Walrasian) pure medium outside the market and thereby ideally an infinitesimal point in time and space (perfect liquidity, no frictions), whereby it is fundamentally different from all other credit, which is exactly a commodity in the market and therefore scarce and distributed. On the other hand, money must simultaneously be part of the market itself – as credit exchanged as a (Austrian) commodity against all other commodities in the market.⁹⁷

Again, the point is not whether the massive creation of intraday credit for settlement using autocollateralisation will have an effect on monetary policy or not in

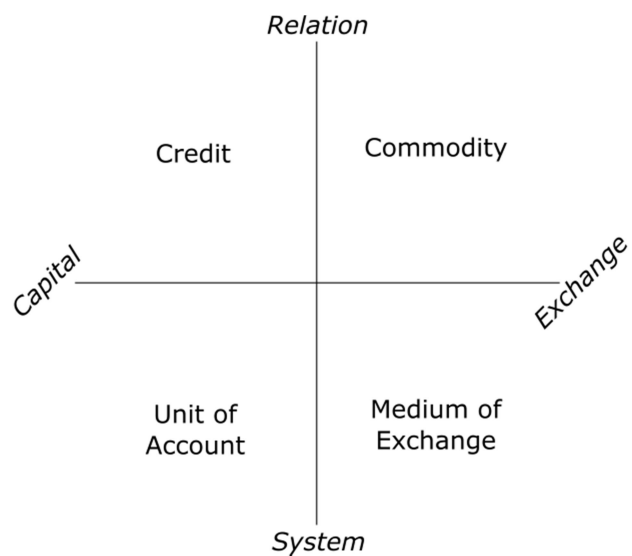
⁹⁷ From this perspective, we may suggest that settlement has historically come to take place in central bank money because it is the only asset that can be traded in financial markets while being simultaneously anchored outside these markets, as a riskless and all-encompassing medium.

the Eurozone, but that a problem emerges with a certain necessity in the relationship between markets and market infrastructures which central banks have sought to stabilise as best they can. Indeed, the recent European history of central banks' engagement in payment and settlement systems – from the introduction of real-time settlement and settlement credit to replace netting in the 1990s; over the conception of T2S; to the distinction between money and intraday credit – appears to be structured by this problem. The argument here is thus not that infrastructures are a hidden domain of power or risk (and nor is it the contrary – that they are not). The argument is that, under the competitive conception of the market, markets and infrastructures are simultaneously separate and connected – a source of continuous problems that call for solution attempts. It is thus not because markets infrastructures and markets are different matters that an effect is hard to detect of the former on the latter, but because so much effort is made to avoid such an effect to occur.

Figure 8 illustrates the contradictory structure of money in the competitive conception of the market. The figure distinguishes the contradiction in money between a commodity that can be exchanged instantly and credit which is temporal and should be remunerated as capital (horizontal axis); and between a bilateral relation among transacting parties and a system encompassing all transactions (vertical axis). This gives four moments of money: commodity, credit, unit of account, and medium of exchange. This terminology is different from the “functions of money” in economic theory, not only because the combination of predicates is different, but – more importantly – also because the relationship between these predicates is different (a structure of contradictions).

7. Do We Know Money When We see it?

Figure 8: Money as Credit and Commodity (Competitive Conception of the Market)



8. The Fluidity of Money and Collateral

The argument of this chapter is that the problem structure that we saw in relation to autocollateralisation and the concept of money in chapter 7 re-emerges in relation to the concept of collateral. Collateral is assets pledged against credit to secure the creditor against default risks. As Riles (2011:159) writes, “collateralisation is a core element of private market self-regulation.” However, collateral is also used by central banks to alleviate (and ideally remove) the risk assumed by granting credit. Collateral thus plays an important role of risk management in modern financial markets. What this chapter suggests is that this role of collateral is the product of the unresolved problems around money and credit identified in chapter 7. It is the more interesting, therefore, that T2S is said to greatly increase the capacity of financial institutions to manage their collateral in Europe. The reasons why T2S is said to do so are closely related to the reasons why it improves settlement efficiency and safety: centralisation and a double position as being simultaneously inside and outside the market. Moreover, the analysis of collateral in this chapter leads to a variation of the paradox of Walrasian general equilibrium theory discussed in section 7.4.: Collateral is supposed to remove default risk from bilateral credit relations, but this pushes the problem of risk onto a “systemic” or social level of the ensemble of financial markets. Interestingly, this situation corresponds neatly with central formulations about risk, capital, and markets in modern finance theory (Fischer Black).

Collateral is assets (generally securities) pledged by the debtor with the creditor to guarantee the latter against the former defaulting on her loan. If default happens, the creditor becomes the owner of the collateral, and she can sell it in the market to recover her loss. In a fit of pedagogy, a custodian banker explains:

You see, collateral has existed for a thousand years. The chap who had to go to battle in the Middle Ages would ask his friend if he could borrow his sword, and the friend would go: “If you die, I won’t have my sword back, so take my sword, but leave your horse with me, and when you get back I get my sword and you will get your horse back, but if you die I will keep it.” It is as simple as that ... It is true that today the number of exchanges has augmented so much that risks have augmented too ... and financial products have become more complex, and complexity is risk too. So after the

[financial] crisis, we said: “in order for markets to be safe, and not to have the risk of a world-wide bankruptcy due to chains of failures, all instruments and all transactions must be securitised. And to do that you need to put aside collateral on a systematic basis as a guarantee. Then, the second problem of collateral is the value. If the chap leaves with a sword of steel that is worth a fortune in exchange of a horse that might die in 30 minutes, it is not a good deal. That is the whole difference between Bunds [German government bonds] and Argentine warrants (I31).

Collateral must be a valuable asset that can be sold in the market for the creditor to be able to recover potential losses – that is, collateral must be a commodity. Yet, in today’s financial markets, it is not horses that are collateralised to borrow swords, but securities which are collateralised against money. But both of these are credit instruments. Thus arises the issue of the specific configuration of chains of debtors and creditors, along with the instruments that bind them together. As we shall see in this chapter, the circularity of protecting credit with other credit instruments leads to a notion of the market as a whole of total risk in the market, as well as of the structure of the market. We shall explore the contradictions that emerge between these different concepts.

Our point of entry into these discussions is the increased prominence of collateral in financial markets since the crisis, as mentioned by the interviewee above. Money may be created almost freely as credit, but if it is mainly created against eligible collateral, then the latter comes to form a perimeter of credit creation and so effectively imposes limits on the money supply. The question of collateral thus appears to re-open the discussion of the quantity theory of money. Yet, at the same time it transposes the problem onto another level: on the one hand, there is at any point in time a limited amount of eligible collateral available in the world while; on the other, collateral and its eligibility are, too, flexible concepts. Whereas the question of eligibility will be postponed to chapter 9, the concept of collateral velocity or *fluidity* will occupy us in this chapter. T2S is said to greatly increase the “fluidity” of collateral. T2S thus provides a useful entry point to these discussions.

Section 8.1 describes how the financial crisis led to a breakdown of uncollateralised money markets and to new regulation – two changes that have substantially increased the use and importance of collateral in financial markets. T2S

arrives at the right place and time since, by integrating settlement in Europe, it will increase what one report calls “collateral fluidity.” Another report even argues that “collateral is the new cash.” Section 8.2 discusses the way in which these reports re-enact the quantity theory of money in new ways, paralleling fundamental discussions about risk and liquidity in modern finance theory. Moreover, introducing the concept of collateral brings us to a notion of total market risk. Section 8.3 argues that we are thus paradoxically led to a concept of market structure – that is, to a concept of segmentation and fragmentation of the integrated market. Section 8.4 concludes on these observations and discusses their generality.

8.1 “Collateral is the New Cash”

We saw in chapter 5 how T2S was originally conceived to solve a technical problem of delivery versus payment, but quickly took on another objective: European financial market integration. More recently, a third benefit of T2S has been highlighted by the ECB: increasing the mobility of collateral, as well as the possibilities for managing collateral across borders (I11). CSDs, ICSDs, and big custodian banks have already begun to compete on the new possibilities for providing collateral management services across Europe that T2S is expected to give them (I11; I12; I14; I29; I30).

Before the financial crisis, overnight and short-term lending between banks to a large extent took place in the “money market” where banks would lend “blanco” to each other – that is, with no collateral as security against the credit. However, during the financial crisis, the unsecured money market froze up and has hardly recovered since (I29). An ECB economist reports that in 2012 “about 80% of short-term interbank lending was secured compared to only 60-65% in 2007” (Terol 2013:9). At the same time, post-crisis regulation has increased collateral requirements. Most derivatives contracts and clearing is now collateralised.⁹⁸ Moreover, capital requirements of financial institutions have been increased.⁹⁹ All these new requirements rely on the same classes of “high quality assets” (I35; see, for instance,

⁹⁸ Previously, as one interviewee explains, the counterparties of a derivative contract might have exchanged collateral once a week to adjust for price fluctuations, whereas today it happens daily or even intra-daily (I15). Clearinghouses –which have become more important due to post-crisis regulation – similarly manage collateral on a high-frequent basis (I35).

⁹⁹ Regulation includes notably Basel-III/CRD-IV on risk-weighted assets, leverage ratio, and liquidity rules, EMIR requirements to over-the-counter derivatives clearing margins, AIMFD, and UCITS-V (Clearstream and Oliver Wyman 2014:7).

Clearstream and Oliver Wyman 2014:7). These developments have made economisation with collateral a topic of increasing interest for big banks, but also for central banks concerned with market efficiency and safety (I11; I38; I53). One central banker explains: “I have heard this at several collateral management conferences: the general slogan (laughs) is that there is sufficient collateral available, but the challenge is to have the right collateral at the right time and at the right place” (I44).¹⁰⁰ If collateral cannot be moved freely across different countries and settlement systems, big banks will need to hold separate pools of collateral in each country and system, each with its separate buffer. By contrast, T2S is a single pool for all European securities:

In T2S you are in a single system, so all your flows of buys and sells of securities – French, Spanish etc. – are in the same machine. This means that, whenever you buy or sell securities, they are immediately available in the system and can serve you as collateral. Today, when you trade in Spain, you need cash and collateral in the Spanish box. This means you can be long on liquidity in Germany and short in Spain at the same time. Since everything will be on T2S in the future you have immediate netting and therefore less liquidity problems. It is the same with collateral: it used to be a bit blocked in each country. If you put everything on T2S, then liquidity and collateral is fungible – so, more directly useable. That is why T2S helps: not by giving you more collateral, but through an optimisation within Europe that makes you waste less (I31).

Even in cases where moving securities immediately across borders is already possible, there may be a risk that it does not settle, and therefore the bank may not do it (I53). Moreover, moving securities out of a country usually has a deadline early in the day due to differences in cut-offs, settlement cycles, etc., so banks may have to move it a day in advance anyway (I29; I30; I38).¹⁰¹ In the eyes of many, T2S comes at the right time and place because, by increasing cross-border settlement efficiency and safety, it

¹⁰⁰ The interviewee has later moderated this statement, saying that the ECB's securities purchase programs of the ECB leading to possible shortages of collateral.

¹⁰¹ As explained in footnote 70, there exists a European system for mobilising collateral with central banks, but, as one interviewee explains: it is “far from ideal,” and involves a heavy process where it can take “2-3 days to move collateral between central banks” (I51; I22). Further, with CCBM, according to one interviewee, there is not full legal clarity about the central bank functioning as an intermediary (I48).

responds to the increased demand for collateral mobility in Europe. One central banker even thinks the UK will eventually join T2S for this reason (I27). Another central banker puts it metaphorically:

If you see the liquidity of banks as a person running with two legs – a cash and a securities leg – the one leg [cash] can go at full speed [with T2] and the other one can merely walk [before T2S] (I29).

Two legs, but one person. Running. Collateral bridges between cash and securities to produce “liquidity.” As one CSD interviewee explains: “You have the securities, on the one hand, and you have the cash, on the other hand, but really you have an element which relates the two in an absolutely unequivocal way – that is collateral” (I14). Another CSD interviewee complements: “Maybe just a definition of liquidity, it is not only cash, it is also securities” (I47). The concept of “liquidity” in finance is ambiguous. It often is synonymous with cash, but is nevertheless broader. Indeed, in the words of a recent report, “collateral management has become inseparable from liquidity management and risk management. In the modern financial and economic context, these are essentially the same thing” (ICMA-ERC 2014:5).

In a study often cited by interviewees, the German CSD estimates that T2S has the potential of freeing up €33 bn. worth of high-quality collateral for Eurozone banks – or 11 % of the shortfall following from post-crisis regulation (Clearstream and PWC 2013:8). Another Clearstream study adds that T2S has the potential to lower a list of costs and risks, and that big financial institutions can make seven-digit savings on that account (Clearstream and Oliver Wyman 2014:12–17).

These reports clearly have advertising motives and probably overestimate pecuniary benefits. However, the view that T2S will benefit collateral management in times of need is widespread. For example, it is also found in the European Commission’s recent “Green Paper on Capital Markets Union.” This document explicitly mentions T2S in relation to the argument that the “fluidity of collateral throughout the EU is currently restricted, preventing markets from operating efficiently” (European Commission 2015:23). The notion of “collateral fluidity” employed by the Commission is probably taken from a report entitled *Collateral Fluidity* by the International Capital Market Association, which also discusses T2S

(ICMA 2012). This report contends that: “it is widely perceived that demands for high quality collateral will significantly outstrip supply” in the future, and that therefore “it is essential that efforts be made to ensure that collateral is able to flow as efficiently as possible” (ICMA 2012:1). The word “fluidity” appears several times in the interviews, five of them use it specifically in the context of collateral and T2S, reproducing the argument that: “banks are interested in using their collateral in a more efficient way, moving collateral free of constraint - T2S is bringing this fluidity to collateral” (I29; also I15; I35; I36; I40).

There are thus two main aspects to the new role of T2S in increasing collateral mobility: one is centralisation, which means increased potential for netting flows; the other is increasing the speed by which collateral can be exchanged and moved around. These two points parallel those encountered in the discussion of net and real-time settlement in the preceding chapter: from a netting perspective, T2S allows banks to pool their eligible securities in a system where they can be used automatically to create settlement credit when needed; from a real-time gross perspective, they can swiftly move around collateral between different systems. This parallel between the analysis of money and that of collateral is no coincidence. Another ICMA report, co-authored with the European Repo Council, carries the striking title: *Collateral is the New Cash* (ICMA-ERC 2014). In a situation where financial infrastructures have become highly integrated, this report argues, high-quality collateral can be moved around without constraints (it is fluid) and can be pledged to obtain cash almost instantly (it is fungible) (see also Singh 2013). This means that the degree of “moneyness” (cf. p. 257) of high-quality collateral has increased to an extent where it is – for many purposes – as good as money.

This seemingly trivial statement has some interesting implications. We saw in the preceding chapter how the “quantity theory of money” ran into complications because money is created as credit and credit can be created whenever it is needed for transactions. However, if credit is mainly created against collateral, the availability of collateral comes to form the perimeter of credit creation. More precisely, the combination of the *supply* of collateral and the *speed* with which it can be moved around (its fluidity) comes to limit credit creation. The report does not consider monetary creation, but simply notes that “equilibrium” between supply and demand for collateral can be represented as follows:

Demand for collateral = Effective supply of collateral x Collateral fluidity (based on ICMA-ERC 2014:10).

The equation is inspired by International Monetary Fund (IMF) economist Mammohan Singh (2013, see also 2015) who assesses trends in the “velocity” or “re-use” of collateral. The right-hand side of the equation is equivalent to Fisher’s quantity of money M multiplied by the velocity of money in circulation V (cf. p. 256). Indeed, the left-hand side, too, could easily be decomposed into factors corresponding to Fisher’s number of transactions T and average price level P – that is, into the number of collateral pledges (or repos, see below) multiplied the average credit obtained from the collateral.¹⁰² We may therefore refer to this as the “quantity theory of collateral.” In this chapter we shall focus on the fluidity of collateral and postpone the question of the collateral supply to chapter 9. Indeed, the focus of this report is not so much on the supply of collateral, but rather on “the ability of the effective supply of collateral to move through the system to meet the demand” (ICMA-ERC 2014:10). It comments on the equation above:

This simple dynamic shows that as demand for collateral increases, relative to the effective supply of collateral, so its fluidity (i.e. its ability to be effectively used or reused) must also increase. It also suggests that collateral fluidity deserves significant attention and concern when assessing potential risks to the effective functioning of the financial system: not least in times of market stress, when demand-supply imbalances are likely to be accentuated (ICMA-ERC 2014:10).

Notice how there seems to be a paradox in how the gap between securities and cash is bridged by the concept of collateral. To do this, collateral must be as fluid and fungible as possible. On the one hand, collateral must safeguard the creditor against the risk that his debtor defaults. On the other hand, collateral must not lie dead, but be a liquid commodity in markets. Indeed it must be as liquid as money. Collateral must be both risk (as “commodity”) and protection against risk (as “security”). Collateral thus

¹⁰² The value of the collateral has to include haircuts and fees, not just the value of the credit line obtained (Gorton and Metrick 2012:428).

reproduces the contradictions between credit and commodity in the concept of money discussed in earlier chapters, only at a new level: that of risk.

This tension is already indicated in the paradoxical contention of the report's title: *Collateral is the New Cash*. Indeed, the reactions of some interviewees to my mentioning of this title are telling in their perplexity. Here, a central banker who did not know the report:

T.K.: What do you think about this slogan?

I: It rhymes (laughs). But why is that new? It has always been the case. Collateral can be transformed into cash, if you borrow against it. That in itself is not new. That already existed 200 years ago.

T.K.: So it is not new, but do you think it is appropriate to talk about collateral as cash because it can be transformed into liquidity?

I: Yes it's a kind of quasi cash. Of course not all the collateral can be made liquid as easily. Some collateral is only accepted by certain parties. (I45).

What is interesting to observe in this quote is that the interviewee seems to both confirm and reject the validity of the slogan within a few seconds: on the one hand, it has always been so; on the other hand, collateral can never be more than quasi cash, and only so under specific circumstances. Yet, he does not hang in this – he does not even appear to notice it – but moves on to talk about the quality of collateral. Other interviewees have comparable reactions to the mentioning of the report title:

Cash is a credit line, collateral is [Pauses]. Well, it depends on what you mean by cash, but it is true, yes. Banks today cannot do operations with their colleagues if there is no collateral (I40);

The more infrastructures are efficient, the more it is true. If you only need 5 seconds to transform collateral into cash, then yes, it is true, it is the new cash. And it is also the new cash because if you don't have collateral – I exaggerate a bit – then you don't have access to cash either. So, today without collateral, it is very difficult to find counterparties. You can, but less so ... So it seems reasonable to me, yes (I38).

The slogan is the more true the more collateral is liquid. Ideally, collateral is like cash, and yet it can never really become cash. All three interviewees eventually agree with the slogan, but not without an element of reservation or even a moment of confusion. Taking the three quotes together does not leave us much better off: it has always been the case, or it has only recently become the case. A conceptual instability seems to be at stake, only we still need to identify it. Let us therefore take a closer look at a particular financial instrument used for collateralisation, which has ascended to prominence within recent decades and in particular since the financial crisis: repo.

8.1.1 The Beauty of Perfect Liquidity is that Nothing Moves

In place of the unsecured money market which contracted during the financial crisis, the “repo market” has grown (see Comotto 2014). Repo is an abbreviation of “repurchase agreement” – a contractual arrangement that resembles a collateralised loan, but which is organised as a sale of securities with an obligation to buy them back at a future date (see also footnote 50). The difference between the sale price and the future buy-back price is calculated as an interest rate, but it called the repo rate. Repos were invented by the Federal Reserve during World War I as a way of lending to banks at interest rates that were not impeded by the war because collateralised (cf. Garbade 2006:28). Today, it is used by most central banks in their monetary policy (Haan et al. 2015:113–14; Manning et al. 2009:33–34). But repos are also a core component of modern financial markets and have been harmonised internationally by the sector’s “Global Master Repurchase Agreement” (ICMA 2011; see also Riles 2011).¹⁰³ Repo markets have developed especially since around 1990 for different reasons, including increasing technical feasibility and flexibility, and as it was promoted by Basel regulation and some central banks, but also as a way to circumvent capital requirements and other regulation around standard lending techniques (I29; Riles 2011:170).

¹⁰³ On the one hand, a distinction is made between bilateral repo agreements (“over the counter”), which take place in an open market, and tri-party repos which are provided by custodian banks or ICSDs, which have the full overview of demanders and suppliers within their system (see below). On the other hand, a distinction is made between “special” repos, where a trader demands a specific security (e.g. an investment bank which has sold a security to a client it did not possess and needs it to avoid delivery failure on short-selling) and is willing to pay for this, and “general” repos, where a cash lender simply requires unspecified collateral within certain eligibility criteria (I45; see Flemming and Garbade 2002).

8. The Fluidity of Money and Collateral

The main difference between a “pledge,” which simply blocks the collateral in the CSD against the loan, and a repo is that the latter implies full transfer of ownership. This means that the collateral taker can dispose over it, as she pleases, and even sell it in the market or use it as collateral herself. The only obligation is to deliver back equivalent collateral when the loan is redeemed. Collateral re-use is also known as “rehypothecation,” which became infamous during the financial crisis because defaults, downgrades, and plunging asset prices inflicted chaos in the long chains of collateral obligations:

you receive the securities and you can do whatever you want, the provider will never know nor will anyone else... You know, there have been debates about stopping re-use completely or whatever (I47; see also Riles 2011:168).

The crisis made it clear that the re-use of collateral is restrained by the so-called “haircut” – that is, the amount by which the value of the collateral must surpass that of the loan in order to protect the creditor against asset price fluctuations. During the crisis, haircuts exploded and heavily impeded re-use. This makes Gorton and Metrick (2012:428) argue that “collateral has a money multiplier. When haircuts rise, the money multiplier works in reverse, causing a massive deleveraging process. This does not happen for unsecured short-term debt” (see also Gabor and Ban 2016). Moreover, the bankruptcy of a member in the chain – such as that of Lehman Brothers in 2008 – can produce chaos in finding out who is entitled to what (I17; I45).

Whereas repo has become a technique to control and manage risk following the crisis, as we have seen above, it was thus also part of the problems that caused the crisis in the first place, according to some. In particular, collateral re-use seems to be at the core of the problem. This is interesting because re-use is exactly what gives collateral its double character of a liquid “commodity” and a safeguard “security” and allow it to bridge between securities and cash. But, in this, collateral also transposes the problem of risk onto a new plane: that of the market as a whole.

Before going into that discussion in section 8.2, however, the market of anonymous chains of bilateral “over-the-counter” (OTC) repos must be distinguished from another kind: tri-party repo. Here, a depository institution – in particular two global custodian banks (JP Morgan Chase, Bank of New York Mellon), two ICSDs

(Euroclear and Clearstream), and some of the big CSDs (I55) – facilitate and control the rehypothecation of repos (I30).¹⁰⁴ Triparty repo can be an efficient technique for settlement financing, as repos can be standardised and even automated. For example, when the market value of the collateral increases (or decreases) the triparty provider can automatically reserve (or release) collateral to bring it in balance with the value of the loan.¹⁰⁵

The triparty organization of repos has implications for the re-use of collateral. One CSD interviewee explains:

The main issue of re-use in the industry outside the [triparty systems] is that, if something goes wrong, no-one has a complete overview of the chain of re-use, because it goes from A to B to C, etc. Within a [triparty system] it is different, because [the triparty provider] always knows the complete chain and therefore you have full transparency. And we believe that this is a good way to do re-use because it is transparent. ... Think about collateral services as a room. At some point a piece of collateral comes in through the door, and then the door is closed. Then it may go from one collateral provider to a receiver, to another receiver, etc., but it all happens in this room, and it can never leave out the door unless it goes back to the original provider first (I47).¹⁰⁶

The capacity of triparty providers to coordinate transactions is quite extensive. Not only can they extend credit to avoid settlement fails. If the party that has to deliver securities fails to do so, the triparty provider can also offer *securities* lending mechanisms. Some institutions (such as pension and investment funds) sit on piles of high-quality assets, while others (such as broker-dealers and investment banks) seek to reduce their inventories to an absolute minimum, but have large flows in and out, and

¹⁰⁴ Duffie (2015:282) writes: “In the United States, two large banks JP Morgan Chase and The Bank of New York Mellon, act as the agents for the vast majority of TPRs [triparty repos]. Currently, a total of roughly \$1.5 trillion of TPRs is handled by these two banks every day.” Furthermore: “Every day, each of the larger US broker-dealers receives \$100 billion or more in overnight financing that depends from an operational perspective on one of these two TPR clearing banks” (Duffie 2015:280).

¹⁰⁵ In fact, with autocolateralisation, T2S is a triparty repo system (I54), although it does not provide most of the auxiliary services generally associated with triparty systems. T2S does not even detect when a transaction is part of a repo that will have to unwind at a future point in time, and so it cannot service it in the meantime either (I35).

¹⁰⁶ The “room” is the system and not a country or region. This CSDs has connexion to systems in other countries both in the EU and beyond (I47).

often short-sell securities to serve their clients, or for proprietary (speculative) purposes (I44; I55).¹⁰⁷ The funds may be restrained by regulation from investing in lower-class assets while the banks may have troubles delivering on time – so they can sign a securities lending agreement that kicks in automatically when needed, and which is managed by the triparty provider:

The triparty provider can see the short securities so they move securities from lender to borrower to settle the transaction, and at the same time they manage whatever collateral there is involved (I55).

The “borrower” of securities can thus sell them on (Faulkner 2004). In fact, the “lending” is a full transfer of title, like a repo. And, like a repo, it is collateralised with other securities, or simply with cash (I47; I54). The problems and solutions here resemble very much those already encountered in relation to RTGS systems (cf. p. 175):

Sometimes you have circles where one party is waiting for another, etc. So, by injecting a little bit of security liquidity, you can make the engine run. It's a bit like the oil in an engine ... Then typically the loan is open and they tend to last only short term, a couple of minutes, sometimes overnight. A couple of days is rather rare (I47).

Even for a simple repo where an investment bank – such as Goldman Sachs, Morgan-Stanley, Credit Suisse, or UBS – borrows cash from a pension fund against collateral, the task may be quite complex. As one global custodian explains, the counterparties:

define their criteria on ratings, currencies, etc. in advance. And the custodian maintains and maximises the collateral use across all these counterparties, computes haircuts, values, calls in extra collateral when needed, substitutes and transforms the collateral, etc. All this you have to do in real time. It is massive! And the activity is growing. [A major investment bank] makes many such loans with many people, with central banks, and so on. So, [the global custodian] has the portfolio of [the

¹⁰⁷ Securities lending that is not used in relation to settlement fails, but also for speculative purposes (“short selling”) and tax-evasion purposes (“coupon washing”) (I54; I55).

investment bank] and manages its accounts in favour of all these counterparties ... The beauty of the system is that you just do debit and credit between accounts on your platform. Nothing moves (I55).

Paradoxically, money and securities are most “liquid” when everything is centralised and stands still – when “nothing moves.” Moreover, centralisation makes collateral fungible. Often, the collateral takers care about the quality of the collateral, not about what specific security is used. They can therefore define categories of securities they will accept. For example, central banks may ask for a basket with government bonds only (I8; I44; I47). This gives the triparty provider a broad margin to optimise the clients’ use of collateral, while the client only has to worry about the total value of his collateral pool.

Accepting broad and standardised categories of collateral can have additional benefits (I35). Some standardised “baskets” have become the basis of highly liquid repo markets because both supply and demand is potentially far bigger here than in the market of a single security (I46). The two ICSDs – Euroclear and Clearstream – operate repo markets based on a few very broad baskets in which participants simply trade in specific risk characteristics (ratings).¹⁰⁸ For those trading in repos:

it is important to be in a liquid market – everything collapses if it is not liquid. So for us it is important to have access to both [ICSD] markets. We want to make profits and the only way to do this is to be in a liquid market (I46).

Triparty providers thus provide a mechanism for “abstracting” the collateral issue so that it can simultaneously safeguard against risk and be liquid in re-use, but only at the “expense” of centralisation and standardisation.

Let us recapitulate the observations made in this chapter so far. The problem structuring the debate between quantity and credit theories of money and between the views that settlement credit is or is not money 7, appear to re-emerge around the question of collateral fluidity. Collateral has a double character as a liquid commodity

¹⁰⁸ In addition, these markets are mediated by clearinghouses that “novate” transactions – that is, steps in between the counterparties and becomes the buyer to the seller and a seller to the buyer – whereby delivery is guaranteed (something that became a problem during the financial crisis (I35)). Moreover, counterparties remain anonymous to each other. For example, central banks may not wish to reveal their operations as they try to get their piles of collateral back into the market (I47).

and as safeguarding security against risk. Collateral has to simultaneously underpin the liquidity of money (circulating as credit) and itself be as liquid and safe as money. This raises questions such as: is collateral cash or not? And can it be re-used or not? These contradictions can apparently be overcome only if the “market” for collateral is fully integrated, harmonised, and frictionless. Such a space is provided by triparty agents. But this means the return of another problem already encountered: the need for centralisation. Or, rather, for some “third party” to encompass the market and contain it within. This third party must be simultaneously inside the market, because offering a service and taking risks, and outside it, because providing the “space” that makes the market possible in the first place, as well as efficient and safe. In European repo markets today, global custodian banks and ICSDs occupy this position. As an aside, they are the equivalents of Adam Smith’s “dealers” (cf. p. 35). We thus begin to see what Mügge did not see, namely why “dealers” occupy a special position. It is the problem of reconciling the competitive conception of the market with itself that has eventually led to the special position of custodian banks – and of banks more generally (cf. Appendix C).

The double nature of collateral pushing the question of risk onto the level of the market as a whole bears a striking parallel to modern finance theory – particularly to the writings of Fischer Black. Section 8.2 explains how and seeks to unravel the consequences of this new parallel between European financial market integration and economic theory.

8.2 In the Equilibrium of Risk

This section presents the modern finance theory of Fischer Black in which the “market portfolio” – that is, the relative composition of assets available in the market – balances risk and interest rates (equilibrium) when investors have free access to credit and exchange does not suffer from frictions or constraints. This leads to the argument in section 8.3 that Black’s theory and the observations made about the role of repo in section 8.1 exhibit striking parallels. Both depart from free bilateral exchange between private actors, but result in encompassing and rigid social structures.

As described above, a repo is a loan that is legally structured as a sale with a future obligation to buy back. So is a repo a sale or a loan? According to one central banker it is a loan (I40) while another insists that it is a sale (I45). The term “repo

lending” is widely used (e.g. Gorton and Metrick 2012:426), but legally it implies full transfer of title like a sale. The ambiguity does not seem to worry practitioners much: “Economically it is all the same, but legally it’s different” (I45). Indeed, economic theory teaches that, conceptually speaking, a loan is a sale – a sale of time.

And, conversely, a sale is ideally a loan. As we saw in the case of free settlement credit and autocollateralisation in chapter 7, from the perspective of money as a system of accounts, a transaction is not necessarily an exchange of existing goods, but can be settled by opening a credit position (we saw something similar in the case of securities lending above). So, a loan is a sale and a sale is a loan? If settlement is always of transactions *previously* concluded in the market (a repo reaching maturity, a transaction on the stock exchange two days earlier, or some fast-track deal concluded just a few minutes ago), it can nonetheless be done by opening new credit relationships (or by netting out credit relationships against each other). Indeed, finance is the business of engaging, postponing, exchanging, and altering pecuniary promises.¹⁰⁹ And there is a lot of money to be made on that, since credit enables economic agents to buy before they sell: it allows borrowers to invest and to pay only at a future date, using the gain from that investment. Credit thus allows economic activity to increase. This was, by the way, perhaps the most important insight behind Keynes (1965:128–31) argument against neoclassical theory that such a thing as “involuntary unemployment” does exist: in times of slump, the government can indebt itself and thereby force through credit creation that allows it to hire from the unemployed labour force and make economic activity happen.

We said above that a loan – according to economic theory – is a sale of time. We may now specify: a loan is a sale of *capital*, understood as a source of future revenue. For example, in his work on *The Theory of Interest*, Fisher (2012:61–63) argues that the price of credit – the interest rate – is the price of exchanging “between present and future goods.” The interest rate is the price that balances “human impatience,” which pushes people to consume now, and the “investment opportunity,” which will produce future income.

However, in contrast to Keynes’s argument, Fisher leaves no room for increasing output for society as a whole via credit: “Society as a whole cannot borrow or lend as an individual can” (Fisher 2012:500). Society as a whole can only arrange its total

¹⁰⁹ Keynesian economists Amato and Fantacci (2011) discuss the double meaning of finance as funding and as finalising.

income stream between years by organising consumption and investment of available resources differently: “Society is like Robinson Crusoe picking and eating his berries, however complicated may be the apparatus which intervenes between the labor of picking and the enjoyment of eating” (Fisher 2012:500–501). Whereas Fisher, for the sake of his argument, assumes that the individual has unlimited access to credit, the economy as a whole is constrained by the quantity of loanable funds. This relates directly to his argument about the money supply, M , and its velocity, V .

From this conception of credit, Fisher develops a theory that can account for investment choices and interest rates, as long as assumptions about a stable and foreseeable future are upheld. But once he attempts to introduce risk into the theory, he “cannot avoid some degree of vagueness” (Fisher 2012:227). This is where Fischer Black – one of the founding fathers of modern finance theory, together with Scholes and Merton – took up the challenge: to develop a theory of finance that could account for the role of risk in the economy (Mehrling 2012:204).

Black embraced Fisher’s conception of the economy as a stock of wealth throwing off a flow of services as time passes (Mehrling 2012:202). For example, there is no fundamental distinction between labour, capital, and land, which all produce a stream of income. The libertarian Fischer Black then makes an additional assumption of almost utopic communist flavour: in equilibrium, everybody holds a portfolio of assets which is a proportional portion of the total market portfolio. More precisely: there is an exogenously given supply of securities of which, in equilibrium: “everyone holds the market portfolio and adjusts risk exposure by borrowing and lending at the risk-free rate [of interest]” (Mehrling 2012:204). These assumptions became the foundations of Black’s famous Capital Asset Pricing Model (CAPM), which remains to this day a cornerstone of modern finance theory.

Like in Fisher’s model, the situation of society as a whole – here: the supply of securities constituting the market portfolio – is exogenously given. The point is to identify the optimal investment choice under the given circumstances.

Given the collectively determined rate of interest and price of risk at each moment in time, the capital asset pricing model (CAPM) shows how people can deliberately choose their risk exposure to match their own risk tolerance, and how they can

formulate plans for dynamically altering that exposure over time. CAPM does not eliminate uncertainty, but it does show how to live with it (Mehrling 2012:287).

Like in Fisher's conception – and contrary to that of Keynes – society as a whole cannot change its future economic potential via credit, but individual investors can optimise their investments by approaching the market portfolio, which the competitive forces of the market will push to the most adequate balance between risk and expected revenue. As MacKenzie (2006:56) puts it, according to the CAPM: “The optimal set of risky investments was simply the market itself.”

We thus arrive at a paradox not unlike the one at the centre of the debate between neo-Walrasians and neo-Austrians in the previous chapter: the optimal social choice is the aggregation of free individual choices in the market place, but the optimal individual choice is itself the aggregate social choice. However, this time around the concepts of risk and capital take the centre stage.

Contrary to the neoclassical conception of equilibrium, there is nothing stable about Blackian equilibrium. Equilibrium simply means that there are no possibilities for arbitrage. More precisely: “Equilibrium means that there are no opportunities to make abnormal profits; more generally, it means that there are no easy ways for people to shift positions in a way that makes everyone better off” (Black 1987b:xxi). In CAPM equilibrium, the expected return on an asset “depends on its riskiness, which is measured by the covariance of its return with the market as a whole” (Mehrling 2010a:xi).

Contrary to Keynes, Black did not see the government playing a positive role in the management of the economy as a whole. As Mehrling (2010a:xi) puts it: “If we [as investors] don't like the fluctuations, the solution is not government intervention using monetary and fiscal policy, but rather a downward adjustment of the risk (and the associated expected return) embodied in our capital stock.” For example, according to Black, financial crashes are not the result of inappropriate regulation, but simply the unavoidable consequence of changes in expectations and in “tastes” – that is, in the risk appetite of investors. This is how he explains the stock market crash in 1987 (Black 1988).

It is important to emphasize that Fischer [Black]'s conception of CAPM equilibrium is only an instantaneous balancing of forces at a single moment in time, and a balance that is moreover constantly shifting from moment to moment ... Indeed, for Fischer [Black], the cognitive function is at the very center of the conception of equilibrium. Market prices are as volatile as they are mainly because people's understanding of the situation they face, and will face in the future, is constantly changing (Mehrling 287-288).

The concept that binds all these arguments together is that of liquidity. Moreover, as we shall see in the following, the concept of liquidity in Black's theory plays a role similar to what we saw in the preceding section where collateral straddled the risk of the bilateral contract and the situation of the market as a whole, but only did so by assuming a double character.

As we saw in chapter 7 (p. 257), Black adhered to the so-called reflux theory of money according to which the quantity of money is an arbitrary and unimportant phenomenon derived from the real economic forces, because money is fully fungible with other financial assets: "the supply of money adjusts to the demand for money" (Mehrling 2010a:vii). Black thus rejected the quantity theory of money: "In a world where transactions take place by the transfer of loans and deposits, the quantity theory has no place" (Black 1987a:20). In fact, Black arrived at the conclusion that no measure of the quantity of capital was possible, nor was it needed for theoretical purposes, since: "the market value of capital is already a measure of the quantity of capital, in efficiency units, so we don't need to go behind market value to distinguish the units from their value" (Mehrling 2012:214; see also Black 2010:37-38). Black thus rejects Fisher's conception of an economy in which credit is restrained by a quantity of loanable funds. But he nonetheless arrives at a similar conclusion about the state of the economy as a whole, according to which the only rational individual choice is the social choice. This is similar to what we saw in the discussion of Walrasian general equilibrium theory in section 7.4.

This is interesting because it parallels the debate in the preceding section, where the unrestrained re-use of a given quantity of liquid collateral could produce the simultaneous management of risk and optimisation of efficiency that would otherwise have been provided via uncollateralised lending. And in both cases – collateral

management and economic theory – the issues bring us to a notion of the market as a whole. It also brings us to a slightly different conception of equilibrium – not simply in terms of demand and supply being equal, but as the absence of arbitrage possibilities.

In Black's theory, it is the fluidity and, in particular, the fungibility of capital assets into credit that enables the swift adaption of changes in risk expectations to investment and prices. The concept that captures this fungibility is, as we saw in the previous section: collateral. To be sure, Black assumes free and unlimited access to credit – that is, without any use of collateral – at the “riskless rate of interest.” But the combination of unlimited access to credit and a riskless rate of interests can be approached via another concept, which we also encountered in the previous section: collateral re-use. When securitising credit with collateral, interest rates should be lower, approaching the “riskless rate of interest,” because risk is ideally removed. At the same time, the full fungibility between collateral and credit is assured by unrestrained re-use. Although the world of collateral is not the one explicitly considered by Black, this situation thus resembles the one in his theory. In his CAPM version of the reflux theory the quantity of money is simply a function of the need for transactions in the economy. But this requires the full fungibility of assets and the full freedom to switch portfolio position at the riskless rate of interest. This is precisely the situation towards which collateral fluidity pushes. Paradoxically, this leads to a situation where “nothing moves” except the market as a whole.

In Menger, there was a fixed quantity of money; in monetarism a quantity of credit; in the ICMA report a quantity of collateral; and in Black a “quantity of risk” in the economy (Mehrling 2012:105). The quantity defining the economy as a whole is repeatedly pushed on to new levels of abstraction because that quantity must simultaneously be fully liquid, fungible, and dynamic for the contradictions of the competitive conception of the market not to manifest itself as breakdowns. The same process pushes for ever-more financial market integration.

To Fisher, the concept of credit bridges between immediate consumption and investment since it allows switching freely between them. And, whereas Black may construct a different theory, he nevertheless arrives at a similar organisation with credit enabling the optimisation of economic action at given wealth and risk profiles in the economy as a whole. But in this way lending too becomes a kind of investment. There are thus two investors: the financier and the entrepreneur. The credit of the

former and the production of the latter are both capital – that is, sources of expected future income. The concept of capital thus no longer simply comprises assets, but also liabilities, because the capital of the entrepreneur (e.g., a bank deposit) is the liability of the financier (e.g., a bank), while the capital of the financier (the loan) is the liability of the entrepreneur (the obligation to pay back at a future date). Capital is *capital twice* because financial assets, too, are capital. But, since financial assets are also capital, this can multiply infinitely. Securities are debt instruments, but they are used as collateral. And that collateral is in turn re-used, and so on. The concept of repo is exactly what allows this re-use to happen more systematically, because it is simultaneously a loan and a sale. Like credit in both Fisher and Black’s theories, collateral bridges between the double character of the concept of capital as investment and liquidity. Irrespectively of the specific constellation of these theories, they all rely on a concept of liquidity which reconciles the bilateral exchanges with the market as a whole and makes them all efficient – that is, makes all capital throw off as much income as possible as time passes. But the concept of liquidity (and, by extension, that of efficient markets) does not resolve the underlying conceptual contradiction. Instead, it pushes liquidity (and, by extension, markets) to constantly expand. But this process also entails increased structural concentration in markets, as in the case of triparty providers in section 8.1, or, more broadly, with the “natural monopolies” of integrated and harmonised financial markets.

Capital propagates as collateral against credit: no asset is stuck with its specific income stream, but can be “liquidated” as collateral against credit, which can be invested in other assets. Capital thereby assumes the liquidity of credit itself, which allows it to constantly adapt to the changing situation of the economy.¹¹⁰ But the chains of collateralisation and credit that are thus created also increases the tension as safety (collateral) and risk (investment) become systemically intertwined. The individual risk of a capital investment becomes the market risk of systemic collapse. This corresponds to Black’s model in the following way.

In the Fisher-Black lineage of theory, literally everything becomes capital. It is well-known that Gary Becker (1994) systematised the conception of individual skills (as well as habits and personality), as a stock of “human capital,” because these are all potentially sources of future income. As a consequence, Becker argued that education

¹¹⁰ It is the first propagation – the first collateralised credit – that makes the conceptual difference here, and summons *financial* capital, not the subsequent multiplication *ad infinitum*.

amounted to capital investment. Black takes this argument to its logical conclusion when combined with his fully liquid CAPM economy. Human capital, he argues, is simply a person's "ability to earn money" (Black 1987c:85). The human capital of a person:

sums up the value of the ways he has of turning effort into income. We can almost think of the value of a person's human capital as the present value of his uncertain future income, just as we think of the value of a stock as the present value of its uncertain future dividends ... A baby's human capital, for example, changes after the doctor first examines him: if any serious defects are found, the value of the baby's human capital goes down; and if everything seems all right, the value of the baby's human capital goes up (Black 1987c:85–86).¹¹¹

Human capital is not a concept isolated from social relations. For example, the human capital of the baby depends on the situation of its parents, while that of the worker depends on the situation of the company that employs him (Black 1987c:86). More fundamentally, there is an implied concept of "the social" in the theory of human capital, by which free individuals are tied together in their collective life: expectations. This is because the expectations of one economic actor cannot be separated from those of another but depend on them. Since expectations are what ultimately produces booms and crashes, as explained above, the expectations of every investor will essentially concern the expectations of all other investors. In addition, they are based on information which, ideally, is available to all:

If all these [investment] decisions could somehow be made independently, perhaps the errors would cancel out, and the future course of the economy would be smooth. But they can't be made independently. They must be based on the information we have now. If that information is wrong, it will be wrong in the same direction for everyone (Black 1987c:89).

¹¹¹ The financialisation of the economy over recent decades appear to render the concept of human capital more and more weight as the price of education and health care has inflated far more than the consumer price index (Bloomberg 2013; see also Houle 2013).

Our destiny as individuals is collective – or rather societal – but there is still no room in Black for assuming the control of that destiny (e.g., through government).

Human capital is extremely important because it constitutes “probably the bulk” of total capital in the economy (Black 1987c:88). However, human capital is invisible to the eye. The best indicator we have of its total value is the stock market – and the ups and downs of the stock market reflect the ups and downs in expected returns on notably human capital – that is, its changing value (Black 1987c:86; Mehrling 2012:204). In this way, literally *everything* is capital, and the money value of capital (in a world with unrestrained credit) is the discounted expected future income stream from it. The economy – indeed the entire society – is a closed system always in equilibrium, even if uncertainty and irrationality produce extreme volatility. This is the effect of a concept of capital which intensifies (through its propagation as collateral) and expands (to even the invisible details of human existence) under full liquidity. Capital becomes a concept for the market as a whole.

8.3 The Social Structure of Equilibrium

The observation that equilibrium, as conceived by modern finance theory, implies a concept of capital that multiplies itself infinitely through the re-use of credit instruments as collateral, brings us to an observation about the concept of liquidity that complements those made in the previous chapter. In chapter 7, we saw how liquidity emerged to bridge between the two sides of the contradictory character of money – as a commodity and as a system of accounts, respectively. In this chapter, we have arrived at the conclusion that liquidity also bridges between the risk of an individual investment and the risk in the economy as a whole through the re-use of collateral. But as we saw already in chapter 7, the concept of liquidity is paradoxical because it is motivated by economic agents facing possibilities of arbitrage – that is, exploiting differences in prices between two markets or two segments of the market. However, in perfectly liquid markets, such possibilities of arbitrage should disappear (cf. Black’s definition of equilibrium p. 289). In equilibrium, there should be no motive for shifting investment positions. Whereas production and consumption may continue, this means that financial markets would break down, for finance is exactly the business of managing pecuniary promises, or of intensifying and expanding capital, as we have

seen above. If arbitrage is efficient, it is not possible, but if it is not possible, it cannot be efficient.

Paradoxically, therefore, for arbitrage to be both possible and efficient – that is, for arbitrage to instantaneously reach every corner of the economy, constantly expanding and intensifying in a process fueled by liquidity – a market *structure* must be in place which *divides* and *restrains* that very arbitrage to certain market segments, which at once creates a perpetual motive for shifting investment positions, on the one hand, and makes that liquidity possible as a kind of transgression of the structure in moments of arbitrage, on the other.

In section 8.1 we saw how triparty providers could structure such a constant liquidity possibility between different institutions in different positions in the financial market. In this section we shall seek to understand this in terms of the paradoxical relationship between liquidity and the structure of the market as a whole.

The following extract from an interview with a liquidity manager in a big bank is illuminating for the forces driving the liquidity of markets:

T.K.: What do you mean when you say that pricing is not an exact science?

I: Well, you think you can draw a curve and say: “ten-year bonds have to be here, if the overnight interest rate is here, and we have a swap curve here.” But the swap curve is not an exact science either. You need someone to offer that swap curve, and who wants to do it because they have an interest in it. If the regulator makes it difficult to be in these markets, all these things we are used to do can disappear. You see that almost no-one today wants to offer a Libor¹¹² ... And then you have a huge challenge because if there is no Libor any more, then what about all the swaps that have been concluded and which are based on Libor plus [an additional negotiated interest rate]? (137).

If we mobilise a concept almost as old as economic theory itself, we may say that it is necessary that there be some modern version of Ricardo’s (2004) “comparative advantages” at work for liquidity to be produced. In his course on *The Economics of Money and Banking*, Mehrling (2014b; see also Stigum and Crescenzi 2007) explains

¹¹² Libor stands for London Interbank Offered Rate and is the rate at which the biggest banks in the world declare to be able to borrow from each other. A major scandal began to roll after the financial crisis when it was revealed that a collective of the biggest banks in the world had manipulated the LIBOR (see Fortado 2015) which sparked uncertainty about its use as a cornerstone for contracts which is what the interviewee refers to in the following.

how an interest rate swap can benefit either side of the transaction. If two companies with different credit ratings and borrowing opportunities – such as a non-financial company and a major financial institution – swap their floating and fixed exchange rate loans, they can both benefit from a marginal advantage. In his teaching notes, Mehrling (2014a:3) suggests two reasons why this might be possible: “One reason is market imperfection ... another possible reason for this structure of rates is counterparty risk.” These two proposed explanations mirror Black’s arguments: any seeming arbitrage opportunity is either due to markets not being in equilibrium, or to some hidden risk that corresponds to the abnormal expected profit. However, these two alternatives do not account for the structural difference between the two institutions in the first place. Rather, it *assumes* that difference as simply a state of affairs – as a market structure. But even if markets reach equilibrium, this is exactly the condition upon which it is possible to make even non-abnormal profits on financial transactions. Indeed, if company *A* wants to borrow from *B* to be able to make investment *X*, then why does not *B* simply do the investment itself and get rid of the costly intermediation? This only makes sense if *A* is in a *different position* to make the investment than *B* is. Similarly, if the two companies in the example above were not structurally in different market positions, they would not benefit from the swap.

In fact, we can refer this problem back to the earliest works of economic theory: in Adam Smith’s (2012:22) *Wealth of Nations*, the division of labour (and hence the social structure of the economy) *grows* with the size of the market. And the division of labour cannot simply be coupled with a notion of full mobility, because the restraints to mobility are exactly the motivation for a division of labour in the first place: if the backer could instantaneously become a carpenter and do his work, there would be no need for a division of labour in society. More broadly, the creation of liquidity requires the capacity of some market players to be able to position themselves so as to arbitrage between different markets or segments of markets. This can contribute to the expansion and intensification of capital as, for example, custodian banks find ways to connect settlement across the globe, or high-frequency traders find new ways to connect between markets (see MacKenzie et al. 2012)

I ask one custodian banker:

T.K.: Why, for example, do broker-dealers need a global custodian? Why don't they go directly to the CSDs?

I: Because they might not want to and because it is not their business to connect with everybody. It is not just a question of making a telephone call, it is about connecting with a program. So they come to us and they connect to the places where they need to work. If everybody had to do it themselves they would all have to spend €20 or 30 m. to be operational and that would not make sense economically (I31).

As we shall see in chapter 9, only a handful of global custodians are capable of delivering all the services in that business, and changing custodian is a big deal for many banks (individuals generally do not even have access to custodian banks) since all their systems have been developed to adapt to, and are optimised against, those of the custodian bank. The structure of financial markets can thus not simply be reduced to differences in “risk appetite,” as Black has it, between, for example, an investment bank and a pension fund. A concept of structure is paradoxically *implied* by the concepts of liquidity and equilibrium. If the *division* of labour leads to specialisation, specialisation in turn implies the *organisation* of labour – that is, a *social* formation.

Interviewees describe perplexing examples of how financial institutions will repo out securities as collateral for cash, which they can in turn invest in other securities, or of securities just purchased being collateralised to finance a new purchase (I38; I47; I54). But how can this be profitable business – not just during temporary deviations from equilibrium, but as a stable source of profit for big, specialised institutions – if not because market structures prevent most institutions from competing in the arbitrage? Because the growth of the market (liquidity) is also the growth of the division of labour (structure), as Smith has it? One central bank director of market relations explains:

I: Today we are more in the global management of the liquidity balance than asset-by-asset management. Because, honestly, to buy securities without the intention to lend them out [in repo], it doesn't even exist anymore. Normally you can gain money like that ... You say: “I don't want to hold these securities, so I lend them out to receive cash. Then I reinvest the cash and, for instance, receive securities of lower qualities. If

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I have French government bonds, I can do this and receive Italian securities and gain a little spread between the two.” A lot of people do that for a living.

T.K.: Banks in particular, I imagine?¹¹³

I: Yes. There are insurers who do it as well, but less so. It is mostly banks.

T.K.: They borrow, they turn around, and they lend?

I: Well, that is the market, it is just that. It is a kind of club where you say: “Today you need money and I have it, so I will lend it to you, and tomorrow it is the inverse.”

This is also why you need infrastructures, they widen the market (138).

A triparty provider elaborates the example of an investment bank that relies on pension funds for cash and securities funding:

I: Either [the major investment bank] believes the securities will go up. In that case they will need cash to buy the securities to sit on them, or they may use the securities themselves as collateral for the loan [i.e., autocollateralisation]. Or they believe prices will go down. In that case they will short-sell and borrow the securities upon settlement, and then return later to buy the securities and give them back to the pension fund.

T.K.: Does this mean that [investment bank] is systematically better at predicting the prices of at least some securities than the big pension fund [because otherwise one would expect the pension fund to do the speculation itself]?

I: Well, the pension fund simply cannot do this because it cannot speculate in whether securities go up or down. Investment banks can speculate. Are they better? I don't know. They have their model and it seems they are doing good. The mandate of the pension fund is to collect cash and invest it for an interest, and the return will be used to pay the pensions of tomorrow. That is also why they always collateralise when they lend. It is like a central bank (laughs). No risk. On the other side you have the speculator.

T.K.: We tend to think of financial markets as one big thing, but [pauses].

I: It is not (155).

¹¹³ That is, not at all “a lot of people,” but specialised institutions in definite positions.

Black himself considered that two sources of trading profit could survive in equilibrium: central bank interventions and “flow trading,” where big investment banks like Goldman Sachs have exclusive information about their own clients’ pending orders, on the basis of which they can superiorly predict future price moves (Mehrling 2012:251). Black himself worked for Goldman Sachs, which may be why he paid special attention to this source of profit. But is flow trading really that unique? Is not exclusive access to information a privilege in any client-provider relationship? Is it not the *necessary* product of the structure that imposes itself as the market grows, the division of labour expands, transactions multiply, and flows organise? We have seen how, for example, a handful of gigantic global custodian banks are in a special position to net flows and invest the unused reserves of their clients (cf. p. 149).¹¹⁴ Equilibrium is based on functional division, and division means unequal access to information.

Liquidity in financial markets seeks to overcome structural stratification in the market, intensifying and expanding the possibility to invest capital everywhere at all times – but it does not overcome the conceptual contradiction. Hence, perhaps, the unsatisfiable urge for ever-more liquidity, pushing the expansion and intensification of capital. And perhaps the reason why more liquid – and by extension more efficient – markets can go hand in hand with bigger institutions and even bigger concentration of certain economic activities on a few hands. The two cases are consequences of the push for market integration under the competitive conception of the market.

8.4 Conclusion: The Equilibrium of Market Structure Risks

The thrust of this chapter has been to follow the problems already identified in Part II around T2S and which chapter 7 began to give a more general characterisation in relation to economic theory and the problem of financial market integration in it. The question is how the problems encountered strictly in relation to the T2S project connect into related fields that are much broader in scope, but which, upon closer

¹¹⁴ Another interesting example would be the so-called high-frequency traders who “front-run” traders, stepping in between buyers and sellers and earning a small fee. High-frequency traders can, for example, observe an order arriving in one stock exchange and outpace it by a few milliseconds before arriving at another stock exchange and make a riskless bet. High-frequency traders thus parasite on the increased fragmentation resulting from regulatory change increasing competition and fragmentation between stock exchanges in the mid-2000s (as well as on price volatility). Big investment banks have created internal exchanges with limited transparency and public regulation (“dark pools”), further contributing to the success of high-frequency trading (Lewis 2015; MacKenzie et al. 2012).

inspection, reveal themselves to embody a strikingly parallel problem structure. The examination produced in this chapter thus renders important support to the claim to generality of the discursive structures observed in the apparently limited study of T2S, but also further elaborates and qualifies the analysis of these structures.

We recognise the problems identified around the concept of money in previous chapters, only now they concern securities. For example, a parallel question arises: are securities cash or financial commodities? Again, the concept of liquidity is central, but this time around mediated by those of collateral and collateral re-use. These concepts, in turn, lead to the proliferation of capital through processes of expansion and intensification which, paradoxically, result in a concept of the market as a social structure that cannot be changed by any kind of government. In chapter 9, however, we shall see how a concept of government nevertheless emerges from within economic theory.

There is thus continuity in the analysis from chapter 5 up till this point: trading between individuals result in the trivial event of delivery and payment, but payment provokes credit, credit provokes collateral, and collateral provokes re-use. At each of these levels, tensions are reiterated along the two dimensions of *Figure 8* in the conclusion of chapter 7: between exchange and capital; between a bilateral relationship and a social system. In this chapter, we have examined the variant found in relation to the circulation of collateral, the capital-risk-liquidity nexus, and the social structures of equilibrium.

The concept of equilibrium between the economic actions of free individuals, and the concept of structure contradict each other. Economic theory, once again, faces a problem of structure and agency. This problem is at once the necessary result of its conception of the market and an impermanent conclusion, full of tension, contradiction, and force of motion. This is a fundamental principle by which economic theory organises itself as a discursive formation, deploying a space of possible knowledge, utterances, and theoretical positions according to which disagreements can manifest themselves, debates take place, problems occur, and developments follow.

Even if the different privileges distributed across the market structure (superior information, technical systems, legal status, or other) do not always amount to clear vertical bilateral relationships of dominance, they do constitute hierarchical formations, such as in the case of global custodians. Concepts such as “economies of

scale” and “network industry” only refuse to theorise what they themselves imply: social structure. These concepts stubbornly combine the view of the profit-maximising market actor in face of market structures. The market structures are treated as arbitrary – as if they simply happen to be in this specific sector. But they are the product of the very competitive conception of the market from which economic theory. In economic theory, financial market infrastructures are the *moments* (in the Hegelian sense of the term) where the concept of market *structure* emerges, because this is where capital divides in two and must be simultaneously an individual asset and a kind of social fact (the unity of all economic activity, or a “mono-poly,” a single seller). Rather than an arbitrary “fact” about a certain sector, “natural monopoly” is a necessary concept within the discursive formation of economic theory.

To repeat Althusser’s point referred in chapter 2 (p. 81): the competitive conception of the market simultaneously structures what economic theory *can* see and *cannot* see. Indeed, if the wavering contradictions and ambiguities around the concept of market structures could be abolished, it might no longer be economic theory (as we know it) that was being produced. It would, most likely, no longer be the same discursive formation, structuring what and how it is possible to know, as well as the room for contestation, compromise, and development.

We may at this point propose an elaboration of *Figure 8* in chapter 7, which illustrated the conceptual structure of money between (instantaneous and riskless) exchange and (temporal and risky) capital, and between bilateral relationships and an integrated system. That figure yielded four moments of money: commodity, credit, medium of exchange and unit of account. Based on the observations in the present chapter, we may further develop the figure as illustrated in *Figure 9*, where *problems* are positioned where they are likely to emerge.

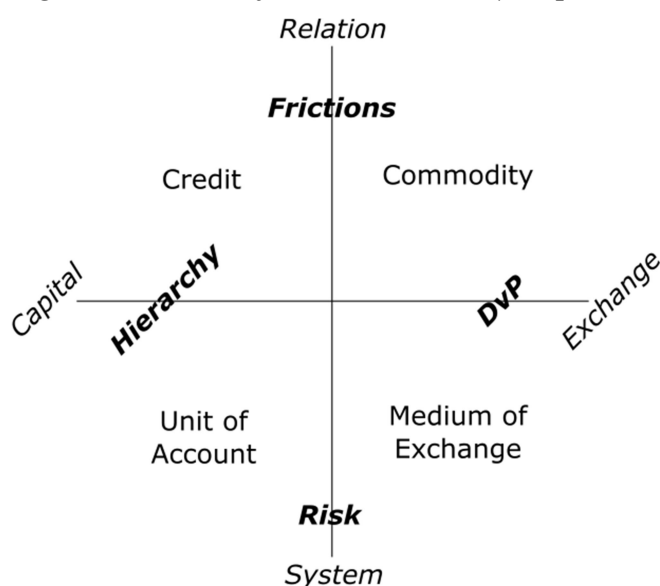
Firstly, we have seen how the concept of liquidity simultaneously overcomes and yet presupposes market structures. We can say that the problem of *hierarchy* poses itself at the “capital” pole of the figure, between the relational and the systemic poles. In CAPM, full liquidity means immediate arbitrage, which in turn means that prices reflect capital-risk relationships in the economy as a whole, as we have seen. But we have also seen that this bridging between system and bilateral relations requires market integration, which in turn implies hierarchical market structures.

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Secondly, the problem of *delivery versus payment* (DvP) posed itself in previous chapters as a problem of exchange between separate counterparties and integrated settlement. Thirdly, we see the problem of *frictions* emerge in the bilateral relationships of money as credit and as commodities (rather than in the integrated system). Finally, *risk*, as we have seen in this chapter, is eventually not so much a problem of bilateral relationships (in which it can be managed), as it is one of the system as a whole (in which it cannot be managed).

Of course, there may be a certain element of arbitrariness to thus placing problems in the figure. But it is illustrative to demonstrate the dynamics of the figure and its capacity to capture the problems of economic theory.

Figure 9: Problems of Market Structure (*Competitive Conception of the Market*)



It is worth noting that we are here quite far from the “social structure of liquidity” of which some authors have spoken in relation to similar questions (Carruthers and Stinchcombe 1999). As Lépinay (2008:99) puts it, “liquidity” in the work of these authors “remains an economic concept imported into sociology for lack of a better surrogate concept, and it carries with it a set of assumptions that sociology may not want to endorse so hastily.” This is the more important to observe, as Carruthers and Stinchcombe (1999:353–54) specifically see liquidity as a problem proper for the sociology of knowledge. Market liquidity, in their view, relies on the categorisation

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and standardisation of commodities, which increases their exchangeability. The authors take the example of mortgage securitisation:

individual mortgages have to be turned into homogeneous goods by a government agency set up to make a market out of mortgage payments. Liquidity, in other words, is a problem of public knowledge about economic assets, of how in the case of financial assets, “facts” about future income streams become sufficiently standardized and formalized, so that people know that they can be bought and sold on a continuous basis (Carruthers and Stinchcombe 1999:354).

These points obviously resemble those made in this chapter about fluidity, fungibility, information, risk, and social structures in relation to liquidity. Yet, the *modus* in which Carruthers and Stinchcombe make their observations is not fundamentally different from that of economic theory itself. They depart from economic theory to demonstrate the superiority of sociological concepts, and in so doing they remain loyal to the quest to “to stand Gary Becker on his head” (Carruthers and Babb quoted p. 78). But, as we have seen in this chapter, such an analytical reversal is already latent in economic theory itself. A concept of the social structure of liquidity emerges with necessity from economic theory itself.

By contrast, this dissertation considers economic concepts, not as socio-practical problems of knowledge within the economic conception of the market, but as part of a specific knowledge structure, or of a discursive formation. From this perspective, the concept of “liquidity” is far from being among the most fundamental ones for understanding modern financial markets. Rather, it is a concept that bridges over the more fundamental contradictions between commodity and credit, between medium of exchange and unit of account, between capital and risk, and between transaction and market – transposing these contradictions onto new planes in the act.

*

The next chapter will push the analysis of collateral and the conception of market structures in economic theory one decisive step further by examining the way in which a concept of government emerges within this discursive formation. High-quality

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collateral can hardly be produced in sufficient amounts by the market itself to meet the requirements for risk alleviation and management. In markets today, most high-quality collateral is government debt. But what is the *concept* of government that is thus introduced? And how does it contribute to the shaping of the discursive formation of economic theory?

9. The Government of Markets

This chapter argues that a specific concept of *government* emerges from within the discursive formation of economic theory. More precisely, government emerges as a *problem* via the need for some structuring device which is simultaneously inside and outside the market, which we have observed on multiple occurrences over the preceding chapters. Government manifests itself to economic theory as verticality or hierarchy in the otherwise horizontal conception of the market. It is important not to confuse this distinction between horizontal and vertical dimensions in the competitive conception of the market with a distinction between public and private. To be sure, much ink has been shed in economic theory to align the two and thereby propose a solution to the problem: the abolition or reduction of *the* government. But the distinction between public and private is itself a product of the problem of government. The problem of government would not disappear from economic theory with the abolition of the state. The concept of government in economic theory is seldom made fully explicit, but it is there, operating, and can be traced in its discursive effectivity. For these reasons, it is not satisfactory to assume that there is a concept of government in economic theory simply because governments “really exist” and because they are of a more or less “obvious” or “observable” economic importance. Instead, the *problem* of government is structured by the discursive formation that makes economic knowledge possible in the first place. A concept of government emerges from within the conception of the market as a realm of unhindered exchange between individual private property owners. It relates specifically to the concepts that serve the double role of being, on the one hand, inside the market as a constitutive part of it and, on the other hand, outside the market as the ideally frictionless space that makes efficient exchange possible in the first place: infrastructures, money, settlement, liquidity, market integration, dealers.

It may even be suggested that the problem of government in financial markets summarises the structure of the four controversies around T2S analysed in chapter 5. This suggestion clarifies both how it was possible for the EU institutions to seemingly change principles around 2006 and how it is at the same time possible to deny that such a change took place. The concept of government was there as a discursive possibility all along. Government was a necessity to the integration of financial

markets in Europe. It was not a problem that would disappear with the simple division of labour between a legislating and facilitating Commission and an innovative and competing private sector. Nor did it disappear with the T2S project, but the T2S project allowed the handling of the specific way in which the problem of government had managed itself as a political deadlock around 2006 with the DvP conflict and the stagnating success of the Euroclear initiative. But the generality of the problem of government in the process of European financial market integration is also the premise on which it is possible to deny that a substantial shift in principles took place around 2006. It is possible for interviewees to claim that they were dealing with a problem of government all along. Indeed, the general problem of government was latent in the notions of financial market “integration,” a “level playing field,” “efficiency,” and “public-private partnerships” (I57; I59).

This return to the four controversies and to T2S, however, is not the main focus of this chapter. Instead, focus is on following the problems around credit, liquidity, collateral, and market structures identified in the two preceding chapters and to examine how they lead to a general concept and problem of government within the discursive formation of economic theory. Like the two preceding ones, this chapter begins with an examination of specific problems to the integration of financial markets in Europe. Section 9.1 considers the circuit of central bank money and government debt (used as high-quality collateral) constituting the backbone of liquidity and, as such, needed for efficient risk management to take place in markets. Government debt is shown to play an important role as anchoring markets in abundant risk free collateral. Section 9.2 considers three specific examples of how collateral bridges between the state and the market in contemporary European financial markets: the system of monetary policy in the Eurozone, the Danish covered bonds system, and the primary dealer system in government debt. Whereas a cursory consideration of these examples would perhaps lead to conclusions about government “intervention” in markets or about the state employing its coercive powers *vis-à-vis* the market to obtain its own ends, I argue, by contrast, that the examples demonstrate the presence of a problem of government in the concept of the market itself. For example, in the Eurozone, in accordance with economic theory, “independent” central banks are no longer there, in the first place, for the state or for some notion of society or specific group, but for the market: to ensure stability in consumer prices. We thus learn from

the three examples that the problem is not simply about *the* government or of *the* central bank. Rather, it is about government as a process or moment of systemic management in markets necessary for them to thrive. Section 9.3 turns to the problem of government in economic theory across Keynesian, neoclassical, institutionalist, and ordoliberal positions. The section argues that the problem of government emerges in specific ways parallel to what was observed in the case of European financial markets in the preceding sections. Economic theory has a reputation for being generally hostile to government, except as a guardian of property rights. I argue, however, that one must distinguish between this attitude towards *the* government and the role of a *concept* of government as a process or moment of systemic management within the discursive formation of economic theory. Section 9.4 concludes.

9.1 Collateral and the State

Financial markets today are dependent on a supply of government debt which can be used as collateral in financial markets because it is largely risk-free. Moreover, the government has the capacity to guarantee the liquidity of that collateral, even in times of crisis. This means that investors can be certain to be able to sell the bonds again whenever they need the cash. This capacity of the government does not simply serve its own self-interest by pushing down the interest rates it has to pay on loans – the combination of risk-free and fully liquid assets also serves as a solid rock based on which markets can achieve a high level of efficiency. Indeed, it is arguably a prerequisite for well-functioning financial markets.

On this background, we may speak of a kind of circuit of government debt as constitutive for the liquidity of modern financial markets. On the one hand, money is issued as the liability of the central bank; on the other hand, government bonds and the system of liquidity set up around it create a kind of pump for that money to circulate. It looks like a more complex version of Knapp's (1924) classical state theory of money, according to which money is the debt of the state and becomes a medium of exchange because the state accepts it for the payment of the taxes it itself imposes. However, rather than being the "truth" about money, Knapp's theory complements – albeit in a contradictory manner – commodity theories of money by Menger (1892) and others.

Let us begin by a closer inspection of the role of central banks. It is commonplace to describe central banks as “lenders of last resort.” Following Bagehot (2012), central banks are generally advised to lend to banks at a high interest rate against collateral that is considered to be good during “normal times.” The high interest rate, according to the theory, should deter banks from using this source except in times of crisis. The acceptance of collateral that is usually considered to be good – even if, during a crisis, market volatility may distort the valuation of the securities – means that the central bank will help institutions that are likely to be solvent in the long run, but counter short-term liquidity problems resulting from systemic contraction of credit.¹¹⁵ In this way, the central bank can act counter-cyclically when credit markets contract, without creating too much “moral hazard” during “normal times.”

We saw in chapter 7 that the central bank was not simply a lender of last resort, but also a lender of “intra-daily resort” in settlement. Mehrling (2010b; Mehrling et al. 2015) suggests that with the spread of repo collateralisation and the use of derivatives for risk management purposes¹¹⁶, the Federal Reserve has become a *dealer* of last resort: it not only has to extend credit in times of contraction, but also to buy collateral and credit default swaps as credit ratings and prices plunge and haircuts soar, in order to uphold the value of the collateralisation instruments that makes credit liquid (see also Gorton and Metrick 2012; Pozsar 2014).

It seems like the role of the central bank in financial markets is somewhat more complex than the classical label of it as a lender of last resort suggests. Moreover, that complexity appears to be linked to the question of collateral. For example, collateral plays a key role in monetary policy as central banks in the Eurozone can lend only against eligible collateral (EU 2012:Art. 18; ECB 2016a). But the supply of eligible

¹¹⁵ As Mehrling (2014b) illustrates, a bank that funds long-term assets with short-term borrowing may become illiquid despite being solvent. Moreover, if the market value of its assets falls due to the crisis, it may turn insolvent, but later recover, simply due to financial market inflation. This was the case with Deutsche Bank, according to some, which was able to hide its insolvency throughout the crisis and “discovered” it only after market values had returned to their high level (Levine 2012).

¹¹⁶ In particular credit default swaps (CDS), by which a lender insures herself against the default of the borrower (although legally it is not an insurance, as this would require posting capital against the swap). Interest rate swaps (IRS) and foreign exchange rate swaps (FXS) are two additional kinds. As early as 1970, Black discovered that any bond could be divided into different risk/revenue profiles: the lender insuring the loan with the mentioned swaps ideally holds a riskless asset, which should be rated AAA+ and should pay the riskless rate of interest, while the buyer of the credit default swap takes the default risk and is remunerated accordingly, and so on (Mehrling 2010a:xv–xvi). This was a core element in the “Great Moderation” in the 2000s and the belief in riskless finance. But the system broke down during the financial crisis (see also Gabor and Ban 2016). Complexity in the absence of central clearing played its role, but also the fact that insurers had not been obliged to pose liquidity and capital against the insurances.

collateral oscillates as financial markets boom or burst because prices, ratings, and new issues all tend to fall during crisis (see also Gabor and Ban 2016). And so the availability and quality of collateral becomes a concern for monetary policy.

Gabor and Ban (2016) explain how different the debt of different governments was treated equally by the ECB during the 2000s as part of its efforts to promote a pan-European repo market. The ECB did this knowing that it would create exactly the kinds of systemic risks that were eventually triggered following 2008 – notably a recoil in borrowing conditions for “periphery” countries when it became clear that the equal treatment of the collateral did not mean collectivized backing (government debt was not “Eurobonds”).

One banker makes a related point about the fluidity of collateral:

To execute monetary policy efficiently you need to allow banks to provide collateral regardless of where they hold it. BNP is everywhere in Europe. ... If it is too difficult to use, for instance, Portuguese government bonds, then the market price of Portuguese government bonds would go down (I48).

Via the role of collateral in financial markets, central banks are thus connected closely to creation and circulation of government debt. This is so despite their status as “independent” within the EU and the Eurozone, meaning that they are banned from lending directly to (or directly buying the bonds of) government bodies. As one central banker explains:

That is a relatively recent thing. We used to be under the State and the Treasury. They would tell us to buy the debt and we would do it ... You have a different perspective now of injecting liquidity to the various economic actors. It is no longer that “we need €100 bn. this year, the central bank will buy it”. I exaggerate a bit. For some years now we are independent. We are no longer responsible to the state, even if it is our prime shareholder. Also, we are now in a system with other central banks who already had a bigger independence vis-à-vis the government [i.e. the German one] (I40).

The relationship between sovereign money and sovereign debt was famously given formulation in economic theory by Knapp (1924). According to Knapp, money is tokens of government debt that function as a medium of exchange because the state's levy of taxes creates a large demand for those tokens in the economy. The state thus largely controls the demand for its own debt and thereby its value (see Desan 2016; Lavoie 2015; Wray 2012, for more recent versions). The state theory of money is thus the reverse of the quantity theory of money: it is not the supply of money, as much as the demand that determines the value of money, and thereby the price level (inflation). Although money and government debt today is not the same thing, this theory suggests that there is a close relationship between the two, which we may search for in the role of collateral as a mediator between money and sovereign debt.

The circuit relates to the discussion of T2S and to settlement in financial markets via the use of settlement credit, which is also collateralised. Indeed, collateral is an integral part of autocollateralisation, and collateral is primarily government debt (I35). Collateral also plays the role of stabilising anchor to the intensification and expansion of capital discussed in chapter 8. In the report *Collateral is the New Cash* quoted in the preceding chapter, it is stated that:

The aggregate supply of collateral is largely driven by the financing needs of governments, both financial and non-financial institutions, and corporations. This can depend on a number of factors that are largely cyclical, such as increasing or decreasing government budget deficits, private sector expansion or contraction, and investor appetite for lower-credit sovereign or corporate debt (ICMA-ERC 2014:8–9).

The main source of collateral in financial markets is state debt – as opposed to corporate debt or stocks, which generally have too low credit ratings and too high market price volatility to be accepted (I35). As discussed in chapter 8, the ideal collateral is a financial asset that is infinitely liquid so that the creditor can always immediately sell it if necessary, and which has infinitesimal risk of default and price volatility, so that the collateral constitutes a *de facto* guarantee on the remuneration of the total value of the credit extended. Government bonds are popular as collateral because of their top credit ratings (mostly AA or AAA). However, as we shall see in

this chapter, sovereign debt is not only popular as collateral because governments are safe and stable debtors. The deep and liquid markets in government debt means that creditors can be confident to be able to sell even large amounts at reasonable prices if their creditors default – even in times of market stress. But this liquidity is undergirded by the eligibility criteria of central banks and of financial infrastructures, as well as the regulatory requirements to capital reserves of financial institutions, and the primary dealer system explored in section 9.2.3. All this contributes to a constant high demand for government debt in the market, high liquidity, and low price volatility, making government bonds very useful for financial institutions both as a buffer of safe assets and in the management of liquidity and settlement.

It could be argued from the perspective of new economic sociology that this proves that the distinction between states and markets is artificial (and indeed that states create markets). Moreover, it could be argued from the perspective of political economy that it is an example of state institutions using their powers to pursue their own self-interest under the guise of the free market. By contrast, I argue in this chapter that we may see this interlacing of state and market via collateral as an important manifestation of the *problem* of government in free, efficient, and competitive financial markets.

9.2 Collateral Shortage and Collateral Supply

The issue of collateral shortage is interesting for our purposes here because it marks moments where collateral becomes a concrete problem that needs to be governed. Studies conducted by central banks and industry parties to assess the additional collateral needs stemming from post-crisis regulation range from \$100 bn. to \$4 tn. depending on methodology and scope of interest (ICMA-ERC 2014:8). We have seen in the preceding chapter how the quality (credit rating), price, and liquidity of collateral can plunge and haircuts soar during crisis if there is a “run on repo,” producing a credit squeeze (cf. p. 282); see also Gabor and Ban 2016; Gorton and Metrick 2012). But even outside moments of complete meltdown such as in 2008, there are several sources of potential collateral shortage. In the previous chapter, increased use of repo and new regulation was mentioned, but other sources can be added. After the crisis, the quantitative easing programmes of the Federal Reserve, the Bank of England, and of the Eurosystem have absorbed trillions of euros worth of high-quality

collateral that now lies dead on the central banks' balance sheets (Singh 2013). For example, the Eurosystem's Long-Term Refinancing Operations (LTRO), which complement the standard short-term refinancing operations of central banks with 6 to 36-months operations, "has somewhat increased the pressure on the availability of collateral," in particular because the money created does not end up in "real" investments (which could create new securities) but in the deposit facilities of central banks (ICMA 2012:5).

But the supply of collateral may also be an issue in "normal times." Blyth (2013:24–25) explains how a shortage of short-term government debt in the early 2000s (compared to the demand for collateral purposes in repo markets) fuelled the increasing acceptance of AAA-rated mortgage-backed securities as collateral (which later caused the crisis via the subprime securitisation). Also during "normal times," peak moments in settlement may create bottleneck problems for collateral. Indeed, the use of collateral is not as evenly distributed in space and time as the simple measure of average collateral fluidity (in the quantity theory of collateral) makes it seem. And, as we shall see in the case of Danish covered bonds below (section 9.2.2), the integration of the settlement infrastructure plays a major role in solving problems related to the uneven distribution of collateral use.

For central bankers, the issue of collateral shortage is an important one because it can create volatility in the price of assets. One interviewee explains that central banks are concerned about pricing of collateral being "right" – that is, based on supply and demand *in liquid markets* – and not dictated by a squeeze of supply and a drying up of liquidity:

As a [central] bank you don't want the price to go up only because the asset has been squeezed. You want it to have a fair price. But, for this to happen, you need a balance between supply and demand. So there needs to be sufficient assets around to be able to buy and sell [easily] ... If you shorten the supply there's a disruption in the price. And I don't think central banks are interested in disruptions in HQAs [High Quality Assets¹¹⁷] in their currency space. So they will very likely try to find a means to bring

¹¹⁷ Securities usable as collateral can be divided into "High Quality Liquid Assets (HQLA), which fall under the Level 1 and Level 2 definitions of the Basel III Liquidity Coverage Ratio (LCR), and the broader High Quality Assets (HQA), which is effectively defined by the market acceptability of collateral takers" (ICMA-ERC 2014:7).

that liquidity back into the market in order to have a fair, transparent, and fair-priced market ... If they start to have disruptions in these instruments, then they are not fairly valued. Then you may have other arbitrage things going on, and all sorts of unwanted side effects, talking from an overall economic perspective (I47).

We shall see below what techniques central banks can use to do avoid collateral squeezes and offset volatility in collateral prices. For now, note how central banks want to uphold liquidity in high-quality collateral markets, not only to have efficient pricing, but also to have efficient financial markets more broadly, and to be able to efficiently conduct monetary policy, which relies on these securities. Paradoxically, if “sufficient” supply and demand do not come about by themselves, they will have to be facilitated, manipulated, or forced into existence, in order for markets to be efficient and produce the optimum outcome.

Although there has been a large increase in AAA- and AA-rated government securities after 2007 with the increasing government debt in many countries, these bonds are not necessarily available in the market as collateral because investors are not necessarily willing or able to lend them out. In addition, eligibility criteria may vary across financial centres and jurisdictions, which in turn “means that you can have moments of scarcity of collateral” (I15; also I30) or “localized shortages” (ICMA-ERC 2014:9). This can become a more serious problem in the future, according to some, if interest rates rise again (I36). Another problem can be the downgrading of government debt in times of financial and economic crisis (ICMA 2012:1). For example, following the downgrade of Greek debt, the ECB has several times suspended and re-embraced Greek government bonds as eligible collateral since 2010, arguably contributing to the volatile conditions for the Greek government to obtain funding in the market (Blackstone 2015; Blackstone and Buell 2012). One central banker explains:

The important thing is adequate collateral. It is a somewhat vague term, but okay, it is also in the Treaty. It means that the Eurosystem cannot lend without a guarantee in adequate collateral. We saw during the crisis that the notion of “adequate” became more flexible (laughs). But it is not surprising because the private banks occasionally

dried up – they were really short of adequate collateral, so the Eurosystem expanded the criteria (I15).

In accordance with the *Treaty of the European Union*, central bank credit provision is collateralised in order to secure the central bank from any market risk, but absorbing collateral from the market can thus itself be a problem because it is needed for many market activities, as well as for future credit creation. There are different ways that central banks can alleviate this problem. One is to expand eligibility criteria, something that has happened several times since 2008, as mentioned by the interviewee above. Another option may be to swap between different types of collateral according to needs and uses. The Fed’s “operation twist” in 2011 to manipulate long-term interest rates had this effect (Singh 2013:5). As one CSD interviewee explains, a third option is that central banks sell high-quality assets in their possession into the market (I47).¹¹⁸ They can chose to do this by letting the CSD stand in between the central bank and its counterparties so as to remain anonymous:

Some investors are very sensitive to anonymity, especially central banks in possession of large portfolios. These days you find that central banks buy a lot of assets, but they are also aware that there needs to be sufficient securities liquidity in the market. If they are just sitting on the securities, it gets very tight in the market, which could lead to a wrong development in prices and liquidity of that instrument. And they don’t have an interest in that. So they are ready to lend the assets into the market temporarily, just to make sure that there is enough liquidity, that the market is going well, that the price is the right, and so on and so forth. Supply and demand. If, as central banks, they would approach the market directly, it might be difficult, because then people know it comes from the central bank, so they can do a special deal. So, central banks don’t like to be seen in the market. ... For various reasons. One could be that they would not get the correct price. It could lead to turbulence in the market. This is why a lot of central banks are using our services (I47).

¹¹⁸ It is unclear from the interview whether the central banks rehypothecate collateral they received (which they usually do not do) or whether they sell solely from their proprietary portfolios, which are managed independently of monetary policy and financial stability regulation.

According to this interviewee, central banks prefer to use CSDs over global custodian banks, who offer the same service, because:

we are a neutral infrastructure. We do not take assets on our books and speculate on these instruments. We are a service provider. You can find similar services with JP Morgan, CITI Bank etc., but central banks would often be shy to go to these providers (I47).

To recapitulate, as lenders of last resort, central banks expand credit during times crisis. But they do not want to expose themselves to any risks, so they must take collateral.¹¹⁹ Yet, the markets in the high-quality securities must be deep and liquid in order for the market to price and allocate the assets efficiently. So they do what they can to ensure that liquidity, including selling off high-quality securities again. “This sounds like it could be contradicting. And it is, to a certain extent” (I47). Indeed, it is contradictory: like money, collateral must be simultaneously inside and outside the market. On the one hand, it must be fully liquid and risk-free; on the other hand, it must be a credit commodity whose price is determined by supply and demand.

In chapter 7, we saw that money must be simultaneously a medium of exchange and an accounting system for the market to be efficient. In chapter 8, we realised that this required at least some (high-quality) securities to be as liquid as money to mediate that fungibility – something that was done via the concept of collateral. In this chapter, we see that this liquidity (and hence supply and demand) of key securities, notably government debt, has to be produced in ways that are simultaneously inside and outside the market.

In the rest of this chapter, I seek to relate the question of the government of collateral in European financial markets to a concept of government in economic theory more generally. I do so in two steps. Firstly, the following three subsections discuss three examples of market structures set up to govern money, credit, and collateral in European financial markets: monetary policy, the Danish covered bond system, and the primary dealer system for government debt. Secondly, section 9.3

¹¹⁹ The main reason for not waiting to take risk is not simply, as is sometimes said, to not put “taxpayers” at risk, because central banks can create money at will. It is also to not “intervene” in “the market” by directing credit creation to specific investment purposes and assuming investment risk.

compares the problems identified in the three examples with parallel tensions and contradictions in economic theory.

9.2.1 Government as Being Passive: Monetary Policy

We saw in chapter 7 that intraday credit performs a monetary role (final settlement) while simultaneously being and not being money – likely to have an impact on monetary policy if not instrumentally and institutionally curtailed. And we saw above that credit, collateral, and monetary policy are closely related because, for example, monetary easing absorbs collateral and affects repo rates. But even in the day-to-day functioning of monetary policy during “normal times” can we observe signs of an unresolved tension between market and government.

We have already seen that central banks are not simply lenders of last resort, but also dealers of last resort, as well as central intraday lenders. Nevertheless, the general idea among central bankers in Europe:

is not that banks that are short of funds borrow money from the central bank and that banks with a surplus deposit it with the central bank. The idea is that they find each other in the market ... And then the central bank facilities can be used if the monetary institutions do not manage to balance (I17).

Similarly, the general view goes, central banks should be occupied with the short-term re-financing of banks, while governments should take over the moment a bank is in long-term difficulties (I15). Already here we see a slight conceptual tension between, on the one hand, the passive framing of the market with a lender of last resort function and, on the other hand, the more active and constant short-term refinancing of banks. Let us therefore have a closer look at monetary policy in the Eurozone.

As is well-known, the prime objective of the ECB is to maintain a stable and low level of inflation in consumer prices (not including prices of financial and durable assets, such as real-estate prices), but does so indirectly by:

affecting the refinancing rates of banks. This should, in turn, allow the financial institutions to lend to individuals. And the lower the refinancing rates the lower the rates for individuals as well (I40).

Whereas central banks may previously have been seen (at least in some countries) as serving first of all the government or society more broadly (cf. the quote on p. 309). Today, in the Eurozone, the “independent” central banks officially serve the primary purpose of consumer price stability – that is, they serve “the market.” Only *through* and conditioned by the market are central banks meant to support government, societies, or specific purposes. Moreover, there is a distinction between “real” and “financial” markets, in so far as the objective of central banks is to control *inflation* in consumer prices, but *stability* in the financial sector. In perfect accordance with the competitive conception of the market, financial markets are seen as a special realm that provides the credit space necessary for material exchange to unfold, ideally, in a friction-, risk-, and costless – and hence efficient – way.

One central banker drew me *Figure 10* (I49). In “normal times” (at t_1), banks will find the liquidity they need in the market, and the central bank will on a weekly basis manipulate the “market rate”¹²⁰ on reserves towards the policy target (2) by selling or buying securities (in repos) among financial institutions eligible for the auctions. The auctions are called “main refinancing operations” because they essentially roll over (renew) the credit of these institutions.¹²¹ In addition, the central bank provides two “standing facilities” – interest rates at which banks can at any time deposit excess reserves (3) or borrow from the central bank (1). These interest rates are unfavourable to banks as long as market rates oscillate around the policy rate. But in times of market stress (at t_2), imbalances between supply and demand of central bank reserves pushes market rates towards those of the standing facilities. According to the theory, market rates should not move beyond those of the standing facilities because the latter will in that case be more favourable, while their use is unlimited (or as long as borrowers have eligible collateral, in the case of marginal lending).^{122, 123} Such

¹²⁰ Strictly speaking, there is not a single market rate – not even at a single point in time – only a flow of bilateral transactions at (slightly) different rates.

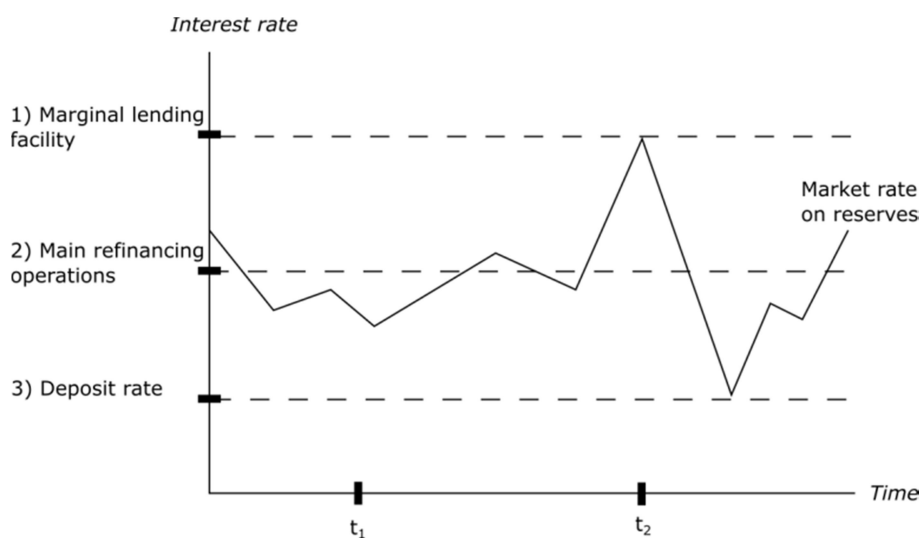
¹²¹ Since the crisis, “everyone can have as much as they want, but previously it was a Dutch auction. ... No bank had the same rates. ... The banks that had not received because they had made too low bids would then have to borrow on the interbank market” (I40).

¹²² Countries with fixed exchange rate regimes such as Denmark do not have unlimited standing facilities because these can be used to attack the currency by major financial institutions holding loads of eligible collateral (sovereign debt and covered bonds) which they can pledge to have Danish Crowns which, in turn, they sell in the market, provoking a fall in the exchange rate which the central bank will have to defend against by buying the same Danish crowns, using up its foreign exchange reserves (I17).

¹²³ During outright crisis, certain market segments that do not have direct access to the open market operations of the central bank may produce interest rates well beyond those of the standing facilities.

developments are taken as indications that the financial sector as a whole needs more credit to process transactions. Therefore, the central bank will typically intervene in a fine-tuning operation. With today's close-to-zero interest rates, the situation is somewhat different, but we shall consider here what is held to be the general case.¹²⁴

Figure 10: Monetary Policy Corridor in the Eurosystem



The interviewee says that the central bank thus “frames the market”: if it narrows the corridor, market activity decreases, and if it widens it, market activity increases (I49). In this way, it is the central bank who decides what “liquidity deficiency” in the market means, even if it does so primarily indirectly by setting the three policy rates defining the corridor. In principle, the central bank could lend out freely, but the central bank would not want to “eliminate the market,” the interviewee explains, because the market is supposed to *distribute* the available liquidity in the economy – not the central bank (I49). In this way, a distinction is made between the creation of money, which is controlled and manipulated by the central bank, and the distribution of credit in the economy, which is driven by competition, supply, and demand.

Yet, since money is created as credit bilaterally between two counterparties, creation is itself distribution. Indeed, it seems almost absurd to refer to a “market rate”

For example, two major investment banks in the US, Goldman Sachs and Morgan Stanley, had to change legal status to holding companies in a hurry during the fall of 2008 to access vital Federal Reserve funding at the brink of their collapse (Swedberg 2010:97). Moreover, some banks may not want to use these programmes out of fear of stigmatisation provoking a bank run.

¹²⁴ With the crisis, the corridor system has *de facto* become a “floor” system. Before the crisis banks held almost no excess reserves, as these did not pay interest, but today they do because – for some reason – they do not want to lend to institutions in need (I49).

that is targeted and manipulated by the central bank on a daily basis. But the apparent absurdity is rather a conceptual necessity. It neatly parallels the paradox with central banks selling and regulating collateral to improve the “efficiency” of supply and demand (cf. p. 314). The problem facing central banks is thus rather subtle. Within the competitive conception of the market, markets are efficient. But, in order to be so, they must be in a stable situation of full liquidity. Yet, markets cannot auto-produce such a situation precisely because competition means fragmentation into “private” entities that may default and run out of credit. So the central bank “intervenes” from outside the market in order to create that stable situation. But, in so doing, it engages in bilateral exchange – that is, it becomes part of the market, “disturbing” its process of producing socially optimal outcomes.

Both the source of, and the solution to, this problem are related to market *structures*: “Only banks have access to accounts and refinancing operations at the central bank” (I54). Central banks attempt to withdraw from control by controlling only indirectly, via the banking system. But it is *government* of markets nonetheless.

Paradoxically, however, since central banks seek to steer the interest-rate level, their government must simply “respond passively” to the market demand for money. As supply and demand for money in the market varies with changing uncertainty, risk, and prospects of profit, central banks *have* to refinance the banks when a structural deficit of liquidity occurs. Otherwise the central bank would push banks to not fulfil reserve requirements and make it difficult for them to meet their clients’ demand for cash. Banks would start hoarding reserves to try to meet the reserve requirements and this would impede liquidity in the market (I49). Monetary policy is not simply about the absolute *control* of money markets: it is a paradoxical moment of *government* – simultaneously active and passive – necessary to make markets optimise “themselves.” With the corridor, central banks are simultaneously inside the market, as an active supplier and buyer of reserves, and outside it, as a passive “re-actor.” The corridor structure is clearly more than just a “frame” around the market or a “last resort” to break off occasional excesses. Rather, it implies a constant government of markets. Let us therefore briefly consider more closely the function of central bank reserves in contemporary European banking.

As already mentioned previously in the dissertation, when banks make loans, they literally *create* a deposit by typing in the number on the current account of the

borrower. They do not take the money from anywhere else (a “reserve” of some kind) (Bang-Andersen et al. 2014; Bank of England 2014a; Ryan-Collins et al. 2014). This is illustrated in *Figure 11*: the creation of one promise (to pay back the loan at a future point) is matched by a counterbalancing one (to pay out the deposit upon demand). Today, more specifically, a deposit consists in a promise to pay central bank reserves upon demand. As illustrated in *Figure 12*, when a depositor in bank *A* wants to pay someone who has an account with another bank *B*, the payment is effectuated by bank *A* transferring central bank reserves to bank *B* (see also *Appendix C*). The transfer of central bank reserves between the two banks is done in the payment system T2.

Figure 11: Deposit Creation through Lending

Bank		Borrower	
Assets	Liabilities	Assets	Liabilities
+ Loan			+ Loan
	+ Deposit	+ Deposit	

Figure 12: Payment Example with Deposits

Payer		Bank 1		Central bank		Bank 2		Payee	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
- Deposit		- Deposit		+ Deposit (Reserves)		+ Deposit (Reserves)		+ Deposit	
			- Deposit (Reserves)		- Deposit (Reserves)				+ Deposit

On the one hand, banks thus compete on providing loans – that is, they constitute a *market*. On the other hand, they form a payment system (together with the central bank) – that is, they constitute a *market infrastructure*. Moreover, the fact that €1 in bank *A* is worth the same as €1 in bank *B* – which is a prerequisite for the efficient functioning of the payment system – derives from the fact that they are both promises to pay central bank euros. The banking system as a market and as an infrastructure are thus inextricably connected.

As market actors, banks take risks and should be allowed to fail. However, if some banks are not able to meet their promise to pay reserves upon demand, the integrated

accounting system of par-value deposits might fragment or even break down. So the central bank provides banks with an access to central bank reserves against collateral, and constantly makes sure that there is “enough liquidity” in the system. Enough for what? Enough to keep the market free from stress, risk, and volatility, which would potentially lead to a *fragmentation* of the market, and thereby prevent it from producing “efficient” outcomes.¹²⁵

The government of markets via the central banking structure is thus not just about the level of interest rates: the monetary policy *and* the settlement credit of central banks undergird the well-functioning of the banking system, in which a competitive *market* in credit instruments is inherently and inextricably associated with the payment system as a *market infrastructure*. The contradiction between money as a commodity – as credit sold and bought bilaterally – and as a unitary and integrated system of accounts for the whole economy is thus evident in this example.

Central banks integrate, harmonise, and stabilise the monetary system (in both its credit and its payment aspect) and thereby create the kind of integrated environment for financial transactions that economic theory presupposes. Part of this creation is making money liquid, acceptable, fungible, and stable in value. Moreover, in so doing the central bank produces market liquidity in certain core financial instruments (notably government debt) and makes it a stable anchor product used by financial markets to manage risk on a competitive basis, as we have seen in chapter 8. But at the same time, the central bank seeks to stay outside the market by restraining itself to the apex of the credit hierarchy, and, notably, by creating money only against eligible collateral (according to criteria that it itself defines), and only so in a “positive” way and to a limited group of institutions. We are indeed very far, in Europe today, from granting every citizen a current account in the central bank, or from having central

¹²⁵ This problem is illustrated in an almost caricatural way in the recent Eurozone crisis. The ECB forced the Irish government to unsustainably indebt itself in order to pay every single creditor to the burst housing bubble in the country. The main foreign creditors were large German and French banks. The German Minister of Finance, Wolfgang Schäuble, subsequently played hard on the Irish government, refusing (on both moral, economic, and political grounds) to grant the aid or debt relief necessary for Ireland to exit its dire economic situation. Confronted with the fact that the Irish essentially saved the major German banks, he replies: “If the one bank is no longer solvent, that will immediately prompt doubt whether the next bank is still solvent, because it may have credit at the other bank. And so one bank infects the other one. And that is why this financial system must be safeguarded from the collapse of an institution that could entail the collapse of the whole sector” (interview with Wolfgang Schäuble in the documentary film “The Secret Bank Bailout” by Arpad Bondy and Harald Schumann).

banks “invest” in (i.e., create money directly for) other purposes than monetary policy (and settlement credit).

European central banks are not just lenders of last resort – they *govern* markets according to a specific *problem structure* related to the competitive conception of the market and to the discursive formation of economic theory. And they have to, because the concept of the market on which they rely would otherwise collapse and disintegrate. To be sure, in the absence of central banks, markets may produce compensatory structures “private” conditions. But, in that case, markets and market infrastructures might mix in uncontrolled ways and create disarray. Regulation would be needed to draw at least some effective lines between markets and market infrastructures. Alternative government measures (private or public) would be needed to undergird liquidity. This is the case with global custodian banks and ICSDs internationally, but these institutions could not provide the fully integrated markets with risk-free settlement (as in T2S), liquid, safe, and stable collateral assets; or money that exchanges at par value throughout the whole system.

Consider a final example of the problem of monetary government by the central bank. I discussed in chapter 7 (cf. p. 256) how the quantity theory of money, still found in some popular textbooks in macroeconomics, gives an entirely different picture of monetary policy than the above, departing from the contention that the central bank controls the money supply directly. Another tenet of the quantity theory of money is that the minimum reserve requirement imposed by the central bank defines a “money multiplier.” The money multiplier, in turn, limits the capacity of banks to extend credit. If $M0$ is the amount of reserves provided by the central bank, r the required reserve ratio for each banks against the loans it has granted, and $M2$ the amount of bank deposits, then: $M2 = M0 \cdot \frac{1}{r}$ (cf. Mankiw 2012:92–93). In this way, it is argued, the central bank effectively controls not only the amount of reserves, but the total quantity of money in the economy – even if the latter is largely made up of bank deposits which can be created at will. Given the equation $MV=PT$, the central bank thus also controls the level of inflation. According to this theory, therefore, the central bank is effectively acting as a stabilising framework outside and around the market, but not in it. However, the theory is rejected by our interviewee (I49). Not only does the central bank respond passively to banks’ demand for money – the minimum reserve requirement in the Eurozone does not serve a monetary policy purpose. Instead, it

serves a stability purpose and is there to help the liquidity management of banks. In fact, the banks were asked by the ECB what they thought the ratio should be when the euro was introduced (I49). Minimum reserves have no opportunity cost for banks, because they are remunerated at a rate equal to the main refinancing rate (contrary to excess reserves), so the banks said: “Not below 2 %” (I49). Banks need a liquidity buffer to keep payments flowing, but without a common minimum requirement they would drive down their reserves to zero as part of their competition (I49).¹²⁶ In principle, the requirement could also have been 10 %, but since reserves are created as loans against collateral, this would have meant that the Eurosystem would have to widen their eligibility criteria in order to avoid creating a collateral shortage. So the ECB would not want a 10 % reserve requirement (I49). In fact, when during the crisis the ECB lowered the minimum reserves ratio:

many people thought it was a monetary policy measure because they thought it was about increasing the money multiplier, but it was not - the minimum reserve ratio is usually stable, but it was lowered to free collateral during the crisis. The market was segmented with cash-rich banks with large inflows which were not willing to lend out again, so cash-poor banks had to borrow at the central bank to fulfil minimum reserves ratio, and the lower rate made this easier for them (I49).

Also for the purpose of market stability, the reserve requirement applies as a four-week average, which means that banks can undershoot in times of stress and overshoot in times of ease (I49). Without this flexibility, the minimum requirement would not have the effect of a buffer, but be a hard bottom line no different from a 0% requirement. In that case, volatility in money markets would be very strong: banks would constantly get into situations of liquidity shortage and would have to bet up the price of reserves. Moreover, in a collateralised environment, this further amounts to betting down the price of collateral (see also Haan et al. 2015:115–16). With the present arrangement, by contrast, money market rates are “smoothed out” because banks experience fewer

¹²⁶ The leverage of a bank – the ratio of loans to reserves (or, more broadly, to equity) – is decisive for its competitiveness. A bank with equity of €1 bn. which can double its leverage and thereby halve its reserve ratio can also double the amount of loans it can extend with the same funding. For similar reasons, size is decisive for the competitiveness of banks, too.

urgent needs and fire sales (I49). Without it, pricing in the market would not be efficient – markets would not be efficient.

And, yet, money must at the same time be a commodity, available in a limited quantity (scarce), and circulating between private hands in exchange. During this interview, we also briefly discussed the possibility of 100% reserves requirement which would amount to the 100 % money proposal (cf. Ryan-Collins et al. 2014). According to this interviewee, however, “you need the banks to do credit business, to create deposits” (I49). So we are back at the problem of creation and distribution of credit, and of government of and freedom in markets.

9.2.2 The Danish Mortgage Covered Bonds System

We now turn to a second example that illustrates how the concept of government should not be confused with *the* government or with the activities of the “public” sector. Danish mortgage covered bonds are an example of high-quality collateral that is not government debt.

Based on a portfolio of loans, a financial institution can issue covered bonds that refer to the loans, but can be bought and sold in the market. Mortgage-based covered bonds are standard high-quality collateral in many countries. Covered bonds are thus a kind of securitisation, but one in which loans remain on the balance sheet of the issuing institution – which can be a bank or a specialised institution depending on the system. In contrast to other securitisation instruments, the end investor has “dual recourse” – that is, a claim both on the issuer *and* on the pool of collateral backing the loans (the houses). This means that the instrument is safer for the investor. The Danish system is particularly well-integrated, meaning even higher safety, efficiency, and liquidity. The integrated system contributes to the Danish mortgage-debt-to-GDP ratio outstripping all others in Europe, except that of Holland (EMF 2016). Let us therefore take a closer look at this system.

Despite its small size, Denmark has one of the largest covered bonds systems in the world. The bonds are not created through securitisation in the same way as, for instance, in the US, Germany, and France. In the latter countries, covered bonds are issued by banks, and so the bonds are fragmented and related to risky institutions. In Denmark, a common infrastructure is set up so that the creation of the loan goes directly to the same large bond pool in financial markets, and the issuing is done by

separate covered bonds institutions, which generally take no risk on the loans and bonds. They are therefore considered to be safer than ordinary banks (I19). These two characteristics generate and liquid series of bonds. According to one interviewee from the sector, whereas even the German *Pfandbriefe* stopped during the recent financial crisis, it was possible to buy, sell, and fund via Danish covered bonds throughout (I19). Danish covered bonds are AAA-rated:

That is interesting – not for those who hold the papers, but for those who trade. They can use it to control their liquidity because you can actually convert almost infinite amounts of them without affecting the market price (I21).

The interviewee, an executive from a Danish banks' federation, goes on to complain:

I: The ECB would like us all to hold government bonds as safe assets, meaning that we should vacuum clean the market for Greek, Cypriot, and Portuguese government bonds, and stock them as a safe buffer. But they are shit safety! It is just because the ECB wants certain outlets for dubious European government debt, so that they are not stuck with all of it themselves.

T.K: You consider Danish covered bonds to be safer than Greek or Cypriot government debt?

I: Yes. Today it is difficult to talk about interest rates, but there have been times when Danish covered bonds were better than government bonds (I21).

The liquidity of that market, like that of government bonds, is not just due to the exquisite quality of the underlying loans, but very much so also by the system that supports them. The Danish system is organised in close relations between covered bonds institutions, banks, stock exchanges, CSD, and central bank. It relies on enormous credit expansion during peak settlement periods

In Denmark, the ledger of covered bonds is updated on a daily basis by the CSD based on new issues and redemptions. This allows the covered bond institution to trade them instantaneously via the stock exchange (I19). Coupon payments and settlement take place in central bank money in the CSD. This minimises counterparty risk and thereby also increases liquidity and credit rating. The design of the system is

so that dividends are paid out before instalments come in later during the same day. With four yearly bond payments of €10-15 bn., it is crucial to have a safe and efficient system. However, due to the integrated design of the system, credit is granted against the mortgages themselves by the central bank. So there is no funding gap:

Not even the biggest banks in the country could do it, they would not be able to guarantee such amounts. But the central bank can because we place collateral, so they guarantee that we can pay the investors (I19).

Danske Bank is the largest Danish bank with a balance *twice as big as the Danish GDP* (Jensen 2013). It is thus *not* a mere question of *size* of the financial institution. It is first of all about the *guarantee* to remove risk and to uphold liquidity – something which simultaneously cannot be done by the market itself and must be part of the market.

Consider the problem that is emerging as an increasing part of Danish mortgage covered bonds are being denominated in euros rather than in Danish crowns: since there is no similar system integration possible with the ECB for the moment¹²⁷, a funding gap may occur during the rolling over of the euro-denominated covered bonds in the future (I19; I20). Again, the amounts are far too big (and the risks too systemic) to let commercial banks fund the roll-over: “Sometimes they even tremble in the biggest European banks and say: “We cannot get you €3 bn., you must be mad!” It is crucial that the Danish Mortgage primary payments are made in central bank money” (I19; also I23). Thus, without the integrated infrastructure and the *government* which is simultaneously inside and outside the market, the market will not be efficient.

There is also a government aspect to the structure of the Danish covered bonds market irrespectively of the relationship with the central bank. Whereas the issuer institutions used to be independent, they are now all owned by and closely related to a major bank (see *Table 4*). Every day, new mortgages are accumulated and issued together as covered bonds – primarily at the stock exchange in Copenhagen (NASDAQ OMX Group), where *the same* investment banks who own the covered bonds institutions (as well as some international investment banks) buy them. The banks then offer them to investors via each their “market” – that is, each their trading

¹²⁷ Notably, the Danish central bank can borrow euros intraday from the ECB against collateral, but the amount is capped, and the ECB has so far not been willing to remove the limit (I19; I20).

platform – through which their clients buy and sell covered bonds and other securities. The pricing of covered bonds is said to be competitive and taking place in the market. Yet, supply and demand are clearly governed by the “integrated” market structure.

Table 4: Danish Banks, “Markets,” and Covered Bonds Institutions (2015)

Bank	Dealer “market”	Covered bond institution
Danske Bank	Danske Markets	Realkredit Danmark
Nordea	Nordea Markets	Nordea Kredit
Nykredit Bank	Nykredit Markets	Nykredit and Totalkredit
Jyske Bank	Jyske Markets	BRF Kredit

Sources: Annual reports of the banks from 2015 and official websites of the institutions. The four selected banks are the four biggest Danish banks measured by their balance (Finansrådet 2015). The four covered bonds institutions are similarly the four biggest in Denmark (EMF 2012:5).

The government of markets is not simply about *the* government (or, more broadly, the state) regulating, framing, or even constructing the market. Rather, it is a process intrinsic to markets themselves and which relates closely to the concept of market structures explored in chapter 8. The argument here thus relates to the critique of the concepts of economies of scale, network externalities, fixed costs, and so on, as arbitrary explanations of monopolistic tendencies in infrastructure sectors. It is the production of efficient markets within the competitive conception of the market itself that requires integrated structures and government.

9.2.3 The Government of Liquidity: Primary Dealers

The final example of the concept of government that emerges from within the competitive conception of the market in the European Union is the “primary dealer” system for government debt. This example serves to illustrate that even arrangements that at first sight resemble simply coercion or cunning on the part of states to obtain their own ends are deeply structured by the competitive conception of the market and the relationships between money, credit, liquidity, and collateral, and involving the concept of market structure. In primary dealer systems, a selection of major banks has exclusive access to buying government debt when it is first issued. A primary dealers system is in place in most Western countries including France, Denmark, and Germany (although Germany does not use the term) (I37; I40; I44; see AFME 2015).

To become a primary dealer, a bank must fulfil certain criteria – the main concern being its ability to assure the liquidity of the government bonds in the “secondary market” (I40). There is thus not one, but two markets in the same government debt: one where a short list of big banks bid for the bonds as they are issued; and one where the bonds circulate between investors in what we usually understand as “the market.” Both markets are governed so as to create and maintain liquidity and to keep prices (interest rates low).

The primary dealers are thus “market makers” in government bonds in the secondary market. Their number varies: from about 10 in Denmark, over about 20 in France, to about 30 in Germany (see AFME 2015; see also Agence France Trésor 2016; Deutsche Bundesbank 2016; Nationalbanken 2015).¹²⁸ Many are international banks, often based in London (I40).

In return for their privileged access, the primary dealer banks are contractually obliged to bid at all the auctions: “The Treasury is very keen on that all participants bid on all lines” (I40). They can even be obliged to bid within a specific price range (I37). The primary dealers are monitored, their statute reviewed, and the list of institutions revised every year (I40). Moreover, they are obliged to have a permanent offer on Bloomberg to buy and sell the bonds with low “spreads” between their bid (buy) and ask (sell) prices (I37; I40). A Danish primary dealer explains:

We have various obligations that are decided in dialogue with the issuers. For instance, we agree to be active from 8 AM to 4 PM with a 10 ore [1.5 cent] bid-offer spread on certain platforms to maintain a certain level of [price] information and liquidity [in the market]. Then we meet regularly with the other primary dealers and the issuers – the central bank or the government debt office, depending on the country – to discuss whether everything works out, or if there are some things to be improved (I37).

Since the primary dealers are not only obliged to bid at the auctions, but also to constantly buy and sell in the secondary market, investors can be sure that they can

¹²⁸ The German system is somewhat different and is not described as a primary dealer system by most central bankers, although it admittedly resembles one in many ways (I44). For example, the auctions are in principle open to everyone, but requires acceptance according to certain criteria and newly issued government bonds are only sold in portions of €1 m. (Deutsche Bundesbank 2015).

always sell off the bonds again at a relatively stable price if they need or want to. The market is liquid, the government bonds are fungible. Two central bankers explain:

I1: It allows you to go to the investors and say: "There is a calendar and there is always someone there if you want to buy or sell. It is all about being extremely predictable. You want to be as predictable as possible in order to reassure the investors that come to see you. The fear of the investor is to not be able to resell. And then, also, if you have performant infrastructures it is less of a problem. ... The idea is to have someone who diffuses your debt. You can compare it to commercial agents: you sell a product and you say to some distributors: "You are going to sell my product, you will be part of the club, you will have some obligations, but in exchange I will give you some advantages." So the idea is to have a club of primary dealers. And you have that in every country because it is your guarantee that the debt will be liquid and that it will be bought. Because the primary dealers are obliged to buy the debt. So there is a preferential treatment, but at the same time there are obligations. So it is really an arrangement to have guarantees. ...

I2: It is a channel of distribution, really, that passes through a kind of cartel, so to speak, of banks (I38).

In times of market stress there will be extraordinary meetings in order to agree, for example, to widen the bid-offer spread, as a way of protecting the dealers against increased volatility, or to decrease mandatory trading volumes for a while (I37).

T.K.: And why do you want liquidity of the debt?

I: Because that allows states to have a better price from investors. Today, for example, in Germany and France [the price of] the debt of less than one year is 0, it is negative, you pay to have the debt. For the state that is pretty interesting, after all. Even if France is no longer AAA-rated, the debt remains on the list of securities that institutions try to obtain. Institutions are pension funds, insurance companies – all kinds, well beyond the financial sector too. But for the credit institutions it is most certainly good to have French or German debt on their balance sheet. ... I was with the government debt office at the time [when interest rates turned negative] – we were

really surprised by the negative rates, we did not understand it. We thought it was a mistake. We even called the primary dealers to ask if it was not a mistake! I do not see the economic interest in doing that.

T.K.: Is there some obligations the primary dealers have that explain it?

I: The only reason I can find is the solvency ratios because there is not that much high-quality debt around. So you buy it to not be penalised (I40).

The interviewee also mentions the so-called “flight to quality” where banks prefer to lend to the French state at negative rates over lending to the Greek government at a positive interest rate, but with a substantial default risk (I40). But this does not in itself explain why they do not simply hold cash (which of course banks also do to an unusual extent these years).

The interviewee thus suggests that regulation imposed by the governments themselves has the power to push the price of government debt below zero, at least under circumstances such as those we are witnessing these years. As we have seen, financial institutions use government debt as a safe asset, for capital requirements, and as collateral. Some of these purposes are directly manipulatable by government regulation, for example, of the capital requirements of banks or of the portfolio composition of pension funds. So the state can to some extent control the demand and thereby the price of its own debt. Some states can even sell their debt at negative interest rates under the present circumstances.

There may also be other reasons why primary dealers want to buy the government bonds, even if interest rates and spreads are so low that it is in itself a source of losses. It puts them in the privileged position to attract clients who will then use the primary dealers for other business as well: “if you have a good relation to the client it can be a door to a lot of things. ... It is a kind of entry ticket to become speaking partner” (I37).

As we saw this interviewee explain in chapter 8, pricing in financial markets is not an “exact science” (p. 295). Indeed:

I: You have to understand that pricing is imaginary. It is only when some people commit to it that you have prices at all. A lot of people think it is an exact science, but it is simply a lot of volunteers who decide to have a market by putting prices because

they can see a reason to. That is why it is important in times of crisis to know who is committed to be there, both in good and in bad times (137).

The interesting thing to note here is how the competitive conception of the market as a frictionless space of voluntary exchange concurs with a conception of market structures and market government to uphold that space. The primary dealers system is exemplary of the close relationship between money, government debt, central banks, regulation and markets.

The primary dealer system resembles an advanced version of Knapp's (1924) state theory of money, where the government can affect the demand for, as well as the price, acceptability, and liquidity of money created as its own debt, notably by levying taxes. States today govern the circulation, demand, and price, not only of its own debt, but also of the monetary system, and of the fungibility between money and other assets, via the system of primary dealers, monetary policy, financial infrastructures, and the regulation of collateral.¹²⁹ However, the interesting observation for problem analysis is how this government transgresses the simple interests of states and forms a problem in the competitive notion of the market because it is a prerequisite for integrated, liquid, and, by extension, efficient markets.

*

The quantity of high-quality collateral rises and falls with the level of government debt, its fluidity is founded in efficient infrastructures as well as in a hierarchical system of primary dealers and with central banks buying and selling it in return for money (adapting their eligibility criteria, haircuts and so on to their needs). I evoke this issue with one interviewee, who immediately broadens the picture:

People say that states spend too much, so you privatise. But then you realise that, for example, the health care in the UK is not exactly excellent. ... A central bank can issue as much paper as it wants, it cannot bankrupt, contrary to a commercial bank ... You have 3.5 million unemployed in France. You live in Paris, you see people sleep in cardboard. ... You have technocrats putting out criteria like: "Government debt

¹²⁹ Not to mention the Keynesian possibility to grow or inflate its way out of indebtedness.

should be 60% of GDP” and “inflation should be 3%.” But why not 5% or 2%? ... [Moreover] it is important to understand that, even though it is a good thing for France and Germany to have negative rates because it eases the debt burden, it happens at the expense of the South – they borrowed at two-digit rates at one point. The French taxpayer eased his debt burden because the Italian taxpayer paid it for him. So the mean of the debts has not really moved, there is an equilibrium around Europe as a whole. The Germans complained when they had to help the Greek but it was a just return for the eased debt burden paid by the Greek in the first place. The help to the Greeks is much lower than what they have paid for easing the French and German debts (140).

At the end of our inquiry into a rather anonymous and unobtrusive attempt to integrate financial markets in Europe called Target2 Securities, we thus arrive at the broad political horizon of economic and monetary union, with all its problems, its struggles, movements, and alarm, its agonising, its historical conquests, oppressions, and defeats. The objective here is not to claim or prove the above interviewee right or wrong. What is remarkable is the chain problems that emerged little by little since the moment we opened the seemingly minor technical question of delivery versus payment in chapter 4, and which has led well beyond the initial topic, but which traces the structure of the discursive formation of economic theory in European financial market integration.

It would be too easy – at least for the purposes of problem analysis – to see in the three examples discussed above (monetary policy, covered bonds, and primary dealers) nothing but state “intervention” in the market and the pursuit of its own self-interest by powerful government. Not only would such a view take side *within* the discursive formation in question for some and against other positions, and thus impede our capacity to analyse that formation. It would also implicitly assume the idea of well-functioning markets somehow independent of the state – or, more precisely, independent from *government*. In so doing, it would fail to see that government is necessarily produced from within the competitive conception of the market.

In the following section, we shall see how the concept of government emerges from within economic theory in ways similar to those observed above in the case of European financial markets. We shall discuss in particular the debate between classical

supply-based and Keynesian demand-based theories, as well as the concept of “market failure,” the concept of government as it occurs in various economic theories, and, finally, ordoliberalism.

9.3 Two Concepts of Government in Economic Theory

The question of government in markets cannot be reduced to a simple distinction between public and private. It is closely linked to the notion of market structures, but does not coincide with it. Rather, we should think of it in terms of tensions, contradictions, and problems. A market in the competitive conception is a place where individuals and firms buy and sell goods and services. But this means that buying and selling has to be integrated. Wherein should that integration consist? In the three cases discussed above – in three different ways – it appears to consist in some entities bridging between purchases and sales, and perhaps even executing them both. In the case of monetary policy, central banks both buy and sell liquidity (both in open-market operations and via the standing facilities). In the Danish covered bonds market, the apex of the system was fully integrated across issuers, investors, settlement infrastructures, and the central bank. The same was the case with primary dealers. As if Say’s (1834) famous “law” somehow applied to all these cases: that supply not only equals demand but *is* demand, since no-one supplies anything in the market without an intention to demand some other good at an equivalent value – and that, therefore, a purchase is a sale, and that there is no difference between the two. In our three examples above, however, the reason for the coincidence between supply and demand seems to be more specific than the one given by Say: the only entity which can guarantee the demand for (and thereby undergird the liquidity of) financial products, even in times of market stress, is the supplier itself. The only entity which can guarantee to always accept credit (and all financial instruments are credit instruments) is the one who issued it in the first place as his liability. And competitive markets need that guarantee in order to be efficient, because credit and finance are simultaneously markets and market infrastructures.

In the established theory of central banking in Europe, it is the demand for money that drives the supply, as we saw in section 9.2.1 above. One econometric modelling by Danish central bankers of the demand for money and loans, however, includes the supply of money and loans as independent variables, along with various rates of

interest (Bang-Andersen et al. 2014:73). Supply and demand is a circle. Or, rather: it is a system. And as a system, it produces a problem of government in economic theory. The concept of systemic government constantly emerges, but is also constantly undermined by the very conception of the market that produces it, because that conception is based on free exchange between individuals.

Say's law has been contested by other economic theories. But the space of possibility for economic theory has only one substantial dimension of stratification: the introduction or alteration of *frictions*, as we saw in section 7.4. In particular frictions related to the prerequisite of efficient transactions – that is, to money, market infrastructures, and liquidity. Frictions become the concept by which systemic government is both introduced into economic theory and excluded from it. Indeed, we may suggest that the tendency of many economic theories to involve a strongly limited notion of the government can thus be seen as a strategy to curb and control that concept as it emerges with necessity from within the theory of the market itself, and thereby to seek to solve the conceptual problems that it implies. More broadly, such an account would make sense of why the role of government appears to be a main topic of controversy in economic theory: it is not simply because governments exist “in the real world” that economic theory has to account for them, nor is it simply different political views that carry out a war on the pages of academic books and journals, but rather because a fundamental problem of government is an integral part of the discursive formation of economic theory.

Keynes (1965) famously argued that supply may not create its own demand if people decide to hold money, rather than consuming, as a result of their “liquidity preference.” Especially during times of recession, according to Keynes, there is consequently a need for aggregate demand to be stimulated in some other fashion. Where could such stimulus possibly come? Not from the market itself, because the market has failed; not from outside the market because demand is in essence a market phenomenon. It would have to come from a source that is paradoxically both inside and outside the market. From the *government*. And how should this additional demand come about? By the government indebting itself – perhaps even by indebting itself *to itself*, e.g., by the government borrowing from the central bank. It can do so *despite* the market because it can create, value, and circulate its own credit money by, *inter alia*, setting up market structures and infrastructures, imposing regulation and taxation,

and pushing up capital requirements. To be sure, Keynes spoke about *the* government (i.e., the state), but it is only in its capacity of *government* that it can create a solid credit circuit by indebting itself to itself as a system

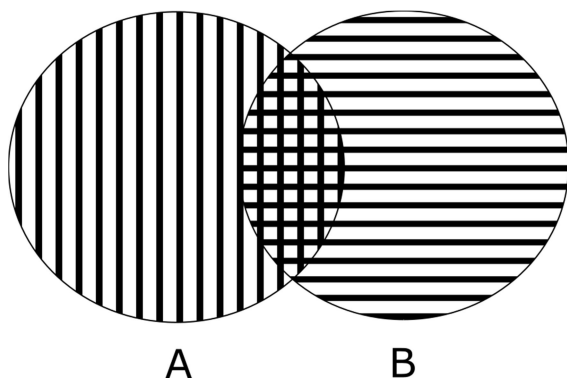
Keynes produces a modification of classical economic theory in the only way that it is possible to modify it: by introducing frictions (in this case between supply and demand via money). But he does so only to get back to a concept of the economy as a whole and as a system of *government* that complements the atomistic one in Say's vision of the market. The concept of government is the complementary to the concept of frictions in economic theory. Government is that which makes frictions disappear, but which can only do so by disturbing the market and entering structure and hierarchy into it. Even in pure Walrasian economics, where the market must be a point without qualities (cf. chapter 7), that very point must exist and be given from the outside (the "auctioneer") as an act of government. Thus, a specific concept of government emerges from the concept of the market itself: the competitive conception of the market implies concepts of frictions and market structures, which in turn provoke a concept of government. But the relationship between market and government is tense and cannot be settled because it rests on a conceptual contradiction. It is determined for ongoing contestation.

Keynes' critique of Say's law has become famous and was further developed into theories of "market failure" by the neo-Keynesians in the second half of the 20th century. These theories came to contrast the "efficient-market hypothesis" developed by Fama (1970) and others, as well as the frictionless markets in the models of the neoclassics. However, it would be misleading to simply contrast these two as fundamentally different theories. Rather, these different theories are organised around to the same problem structures. In a certain sense, they even presuppose each other and constitute a whole that encapsulates the conceptual contradictions underlying those problems. Therefore, we not only find that market failure hypotheses assume the same conception of the market as the opponents do, but also that neoclassical analysis can be applied to discover market failures. As Medema writes, marginal analysis was originally meant to provide a tool for demonstrating:

the potential failings of the system of natural liberty. With this came the related demonstration of the possibilities offered by governmental policy actions for promoting, rather than diminishing, social welfare (Medema 2007:332).

Medema (2007) finds the genesis of the notion of market failures in J.S. Mill, where it is identified with what today economic theory refers to as “externalities” (the term market failures was apparently coined only later by Bator 1958). According to Mill, there is: “a circle around every human being which no government . . . ought to be permitted to overstep,” unless “there is a definite damage, or a definite risk of damage” to other individuals or the public at large stemming from it (Mill quoted in Medema 2007:337). Medema illustrates this with two circles, representing individual *A* and *B* (see *Figure 13*). The intersection between the two circles is the room for legitimate government.

Figure 13: Market Failures between Individuals and Externalities



Based on Medema (2007:338)

Whereas the marginalist neoclassical theory of Walras and others is often taken as a die-hard belief in *laissez-faire* policy and in the auto-correction of free markets, Medema (2007) explains that the formalisation of economic theory in this current actually provided the approach that fed into the Cambridge school of welfare theory (Marshall and Pigou) and its concept of “market failures.” What is striking about the history of these different economic theories – from Smith, over Mill and Walras, to the welfare economists – is that they are all based on the methodological individualism and theoretical humanism of the competitive conception of the market, according to which the economy is composed of individuals who seek to optimise their consumption

according to their desires, and to minimise the toils of labour, by exchanging with other individuals in the marketplace. The critical point here is that this conception of the market is inherently *collective* – it is *nothing but* “externalities” to the individuals composing it. The concept of the market thus coincides with the concept of government. But only paradoxically so, since the two concepts are also each other’s oppositions.

Government is not a concept at the margin of economic theory, “intervening” when the market for some reason “fails.” Nor is government a concept that economic theory simply adopts from “reality” because such a thing as *the* government exists in our societies. Rather, a specific concept of government is determined from within the very concept of the market in economic theory.

A concept of government emerges in economic theory exactly where autonomous individuals are bound together in a system of transactions: on the one hand self-determined individuals; on the other collective inter-action. As we have seen in the analysis of the T2S project and of other examples in the dissertation, contestation is likely to manifest itself in the determination of the concepts that bind these two sides together: market infrastructures, money, credit, liquidity, and market structure.

It is interesting to see that, whereas economic theory is famous for its scepticism towards government “intervention,” various economic theories generally involve some concept of government as a kind of stabilising anchor – even if that concept is often very reduced and abstract. For example, Friedman’s monetarism involves a central bank which curbs credit creation that would otherwise go rampant. If only money is governed, according to Friedman, the market will have a stable and level playing field on which to unfold. Correspondingly, in Black’s theory of financial markets, government bonds provide a “risk-free asset” against which all other assets can be measured, and in relation to which all market interest-rates are therefore defined. The Capital Asset Pricing Model (CAPM) rests on an assumption that borrowing is unlimited at the risk-free rate of interest and that it is always fully fungible with risk-free government bonds at the same rate. A fully liquid and risk-free market of money and government debt is thus a prerequisite for the model. A third is one of Lucas’ (1972) famous articles contributing to the development of contemporary macroeconomic models, in which we find an economy composed of individuals:

In addition to labor-output [by individuals], there is one other good: fiat money, issued by a government which has no other function. This money enters the economy by means of a beginning-of-period transfer to the members of the older generation, in a quantity proportional to the pretransfer holdings of each. No inheritance is possible, so that unspent cash balances revert, at the death of the holder, to the monetary authority (Lucas 1972:105, my accentuation).

Why is this government necessary to the theory? Why is it necessary to introduce such a strange concept of government into a theory that is firmly rooted in a competitive conception of the market? A strange government indeed, with its ghostly double-existence beyond and autonomous from the individuals that constitute the economy, and yet part of the market nonetheless, as the immaterial medium of exchange. The necessity cannot be simply that governments “really” exist, because then we would ask for a concept of government that would include all the other components of “real” government: legislation, schools, social policy, police, military, elections, and so on. Lucas may claim that he is merely “simplifying” reality in order to answer to a specific problem about business cycles, inflation, and the Phillips curve. But why, then, is a concept of fiat money issued by a government “which has no other function” necessary to the solution of that *problem*?

I suggest that the said concept of government is there in Lucas model to provide an “exogenous” money supply – that is, a money supply which is *not* affected by the volume of transactions in the economy (which is the case in theories of endogenous money supply, such as post-Keynesian ones). There is thus no concept of credit in the model. To be more precise: the money created as a simple *transfer* by a government at the beginning of every new generation and destroyed at its end is in fact a kind of credit, but a very peculiar kind that wards off exactly all those problems related to the creation of credit *in transactions* – that is, *within* the market – that we have been examining in this dissertation. An endogenous money supply in Lucas’ model would re-open the whole question about the structure and fragmentation of credit creation that we have been discussing in the preceding chapters. Lucas concept of government shields off this unsolvable problem and the whole discussion of it. The specific problem of business cycles and inflation may well motivate Lucas’ *specific* assumptions, but the

general problem is already there at the outset of the competitive conception of the market.

As a way of wrapping up the discussion of economic theory in this section, consider two examples that sociologists sometimes misinterpret: institutional economics and ordoliberal theory. Considering the first, Coase argued that:

firms emerged because there were “transaction costs” involved in entering markets, negotiating for goods and services, and enforcing contracts. Coase suggested that if the cost of carrying out a transaction in the market was higher than the cost of carrying out the same transaction within the firm, firms would internalize the transaction in order to lower costs. In this scenario, firms emerge and grow precisely when they are more efficient than the market (Fligstein and Feeland 1995:24)

It is easy to see how sociologists could be tempted to sympathise with such theories seeking to account for the existence of firms and, more broadly, for the social organisation of the economy, as opposed to neoclassical theories. However, Coase was in fact *more* radical in his competitive conception of the market than many of the classics. For example, he spends pages criticising Pigou’s (2013) *Economics of Welfare* for its broad admission of government action to remedy and regulate the harmful side-effects of private production (Coase 1990b:133–49). Instead, Coase introduces a legal conception of property, not as a material thing, but as a right to perform certain actions. This leads to a “reciprocal” or symmetrical conception of harmful side-effects of production. For example, a factory may emit smoke that pollutes the air and causes harm to the neighbours, but if the neighbours invoke their right to clean air (or to compensation for polluted air) as part of their rights as residents, this causes harm to the factory (Coase 1990b:152–53). Rather than the government intervening, it will therefore often be preferable for the parties to negotiate a contract that optimises the distribution of rights and compensations. Coase still departs from the competitive conception of the market, and his default view is consequently that the market provides efficient social outcomes. He simply introduces a particular kind of friction: “transaction costs,” which mean that, in some situations, the contracts necessary for the market to obtain efficiency will not be made. As Fligstein and Feeland explain above, this is what allows for the emergence of the firm as a social organisation that

cancels the market in order to avoid transaction costs: “Within the firm, individual bargaining between the various co-operating factors of production [including labour] are eliminated and for a market transaction is substituted administrative decision” (Coase 1990b:115). But, paradoxically, the firm is still the result, according to Coase, of contracts negotiated in the market. Indeed, even the government:

is, in a sense, a super-firm (but of a very special kind) since it is able to influence the use of factors of productions by administrative decision. But the ordinary firm is subject to checks in its operations because of the competition of other firms which might administer the same activities at lower costs, and also because there is always the alternative of market transactions against organization within the firm if the administrative costs become too great. The government is able, if it wishes, to avoid the market all together, which a firm can never do (Coase 1990b:117).¹³⁰

What is characteristic about Coase’s theory is that both transaction costs and the government simply happen to be there – just like economies of scale and network externalities happen to be substantial for infrastructures in other economic theories, as we have seen. They are not determined within the theory. Indeed, they could not be, because they are contradictory to the premises of the competitive conception of the market, and economic theory will do what it can to avoid contradictions. From this perspective, the odd characterisation of *the* government as a “super-firm” reads like a solution to the more fundamental problem of *government* in economic theory: on the one hand, the government must be part of the market and just like it (it must be a firm); on the other hand, it must be outside the market and strange to it (it must be super). Contrary to what some sociologists may have thought, Coase’s contribution does lie in abandoning some of the “unrealistic” assumptions of neoclassical theory and neglect of social organisation. On the contrary, he pushes the contradictions of the competitive conception of the market even further to a level where imposing one’s right to clean air on a neighbour factory simply amounts to an economic harm to be contractually negotiated against the harm of pollution.

¹³⁰ Note that the so-called “Coase theorem” does not reflect Coase’s theory, nor his theoretical interest. The Coase theorem was formulated by Stigler and adopted in neoclassical textbooks. It considers a world with no transaction costs, while the effects of transaction costs on economic outcomes was precisely Coase’s research interest (Coase 1990a:157).

To be sure, Coase recognises the need for government in markets in his conception of the firm as an administrative space, as well as in his conception of social organisation as something that can be appropriated and changed consciously. But this recognition rests on the condition that *the market itself* realises that such organisation is preferable. Coase does not embrace the contradiction between the concept of the market and that of government.

The second example is ordoliberal theory. When it comes to discussions of economic theory and the concepts of state and market, social scientists often cite ordoliberalism. As the dominant school of economic thought in Germany at least since the end of WWII, ordoliberalism has been important in shaping the EU with its Single Market, its competition policy, and its independent central banks. It is a variant of liberalism marked by conservative and authoritarian¹³¹ influences, of which Blyth writes that:

the governing philosophy of German economic elites has never been the neoliberal mantra “markets good, state bad.” Rather, the German ordoliberal tradition stresses the importance of state provision of the Rahmenbedingungen (framework conditions) within which markets can operate (Blyth 2013:57).

Ordoliberalism is more known for its political ramifications than for its strictly academic contributions to economic theory. Had I been doing a history of economic

¹³¹ The predicate “authoritarian” may strike some as unbalanced. One must consider, however, the severity and the social disciplining implied by the core concept of “order” in this current, both historically and theoretically. Whereas “ORDO” in the title of Eucken and Böhm’s journal, which gave name to ordoliberalism, referred to “order” (*Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft*), *ordo* is also the Latin word for order, famously used by the Romans to designate the ranking of society in three estates (*ordo senatorius*, *ordo equester*, and *plebs*). Ordo-liberalism has roots both in Bismarck’s social reforms, which aimed at delegitimising the Social Democratic project, in Social Conservatism, and to some extent in Nazism, and the notion of a “social market economy” was not alone meant as a critique of Chicago-style neoliberalism, but first of all as an alternative to – and as a critique of – Socialist, Unionist, and Keynesian visions of redistribution and social policy (Ptak 2009). During the recent Euro-crisis, German calls for austerity were perfectly aligned with Eucken’s *Haftungspinzip* (principle of liability) (Schäfer 2016; see also Dullien and Guérot 2012; Matthijs and McNamara 2015). Calls to prevent “moral hazard” by aligning liability and responsibility and foreclosing governments from using their power over the economy (notably to create, destroy, and default on debt) are common both among vocal economists such as Sinn (2014) and among policy makers such as Bundesbank President Weidmann (2015). As we saw an example of in footnote 125, these moral principles are involved in binding the “periphery” countries of the Eurozone to a moral economy of debt more severe and elongated than, for instance, the Ally treatment of post-war Germany (where Marshall aid and currency reform arrived in 1948) or the chock therapies in post-Soviet countries (where sustainable debt-relief was part of the package).

ideas in Europe or attempted to trace the performative influences of specific economic theories on the design of specific economic policies, we may have wanted to discuss ordoliberalism much more than has been the case in this dissertation. But for our purposes of tracing conceptual problems that arise around market integration in Europe, we are at this point in a position to treat ordoliberalism briefly and concisely.

Whereas Austrian economics and neo-Walrasian (neoclassical/neoliberal) economics emphasise “individual freedom” held afoot only by a night-watchman state protecting property rights, ordoliberalism gives a stronger and more encompassing role to government in maintaining individual economic freedom and the well-functioning of the market: creating competition, preventing the formation of monopolies – not only to avoid market imperfection, but also to avoid corruption of the political system by powerful unions, trusts and magnates – and the imposition of anti-inflationary monetary policy and of fiscal rules on government (Dullien and Guérot 2012; Gerber 1994; Megay 1970; Nedergaard 2013; Ptak 2009).¹³²

However, whereas ordoliberalism is sometimes over-simplified as liberalism with a strong state, classical ordoliberals like Rüstow, Eucken, and Böhm agreed in their *scepticism* towards government. In fact, they promoted the view that the economic policies of the state “should primarily be directed, *not against the abuses of existing power centers*, but against the very formation of [new] power centres” (Eucken quoted in Megay 1970:431, my italics). Any governmental “intervention” in *established* power relations in the market would be hampered not only by the difficulty of defining and identifying “abuse,” but also by the corruption of such policies by the very powers that it was meant to curb, according to the ordoliberals (Megay 1970:431). Therefore, government intervention should be restricted to preventing new power centres to be generated.

Ordoliberalism is simply another configuration of the same fundamental problem of government and freedom in markets as in other economic theories. It is explicitly acknowledged that freedom, understood as freedom from external disciplining of market interaction, will lead the market to generate its own structures, which themselves amount to a kind of government, called power. So “market power” becomes

¹³² Commentators generally include central-bank “independence” (from the elected government and its fiscal policy) among the tenets of ordoliberalism (e.g. Dullien and Guérot 2012:2). But Thérét (2013:95; see also Bibow 2009) is critical of this. The critique is slightly pedantic, however, given that ordoliberals insist on low-inflation targeting and narrow limits to government spending – that is, the key tenets of modern-day independent central banks.

a problem – and it explicitly becomes a political problem because it is by its nature a problem for *the* government (which may be why ordoliberalism is more known as political than as economic theory). Yet, *the* government is itself a kind of power external to the disciplining self-government of markets, so it too must be curbed. Thus, the specific problem of ordoliberalism is a political problem, but it is nonetheless a variant of (and is structured by) the more general problem of markets in economic theory. Far from representing the reconciliation between market and government, ordoliberal theory develops and deliberates within the same discursive formation and in relation to the same problem structure as other economic theories. Rather than a solution to an unresolvable discursive problem, ordoliberalism is another phenotype in the species of economic theory.

9.4 Conclusion

There is an arbitrary, but necessary and contradictory relationship between market and government in economic theory. Arbitrary in the Saussureian sense, that it is unmotivated by a “real” relationship between state and market. Necessary in the Bachelardian sense, because such a relationship has to be established within the determinations of the competitive conception of the market. Contradictory in the sense of problem analysis, because the relationship between market and government, as two concepts specific to economic theory, constitutes a core problem to that discursive formation. Different economic theories occupy and together constitute the discursive formation of economic theory as a space of possible utterances about that problem.

In economic theory, the concept of government is often imposed as a residual category that undergirds the market as an integrated realm of exchange (as opposed to the other side of the concept of the market: a fragmented realm of competition). It is not simply because economists acknowledge that states and money exist in “reality” that these are part of (some) economic theories, but because there is a need for concepts that fill the blanc spaces of “structure,” “medium” and “unity” as they emerge from within economic theory itself. Where *the* government is not given a place, assumptions about human rationality, information, and transactions without frictions have to take the place to make “competition” govern through the disciplining of individuals.

Economic theory has a reputation of seeing the state as an opposing or outside force to the market. Somewhat surprisingly, therefore, the concept of government is not “external” to the concept of the market in economic theory. The point here is thus not that governments “construct” markets, as seems to be the point in most mainstream theories of economic sociology. Rather, the point is that a concept of government emerges and develops from *within* the concept of the market as a necessary position in the discursive formation.

Walras’ (1988) auctioneer, Lucas’ (1972) provider of fiat money, Black’s (2009) provider of the risk-free asset, and yet others – even Keynes’ (1965) stabiliser of aggregate demand – are all concepts that remove some of the tension from the concept of the market in its relation to that of market infrastructures and to the provision of a “level playing field.” Government in economic theory is about the conceptualisation of more or less conscious collective conduct of society – not about the historical existence or emergence of the state.

The concept of government can take many forms in economic theory. Often, however, it provides the structure necessary for *liquidity* to manifest itself *despite* the market and its periods of flood and drought. This is what we saw in three different ways in the three examples discussed in sections 9.2.1 to 9.2.3. Exactly by the same token that government can enable and improve a social outcome, it impedes the freedom of individuals, as conceived by economic theory. Therefore, government must be restrained – be it *the* government or, for example, monopolies or unions.

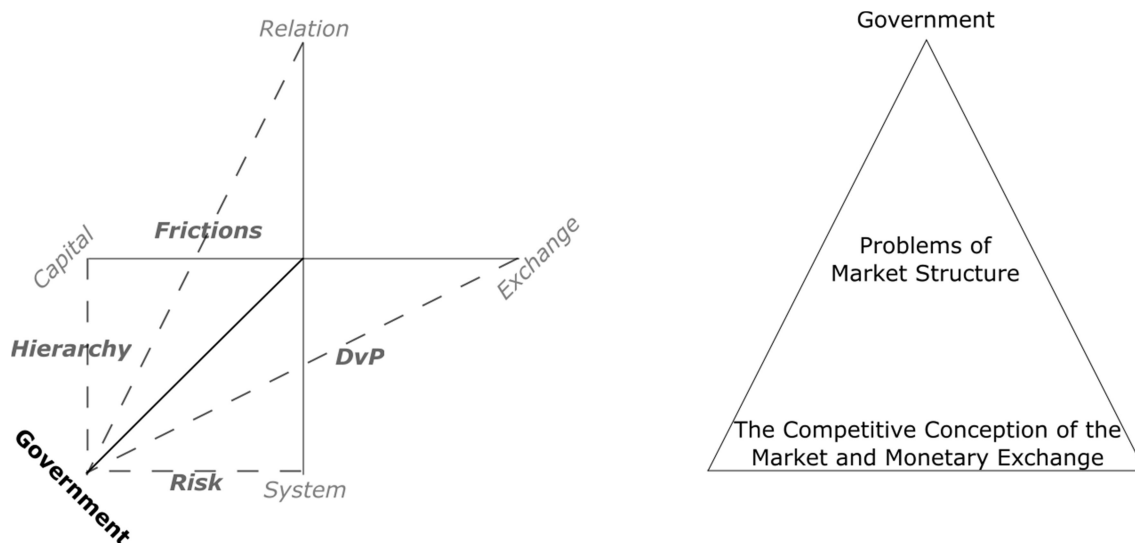
It is as if economic theory wants to deny the concept of government that it has itself produced and embraced. We saw an example of this already in chapter 4 where economists – facing what they conceptualised as natural monopolies – drew a distinction between economic and dynamic efficiency. A variant of this argument can be found in the following quotation from an interview with a senior executive in a private financial infrastructure company:

I am myself a big apostle of public power which points in the direction we must go. But at the same time it is extremely important that there is competition, and that there is leadership internally in the private sector – exactly to create value and make innovation happen, something that the public sector cannot do. It is not there for that
(I36).

When the ECB creates T2S, it is not really “innovation,” because government cannot innovate. Government cannot produce economic value either. Government can only discipline, coerce, regulate, structure, and organise the free, creative, producing, and valuing actions of individuals. Government is the opposite to the market- economic theory insists on their separation. Yet, it must necessarily be part of the market. We may perhaps go as far as to suggest that the four controversies around T2S analysed in chapter 5 were all structured by the paradox of government in markets. Of course, this formulation cannot replace the analysis made of T2S in chapters 5 and 6 – it simply adds another layer to the analysis.

To illustrate the point, we may add another layer to the figure developed in the concluding sections of the two preceding chapters, as is attempted in *Figure 14*. If the two dimensions in the first version of the figure (p. 272) constitute the plane of the market in the competitive conception, we may add an axis vertically on that plane to represent the concept of government within that conception. The problems of market structure identified in the second version of the figure (p. 302) anticipate – or rather push towards – the concept of government developed in this chapter. We can illustrate this as a pyramid in three dimensions where the floor plane is the competitive conception of the market in *Figure 8* in chapter 7, while the vertical axis is the concept of government, and the space between the two is occupied by the four problems of market structures from *Figure 9* in chapter 8.

Figure 14: Government in the Competitive Conception of the Market



Again, such illustration has its limits, and runs the risk of stylising something that cannot be stylised exactly because it is paradoxical and contradictory. But the illustrations can help relate, organise, and summarise the arguments made in the last three chapters of this dissertation.

CONCLUSION

10. Conclusion: Economic Discourse and European Financial Market Integration

With his *History of Madness*, Foucault (1976a) initiated a novel approach to the social and historical analysis of knowledge.¹³³ The experience, imagery, and knowledge about madness developed slowly through gradual transpositions in relation to certain very fundamental problems in the conception of madness. The “archaeologist” must ask how madness became a problem of knowledge and understand the dynamics of its tensions, contradictions, and development. The topic of this dissertation has not been historical – at least not in the same sense as in the *History of Madness* where the genesis and structure of mental illness in Western societies are traced across 500 years. Yet, it is still about the genesis and structure of a discursive formation within the same tradition. Whereas *History of Madness* traces a discursive formation as it changes *across* several hundred years, this dissertation has examined a discursive formation over a relatively short time period, yet it has been able to identify the dynamics of change *within* it.

It would indeed be interesting to do a genealogy of economic theory, but that would require an entirely different study (Grin 2003; Maes 2002). What this dissertation has been able to provide is a study of a very specific and seemingly very limited process of change in European societies – the T2S project – but which nonetheless has allowed the identification of a structure and dynamic of economic knowledge that appears to apply to European financial market integration more generally. Although this dissertation does not have the dimensions of a traditional Foucaultian *history*, it thus nevertheless identifies certain dynamics of change. As discussed in chapter 2, social theory generally relies on only two concepts of change and, by extension, history: action and causality, both of which are unfortunate. The dissertation has relied on a third alternative: that of discursive formations where change is the dynamic of conceptual contradictions. I insist on *dynamics* – as opposed to mechanisms – because there are not causes that determine a specific outcome in

¹³³ This statement is slightly anachronistic. Foucault’s 1959 dissertation at *École Normale Supérieure* was entitled *Folie et déraison : Histoire de la folie à l’âge classique*. Foucault’s dissertation was published under the same title in 1961, while a revised second edition from 1964 served the translation into English under the title *Madness and Civilization*. Only in 1972 did the substantially re-worked version simply entitled *Histoire de la folie à l’âge classique* and used as the French standard version today appear (Eribon 2011:145–46).

advance. Rather, it is a structure of possibility and of necessary relationships. A discursive formation distributes, rather than unifies; it unites contradictions and oppositions, rather than different forms of the same substance (such as cause and effect).

The main finding of this dissertation is that knowledge in processes of European financial market integration is structured by the discursive formation of economic theory which, in turn, is organised around problems related to what I have dubbed the competitive conception of the market. This conception is common to economic theory and the project of the European Union where it is inscribed in the foundational legal texts, but is also observed in interviews and documents about the controversies over and the challenges to financial market integration. Where the market is conceived in terms of autonomous individuals engaged in free and competitive exchange, the problem immediately emerges about the medium that binds them together. Various concepts can occupy the discursive position of such a medium in economic theory, but usually money and market infrastructures are part of it. On the one hand, individuals are autonomous – that is, precisely, unconnected – and so such a medium must be outside, around, and between them. In one sense, “the market” can designate exactly such an aether. On the other hand, if there is such a substance outside and in addition to individuals, then something comes to disturb them in their autonomy. But that autonomy was precisely the criterion for “the market” in a complementary sense. A paradoxical conception of “the market” results from this. The market must simultaneously be, on the one hand, the simple manifestation of individual desires and capacities – of the unfolding of their autonomous substances – and the disciplining and organising of their interaction; and, on the other hand, something beyond the simple aggregation of individual transactions: a market place, a market price, a market supply, a market infrastructure, and so on.

In view of such a fundamental paradox or contradiction, economic theory will be forced to develop some conceptual solution which can attempt to overcome the problem, or at least control and curb it. The concepts of money and of market infrastructures are important here – as mentioned above – because they have the double character necessary to straddle the contradiction: money is both a commodity and a system of accounts; market infrastructures are both a service and a level playing field. Both are goods that must be produced in the market, and yet the concept of an

integrated and efficient market presupposes their universal application, unstratified by the competitive fragmentation of the market. The concepts of money and infrastructures do not resolve the more fundamental contradictions, but with them the organisation of economic discourse develops and transposes. New problems arise around the concepts of frictions and externalities because these mark precisely the tension of the market between an ideal unity and a stratified diversity. New problems include those of settlement, liquidity and collateral.

From these problems, concepts of market structure and eventually of government emerge. A market structure is necessary to connect two markets, two segments of the market, or simply two traders. It is the precondition of liquidity, and therefore also of efficiency, but it requires that some third entity is in a privileged position to connect two counterparties in ways they could not do themselves. Market structures are the condition for arbitrage to take place, but are simultaneously a lasting source of arbitrage. Moreover, market structures are the precondition of creating infrastructures and credit instruments that are as liquid and stable as is necessary to underpin “efficient” financial markets. Market structures become the point of diffusion for government in markets. “Government,” not in the sense of the state or monopolies, but as the conceptual moment in the discursive formation of economic theory in which the market turns to appropriate itself as an object of knowledge.

In economic theory, the optimum social outcome is the realisation of individual utility functions, but the process of realisation implies the constraint of individual utility by “the market.” The market is itself the disciplining and organising government that performs the transposition from individuals to social outcomes. The market is simultaneously *in* and *for* itself: it is simultaneously the sum total of *individuals* and the *organisation* of individuals. The sum total of utility realised by each individual is the teleological realisation of an inner principle already there, hidden in the latent utility functions of individuals. This is exactly why the process by which the telos of individual utility realised is also the process that may hamper and impede its ideal manifestation: the competitive market may lead to monopolies, to market failures, to booms and bursts, and to liquidity shortages. Moreover, due to these impediments, not only *is* the market itself government in the sense that it disciplines individuals into a social organisation by the forces of competition, but it also becomes an *object* of

government, as the collective totality of the market is appropriated by consciousness in order to deal with the problem of market structures.

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The discursive formation of economic theory is a space of possible views and solutions organised in relation to a nexus of fundamental conceptual problems. The structure of that formation constitutes the dynamic of problems and thereby of discussion, controversy, and conflict, as well as of the solutions it is possible to conceive. Whereas traditional approaches in sociology and political economy to market integration in Europe and beyond emphasise the importance of the interests and ideas of powerful players, we have been able to show in this dissertation that the discursive formation of economic theory structures European financial market integration as a field of knowledge, problems, perspectives, approaches, conflicts, compromises, and solutions. In the analysis of the four controversies around the T2S project in Part II to that of credit, collateral, and government in Part III, we have seen how processes of market integration in the EU, from the creation of a common infrastructure to the everyday conduct of monetary policy, are socially organised in relation to the nexus of fundamental problems summarised above. Underway to this general conclusion, however, we have made a long list of specific observations that deserve a brief summary.

Part I laid out the foundations for the analysis. Chapter 2 discussed the Foucaultian conception of discourse analysis, identified its post-Hegelian lineage, and developed the problem analysis approach. The main approaches in sociology and political economy – and even the mainstream readings and uses of Foucault – see discourse as either ideology or as the dominant way to designate and talk about a given object, possibly imposed by powerful actors with their proper interests in view. By contrast, problem analysis follows *The Archaeology of Knowledge* (Foucault 2008) in conceptualising discourse as a system within which different objects can be distinguished, different theories be confronted, and problems of knowledge be formed. As a consequence, the challenge is not to identify the material interests or ideational content behind a set of utterances in order to explain them. Nor is it, as in performativity studies, to, inversely, seek to explain material or ideational reality by

some notion of speech acts. To problem analysis, speech is not a mode of action that somehow connects the separate domains of the real and the ideal. Instead, problem analysis sets out to expose a dynamic system of references within which a specific group of utterances is possible. To avoid teleology, which relates a realm of language to a realm of non-language by a “determinate inner principle” (Hindess 1977a:177), problem analysis analyses utterances with reference to other utterances as forming a system. Specifically, it seeks to account for the formation of problems within such a system, and to identify the most fundamental conceptual contradictions in an analysis of controversies and breakdowns within the discursive domain. Finally, problem analysis seeks to free itself from *a priori* distinctions between realms (e.g., technical and political), between degrees of importance, and even between real and non-real effects – not in post-modern neglect of such distinctions, but by meticulous consideration of the problems that these distinctions seek to order. Chapter 3 described the construction of an archive about T2S consisting of interviews, documents, and economic theory, which covered as much discursive variation as possible. The chapter proposed to begin the analysis by asking why it was necessary to have integrated infrastructures in the first place, why it had to be provided by the central bank, and why there was a problem of monopoly around it.

Part II provided a problem analysis of the T2S project. Chapter 4 introduced the field of financial infrastructures with particular focus on Europe and on the way it has been conceptualised by economic theory, notably the problem of natural monopolies. It accounted for the problems of settlement infrastructure centralisation, and delivery versus payment (DvP) in central-bank money to create efficient financial markets in Europe as important motive behind the T2S project. Chapter 5 identified four controversies around the T2S project: a technical, a legal, an economic, and a political controversy. These controversies appeared unrelated beyond their trivial common connection to the T2S project. Yet, there was a re-occurring problem structure across the four controversies. This was the topic of chapter 6, where the standard models of explanation of political economy, new economic sociology, and social studies of finance were all attempted to account for T2S. These perspectives all left blank exactly the question of what it was that related the four controversies as *problems*. I argued that the problem around which the four controversies revolved were all variants of a general paradox within economic theory: that market integration amounts to

“integration of fragmentation.” Moreover, this paradox became particularly visible precisely where markets and market infrastructures intersected.

Part III continued the problem analysis of European financial market integration, but sought to implement the principle of symmetry by following problems irrespectively of established boundaries between domains, disciplines, and the “size” or “importance” of the problem followed. In Part III the joint analysis of European financial market integration and of economic theory also became more systematic as a consequence. Chapter 7 began with a closer inspection of the autocollateralisation technique in T2S and argued that money plays a double role as means of payment and as an accounting system, producing problems and conflicts over how the two roles can be simultaneously fulfilled, as well as over where and how to draw the line between them. The same problems and conflicts can also be identified in classical debates of economic theory – one of them being between the quantity theory of money and the sovereign theory money. The conclusions of the chapter were summarised in *Figure 8* (p. 272) illustrating the contradictory structure of the concept of money in the competitive conception of the market. Chapter 8 pursued the problem analysis by further examining on the role of collateral in connecting credit money and securities in a safe and liquid way. By collateralising securities against credit, risk and costs are alleviated and controlled, and liquidity increases. But from this emerges a concept of risk associated not with a specific security, but rather with the market as a whole. Furthermore, a new quantitative constraint on credit creation is encountered in the supply of high-quality collateral. Through the re-use of collateral as capital, it seemed possible to overcome this constraint and to approach the Blackian ideal of fully liquid markets based on free borrowing at the risk-free rate of interest. Yet, this ideal was only approached with the emergence of a concept of market structures. *Figure 9* (p. 302) illustrates the distribution of problems of market structure in the competitive conception of the market. In chapter 9, based on three cases related to collateral – monetary policy, the Danish covered-bond system, and the primary dealer system for government debt – the analysis of market structures was developed into an analysis of a concept of government as it emerges from within the discursive formation of economic theory. Liquidity is said to bridge between the fragmentation intrinsic to competition and the efficiency of integrated markets. But, in all these cases, liquidity was only possible via government of markets – notably of supply and demand, so as to

deepen and extend them, and to guarantee them even in case of crisis. *Figure 14* (p. 345) illustrates how a concept of government emerges, so to speak, vertically on the competitive conception of the market. The concept of government opens the horizon to the full width or horizon of European financial market integration, including the financial, economic, and even political crisis, which the EU has not managed to exit since 2008.

The red thread in the analysis thus leads from the controversy over delivery versus payment (DvP) – a politically non-salient technicality – over a relatively anonymous, but major European project for financial market integration (T2S), to the most general questions of Economic and Monetary Union (EMU). In accordance with the principles of problem analysis, however, the argument is not that an “effect” of the former on the latter can be observed. For example, the argument does not concern an effect of autocollateralisation on monetary policy, or from T2S to financial markets in Europe. T2S may be an unprecedented success, a grand failure, or lead to unforeseeable consequences in the future, but that is not the topic of the dissertation. Rather, focus is on the problems around these connections across domains that are usually considered in isolation from each other. From that perspective, it is more interesting to understand why so much effort is made to prevent some effect from occurring, for example, of autocollateralisation on monetary policy, than whether an effect really occurs. The connections between problems are exactly what constitutes the cohesion of a discursive formation. In this way, the analysis concludes – rather than begins – with the determination of the object of study.

It is custom in social research to seek to *generalise* the results of an inquiry. By this, researchers mean to assess the applicability of principles abstracted from the study of one or several “cases” to other, similar cases, which have not been examined. This, clearly, involves an assessment of what the cases are cases *of*. For a principle abstracted from one case to be applicable to another case, the different cases must be cases of *the same*. The question facing any attempt to generalise results is thus what this “same” consists in. By contrast, problem analysis is interested in differences, contradictions, and controversies about what “is.” It would thus be inconsistent to seek to generalise the conclusions. Instead, problem analysis assesses the *generality* of the conclusions made, so to speak, by the conclusions themselves, since the conclusion is precisely the determination of the discursive formation under study. Just like the

analysis concluded (rather than began) with the determination of the object of study, it therefore also ended with the generality as an achievement within the study rather than as an application of its results to other “cases.” Departing from the DvP conflict and ending with the full horizon of the EMU constitutes one long process of determining the generality of the discursive formation of economic theory in the processes of European financial market integration.

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The contribution of the dissertation to existing literatures can be divided into a list of arguments. First and foremost, the dissertation contributes to the literature of social studies of finance (Callon, Muniesa, Millo, Riles, Panourgias, Maurer, and others) by identifying a limitation in its design and suggesting a strategy to overcome it. Drawing on pragmatism and the actor-network theory of Latour, social studies of finance has developed a principle of symmetry to overcome *a priori* distinctions such as the one between subject and object, or between technological and political. In addition, certain contributions to social studies of finance have formulated non-teleological approaches to the role of economic theory (Muniesa 2000) and to the role of controversies (Panourgias 2015) in markets. Yet, with its foundation in a universal theory of action, and with its hesitance towards “big” concepts like “money,” “capital,” “discursive formation,” or “economic theory,” it has cut itself off from following certain problems as they occur in the material at hand. Problem analysis offers a way to structure analysis and produce conclusions that are more concrete than speaking of *agencements* or generic formulations about risk society, the role of technology in society, or controversy.

A second literature to which this dissertation provides a contribution is the mainstream version of discourse analysis. Whereas this literature sees discourse in the context of a speaking subject and a real object spoken about, I remind the reader that Foucault explicitly rejected this in *The Archaeology of Knowledge* – and for good reasons. Discourse analysis cannot reduce European market integration to strategically employed paroles about a level playing field, nor to the historically constituted dominant ideology of the European market project. Instead, from the perspective of problem analysis, it is necessary to examine how discourse structures

the different problems, controversies, and solutions that are possible within the process of European market integration.

Thirdly, the dissertation contributes to political economy and European studies more broadly by identifying the limits to explanations based on the interests and ideas of powerful actors. These approaches cannot account for the formation of an object of knowledge. Therefore, they cannot account for how that formation structures reflection, deliberation, and controversy over that object of knowledge either. It is not as simple as to say that, since some specific conception of the market can be identified at the core of the legal and political structure of the EU, someone must have had an interest in putting it there. Instead, problem analysis seeks to the discursive problems to which such structures are responses, as well as the problems they themselves pose.

Fourthly, it is possible, perhaps, to speak of a contribution to new economic sociology (Fligstein, Carruthers, Swedberg, and yet others), and to social constructivism (Berger and Luckmann) more broadly, if one accepts that a fundamental critique does not exclude contribution. These traditions are based on a circular concept of causality running from individuals to institutions and back again. Whereas the self-image of many key figures in this tradition is to provide weighty critiques of notably neoclassical economic theory, they operate within the same humanist problematic as economic theory does. It is necessary to step out of this circular structure in order to avoid ending up in an unresolvable opposition between sociological and economic theory, and consequently between “the social” and “the economic” as two heads of a Siamese twin shouting at each other.

This brings me to a final contribution, which may only be latent, potential, or virtual: a contribution to economic theory itself. For economic theory to break with the paradoxes, contradictions, and problems that have structured its development and its debates perhaps as far back as Smith, it is necessary to abandon the pillars of non-contradiction, humanism, and causality. In their place, economic theory could place a post-Hegelian logic of specific contradictions and general unities, theoretical anti-humanism, and non-teleological theory. It seems to me that the late Marx – of *Grundrisse* and *Capital*, cf. also Althusser (2005) – exemplifies such an approach. I am not speaking here so much about what has come to be known as Marxian economics with the labour theory of value, and so on, as about the capacity in theory to conceptualise contradictions and problems, and to free conceptual development from

humanist and causal underpinnings. I have quoted Marx upon a few occasions in the dissertation to illustrate this capacity. Keynes (1965) appears to me to go half-way in this direction, but to abstain from departing with the foundations of economic theory for good. I discuss this contention in more detail below (p. 362). Another current in economic theory that appears to me to have the potential for going post-Hegelian is the so-called “money view” of Mehrling and others.

The challenge to economic theory here runs deep. In *The Foundations of Economics*, Eucken (1950) discusses at length the problem that, according to him, economics must begin with “everyday experience,” but everyday experience that cannot in itself form the basis of scientific knowledge, because it is infected by interests and ideology. Economic science should, he argues, seek ways of raising itself above all interests – even if we cannot guarantee in advance whether this even possible at all (Eucken 1950:32). It is possible, he argues, “following Marx or modern existentialist philosophy,” to reject that this is even possible, but:

If this answer is correct economics like every other science would lose its right to exist. It would be merely one more biased doctrine and ideology of which there are quite enough already. How can the interrelationships of everyday economic life be genuinely explained free of all bias and subjectivism? (Eucken 1950:33, my italics).

The challenge for economics as a science, according to Eucken, is that its most fundamental and immediate problem – the social division of labour and the order it creates in society – presents itself doubly as a “great antinomy” between the obvious historical dimension of economic reality and the necessity to grasp it in universal models that are true for all times and places (Eucken 1950:41). Whereas it is important to be able to grasp the “individual facts” of history:

There can only be such a thing as “scientific experience” in this field, as contrasted with “everyday experience,” which is quite a different thing, if it proves possible to treat the problems as general-theoretical problems. ... If we tried to solve this problem by direct observation we would get many single facts, but no relationships. We would

fail to understand the real world. ... We would miss those essential relationships of which the real world is made up (Eucken 1950:41).

The economist, according to Eucken, must seek “to get a grasp of economic reality,” even if this “may not be *possible*” (Eucken 1950:41). Economics must seek to build “imaginary models” of universal import in which isolated elements can be manipulated so as to reveal relationships that “are not immediately apparent” (Eucken 1950:40). Friedman (1966c) makes similar arguments. In this way, economic theory finds itself in philosophy. According to the above arguments “reality” is not simply the ensemble of being, but an invisible and abstract (non-material) domain of being: Eucken’s “essential relationships.” For the same reason, reality has no “immediately apparent” manifestations that can be observed directly. Singular and historical observable facts constitute another distinct domain of being that does not contain universal Truth. Universal Truth resides in “reality” – an abstract hinterland that may or may not be accessible to man, but towards which he must eternally strive. This is clearly a dogmatic position in the sense that it – as Eucken himself admits above – relies on a doctrine that cannot answer contestation with anything but a warning that, if we do not *believe*, heavens will fall.¹³⁴

Contrary to Eucken’s suggestion, the position of Marx – and of post-Hegelianism more broadly – should not be confused with resigned perspectivism. Rather, it implies a break with the distinction between a realm of abstract truth and a realm of observable facts. As a consequence, it implies a break with a conception of “truth” that does not contain the “false” within it, but excludes it or even seeks to annihilate it in order to prevent truth from being contaminated by, for example, politics. By contrast, post-Hegelian social theory relies on the conceptual couple of general and specific, which can contain contradictions within it, rather than on that of universal and particular, which cannot. “Reality” is not situated in some hinterland which may be

¹³⁴ The positivist conception of truth on which economics relies is thus clearly derived from a certain Christian conception of truth as God and God as truth: not only objective, universal, and absolute (as opposed to subjective, particular, and relative), but also abstract (as opposed to material). Unfortunately, I have not so far come across a study of this homology. Simply adopting the four counter-positions identified above (subjective, particular, relative, and material) would not entail a break with the Christian-positivist conception of truth as it remains within the discursive formation where that conception defines the fundamental problematic. This is essentially why problem analysis is neither post-modern, nor social constructivist. Instead, it is necessary to develop an entirely different conception of truth in relation to a different problematic, such as the post-Hegelian one (cf. also the following remarks).

reachable through the right “method.” The best we can do is to follow and account for relationships as they appear. If interests and mistakes are part of those relationships, then they should be part of any full account too.

This is the kind of deep change that economic theory will have to go through, if it is to benefit from the contribution offered to it by this dissertation. The dissertation does not simply produce a missing piece in the great jigsaw puzzle of economic truth.

The indispensable premise for all the above contributions is the post-Hegelian approach developed in chapter 2. From this perspective, an alternative conception of critique also emerges. The critical impetus of problem analysis is not in a normative standpoint, nor in revealing “reality” behind surface phenomena. Rather, it consists in the analysis of discourse itself. The discovery of a discursive formation is the discovery of the structures that organise and direct our thoughts and utterances even in its moments of critique, rejection, or introspection. It is, as Hegel would put it, the moment of thought returning to itself – the condition for thought overcoming itself.

It may seem like a glaringly pretentious contention to make in the midst of multidimensional crisis – in which the *realpolitik* and sheer economic ideology appears to weight on Europe to the point of its collapse – that critique should proceed via the appropriation in theory of an airy discursive formation, which brings no weapons to the battle field, but on the contrary refuses to take side in a fit of cowardly neutrality. But the only way to end a war is not to win it. It can also be to appropriate the structures of the conflict in thought and, on that basis, to renegotiate the conditions for peace. Having identified some of the conceptual contradictions that structure controversies over European market integration, we may be able to rethink certain the possible future of Europe.

It seems to me that a very important problematic in the European Union is the distinction between private and public in the market. Even when it is denied that such a distinction can be made clearly or when markets are conceived of in terms of “public-private partnerships,” the conceptual distinction still structures political processes. For example, “state aid” that interferes with market realities is prohibited and there is a dense history of case law on the topic (see European Commission 2016). This, it appears to me, is an important direction for the present research to pursue in the future.

Where sociology is generally inclined to refuse a distinction between public and private altogether as too simplistic, it is instead necessary to understand how this distinction operates in the EU. Moreover, such an understanding cannot satisfy itself with finding “the right balance” between public and private, but must pay attention to the contradictory character of the distinction. This is related to the contradictions intrinsic to the conception of the market that underlies the distinction.

As stated already, markets need infrastructures, not simply as a kind of input, but as connections, and for markets to be efficient these connections must include every market participant on an equal basis as a “level playing field.” On the one hand, infrastructures provide a service – that of overcoming frictions – and require investment, so they should be provided by the market. On the other, if infrastructures are provided on a competitive basis in the market it would entail stratification and fragmentation in connections. The seemingly banal distinction between public and private thus reflects the more fundamental question about where to draw the line between what is inside and what is outside the market in the EU. Controversies over where to draw the line has precisely been the topic of this dissertation, with special focus on infrastructures. We found that a notion of a powerful non-market entity is conceptually implied at the outset of the European project of “market integration.” We may even suggest that the growing power of the ECB, the fact that T2S resembles a public monopoly, and the need for centrally organised legal harmonisation, were perhaps not predictable consequences of that objective, but were made possible by it.

Based on the principles of theoretical humanism, much economic theory seeks to designate everything in the market as private property. However, as we saw in chapter 8, according to the same principles the market is a public thing – or a “republic” (*res publica*). As explained in chapter 6 (p. 233), private means set apart from the public. The existence of the market as a public thing is a prerequisite for the optimisation of social behaviour via individual market choices – but at the same time contradicts it. The relationship between public and private becomes a core problematic for the EU. Introducing government to contain all public things – money, infrastructures, medium of exchange, regulation, externalities, and so on – leads to the problem of that government being both inside and outside the market. For example, we have seen that the government of the ECB in the T2S project can produce market infrastructure and a medium of exchange, but not make a profit, that is, not capitalise on the risk it takes.

Similarly, the government in markets of custodian banks and of the CSDs and ICSDs – cf. the double character of banks as both dealers in credit (market) and providers of payment services (infrastructure) – is restrained by regulation with reference notably to monopoly power and systemic risk.

The contamination of economic language by the distinction between private and public is arguably much greater and more difficult to finish with than it may seem. For example, the “public” is not “introduced” into economic theory, nor does it “intervene” in markets – it is already there from the outset in the concept of the market itself. Similarly, it is arguably misleading to speak of markets as distributing and government as “redistributing” – a distinction that must be derived from the implicit principle that government cannot create value or produce and therefore cannot distribute them in a first-order sense. Furthermore, government does not simply “create” and “regulate” markets from the outside, but constitute an integral part of markets from the outset.

This is exactly the point where I think Keynes went half-way, as mentioned above (p. 358). Keynes (1965:155, 160) pictures a “dilemma” which arises when investment is organised around financial markets: the obsession of the individual investor with short-term gain and with the liquidity of his assets (so as to be able to hand them off in case of need or depreciation) runs counter, not only to the interest of society as a whole, but also to the fact that – even if investment assets may be pushed around in financial markets – “there is no such thing as liquidity of investment for the community as a whole.” Without liquidity, private investors will not serve the interests of society; with liquidity, investors will be able to alternate freely between investment assets and hoarding money, which will aggravate short-term fluctuations in prices and expectations, and push aggregate demand away from the level that would uphold full employment (Keynes 1965:161). It is on this background that Keynes proposes that the state takes “an ever greater responsibility for directly organising investment,” arguing that monetary policy alone is unlikely to do the job (Keynes 1965:164).¹³⁵ Keynes thus sees government as a necessity emerging from within the competitive conception of the market.¹³⁶ I think it is possible to read Keynes as if there

¹³⁵ This comes close to Marx’s call for a socialisation of the means of production, but passes via investment rather than expropriation.

¹³⁶ He arguably even departs slightly from the theoretical-humanist principles when he insists on speaking about aggregate demand and nominal prices with no reference to “micro foundations” of quantities and “real” prices at the individual level.

is not a foundational distinction between private and public because the foundational question is about production and employment.

To finish with the distinction between public and private, economic theory would have to break with the competitive conception of markets. In other words, it would have to suffer the “death of man” as a privileged concept in knowledge in the same way that other human sciences did, especially in post-war France (Foucault 1990).

The Economic and Monetary Union (EMU) is a topic of vivid debate – not least since the crisis. The relationship between banks, private and public debt, and monetary and fiscal policy in the Eurozone in particular is contested these years. The debate is widely ramified across diverse topics such as fixed exchange rate theory, the relationship between sovereign debt and growth, and the discrepant or common economic interests among the different countries of monetary union. Without claiming to having found the key to solve all these debates and conflicts, the argument developed in this dissertation about the discursive formation of economic theory in general, and those developed with reference to the distinction between private and public in particular, may provide a gust of fresh air. I shall restrain myself to briefly consider a single example of this below.

As is well-known, in Europe today the “independence” of the central banks from governments is inscribed in the *Treaty* along the lines of the German post-war model for the Bundesbank (see, for instance, Marsh 2011; Howarth 2000). This means that central banks cannot lend directly to governments or other public institutions and must privilege low inflation in the price index of consumer goods (which does not include financial assets and durable goods such as houses) over employment and growth. But central banks still have a close relationship with governments. We have seen this in the T2S project (if we accept the Commission as a governmental institution), and we saw it in chapters 8 and 9 concerning monetary policy, collateral, and government debt. One Danish interviewee goes as far as to state that: “The central bank is the extended arm of politicians, if they say we are going on T2S, then the central bank will work for it” (I23).

One central bank interviewee with a PhD in monetary economics regrets that the link between the state and money is a problem that “the normal economist simply denies” and which “has been increasingly ignored over the recent decades” as economics has become a field of highly specialised model building (I49). He proceeds

to explain that “the Anglo-Saxons” criticise the ECB on this point exactly because they have an understanding of that relationship (I49).

In fact, some central bankers seek to push even further the separation of private and public in finance, such as the German central bank in a call for breaking the “nexus” between governments and private banks via sovereign debt (Deutsche Bundesbank 2014; Weidmann 2013, 2015).

It appears to me that further sharpening the public-private divide will only transpose and perhaps even further sharpen the tensions. Central bank independence is perhaps one of the most illusory concepts in the whole construct of the EU: it is an attempt to impose a distinction where none can be made. Instead, government entities should be admitted to be part of the economy on equal footing with “private” companies, and there should be made no *a priori* distinction between what government can do and cannot do (such as service infrastructures, innovate, or produce value), or between what it can obtain and cannot obtain (such as economic or dynamic efficiency).

Hegel argued that “the State” is the most important general concept we dispose of, and that it has the possibility of “lifting” (*aufheben*, cf. p. 96) the contradictions in society; Marx argued that overcoming the intrinsic contradictions of capitalism would require some “socialisation” of the means of production since the capitalist mode of production is already social, although capital is on private hands. Without necessarily subscribing to any of the political propositions of these two authors, it can similarly be stated that finance in Europe today, is in need of a general social concept that is much thicker than “the euro,” “the Single market,” or “a level playing field.”

*

There are many suggestions in the interviews about where the T2S project will lead. Some argue that most CSDs and local custodians will disappear and only a few regional CSDs will be left (I15; I27; I29; I41; I53), while others believe that national differences and interests are still big enough to largely uphold the present situation (I14; I16; I20; I44 adds that the banks will need to stay in their home country because they can still only do monetary policy operations with their home central bank). Some think that the ECB will expand the T2S project and perhaps turn it into a real CSD or add a clearinghouse on top of it (I36), while others argue that the ECB has obtained

what it wanted (I11), and that it may even sell T2S to a private investor at some point (I14). As one interviewee recounts: “Every time I talk to a custodian or a CSD today about T2S, they never have the same understanding of the impact of T2S. Even within the same institutions, even at the big custodians” (I36).

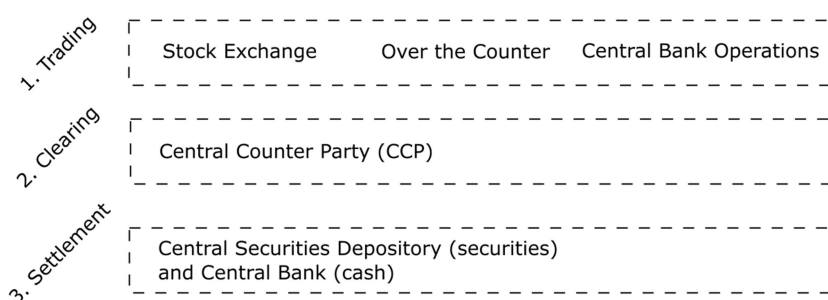
However, it has not been the objective of this dissertation to settle the disagreement between the many possible futures of T2S. Rather, it has been to examine the discursive formation within which T2S occurs and to understand how it structures financial European market integration more broadly. This structure is not entirely captured by the apparent pragmatism of many professionals, nor by the sociological and politological theories about interests and ideas. It must take into account the foundational importance of a specific conception of the market in the EU. And that conception is not as stable, and probably not as lasting either, as the present dominance of the discursive formation of economic theory may suggest.

APPENDICES

Appendix A: The Settlement Chain

The “settlement chain” is a concept used by professionals to describe the three main steps from trading over clearing to settlement. What takes place in the first step – trading – is generally well-known: trading can take place on stock exchanges, bilaterally (“over the counter”), or in open market operations, where central banks buy or sell sovereign bonds to affect the short-term interest rate in markets. At this level, “infrastructure” refers to the market place. Some transactions go from here directly to settlement, while others (especially those from stock exchanges) pass by a “clearinghouse,” which nets the multilateral positions of each participant accumulated throughout the day, so as to save liquidity (see also Millo et al. 2005; Riles 2004). At this second level, “infrastructure” refers to a system of consolidation. Finally, in settlement the actual exchange of money and securities takes place on the accounts of the counterparties (traders). Such final settlement takes place in the central bank for cash and in so-called “central securities depositories” (CSDs) for securities. Here, “infrastructure” refers to settlement. Historically, when securities were still physical sheets of paper, CSDs were created to immobilise them in a central deposit so that transactions could be carried out by simple bookkeeping. In time, securities were also de-materialised so that they – like most money today – would exist only as book entries (ECB 2007e:5–7; Norman 2007).

Figure 15: *The Settlement Chain*



Like clearinghouses, CSDs are regulated as infrastructures, meaning that they can take no (or only very specific) exposures in the market. Moreover, although they are often owned by the community of banks in a country, they often act largely as independent institutions. Finally, as of the present European standard, settlement does not take place instantaneously upon the conclusion of a trade, but only two days later (“T+2”).

Whereas instantaneous settlement is possible in principle in the highly advanced domestic bookkeeping systems, this delay is employed because, especially in the case of cross-border transactions, complexity and the number of institutions that have to concert demand it (I17). In sum, settlement is removed from what we usually imply when talking about financial markets (trading floors, stock exchanges, banks, monetary operations), both in terms of regulation, institutions, and time. This is the basis of its autonomy as a field of sociological inquiry. It is therefore important to remember that, when talking about credit, money creation, repos, or whatever phenomenon which the reader might be acquainted with from financial markets, it might not be exactly the same thing, nor should one draw hasty conclusions from the insights gained in the domain of infrastructures back to financial markets. Notably, I will be discussing a case of privatised central bank money creation, but this is limited to level three of *Figure 15* only, that is, to settlement purposes and should not be extended to central bank money creation in general. Nevertheless, as already explained, there are important analytical and conceptual insights to be gained from this which I will discuss in the sections that follow.

Appendix B: A Balance Sheet Analysis of Money Creation

To the extent that money has historically been a material commodity, such as cattle or gold (a view advanced by economists such as Menger 1892, but historically misleading according to Davies 2010), money was created when that commodity was created (e.g., when gold was mined). With today's system of account money, material commodity money has become irrelevant (Bank of England 2014a). Money is still a commodity, however, in the sense that it is used for payment, i.e., in *exchange*, cf. *Appendix C*. Today, money is created when banks make loans, i.e., when they extend credit. The bank does not take the money from somewhere else and give it to the borrower. Instead, it simply enters the deposit on the debtor's account that corresponds to the loan obligation. Using simple T-balance sheet notation for economic entities (individuals, firms, or other) with assets (what the entity owns or has a right to) on the left side, and liabilities (what the entity owes to others or to its owners) on the right, money creation can be illustrated as follows (the figure is also provided in chapter 9):

Figure 16: Money Creation through Lending

Bank		Borrower	
Assets	Liabilities	Assets	Liabilities
+ Loan			+ Loan
	+ Deposit	+ Deposit	

Both the balance sheet of the bank and of the borrower thus expands with lending. The banks makes money from the loan on fees and on the interest rate gap between loan and deposit. Since the borrower can pay out the deposit any time, the bank will have to be ready to finance this – it is thus only indirectly constrained by lending (cf. *Appendix C*).

Open market operations, by which central banks create money to control the rate of interest on central bank reserves in the market, function in a similar way: the central bank creates deposits for banks against eligible collateral. In many cases, the loan is organised as a repo (repurchase agreement), where there is a legal transfer of title to the collateral and the bank is obliged to buy it back at some future date. But it can also be a simple pledge against a loan without a transfer of title.

Appendix C: A Balance Sheet Analysis of Payments

Consider the case of a simple payment (excluding any corresponding transfer of securities or commodities). In contemporary Western economies, payments are generally made electronically in a series of book entries as illustrated in *Figure 17* (also provided in chapter 9) (see also Mehrling 2010b; Ryan-Collins et al. 2014). Irrespectively of whether an individual is buying groceries or stocks, whether it concerns a tax payment or a gift to the grandchild, bills and coins are seldom used.¹³⁷ Instead, the payer will instruct her bank to transfer the money electronically (by using a debit card, home banking, or whatever).

Reading *Figure 17* from left to right, the money on the payer's account – her bank deposit – is an asset to her which the bank will debit (diminish) according to the payment instruction. Corresponding to the debit of the client is a debit of the bank because the bank is now contractually required to pay out to the payee's bank. This is the sense in which money is said to be a claim or an IOU (“I owe you”). But the bank is not in direct relation with the payee's bank. Rather, they are connected through a “central” bank. I put central in citation marks because, whereas it is in most domestic cases *the* central bank, it may very well be a commercial bank performing the same role – for example, in cross-border transactions or historically in many countries. It is central simply because it is at the centre of the network. Like each individual has an account with a commercial bank, each bank in turn has an account with the central bank. The exercise is thus reproduced at this level: the payer's bank instructs the central bank to debit its deposit of central bank money and to credit (increase) that of the payee's bank. Based on this, the payee's account can finally be credited with the relevant sum.

Figure 17: Payment Example

Payer		Bank 1		Central bank		Bank 2		Payee	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
- Deposit			- Deposit		+ Deposit (Reserves)	+ Deposit (Reserves)	+ Deposit	+ Deposit	
			- Deposit (Reserves)		- Deposit (Reserves)				

¹³⁷ In the UK, for instance, at least 97 % of money are bank deposits and only a few percent are bills and coin (Bank of England 2014a:2).

The banking sector is thus a bookkeeping system establishing and keeping track of the “unit of account” in the economy. But at the same time, the banking system creates money on a competitive basis by making loans. In this way, banking is both a market and a market infrastructure. From here stems the paradox of markets: money is both a system of bilateral credit relations and the universal medium in which exchange takes place. It is both market and market infrastructure. It is both value, deferral of value, measure of value, and bearer of value. The market thus lives under the constant threat of money breaking in two: of a discrepancy entering between the value of money-as-commodity and the function of money as the equivalent between all commodities (Marx 1993:147–48).

Another observation can be made. Bookkeeping money is on the one hand a fully integrated, but also centralised and hierarchical system where central bank money have a “higher quality” than commercial bank money. Firstly, the central bank cannot go bankrupt because what it owes to others is its own liabilities and these it can create at will. Secondly, the fact that the liabilities of all other banks in the system are “promises to pay central bank money” means that these liabilities take on the same value – at least in “normal times,” when a crisis does not threaten to make a specific bank illiquid, that is, incapable of meeting its obligations to pay. This is contrary to a horizontal system of binary relations (“free banking”¹³⁸) where the value of the liabilities of each bank would be different. Bookkeeping money thus enable different ways of “integrating fragmentation”, but the dominant one in contemporary finance is the one depicted in *Figure 17*.

¹³⁸ In the “wildcat” years of largely unregulated banking in the US where there was no central bank, geographical distance between banks and varying quality of the banks issuing not only deposits but also their own dollar bank notes meant that bank note brokers – like foreign exchange brokers today – exchanging “foreign” notes for local ones could charge discounts of sometimes more than 40 % (Dillistin 1949).

Appendix D: A Balance Sheet Analysis of Autocollateralisation

As illustrated in *Figure 18* below, in case of insufficient funds for settlement on the buyer’s cash account, the securities settlement system will see if the incoming security is eligible as collateral for intraday credit from the central bank. If this is the case, it would grant credit against the securities with which the seller will be paid. All this happens at once: the cash never actually goes to the buyer’s account, but goes directly to that of the seller. The buyer has opened a free-of-charge intraday credit with the central bank that it will have to pay back before the end of the day. Otherwise, the credit will automatically turn into an overnight credit at a penalty interest rate. If the incoming security is not eligible with the central bank, and autocollateralisation “on flow” therefore not possible, the system will scan the buyer’s inventory of securities (which is on the CSD books) for eligible collateral that could be used instead in autocollateralisation “on stock.”

Figure 18: Autocollateralisation

Buyer Bank		Central bank (CSD Platform)		Seller Bank	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
(+ Pledged securities)					- Securities
	+ Intraday credit	+ Securities (pledged)			
				+ Seller bank	+ CB Reserves

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Appendix F: On the Origins of the Danish CSD

Various concerns seem to have been involved. One interviewee reports that the CSD was created due to a paper jam related to the major Danish covered bond sector (one of the biggest in the world) where:

50.000 sheets of paper would typically move around between the banks in a clearing in the early 1980s – it just did not work. That is why we made it electronic, no-one had tried that before¹³⁹ (I24).

But the most important reason seems to have been the explosion in government debt with the oil crisis in 1979 and the fact that the physical administration of the bonds was moved from the Ministry of Finance to the central bank who adopted a new strategy against the looming paper jam (I17). Asked if the CSD was created by the sector or the central bank, one interviewee who then worked in the Ministry of Finance explains:

It was a common project where the central bank twisted the arm of the sector and said: “We need this!” Reality was that Danish sovereign debt was stacked in the basements of the central bank and they were cutting coupons like crazy ... The CSD was created first for government bonds, and then stocks were added a few years later. Not everybody was happy about that – you could make more black money back then. The government debt issued in foreign currencies, for instance, a considerable part of that was issued in [physical] “bearer bonds” that investors could place in Luxembourg banks, who would cut coupons for their clients under bank secrecy so that they would not have to declare it to their tax authorities. “Belgian dentists” they were known as, anonymous investors who used the bank secrecy in Luxembourg for tax evasion. The Ministry of Finance had some amazing interest rates, but it was a circus that made it possible to have sub-Libor¹⁴⁰ rates. Many people were happy to accept that when they

¹³⁹ The Danish CSD is the first in the world to dematerialise (Abildgren 2010:251).

¹⁴⁰ Cf. footnote 112. As a rule of thumb, Libor is the lowest commercial interest rates possible, and it is used as a reference for most other financial contracts which are based on Libor plus an additional negotiated interest rate margin. Having sub-Libor rates is thus very impressive indeed because it would normally imply that the short-term refinancing rate of the creditors is *higher* than the rate at which they lend. As the interviewee explains, this was possible because the Danish system allowed foreign creditors to avoid taxation in their home countries.

did not have to pay taxes. When the government debt was moved from the Ministry of Finance to the central bank they were shocked (I21).¹⁴¹

The CSD had been created as a formal monopoly and as an independent private institution but with its statute requiring the approval of – and its board being appointed by – the Minister of Industry (Regeringen 1980:article 1-2). However:

the legal monopoly was abolished in 1995 and it was turned into a limited company owned by its users, including the central bank. It also became possible to start new CSDs, but there are economies of scale so no-one has ever tried (I17).

¹⁴¹ The tax transparency issue is probably one of the reasons why Denmark developed a “direct holding model” where every investor has an individual account in the CSDs rather than the banks holding all the securities of all their clients on a single omnibus account, thus increasing transparency (cf. also footnote 72).

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