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Jeffery L. Degner

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# THESE DE DOCTORAT

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L'UNIVERSITÉ D'ANGERS

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Par

**Jeffery L. Degner**

**The Family in the Inflation Culture**

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## Rapporteurs avant soutenance :

M. François FACHINI                      Professeur des Universités à l'Université Panthéon-Sorbonne  
M. Hervé MAGNOLOUX                    Maître de Conférences à l'Université Aix Marseille

## Composition du Jury :

*Attention, en cas d'absence d'un des membres du Jury le jour de la soutenance, la composition du jury doit être revue pour s'assurer qu'elle est conforme et devra être répercutée sur la couverture de thèse*

Président :                    (à préciser après la soutenance)  
Examineur : Mme Caroline MARIE-JEANNE                    Maître de Conférences à l'Université d'Angers  
Dir. de thèse : M. Guido HÜLSMANN                                    Professeur des Universités à l'Université d'Angers

*For my family and friends*  
*And especially for*  
*Rachel, Madalena, and Emilia*

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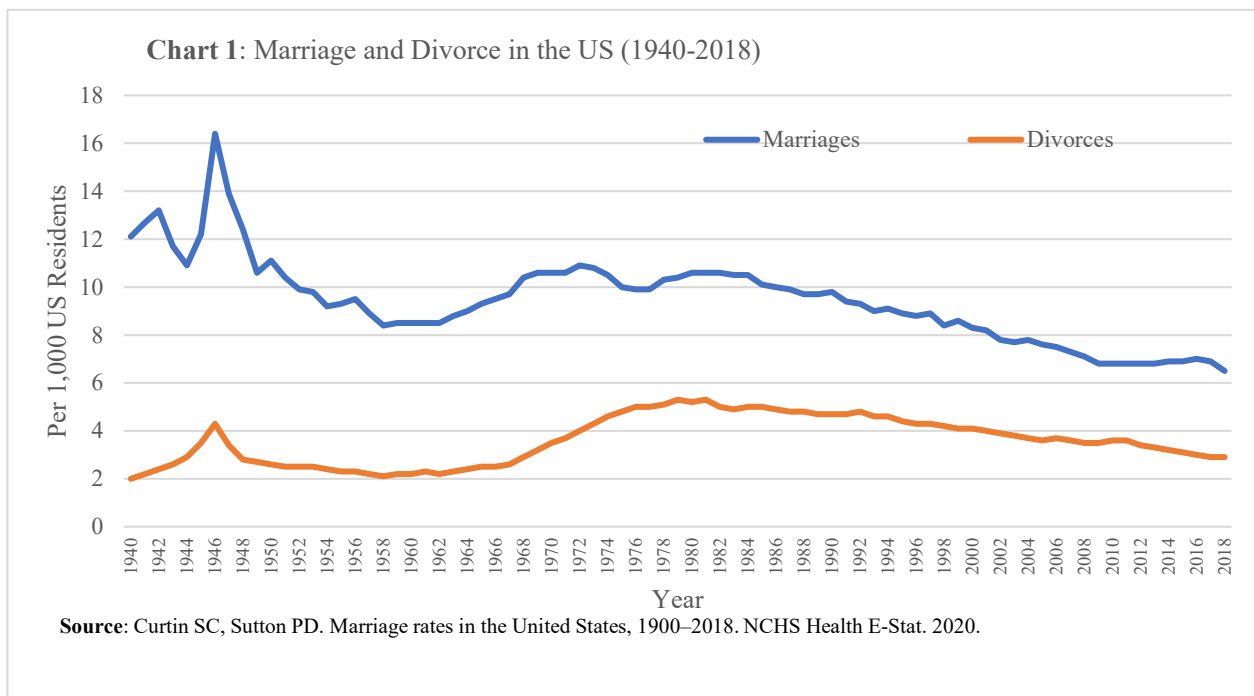
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## Introduction

Family life in the U.S. in the latter half of the 20<sup>th</sup> century has undergone profound and tumultuous change. As a result, social scientists from various fields have described and offered wide-ranging explanations for such dramatic alterations. Legal scholars have often focused on divorce law; Demographers have tended to emphasize the role that the industrial and technological revolutions have played; Sociologists have looked to the changing roles of men and women in society; Economists have explored the role that labor markets and educational opportunity have played in these changes. However, what these fields share in common is a focus on altered patterns in marriage, fertility choices, and divorce as the main sources of measurable family change, a pattern that we will emulate.

To begin illustrating the degree of change in family life, and particularly in the US, we go to the close of World War 2. At that time, nearly 16 of every 1,000 persons formed a newly married household in 1945. Peak matrimony after the war reflected a general trend of more and more adults



marrying from the beginning of the 20<sup>th</sup> century in America. Since then, the share of married adults has been in steady decline. Furthermore, marriage rates within the US have receded since the mid-80s, where 10.5 marriages per 1,000 occurred, down to 6.5 in 2018 (Chart 1).<sup>1</sup> If this trend continues, the Pew Research Center predicted that most US adults will be unmarried in a few short years.<sup>2</sup> In fact, there has been a four-fold increase in the percentage of unmarried adults, reaching an all-time high of 35% in 2018. That number is expected to increase due to the Covid-19 pandemic (Wang, 2020).

On the other side of marriage, we consider the longer historic trends in divorce, which was virtually unheard of in 1800. Fewer than 1 in 1,000 residents per year were newly divorced at that time. It wasn't until the 1920s that a significant rise in the divorced population began to emerge. Setting the anomaly of WW2 aside, there was a larger and steadier rise in the ranks of the divorced in the US from the mid-60s forward, reaching as many as 5.3 new divorces per 1,000 adults in 1979.<sup>3</sup> However, since the 1980s there has been a steady decline in divorces, in part due to fewer Americans being married to begin with. The trend in fewer divorces continues to the current situation and raises numerous questions about the true state of marriage and family in the US.

In addition to the remarkable changes in marriage behaviors, fertility choices have also seen significant change in the past half century. In the U.S., live childbirths per woman have been cut in half from 1960 and are down to 1.78 as of 2020.<sup>4</sup> In addition, there has been a 63% increase in the rate of children in the foster care system since 1960. As a result, in 2015 there were 5.81 per

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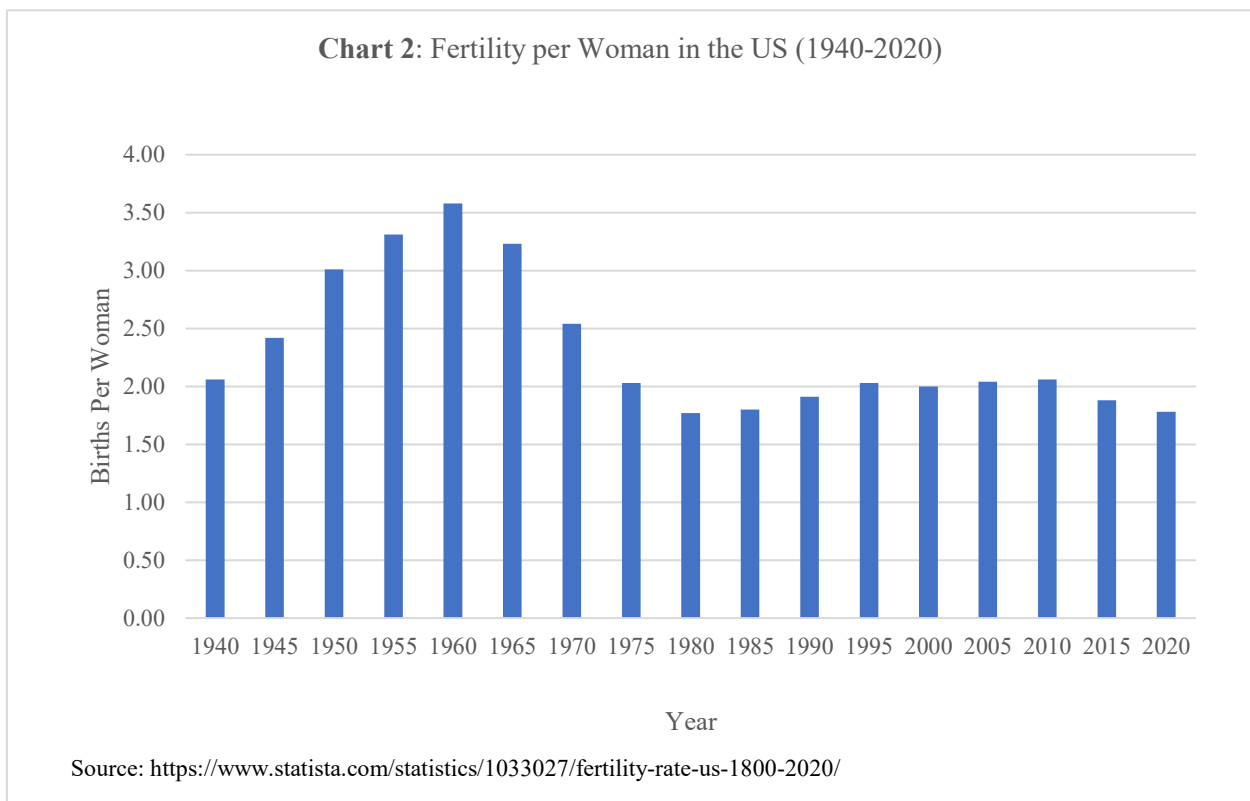
<sup>1</sup> Source: [cdc.gov/nchs/data/hestat/marriage\\_rate\\_2018/marriage\\_rate\\_2018.htm](https://www.cdc.gov/nchs/data/hestat/marriage_rate_2018/marriage_rate_2018.htm). With suggested citation of: Curtin SC, Sutton PD. Marriage rates in the United States, 1900–2018. NCHS Health E-Stat. 2020.

<sup>2</sup> <https://www.pewresearch.org/social-trends/2021/10/05/rising-share-of-u-s-adults-are-living-without-a-spouse-or-partner/>

<sup>3</sup> Source: [cdc.gov/nchs/data/hestat/marriage\\_rate\\_2018/marriage\\_rate\\_2018.htm](https://www.cdc.gov/nchs/data/hestat/marriage_rate_2018/marriage_rate_2018.htm). With suggested citation of: Curtin SC, Sutton PD. Marriage rates in the United States, 1900–2018. NCHS Health E-Stat. 2020.

<sup>4</sup> Source: <https://www.statista.com/statistics/1033027/fertility-rate-us-1800-2020/>

1,000 children living in the homes away from their biological parents.<sup>5</sup> With respect to childbirths occurring outside of marriage, in 1960 these accounted for 5.27% of all live births, while in 2015 that number stood at just over 40%. Furthermore, from 1960 to 2016 the percentage of children living with both their biological parents declined from 87.7% to 68.7%. In the same timeframe the percentage of children living with one parent has tripled. Very long-run trends in American family life show that in the opening decades of the republic, women averaged approximately 7.2 births in their lifetime. By 1910, that rate of fertility was cut in half. 100 years later, the average number of children birthed per woman in the US stands at 1.78. (O’Neill, 2021). Across the world, similar trends and timing have also prevailed as children per woman stood at just over 6 births in 1800 to



<sup>5</sup> Source: <https://www.johnstonsarchive.net/policy/adoptionstats.html>. All data points in this paragraph are sourced from the same website.

2.91 per woman.<sup>6</sup> Needless to say, there have been significant and long-run changes in fertility rates not only in the US, but throughout the globe.

One of the most notable (and controversial) attempts to explain *why* such changes have taken place in American family life was the 1965 Moynihan Report. While vilified in some ideological circles, the report attempted to disaggregate the broader trends in family life and to offer some explanations for why such dramatic changes were afoot. The report indicated that some of the broad trends in national statistics could be explained by changes in black families. At that time, nearly 25% of all black households were headed by females, indicating either non-marriage, broken cohabitation, or divorce. With respect to divorce, 1 in 4 black marriages ended in permanent separation. Furthermore, in 1940, fertility patterns indicated that 16.8% of black children were born outside of marriage. Twenty years later, that number had climbed to 23.6%.<sup>7</sup> In short, the report illustrated that the traditional family was a crumbling social institution, particularly among poorer African Americans.

In providing an overview, Moynihan contended that family structures among blacks explained why so many of them remained among the poor: “The gap between the Negro and most other groups in American society is widening...The fundamental problem, in which this is most clearly the case, is that of *family structure*. The evidence — not final, but powerfully persuasive — is that the Negro family in the urban ghettos is crumbling. *A middle-class group has managed to save itself, but for vast numbers of the unskilled, poorly educated city working class the fabric of conventional social relationships has all but disintegrated.* There are indications that the

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<sup>6</sup> <https://ourworldindata.org/grapher/fertility-rate-complete-gapminder?time=1800>

<sup>7</sup> For the purposes of this thesis, it is important to note that these broad statistical average measures are a starting point to illustrate the faltering family institution. However, as the preceding quote from Moynihan asserts, there are marked differences in family structure and behavior between poor households and those who are financially better off.

situation may have been arrested in the past few years, but the general post war trend is unmistakable. So long as this situation persists, the cycle of poverty and disadvantage will continue to repeat itself’ (Moynihan, 1965, 2, emphasis added).

Could it be that the growing gap between the black economic underclass and the middle and upper class is another example of rising income and wealth inequality over time? If Moynihan was correct that middle- and upper-class blacks had more stable family life because of greater wealth and income, then this raises the question as to *why* there is growing wealth and income inequality among the same racial group. One of the criticisms of the Moynihan Report was that it was simply an articulation of deep-seated American racism and hatred towards blacks.

In a more recent effort to show that the deinstitutionalization of the family was *not* just relegated to blacks or other minorities in the U.S., Charles Murray put the radical instability of white families since the mid-twentieth century on full display (2012).<sup>8,9</sup> His book was aptly entitled, *Coming Apart: The state of the white family from 1960-2010*. It illustrated traditional family decay as a symptom of poverty itself, and that these trends are *not* exclusive to specific races or ethnicities.<sup>10</sup> He illustrated changes in marriage among *all* 30–49-year-old Americans alongside the same trends for whites in that age range, showing that the share of all those who were married in this age range had dropped precipitously since 1960, including whites. Indeed, upper-middle class (and above) whites in their 30s and 40s who were married declined from

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<sup>8</sup> The apt phrase, ‘deinstitutionalization’, was first used, to our knowledge, by Cherlin (2004) and while he was mainly concerned with moral elements that drove these changes. However, the idea might have been first articulated by Burgess, Locke, and Thomes (1945)

<sup>9</sup> The term “deinstitutionalization” of marriage was brought into broad usage with Cherlin’s article (2004) in which he defined the term as “the weakening of the social norms that define people’s behavior in a social institution such as marriage” (848). That work has been cited by over 2500 other scholars. In it, he acknowledges that sociologists first approached this definition in Burgess, Locke, and Thomes’, *The Family: From Institution to Companionship* (1945, 1963).

<sup>10</sup> In his prologue, Murray puts it quite bluntly stating, “The trends I describe exist independently of ethnic heritage” (p.13).

approximately 95% in 1960 to about 85% fifty years later.<sup>11</sup> While this is a significant drop-off, the changes among lower class whites – and for all ethnicities for that matter – have been far greater. For any American adult with a high school diploma or less in 1960, just under 85% were married. In 2010 just over 45% of white and in fact, all Americans of the same low educational attainment were married (p.274).<sup>12</sup> With respect to children within these differing homes, about 9 out of 10 children in upper class homes still lived with both their biological parents when their mothers reached age 40 in 2005, regardless of their parents’ ethnicity. In stark contrast, only 1 in 4 lower class children lived with both birth parents when their mothers turned 40 no matter if mom or dad were black, white, or otherwise (p.275).

Murray’s general finding is that traditional household life is in retreat at all income levels, but especially so among lower wealth households.<sup>13</sup> Put another way, the nuclear family of early 20<sup>th</sup> century has been strained in all quarters, but poorer households have a harder time maintaining this pattern of living than their wealthier counterparts. While Murray met his goal of *describing* how family life had changed, he explicitly avoided an in-depth analysis of *why* it had occurred.<sup>14</sup>

One of the leaders in offering reasons for why such dramatic change in household structure and behavior has occurred was Gary Becker. Beginning with several papers and joint articles in

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<sup>11</sup> Murray defines the upper-middle class and above as those households with one adult (or both) who hold at least a bachelor’s degree and have jobs as “managers, physicians, attorneys, engineers, architects, scientists, college faculty members, or in content-production jobs in the media (e.g., journalists, writers, editors, directors, producers).” (p. 149).

<sup>12</sup> A similar trend was noted in the sub stack article by Chris Bray of April 10, 2022. In it, he shared data indicating that among 25-34 year-olds in the U.S. that only 37.5% of them were living with a spouse in 2021 as compared to nearly 83% in 1967. Source: <https://chrisbray.substack.com/p/social-history-is-in-your-pants?s=r>

<sup>13</sup> The general rise in divorce rates is a very long-term trend, with brief interruptions in the late 1900s and early 2000s. These exceptions will be dealt with in a later chapter.

<sup>14</sup> Murray clearly stated, “I focus on what happened, not why. I discuss some of the whys but most of them involve forces that cannot be changed. My primary goal is to induce recognition of the ways in which America is coming apart at the seams – not seams of race or ethnicity, but of class...As with all books on policy, this one will eventually discuss how we might change course. But discussing solutions is secondary to this book, just as understanding causes is secondary. The important thing is to look unblinkingly at the nature of the problem” (Murray, 2010, 12-3).

the 60s and 70s, he eventually produced his *Treatise on the Family* in 1981. In it – as in other works – he assumed that individuals and households seek to maximize welfare “as they conceive it, whether they be selfish, altruistic, loyal, [or] spiteful” (Becker, 1981, 1992).<sup>15</sup> This conception of rational choice undergirds all of Becker’s economic modeling of the family. Among those initial models for the family there were several highlights. Becker sought to establish a causal connection between women’s increased earning power and an increased likelihood of divorce (p. 76-77, 336-337). He also presented a fertility model that linked the number of children demanded to family income (p.165-166, 271-274) as well as the realities of child mortality (p. 169-173). Furthermore, he articulated that there is a tradeoff that parents perceive with respect to the quantity and ‘quality’ they are prepared to provide each marginal child with, in terms of time, attention, and education (p. 307-312). The *Treatise* also addressed the formation of traditional households through marriage as being caused by the overall supply and demand for wives and husbands (p. 83-87), the presence of imperfect information between potential spouses (p.225-230, 324-347), and the contention that if the perceived or real differences in earning power between a would-be husband and wife are large, there will be a decreased probability of a union being formed at all (p. 262-263).<sup>16</sup>

Not long after the release of the first edition of the *Treatise*, Becker began to exhort his fellow economists to move beyond the causes of family change that he proposed in his initial models. He asked them to consider the idea that still more economic variables could be used in discovering the economic causes of changing family life. In an address to the American Economic Association (which he presided over in 1987) Becker stated: “[the] evolution of the economy

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<sup>15</sup> One additional assumption that Becker made in his economic analysis of social action is that behavior is forward-looking and, very importantly, consistent over time. While at the same time, he acknowledged that the motives for behavior can be impacted by attitudes and values which are formed, in part, by past experiences.

<sup>16</sup> While this group of citations relies on Becker’s enlarged edition of the *Treatise* from 1992, the bulk of these models were a part of his original release in 1981. This is an important caveat as he and others began to approach the possibility of using macroeconomic data to help get to some other causes of change in family life.

greatly changes the *structure and decisions* of families...A heightened awareness of the interaction between economic change and family choices will hasten the incorporation of family life into the mainstream of economics” (Becker, 1988, emphasis added).

This salient call to consider the impact that “economic change” brings to households has been met with many sincere and fruitful efforts. However, a brief perusal of several leading authors who have made significant contributions to the theory of family economics reveals a general absence of one of the most important macroeconomic variables that impacts every household, firm, and even the central government – *monetary policy*. Indeed, when it comes to considering macroeconomic or monetary policy as potential causes of family change, an examination of the key works from leading theoreticians on family economics reveal that none of them include the general macroeconomic topics of ‘inflation’, ‘monetary policy’, ‘fiscal policy’, or ‘GDP’. (Becker, 1991; Grossbard-Shechtman, 1993; Ermisch, 2003; Browning, Chiappori, & Weiss, 2014; Horwitz, 2015; Chiappori, 2017; Greenwood, Guner and Vandenbroucke, 2017; Chiappori, Dias and Meghir, 2018; Chiappori, 2020; Chiappori, Fiorio, Galichon and Verzillo, 2022). Only Becker himself, along with Ermisch, include sections dealing with ‘real interest rates’.<sup>17</sup> In Becker’s case, he only applies them to their potential impact on the ‘demand for children’.<sup>18</sup> We recognize that it could be the case that the pursuit of such variables was sidetracked due to multiple criticisms of Becker’s early models. Some of his assumptions were viewed as unrealistic and later economists

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<sup>17</sup> Ermisch’s discussion openly contradicts Becker’s (by rejecting Becker’s altruism assumption) with the claim that “higher market interest rates and better access to capital markets reduce fertility, which is consistent with [the] non-altruistic model” (Ermisch, 2003, 201). National unemployment is also typically considered a macroeconomic issue and Ermisch’s only mention of the topic applies to unemployment at a micro-level in his discussion on the impact of a bout of unemployment on low-income women (Olsen and Farkas, 1990; Ermisch, 2003, 162).

<sup>18</sup> Becker suggests that (unlike Samuelson’s ‘biological models of interest rate determination’ which contends that demographic and population shifts cause interest rates to change) prevailing interest rates impact fertility rates positively. He even cites a fictional description of this from *The Forsyte Saga* where it was suggested that 10% interest rates led to 10 childbirths in a household, while 4-5% interest produced the same number of children per marriage (Becker, 1991, 7).



spent significant time and effort offering rebuttals or critiques, rather than advancing Becker's suggested agenda of providing a wider array of causal variables.<sup>19</sup> Regardless, the literature that is dedicated to offering economic explanations for the remarkable changes in household structure that the late 20<sup>th</sup> century produced, have yet to build the connection between monetary policy, economic change, and family life.

Due to the lack of this connection in the existing literature on the family, we will contend that the role that monetary policy plays in changing economic conditions, and thus in changing family life, is worthy of consideration. Indeed, the first aim of this dissertation is to show that Inflationary monetary interventions lead to the institutions of an *inflation culture* that are characterized by rising indebtedness, increases in wealth inequality, and augmented moral hazard (Toporowski, 2008, Hülsmann, 2008, 2014, 2016). Second, we intend to demonstrate that the incentives and habits of the inflation culture contribute to the changes in family life that have already been described. We don't intend to show that none of the institutions of debt, inequality, or risky behaviors would be eliminated if a pure commodity money standard were in place, rather than a central bank. Clearly, every culture possesses these traits to some degree – even without inflationary central banking. However, what we will assert is that these institutions are *enhanced* with the presence of monetary interventions, through the introduction of the inflation culture. The

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<sup>19</sup> One challenge to the thorough development of the increased use of more variables to enhance family economics came from Becker's critics. Chief among them was Robert Pollak. Even though Pollak was invited to speak in honor of Becker's contributions at the University of Chicago, his criticisms could be considered a part of the robust debate culture at Chicago. In fact he clarified that he saw himself as "reshaping tools Becker has fashioned...in short, as following Becker" (Pollak, 2002). Further, he contended that: "the interesting and provocative implications of Becker's economic approach to the family do not follow from the foundational assumptions or from the primary auxiliary assumptions [he made]. Instead, they depend on contested auxiliary assumptions to which neoclassical economics has no commitment and which lack empirical support" (Pollak, 2002). In addition, Easterlin, Pollak, and Wachter do however maintain Becker's contention that preferences for family size *do not change over time* and that the idea of the family's ideal completed size is determined at the beginning of the marriage. To solve for the non-achievement of the ideal family size, the authors point to "the fact that families may not correctly perceive the constraints of the maximization problem" (Easterlin, Pollak, and Wachter, 1987, p.82).

thesis will also conclude that traditional, western family life and living arrangements have been made more likely for some, and far less likely for others.

The motivation for this set of claims is largely motivated by what political scientist, Charles Murray has called a *Coming Apart* of the US family. He isn't alone in providing motive, as the sociologists, Burgess, Locke, and Thomes (1945, 1963) observed that in the first half of the twentieth century, the American family transformed from an *institution* to a mode of *companionship*. We believe that our study will show that families in the US inflation culture that has been particularly clear in the post-WW2 period has been accompanied by a monetary policy of positive and persistent inflation. That being the case, it would be better to say that the traditional nuclear family in America has been transformed by the inflation culture from an institution, to a common consumer good, into a luxury good that is increasingly difficult to obtain.<sup>20</sup> Indeed, a decade ago, it was noted that expansionary monetary regimes are 'juggernauts' of social change and as family life is a part of the greater social order, we contend that the link between monetary policy and family life are in order.<sup>21</sup> The justification for this connection flows from the following, namely:

1. *Tremendous change in family behavior and structure has occurred in the U.S. in the past six decades.*
2. *The most dramatic changes in family structure and behavior have occurred in lower-income households.*
3. *Several proposed economic causes for altered family life have been offered by economists.*

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<sup>20</sup> It is important to note that when we refer to inflationary monetary policy, this is not a statement about measurably "high" increases in the price level, which is subject to changing definitions. We will define inflation as any politically-induced increase in the money supply through the combination of governmental power and privileges granted to the banking sector.

<sup>21</sup> In his 2008 "The Ethics of Money Production", Hülsmann pointed out (p. 191) that the pursuit of the potentially destructive aspects of fiat money inflation should be carried on by other scholars. This thesis is an attempt to fulfill that challenge.

*4. Many of these proposed causes for family change are known consequences of inflationary monetary policy.*

*4. The integration of monetary policy as a partial explanatory variable for family change is non-existent.*

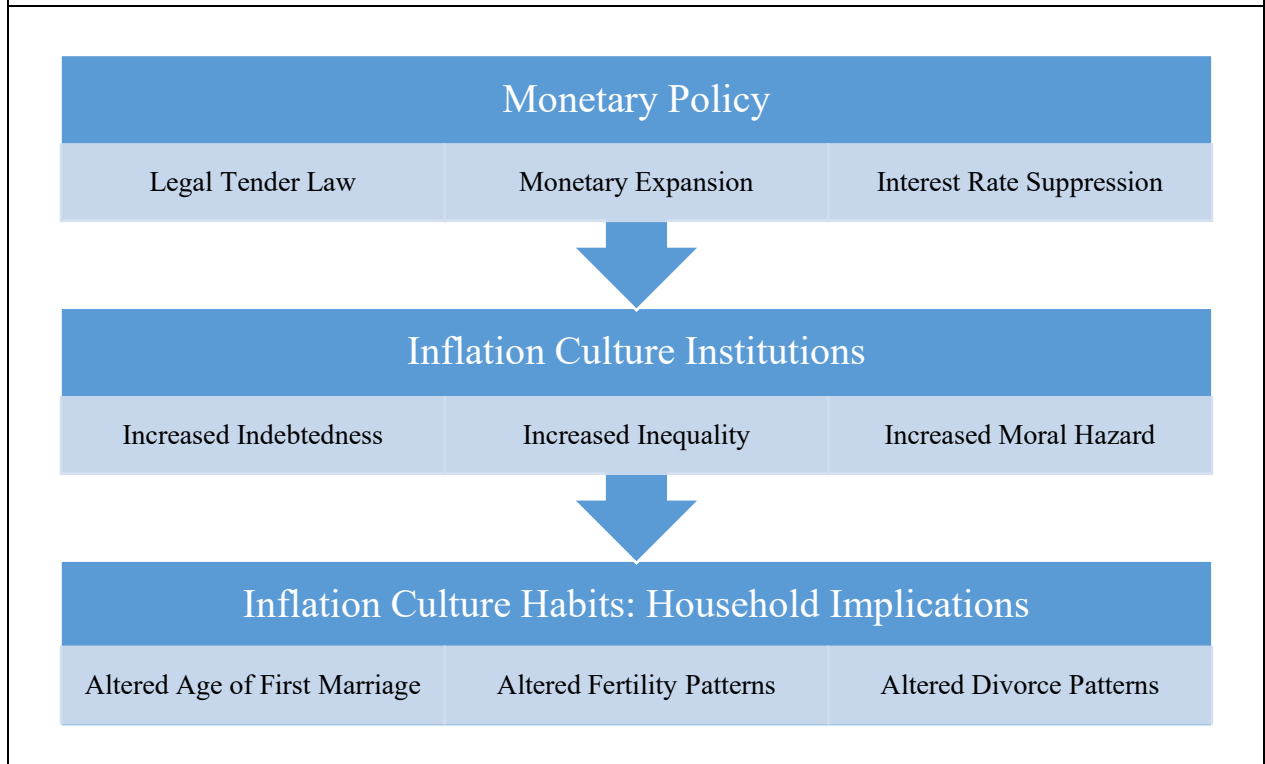
*5. Therefore, a study of how inflationary monetary policy creates an inflation culture, with a set of habits and institutions that alters household structures is warranted.*

Given this logical flow, we present the following research question:

*How and to what extent does monetary policy contribute to the institutions of the inflation culture and how do the habits that it produces alter family formation, fertility, and divorce?*

The initial illustration used to describe what is happening in modern family life (Figure 1.1), depicts the key features of monetary policy that emerges through the introduction of central banking, legal tender laws, a tendency towards monetary expansionism, and interest rate suppression. As such, money creation is understood to be exogenous to the *social economy* (Ritenour, 2010). In such an arrangement, the banks that are absorbed from the social economy into the central banking system receive a privileged position and are generally protected from the threat of failure. This arrangement contrasts with firms (and households) in the social economy who lack such favor from government and the central bank. Because money is the common denominator in every relationship in the social economy, an entire culture of inflation emerges with the institutionalization of rising debt, inequality, and moral hazard. These institutions aren't just emergent among privileged banks, households are also swept up into them as well. Indeed, as a result, of these institutions, there are increased incentives to adopt habits that lead families to

**Figure 1.1:** Illustrating the Interaction Between Monetary Policy, Inflation Culture, and Inflation Culture Habits and their Implications for Households



participate in behaviors have implications for marriage, childrearing, and divorce. At the same time, we are careful to note that the consequences aren't the same for all households. Indeed, there are some families that tend to benefit from the inflation culture, and those whose family lives are made more difficult through these same institutions and habits.

To begin to describe what some of those inflation culture institutions and habits are and what their household impacts might be, we begin with several brief examples. First, we can expect that inflationary monetary policy will impact factor markets through changes in the structure of labor (Feldmann, 2013; Blanchard and Gali, 2010), land (Kwon, 1998), and capital markets (Frank, 2004). Furthermore, there is the tendency towards the financialization of the social economy that comes with expansionary monetary policy (Carbone and Cahn, 2014; Ca'Zorzi, et. al, 2020; Eichner, 2020). In addition, we would also expect that consumer markets would also be impacted

by monetary policy in uneven ways which benefit some, while harming others in real economic terms (Saucier and Thornton, 2010; Hajek and Horvath, 2018, Cravino, Lan, and Levchenko, 2020). Moreover, these heterogenous effects among various households will come in varying degrees (Beraja, Fuster, Hurst, and Vavra, 2017; Mangiante and Lauper, 2021). While these outcomes of monetary policy in the social economy are typically viewed through the lens of firm behavior, consumers at the household level also experience the consequences of the inflation culture. Indeed, their everyday decisions about debt, labor, and leisure, savings and investment, and even their personal ethics, and even spiritual matters tend to inform the more mundane features of life (Hülsmann, 2008). Such decisions have broader familial and cultural consequences, such as where families live, learn, and work, how they eat together (or not), whom and when they choose to marry and raise children and what determines the basis for beginning or ending these relationships.

To preview the key areas of our study in changing family life, we look to the rising age at first marriage throughout the west. In earlier attempts to explain these changes in America, some have proposed that the economic conditions leading these changes includes increased debt loads for U.S. young adults. It has been observed that earlier and greater debt loads mean that young adults tend to avoid or delay marriage, and in many cases, resort to cohabitation (Addo, 2014; Bozick & Estacion, 2014; Smock, Manning and Porter, 2005). Still others have pointed to low-skilled jobs for the young being more precarious than in past generations leads to doubts about the stability of a potential marriage on the part of both men and women. Such a finding squares nicely with others who point to heterogenous impacts of labor force earning power upon marriageability (2012, Kalleberg and Vallas, 2014). Still another example of suggested causes for fewer and delayed marriages comes from the housing market. Several economists have examined the positive

relationship between increased housing prices and delays in marriage. This relationship presents itself, not just in the US, but across the globe (Li, 2018; Flynn, 2017; Crawford, Low, & Rinaldo, 2013; Schneider, Harknett and Stimpson, 2018; Schoen and Canudas-Romo, 2005). While we acknowledge these market conditions may serve to disrupt traditional family life patterns, it is our contention that the economic conditions that have been described by other scholars are more likely in an inflation culture, which is itself the product of fiat money institutions and practices.

With respect to declining fertility rates in the U.S., Becker (1993) proposed that real interest rates are positively correlated to childbirth within marriages. As real interest rates have steadily declined in the U.S. since the 1980s, this serves as evidence that, perhaps, Becker was onto something.<sup>22</sup> Another explanation was presented by Shand (2008) who demonstrated that, artificially low interest rates may entice some into greater debt loads and that “consumer debts may lead to smaller family size and educational debt leads to pronounced delays in entering fertility”. With respect to a possible connection between housing prices and fertility, Simon and Tamura (2009) along with Lovenheim and Mumford (2013) have concluded that when housing prices lead to real wealth increases for homeowners, that there are increased fertility rates for those families. In a complementary study out of Great Britain, rising housing prices are negatively correlated with fertility rates for renters, while they are positively related to fertility for homeowners as they experience rising wealth due to increased real estate equity (Washbrook, 2013).<sup>23</sup> Given these findings, we encourage the reader to consider: Does monetary policy have anything

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<sup>22</sup> <https://fred.stlouisfed.org/series/REAINTRATREARATIYE>

<sup>23</sup> Washbrook explains that when renters face rising costs of rentals or entry into home ownership, they are less likely to have children as they lack the space to justify increased crowding in their place of residence and that this is a long-lasting effect. However, homeowners enjoy the fruits of higher home prices in the form of higher net worth through increased home equity. These families are prone to feel wealthier and thus have a greater sense of future financial security that would support the expansion of their family size, but this holds in the short-run and not in the long run as parents age.

at all to do with interest rates, debt levels, housing prices, or the distribution of wealth and incomes? If indeed they do, it is our contention that fiat currency regimes and their inflationary tendencies contribute to the formation of the institutions and habits that have contributed to the overall decline in fertility rates.

Some of the economic explanations for the substantial changes in divorce rates in the past six decades have included the increased educational attainment, and labor market prospects for women. While female economic prospects have generally improved, there has been a simultaneous worsening of wages and opportunities in traditionally male roles in the manufacturing and heavy industrial sectors during the same time period (Becker, 1974; Isen and Stevenson, 2010; Sayer and Bianchi, 2000; Fernandez and Wong, 2014; Spitze and South, 1985). This has produced increased male job instability (Keldenich and Luecke, 2022), has understandably contributed to women's rising distrust of males' ability to earn more over time (Carbone and Cahn, 2014). As poorer women observe men with more education and much higher earnings, they tend not to trust men who are of similar education and wealth as themselves (Eichner, 2020). While plenty of changes are afoot in labor markets since the mid-twentieth century, land markets have also undergone significant change as well. Several economists have observed that rising prices for home ownership (Farzanegan, and Gholipour, 2015; Fenghua and Lele, 2013), contribute to higher debt to income ratios (Fisher and Lyons, 2006; Dew 2011), that tend to produce increased financial tensions and the lower the relative emotional costs of post-divorce life (Peters, 1993). Once again, we argue that these economic phenomena may themselves be partially explained by monetary policy's impact on the structure of labor and land markets. Once these changes become institutionalized, a tendency towards increased debt loads that heighten marital disharmony which make divorce seem like a more attractive psychological and economic alternative for couples, and

for women in particular. Indeed, in the west, women are the initiators of most divorces. Again, if monetary policy has even a partial impact on any of these economic variables, then we further strengthen the case for our research question. In order to pursue this line of thought, we present the case of several changes in market structures that are impacting divorce rates may indeed be consequences of the choices of monetary authorities.

Given all these empirical findings surrounding family change, a pathway for establishing the methodological approach to the thesis began to become clear. Our first task was to scour both the casual and robust empirical literature that described the causes of altered household structures. From this analysis, several answers arose which pointed to determinants such as labor market changes, rising education and housing prices, increased debt loads, suppressed interest rates, and other factors which have contributed to changes in family life. In the midst of that process, evidence pointed towards the need to utilize the methods of political economy and in particular the framework of the Cantillon effect (Saucier and Thornton, 2010). We then began to utilize Cantillon's theoretical framework to explain how the growth of the money supply can impact all of those areas that the empirical economists have established as proximate causes for altered family life. Moreover, Cantillon's theoretical framework also explains how increased money supplies have redistributive impacts among households. Moreover, orthodox monetary theory was also applied to begin to demonstrate the contrast between competitive monetary systems to fiat currency and monetary interventionism through the actions of a monetary authority. In addition, we further used the methods of political economy by relying on the work of contemporary economists who have initiated research that describes the elements of the inflation culture that emerge through expansionary monetary policy. They have observed that such policies result in a set of institutions and habits which saturate the broader culture. We then took it upon ourselves to



demonstrate how such cultural habits impact traditional family formation, fertility, and longevity choices.

Once establishing the theoretical links between monetary interventionism, the inflation culture's features, and changes in family life, we then provide empirical testing of the link between these variables. We specifically utilize autoregressive distributed lag (ARDL) testing since these changes are happening over a long time period and because the determinants of family change in our theoretical framework are cointegrated. This approach to econometric measurement is taken with genuine epistemic humility, recognizing that with such complex phenomena as marriage, decisions surrounding children, and the dissolution of marriages, that our empirical conclusions must be taken with a grain of salt. Indeed, it is hoped that our empirical exercises show the appropriate humility that ought to accompany econometric descriptions of historic data sets (Israel, 2023).<sup>24</sup>

When it comes to the thesis's contribution to the literature on family economics, ours is simply to introduce monetary policy as a *plausible* and *partial* explanation for changing household structure and behavior through the introduction of the inflation culture through monetary interventionism and inflationary money supplies. We do not expect to make any conclusions or statistical inferences about direct causation between our variables. Indeed, it is a bridge too far to suggest, for example, that a Central Bank's forward guidance on interest rates will cause couples

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<sup>24</sup> Since we are dealing with complex change, and that over a very long time period (1967-2021), we don't expect that the inferential statistics will "prove" causation. Rather, we expect to find that there are linear correlations between the variables, but will not be surprised if causal relations are few and far between, given the fact that family life is impacted by variables that go far beyond measurable economic statistics, such as sexual, emotional, intellectual, and even spiritual connection, not to mention biological factors in matters of fertility. These are but a few things that impact family life that we are unable to fully account for in this study, and thus form some of the limitations on our empirical research and our search for causal relationships between purely economic variables and family life. Israel (2023) reminds us of the fact that the very first usage of the term 'econometrics' was meant to describe a *descriptive* form of accounting for past economic data, rather than a *predictive* tool.

to immediately file for divorce, citing changes in rates of return on savings accounts. Instead, the thesis approaches the complex phenomenon of changing family life with the acknowledgement that many factors matter and have influenced these notable changes, and humbly suggest that it is both reasonable and worthy of further exploration to suggest that a sustained inflationary monetary policy over long periods of time impact culture and the household behavior and structure within such a culture.

The structure of the thesis will proceed as follows: Part 1 is entitled, “The Foundations of Family Economics”. To begin with, Chapter 1 describes an overview of the formation of family economics from the Greeks up to today. We acknowledge the pivotal role that Gary Becker’s work (and those who have followed him) has played in establishing the modern economic view of family life. In doing so, we will also provide some of the more recent trends in family economics that have attempted to link economic realities to altered household behaviors and structure. The next chapter on “Empirical Economics and the Family” will examine the extant literature that describes and explains family change over time that refers to casual and robust empirical work. Part 2 begins to demonstrate a shift in methodology towards political economy and in Chapter 3 the Cantillon effect’s impact on the broader economy and its relevance in family life is described. This is followed by the fourth chapter, which explains how fiat monetary systems contribute to the creation of the *inflation culture* (Hülsmann, 2008; 2014; 2016). Part 3, entitled, “Monetary Policy and the Family” begins with Chapter 5, which explains the ways in which the inflation culture alters the incentives, which lead to the habits and behaviors that are relevant to the changes that have occurred in traditional household life. This is followed by Chapter 6 and our empirical analysis of what has happened in the US since the 1960s in terms of family change and the correlations that emerge between expansionary monetary policy, the formation of inflation culture

habits, and changes in family formation, fertility, and divorce. The thesis concludes with Chapter 7's summary of our findings as well as a proper understanding of this dissertation's limitations along with the scholarly opportunities that it presents for future research. The final chapter will be topped off with a brief section that provides the reader an opportunity to consider the costs and benefits of fiat inflationism to household life.

## **Part I: The Foundations of Family Economics**

“The family merits the great attention it receives from both scholars and laypersons, for despite major changes over time and enormous variations across social and economic environments, it remains the most influential of all institutions.”

*-A Treatise on the Family, Gary Becker*

## **Chapter 1: Theoretical Economics and the Family**

Given the prominence that Gary Becker (1930-2014) has had in applying the use of economic tools to analyze family life, his work is a natural dividing point in examining the ways in which household behavior and structure have been described by economists throughout the ages. Furthermore, his work led some within the other social sciences that had previously dominated the field of family studies – sociology and demography – to emphasize the ground-breaking nature of his analysis, claiming that his work was an act of “economic imperialism” into the intellectual territory that they had traditionally controlled (Lazear, 1999; Pollak, 2002). We also find that within the field of economics itself, Becker’s work represented a shift towards the positivist approach and rational-choice theory, which represented a break from past theorizing regarding family economics which had largely been characterized by the methods of political economy. This being the case, we begin this chapter with an examination of several economic thinkers who preceded Becker’s analysis as well as the key themes in the economics of the family that have been analyzed across the centuries.

### **Section 1: Family Economics Prior to Becker**

It is clear that at all times and places, the themes of marriage, childbearing, and divorce have consistently been at the center of the theoretical and empirical analysis of the family institution. As early as Xenophon (ca. 430 to ca. 354 BC) and his discussion on husbands and wives and all the way to the present day, marriage – for better or for worse – has remained one of the dominant topics of inquiry in the economics of the family (Aloni, 2022; Shero, 1932). Of course, children within the family context are also one of the most vital subjects of family economics and they certainly hold an important place in Xenophon’s *Oeconomicus* as he deals with the manner in which children were educated and raised to adulthood (Pichugina & Bezrogov,

2017). Unsurprisingly, these two topics have been given ample attention in family literature throughout the 20<sup>th</sup> century as well (Becker, 1991; Caldwell, 1982; Easterlin, 1975; Easterlin et al. 1982 Grossbard-Shechtman, 1993; 2019) and all the way through to the current day (Burlando & Bbaale, 2022). Interestingly, divorce is the key theme that receives the least attention and explanation throughout the history of economic thought on the family. In fact, *Oeconomicus* doesn't even mention the subject.<sup>25</sup> Nevertheless, the ancient Greeks did have some clear cultural guidelines with respect to family dissolution. As a brief example, they had well-known cultural practices that addressed divorce and its economic implications by requiring dowry repayment for husbands who severed their relationship with their wives (Goodsell, 1915; Cohn-Haft, 1995). While divorce remains the least studied of the three key themes of family economics, the separation of spouses is still is an important metric studied by many in our current context and this theme is undergoing constant re-evaluation (Becker, Landes, & Michael, 1977; Gallaway & Vedder, 1986; Furstenberg, 2016; Parkman, 2019, Fiocchi, 2022).<sup>26</sup> While this brief explanation and list of citations is certainly not meant to be exhaustive in describing all the economists that have touched on the three themes of family economics, it is meant to show that over the centuries, that these areas of focus: marriage, fertility, and divorce have consistently remained at the forefront of the economic descriptions and analysis of the family and its changing characteristics over time.

### **1.1.1: The Greeks through Engels**

In order to provide a reasonably comprehensive, but brief view of the development of household economics, a proper look into historic changes in this theme is in order. The first portion

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<sup>25</sup> This is not much of a surprise as one reads Xenophon because his objective is to explain the effective, profitable, and flourishing management of a Greek household and how Ischomachus (likely Xenophon himself) had a model household and a trustworthy partner in his wife.

<sup>26</sup> The sampling of citations is brief as it doesn't begin to account for the sociological literature on the family, which is vast. Instead, it reflects the ways in which economists have sought to explain changes in family life over time.

of that attempt will rely on Rothbard's two-volumes on the history of economic thought (1995, 2006). As noted above, the first mention of household economics is provided in Rothbard's description of Xenophon's contribution. This disciple of Plato contended that the 'wealth' of a household properly understood required both the right to use one's possessions as the owner saw fit as well as the knowledge of how to apply those resources towards the owner's goals (Vol. 1, p.13). This assertion is applied to both the overall *oikonomia* or 'household management' and to individual managers within the household. Xenophon largely focused on the technology of household and of farm management, while he eventually goes on to describe the division of labor that emerges in broader society thanks to the specialization in the production of goods that emanate from both the demands as well as the production activities of these households.

Leaping forward into the High Middle Ages, family and household matters again entered the discussion as the Canonists and Romanists of the University of Bologna emphasized the relationship between the commercial activity of merchants and the benefits that accrued to their families (Ibid. 37-49). Specifically, it was Alexander of Hales who said that profits gained in the market by trade was a 'just and pious' reason for pursuing arbitrage, so long as the merchant and their household weren't given to 'avarice or endless and insatiable cupidity' (Ibid. 49). This observation proves to be a theoretical steppingstone into the 1700s where the Irish-born Frenchman, Richard Cantillon would make some key observations on the connection between new commodity money production and its impact upon family life (Saucier & Thornton, 2010).

### **1.1.2: Engels**

Not quite a century after Cantillon, the next major contribution to the relationship between economic affairs and the family came through Engels and Marx. Generally, these thinkers regarded the current form of the family institution and the values it instilled as an instrumental means for

the purposeful exploitation of women and children to the sole benefit of the patriarchic ruler of household. In the Marxian view, all the people in a household and the goods therein are generally treated as a part of the exploitative relationship that was regarded as a fundamental building block of capitalism itself. Furthermore, they taught that the internal contradictions that are displayed in this ‘bourgeois’ family would contribute to its own demise and that of capitalism itself. The key source to understand the Marxian theory of the family is Engel’s *The Origin of the Family, Private Property and the State* (Engels, 1884). In it, Engels contend that the traditional bourgeois family was a step in historic development that was new and had evolved from earlier forms. In a telling summary by Engels, he states that: “We thus have three principal forms of marriage which correspond broadly to the three principal stages of human development: for the period of savagery, group marriage; for barbarism, pairing marriage; for civilization, monogamy supplemented by adultery and prostitution. Between pairing marriage and monogamy intervenes a period in the upper stage of barbarism when men have female slaves at their command and polygamy is practiced” (Engels, 1884, 105-106).

The first form of family life that he (and presumably Marx) believed existed was the period of ‘savagery’ wherein complete sexual freedom or “complete promiscuity” (Geiger, 1968). In this form, they contended that mankind was still essentially subhuman and was in the midst of emerging from animal-like behaviors and that there was no discernable family structure at all.<sup>27</sup> The second form was that of “group marriage” and that from the Marxian perspective, the Australian Aborigines best exemplified this form of sexual union. In it, a form of “mass marriage” in which “entire groups are married, moiety with moiety” (Engels, 1884; 2010, p. 73). Another

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<sup>27</sup> Geiger softens this claim in his endnotes by saying that Engels wasn’t totally convinced of the peculiarities of this stage due to a lack of concrete evidence (p.347).



subset of this second form was what Engels called the “consanguine family” which allowed for sexual relations within blood family groups in contrast to the “mass marriage” which would have been separated by significant distances, these “consanguine” relations would have been synonymous with what moderns consider incestual relations. Yet another subset within this form was the ‘punaluan family’ which began to place restrictions on incest and which also “were bound to develop more quickly and more fully”, perhaps as a result of the process of natural selection (Engels, 1884, p. 69).

A third major form of ‘family’ then emerged in pre-capitalist societies (barbarism) and reflected what is now regarded as monogamous sexual relations between ‘paired’ men and women. This form was (or is) in their view a tool of patriarchal domination over women and children and is part and parcel of an emerging property-owning society. As private property systems become more developed – a timeframe they call, ‘civilization’ – this monogamous pairing would be a form of exclusion of those outside the family unit. The key exception to this would be that the husband would be free to be promiscuous and engage in adultery and or the solicitation of prostitutes.<sup>28</sup> However, with its internal contradictions, this form would (or will) eventually wither away – just as the state will – and a new form of family life will emerge in the end stage of history.

An important part of understanding Marxist ideas on household life is to look further into this third form of monogamous marriage. Within it, there are two prevailing types of family life, namely the ‘bourgeois’ and ‘proletarian’. In their view, the bourgeois type of household arrangement emerged because of private property and the need to transmit that wealth to heirs. In fact, Engels admits that this is the first type of family to be recorded in written history (Engels,

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<sup>28</sup> Engels regards both of these practices as ‘complements’ to monogamous marriage.

1884, p. 84-88). It is this form of ‘patriarchy’ which is concerned with economic matters of wealth production and inheritance. Furthermore, Engels regards the relationship between husband and wife (and husband and children) as one of degraded servitude of women and is “the organization of a number of persons, bond and free, into a family under paternal power for the purpose of holding lands” (Engels, 1884, p. 87-88). To grant greater clarity, Geiger explains, “Within the family, as Engels’ memorable aphorism put it, the husband is the bourgeois, and the wife is the proletarian. And it was not only property ownership which brought inequality of power” (Geiber, 1968, p. 16).<sup>29</sup> As such an institution, it would be concerned with the accumulation of wealth to the exclusion of other families and that it would (or does) encourage men and women to form unions in which actions taken to acquire said wealth will cause those specific marriages to outlast others. It is on this point that our thesis will find fertile territory for further analysis along with the contrasting types of family life that the Marxian framework describes.

The ‘others’ that Engels has in mind would refer to the second type of family that emerges in the third family form (monogamous families), that of the ‘proletarian’ family. In it, there is no attachment to private property because they don’t (in the Marxian worldview) even own their own labor. In essence, the proletarian family was “free from the corrupting influence of private property” (Geiger, 1968, 17). Despite not having any property, according to Engels, the proletarians were more generous than their bourgeois counterparts and were the true benefactors of the poor. Not only does this type of family lack property, but they lack income leading to a

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<sup>29</sup> Interestingly, non-Marxist economists have adopted this view of power differentials as a major theme in their research programs. For example, Pierre-Andre Chiappori stated explicitly in his preface to *Matching with Transfers* (2017) that, “During the years I spent working on the topic, from both theoretical and empirical perspectives, I acquired several insights, one of which is of particular importance: *power matters*. In a typical household, husband and wife cannot be expected to agree on everything. And whenever they do not totally agree, the distribution of “power” (or “influence” or “bargaining positions” or any other related notion) between them does have an impact on the outcome: who has the final say matters a lot for what will be decided.” (Emphasis added)

shortage of necessities. Such a family would be subject to serious degradation through starvation, suicide, drunkenness, physical abuse, and – just like the bourgeois – sexual infidelity. Again, Geiger states that, “The breakup, factual dissolution, or practical absence (all terms used synonymously by Engels) of proletarian family life was owing in the first instance to economic need, but also to one of its immediate consequences – the employment of women and children in industry” (Geiger, 1968, 18).

According to Engels’ assertions in *The Condition of the Working Class in England*, these economic conditions make it virtually impossible for the proletarian family to survive, whereas their bourgeois counterparts maintain their household forms due to their exploitative wealth. He claims: “Thus [,] the social order makes family life almost impossible for the worker. In a comfortless, filthy house, hardly good enough for mere nightly shelter...The husband works the whole day through, perhaps the wife also and the elder children, all in different places...What family life is possible under such conditions? Yet the working-man cannot escape from the family, must live in the family, and the consequence is a perpetual succession of family troubles, domestic quarrels, most demoralizing for parents and children alike” (Engels, 1844, 129).<sup>30</sup>

As Engels draws out the details of this theory of family life in the proletarian experience, it is no doubt that there is a stark contrast between the family experience between them and the bourgeois.<sup>31</sup> This unquestionably a moving depiction of the miseries of the have-nots and the type

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<sup>30</sup> DeSoto’s explanation of the causes of demoralization offer an important insight for the purposes of this thesis. He contends that, “economic agents in general have come to consider the artificial expansionary phase (of credit increases) characteristic of a boom to be the normal stage of prosperity, which should be sought and maintained in any way possible. By the same token, expansion’s inevitable consequences, i.e., crisis and recession, are considered a very negative stage which should be avoided at all costs”. He further states that “widespread demoralization caused by artificial credit expansion...is especially devastating to society’s youngest, most dynamic generations” (Desoto, 2012, 456-8).

<sup>31</sup> Josef Pieper, in his book, *Leisure the Basis of Culture* speaks of a general movement in most of society towards a ‘proletarianization’ of life that is consumed by ‘total work’. In this form of living, more and more households are swept up into “servile work” and as such, there is a tendency to experience an increasing rapidity in the pace of life

of family life that they experience as a result of their poverty. What is most important for our inquiry is that such conditions are less conducive to family life than they are for wealthier households.<sup>32</sup>

### 1.1.3: Mises

The Socialist view of history and of the program itself were challenged in 1922 with the release of Ludwig von Mises' *Socialism: An Economic and Sociological Analysis* (Mises, 1922, 2015). In it he devoted a chapter to a criticism of the Marxist view of history and its understanding of the family. His critique began with an attack on the tendency towards "utopianism" that exalts the ideals of free love and serial promiscuity as advocated in Bebel's *Woman Under Socialism* (Bebel, 1904). Mises' critique begins with a general observation on Marxist theory stating that, "historical research is merely a means of political agitation" and that it "smuggles an evaluation of this material into an exposition which pretends to be scientific" (Mises, 1922, 2015, 88-9).

After this opening salvo regarding the development of family life proposed by Engels, Mises claims that ethnographers, historic research as well as psychoanalysis served to create "the foundations for a scientific theory of sexual life". Furthermore, he also criticized the sociologists

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(Pieper, 1952, 59). He suggests that more and more bourgeois families were moving in this direction over time. From an economic perspective, he leaves the reader a small clue as to a possible explanation as to why the urgent need for work and income production tends to dominate through the years. The clue comes in his explanation that to reverse this trend that the process of "deproletarianization" would require, "enlarging the scope of life beyond the confines of merely useful servile work, and widening the sphere of servile work to the advantage of the liberal arts; and this process, once again, can only be carried out by combining three things: by giving the wage-earner the opportunity to save and acquire property, by limiting the power of the state, and by overcoming the inner impoverishment of the individual". It is this inability to save and acquire additional property that may in fact be symptomatic of an inflationary environment that is experienced generally, and not just by the later receivers of new money expenditures, but rather a tendency that accrues to the whole of society.

<sup>32</sup> Engels suggests a fourth form of family life after the communist revolution, where "Property holding, work, consumption, and the rearing and education of children would be surrendered to society... Women would have been drawn into the liberating sphere of "social production" and freed from the domestic slavery of the individual family household". Marriage would apparently remain only if the spouses maintained their passionate love, and Engels observed that "the intense emotion of individual sex-love varies very much in duration from one individual to another, especially among men" (Engels, 1844, 114).

for not fully incorporating these areas of study into their theories of the family. With these initial criticisms out of the way, Mises proposes that the historic development of the family institution could be described in two essential ages. First, the relationship of men and women originated in an ‘age of violence’ and later, marriage under the influence of the idea of contract, which was influenced by the advent of property ownership and capitalism and proved to be a much better world for women and represents the modern state of marriage that predominates in the west.

His characterization of the first type of family life rejects the Marxist vision of a long-lost Edenic golden age of free love that was lost to the brutality of exclusionary property ownership. Instead, he presents a picture that is very nearly the exact opposite of Engels’. For Mises, unions between men and women in the distant past were predicated on the principle of male aggression where, “The man seizes possession of the woman and holds this sexual object in the same sense in which he has other goods of the outer world. Here woman becomes completely a thing. She is stolen and bought...in short, she is like a slave in the house” (Mises, 1922, 2015, 89). With little doubt this is very similar to the language that is used by Engels in his description of modern marriage in the age of capitalism. Furthermore, Mises refers to polygamy (perhaps alluding to serial promiscuity) as a symptom of the principle of violence and that under this way of acting, “Each man has as many wives as he can defend. Wives are a form of property, of which it is always better to have more than few” (Ibid., 95).

As one might well expect, Mises and Engels have the exact opposite view on marriage in the modern era. Where Engels sees the institution itself as a form of involuntary servitude for the wife, Mises sees a voluntary and love-based relationship that is entirely more civilized and egalitarian than the free love regimes proposed by the socialists. Moreover, he views contract ethics, rather than religious doctrine and practices as spurring this more suitable form of marriage

and living stating that, “Moral reformers did not abolish polygamy, neither did the Church at first combat it. For centuries Christianity raised no objections to the polygamy of the barbarian kings. Charlemagne kept many concubines. By its nature polygamy was never an institution for the poor man; the wealthy and the aristocratic could alone enjoy it...monogamy has been gradually enforced by the wife who brings her husband wealth and by her relatives – a direct manifestation of the way in which capitalist thought and calculation has penetrated the family. In order to protect legally the property of wives and their children a sharp line is drawn between legitimate and illegitimate connection and succession. The relation of husband and wife is acknowledged as a contract. As the idea of contract enters the Law of Marriage, it breaks the rule of the male, and makes the wife a partner with equal rights” (Ibid., 95). Indeed, there couldn’t be a clearer contrast in views between Engels and Mises when it comes to the role that property rights and contracts play in influencing family life.

Another way in which Mises and Engels diverge is with respect to the role that exogenous economic factors play in the breakup of family life. Mises is dismissive of the notion that economic pressures, industrialization, and modernization play in the disintegration of the family. He contends that social conditions are of “minor importance” to any conflicts that emerge between married couples. He explains that “It would be wrong to assume that...marriages made miserable by economic factors are in any way as important an aspect of the question as the frequency with which literature treats of them would suggest. There is always an easy way out if people will only look for it.” (Ibid., 99).

Instead of focusing on the economic pressures that might cause marital tension, Mises turns to the realm of ideas and addresses the role that Feminism of the 19<sup>th</sup> century variety posed to traditional family life. He points to the claim that “marriage forced women to sacrifice personality”

as an affront to the improved lives of women under marriage influenced by property rights and contracts. He answers this line of thought by explaining that the “expansion of woman’s powers and abilities is inhibited not by marriage...but by the more absorbing form in which the sexual function affects the female body”. Furthermore, he engages the Feminist argument in biological terms by replying: “One may believe that the unequal distribution of the burden of reproduction is an injustice of nature, or that it is unworthy of woman to be child-bearer and nurse, but to believe this does not alter the fact...when she becomes a mother, with or without marriage, she is prevented from leading her life as freely and independently as man...because the functions of sex have the first claim upon woman” (Ibid., 100-1).

As Mises makes clear in later statements, he has no axe to grind with Feminism *per se*. Rather, he contends that it has been part of a general trend away from the age of violence and towards liberalization for all. This is because it had helped make the case for women’s legal and economic freedom, which “advocates peaceful and free evolution”. However, he also concludes that when feminism attacks the institution of marriage itself, it is the handmaiden of socialism, and it hastens the demise of the traditional family. He draws these two ideas together saying, “it is a characteristic of Socialism to discover in social institutions the origin of unalterable facts of nature, and to endeavor, by reforming these institutions, to reform nature” (Ibid., 101).

In summary, Mises sees the development of capitalism and its foundational principles of private property acknowledgement and the division of labor as a boon to women who marry. He views the infusion of contract law into family life as a means for women to exert rights that they had never held before, and that these economic rights improved their lot within the household. In exalting the role that contracts play in producing a more civilized form of family life, he also diminishes the role that economic, social, or even religious factors play in altering the course of

marriage, fertility patterns or upon divorce. This assessment of the changes in family life over time are, quite clearly, diametrically opposed to the Marxist narrative on the same subject.

#### **1.1.4: Schumpeter**

Two decades after Mises' commentary, Schumpeter addressed family life within the context of his exposition on the 'decomposition' of capitalism. In his well-known *Capitalism, Socialism and Democracy*, Schumpeter paints a picture of modern capitalism that is best described as an interventionist form of capitalism (Schumpeter, 1942, 2008; McCaffrey, 2009). He provides a picture of a thoroughly *mixed economy* which approximates the state of affairs among the Western democracies of his era. It's clear that his presentation of capitalism is a far closer to the Marxian view than the Misesian economic theory which always begins with a genuinely free, *laissez-faire economy*.<sup>33</sup>

Schumpeter contends that the lures of capitalistic comforts that are afforded to the upper classes are partially responsible for the decline of the 'bourgeois' family as an institution. He argues that – if household members adopt a strictly rationalistic, cost-accounting view of life – these upper classes will in fact tend towards an increasingly rationalistic, utilitarian, and short-run forms of thinking. He then explains that there will also be a tendency to ignore the long-term benefits that come from marriage, fidelity, and child-rearing. As for the state of mind that develops among married couples in a society that adopts a mixed economy, he notes that: "As soon as men and women learn the utilitarian lesson and refuse to take for granted the traditional arrangements

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<sup>33</sup> Schumpeter presents an argument for the mixed or interventionist economy to slowly devolve into a socialist regime, which is strongly reminiscent of the Marxist view of the movement of history. This is in fact in harmony with Mises' views on the eventual destination of interventionist economies, but is at odds with the way in which Mises defines 'capitalism' as fully free and voluntary exchange without any governmental interventions whatsoever, whether fiscal or monetary policy.



that their social environment makes for them, as soon as they acquire the habit of weighing the individual advantages and disadvantages of any prospective course of action...as soon as they introduce into their private life a sort of inarticulate system of cost accounting – they cannot fail to become aware of the heavy personal sacrifices that family ties and especially parenthood entail under modern conditions” (Schumpeter, 1942, 2008, 157).

Put more simply, an interventionist economy, according to Schumpeter, would tend to make individuals more likely to incorporate cost accounting into their personal decisions, even those as intimate as marriage, childbearing, or divorce. He further elaborates on this apparently inevitable course of events in the (interventionist) capitalist world, claiming: “While the capitalist process, by virtue of the psychic attitudes it creates, progressively dims the values of family life and removes the conscientious inhibitions that an old moral tradition would have put in the way toward a different scheme of life, it at the same time implements new tastes...As regards the style of life, capitalist evolution decreases the desirability of and provides alternatives to, the bourgeois family home” (Ibid., 158).

Notably, Schumpeter doesn’t precisely explain what (if any) *policies, institutions, or habits* serve as the mechanisms that generate these new “psychic attitudes” which undermine traditional family life. He seems to suggest that – like the Marxists – that the material conditions are the root cause, but this raises the question of what the changes in material conditions would be.<sup>34</sup> For the Marxists, the proletarian family is destroyed due to a *lack* of material well-being, a weight under which the bourgeois family is destroyed. Schumpeter points to the *bounty* of capitalism – even in

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<sup>34</sup> Indeed, Schumpeter’s prologue notes that, “My final conclusion therefore does not differ, however much my argument may, from that of most socialist writers and in particular from that of all Marxists. But in order to accept it one does not need to be a socialist. Prognosis does not imply anything about the desirability of the course of events that one predicts” (1942, 61).

its mixed form – that leads families towards greater material accumulation, which also lead them to ignore the traditional joys of family life. In fact, he claims that the rational utilitarianism of interventionist economies leads adults to a frame of mind where: “the balance sheet is likely to be incomplete, perhaps even fundamentally wrong. For the greatest of the assets, the contribution made by parenthood to the physical and moral health – to “normality” as we might express it...almost invariably escapes the rational searchlight of modern individuals who, in private as in public life, tend to focus attention on ascertainable details of immediate utilitarian relevance and to sneer at the idea of hidden necessities of human nature or of the social organism [i.e., the family]” (Ibid. 158).

After describing this tendency towards rationalistic utilitarianism and the impact of this way of thinking upon the assessment of family life, Schumpeter then turns to another area where he portends the demise of his definition of capitalism. In an interesting set of forecasts regarding the development and reinforcement of short-term thinking, Schumpeter contends that such an attitude will also prevail among wealthy households. This can be seen as a rejection of *bourgeois* sensibilities, as such households typically emphasized thrift in prior generations. Instead, those who traditionally grew their wealth through their low time preferences, savings, and subsequent investments tend to become spendthrifts. He predicted that, “With the decline of the driving power supplied by the *family motive*, the businessman’s time-horizon shrinks, roughly, to his life expectation. And he might now be less willing than he was to fulfill that function of earning, saving, and investing...He drifts into an anti-saving frame of mind and accepts with an increasing readiness anti-saving theories that are indicative of a short-run philosophy” (emphasis added: Ibid, 161). Indeed, in the US, the percentage of household at all income levels (using savings bonds as

a measurement for savings) have declined markedly since 1989 while real median debt per household has also increased in every income quintile during the same time frame.<sup>35</sup>

While Mises portrays family development in nearly the exact opposite framework as Engels, Schumpeter incorporates a sense of Marxian inevitability into the disintegration of families, but for different reasons. Where the Marxists present the idea that the degradation and poverty of the proletarian class contribute to the eventual seizure of the means of production and the abolition of property, thus leading to the withering away of the family and the state, Schumpeter sees the *success* of capitalist societies and the material wealth that it produces for all classes as the main instrument through which family life dissolves and through which socialism eventually emerges. These three contrasting views on family development all center on large scale changes in the broader social economy. However, after Schumpeter's work, there would be a shift in focus in what causes the behaviors and forms of family life to change over time. Rather than focusing on large-scale, epochal changes in society as the driving force in family change, economists of more recent decades would focus their theoretical and empirical research on the family by examining matters that were of a more endogenous and microeconomic nature. This change in the locus of research got underway in the 1960s with the work of Gary Becker.

## **Section 2: Family Economics from Becker to the Present**

Prior to Gary Becker's work on the economics of family life, the field of sociology had done the lion's share of study on the family, with economists making smaller contributions from time to time. While Becker began to address various areas of family life with the tools of economics, Burgess, Locke, and Thomes noted that "sociology is concerned especially with five

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<sup>35</sup> Sourced by the Survey of Consumer Finance (SCF) from 1989-2019 at: <https://www.federalreserve.gov/econres/scf/dataviz/scf/chart/>

interrelated areas which are also areas of interest in the study of the family: social groups and structures, roles and statuses, interpersonal interaction, social processes, and culture” (1963, vii). As they perceived that the family in the West was in transition from an institution to a mode of companionship, the field of economics began to have a say in explaining not just *how*, but *why* family life was changing as well. Becker’s utilization of a rational-choice set of assumptions along with a positivist methodology informed his attempts to explain changes in household structures, roles, status, as well as the interpersonal actions of husbands and wives, parents and children. Moreover, he sought to explain family phenomenon such as inheritance determination, parental altruism, and the incentives for a “rotten kid” by using the tools of economic analysis to explain why households do what they do.<sup>36</sup> To say that his approach was controversial and that sociologists resisted the use of the tools of economics is an understatement (Pollak, 2002). Nonetheless, Becker’s work on the family, which began in the 1950s, has opened the floodgates to economic research on the family and has invited further exploration by a plethora of scholars. In short, Gary Becker’s influence is undeniable (Easterlin, 1975; Caldwell, 1982; Chiappori, 2017; Ermisch, 2003; Browning, Chiappori and Weiss, Doepke and Zilibotti, 2019; Murray, 2012; Grossbard-Schechtman, 1993; Eichner, 2020; Horwitz, 2015, Carbone and Cahn, 2014; Roback-Morse, 2008; Eichner, 2020).<sup>37</sup>

### **1.2.1: Becker on Fertility, Marriage, and Divorce**

In the 1960s the interest in household economics gained momentum with much of the responsibility lying with Becker and several co-authors. At the beginning of the decade, Becker’s

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<sup>36</sup> Becker’s well-known “rotten kid” theorem essentially argues that even children (including adult children) have an incentive to be kind to their parents and siblings when inheritance is at stake.

<sup>37</sup> A brief quantitative example of his impact via scholar.google.com shows that Becker’s magnum opus on the topic, *A Treatise on the Family*, (1991) has been cited over 25,000 times as of August of 2023. While his book, *Human Capital: A theoretical and empirical analysis, with special reference to education*, a topic covered within his fertility theory, has been cited over 59,000 times.

article, *An Economic Analysis of Fertility* would see him address one of the three key areas of family economics in a new way (Becker, 1960). In it, he noted sociologists' and demographers' inability to anticipate fertility decline in the U.S. in the 1930s. Moreover, he critiqued their lack of foresight regarding the magnitude of growth in fertility in the years following World War 2. In response to these shortcomings, he tried to create a framework for understanding childrearing through rational expectations assumptions. One such attempt yielded a novel view on children: "For most parents, children are a source of psychic income or satisfaction, and, in the economist's terminology, children would be considered a consumption good. Children may sometimes provide money income and are then a production good as well. Moreover, neither the outlays on children nor the income yielded by them are fixed but vary in amount with the child's age, making children a durable consumption and production good...I will try to show that the theory of the demand for consumer durables is a useful framework in analyzing the demand for children" (210-1).

While Becker admits that this might come as an unsatisfactory or even immoral assessment of children's role in family life, he nonetheless moves forward with his argument. As with any other consumer good, several variables are normally used in determining a household's demand for that good. He then considers that parental "tastes", the intended "quality" of each child, and household income all play important roles in determining how many children a couple desires. Becker also includes the anticipated cost of each child in fertility determination and speaks of it in terms that are part and parcel of rational-choice theory stating, "In principle the net cost of children can be easily computed. It equals the present value of expected outlays plus the imputed value of the parents' services, minus the present value of the expected money return plus the imputed value of the child's services. If net costs were positive, children would be on balance a consumer durable, and it would be necessary to assume that psychic income or utility was received from them. If net

costs were negative, children would be a producer durable and pecuniary income would be received from them” (213).

Becker then concluded that the rise in real incomes experienced throughout the U.S. since the mid-1800s resulted not in a higher quantity of children per woman, but a higher average expenditure per child. This is what he means by parents investing in the ‘quality’ of each child. As a result– and because of falling child mortality rates – fewer children were born in times where rising incomes were the norm for most households.

In an interesting section of this initial article on family economics, Becker rejects the notion that “social pressures ‘force’ richer families to spend more on children, and that this increases the cost of children to the rich”. He then explains that this is the case because social pressure alters indifference curves, but not actual costs. Moreover, Becker claims that these pressures “may affect the *income* elasticity of demand for children by rich (and poor) families, but not the *price* elasticity of demand for children” (215, emphasis added).<sup>38</sup>

As a summary of Becker’s first major contribution to family economics one can see that he concludes that the three things that matter most in determining fertility are declining child mortality, contraceptive knowledge, changes in income, and a rise in the cost of children. By using the tools of apply rational-choice theory, Neo-classical economics, and human capital theory to

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<sup>38</sup> The demographer John C. Caldwell’s *Theory of Fertility Decline* asserted that not just throughout the West, but also in the developing world. Stating, “there is almost certainly only one way forward, and that is to assume (and attempt to prove) that the economic advantages of high fertility have declined”. He further cites a passage from Gadalla (1978) in the Egyptian context where, “The villagers are aware of the increased costs of food, clothing, medical care, and education which they are providing their children. They even frequently compare how little it used to cost their own parents to feed and clothe them with what it costs today...In short, they are sensitive to the economic costs of rearing children, aware that a large family costs more to support and maintain than a small one, and encountering much more economic difficulty in raising their families than did their parents and grandparents” (Caldwell, 1982; Gadalla, 1978). This view of course runs somewhat counter to Becker’s contention. It will be our contention that Becker should be taking into account sensitivity to expected future prices, that is to say, expected inflation sensitivity in child rearing, as rising prices may indeed be linked to monetary policy and the rising real costs of raising a higher ‘quality’ child over time.

describe and predict the actions of households with respect to fertility choices. This was a somewhat ironic change in the way of looking at family life, especially in light of Schumpeter's caution regarding rationalistic thought by household members. Again, Schumpeter warned that if adults within families adopt a calculating and rationalistic attitude towards family and children, that such viewpoints would be potentially destructive to the family institution. Yet, Becker operates from the assumption that this type of rationalism is in fact the main mode of thinking within households. Within the field of sociology, this irony was not lost on his critics, as they viewed rational choice theory as an improper tool to examine families, along with the assumption that families operate in such a rationalistic way (Coleman, 1993). Indeed, such critics would eventually accuse Becker with 'economic imperialism' as they viewed his theoretical work as a sort of invasion of rational choice theory into studies on the family.<sup>39</sup>

Despite the criticism of sociologists for Becker's attempt to explain household actions and choices, he continued to use the economic tools of analysis on fertility by offering a *Reformulation* of the theory nearly three decades later (Becker & Barro, 1988). In it, the introduction of one key macroeconomic variable – the world's long-term interest rate – appears to be Becker's attempt to set the example for family economists to introduce macro variables into family economics as he had implored others to do in his 1987 Presidential address to the AEA. The Reformulation also differed from the 1960 model by including the endogenous factor of parental altruism and the growth of child-survival probabilities. Furthermore, the new work suggested that parental demand for children depends, "negatively on the rate of technical progress and the growth rate of social security" (1).

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<sup>39</sup> Some sociologists were apparently irritated with Becker's use of neo-classical economic modeling upon family life and decisions, an area that they deemed to be their own intellectual turf.

After initially addressing family fertility choices in the 60s, Becker moved his focus to marriage and divorce in the 70s with his 2-part *Theory of Marriage* (1973, 1974). In the first installment, he applied the neo-classical assumption of market equilibrium along with actors that are seeking out higher utility through the act of marriage as opposed to the utility they would have if they remained single. In describing those gains to utility, Becker states: “the gain to a man and woman from marrying compared to remaining single is shown to depend positively on their incomes, human capital, and relative difference in wage rates. The theory also implies that men differing in physical capital, education or intelligence (aside from their effects on wage rates), height, race, or many other traits will tend to marry women with like values of these traits, whereas the correlation between mates for wage rates or for traits of men and women that are close substitutes in household production will tend to be negative” (Becker, 1973, 813).<sup>40</sup>

Furthermore, Becker would contend that the degree of the gains from marriage would be related, “not on the goods and services purchased in the marketplace, but on the commodities produced “by” each household” (816). These goods can include non-monetary gains such as health, meals, recreation, companionship, love, children and their attendant joys, and other measurable and non-measurable goods. All of these outcomes are summed by Becker into a single aggregate output variable ( $Z$ ) that is produced via the household’s inputs. Those inputs Becker referred to included environmental factors, wages, time spent at work or home, property-based income. Altogether, these inputs were combined to create the ‘full income’ that would contribute to the household aggregate output ( $Z$ ). In short, the maximum utility that households can

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<sup>40</sup> This seeking of a mate with similar levels of education, height, ethnic origin, etc., would be called, “Positive assertive mating” by Becker, and others would later use the term, “homogamy” to describe this tendency in marital matching.



experience is arrived at through a combination of factors that maximize the ‘full income’ of the family, which in turn maximize household output ( $Z$ ) (816-7).<sup>41, 42</sup>

One of Becker’s key underlying assumptions is that in this model, prior to matrimony, the couple has complete knowledge of the others ability to contribute positively to the household’s full income. But this raises the question of: What happens is this information is in fact asymmetric? This question is addressed in the second installment of *A Theory of Marriage* (Becker, 1974). In it, we are reminded that in the first paper that the marriage market is in equilibrium and as Becker put it, “no person could change mates and come better off” (S11). Recognizing this strong assumption, Becker drops this assumption, making the possibility of separation and divorce a theoretical possibility, if not a probability. Due to this assumption being dropped he then considers the costs of, “the search for information through dating, coeducational schools, “trial” marriages, and other ways [of finding a utility-maximizing match]” (S12). Becker admits to spending a minimal amount of time on the topic of the divorce decision, because of the manifold challenges presented in its theoretical analysis. Nevertheless, he makes an initial attempt to describe tendencies towards divorce based on search costs stating: “Search will be longer the greater the benefits expected from additional search. Since benefits will be greater the longer the expected duration of marriage, people will search more carefully and marry later when they expect to be married longer, for example, when divorce is more difficult or adult death rates are lower. Search may take the form of trial living together, consensual unions, or simply prolonged dating.

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<sup>41</sup> Becker makes an important distinction between any adults who can achieve higher total utility by living together. He notes that only married (or cohabitating) male and female couples can generate their own children through their complementarity in exchanging their time spent in the market and at home in a complementary way. Thus, their aggregate output may still increase when one spouse works in the marketplace and another stays at home with a child. By way of contrast, singles, if they are in the marketplace, they can’t be at home producing household goods such as meals or the good of playtime with a child at the same time.

<sup>42</sup> Becker also notes that, “Some sociological literature also suggests that complementarity between men and women is the major source of the gain from marriage” (Winch, 1958, 1967; Goode, 1963).

Consequently, when divorce becomes easier, the fraction of persons legally married may actually increase because of the effect on the age at marriage. Indeed, in Latin America, where divorce is usually impossible, a relatively small fraction of the adult population is legally married because consensual unions are so important...and, in the United States, a smaller fraction of women have been married in those states having more- difficult divorce law” (S22).

These broad strokes in attempting to build a robust theory were unsatisfactory, even to Becker himself, and the project was picked up again in a joint article with Elisabeth Landes and Robert Michael in the *Journal of Political Economy* (1977). In it, a far more thorough explanation was provided for the theoretical causes of divorce or separation. There, multiple empirical findings led to the following causes of marital instability, including:

1. “The probability of divorce is greater the smaller the expected gain from marriage, provided unexpected gains are not strongly negatively correlated with the expected gain” (1145).<sup>43</sup>
2. “persons with rare traits...usually have to spend considerable resources “searching” for mates with similar traits...Anticipating these difficulties, persons with rare traits may compromise and settle for mates with less similar traits” (1147).
3. “the accumulation of [marriage] specific capital discourages dissolution...[conversely] the possibility of dissolution also discourages the accumulation of [marriage] specific capital because such capital is less valuable after dissolution” (1152).<sup>44</sup>
4. “When remarriage is possible, the wealth expected from remaining married would be compared not only to the wealth from becoming divorced, but also to that from remarrying” (1153).

While the assumption surrounding marriage market equilibrium is dropped in this look at divorce, the utility-maximization assumptions of rational-choice theory still predominate this view of the theoretical causes of failed marriages. With this more robust theoretical framework in place

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<sup>43</sup> The authors include examples of expected gains coming from expected income or fecundity, or other intangible gains such as love or prestige.

<sup>44</sup> Becker, Landes, and Michael include the couple’s own children as a form of “specific capital”, and indeed other empirical work shows that the presence of own children reduces the probability of divorce in the West.

for dissolved unions, and with his previous work on the economics of marriage and fertility, Becker produced one his best-known works four years later, *A Treatise on the Family*. In its enlarged edition from 1991, he would offer additional supplemental chapters on the economics of the family.<sup>45</sup>

The last of these supplemental writings comes as an addition to a chapter on the evolution of the family over time through the sort of epochal changes as Engels, Mises, and Schumpeter all focused on. The chapter could also be viewed as Becker's attempt to include exogenous and macro-level variables that impact the behaviors, functions, and forms of families that are introduced through the interventions of state actors. In it, there is a marked emphasis on whether the interactions between parents and children are "efficient". In defining the term as it applies within the family, he explains: "Trades and contracts are efficient if no deviation from the terms would raise the welfare of all participants. An alternative criterion for efficiency is that the monetary gain to those benefiting from a deviation does not exceed the monetary loss to those harmed. Unfortunately, the immaturity of children sometimes precludes efficient arrangements between children and parents or others responsible childcare" (Becker, 1991, 362).

The chapter then goes on to provide a somewhat surprising conclusion, especially given Becker's resistance to state intervention elsewhere in the social economy. He asserts: "This difficulty in establishing efficient relations within families provides the point of departure for our interpretation of the heavy state involvement in the family. We believe that a surprising number of state interventions mimic the agreements that would occur if children were capable of arranging

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<sup>45</sup> These include the themes of: 1. Human Capital, Effort, and the Sexual Division of Labor; 2. A Reformulation of the Economic Theory of Fertility; 3. Human Capital and the Rise and Fall of Families; 4. The Family and the State. Each of these areas will receive some attention in the paragraphs ahead.

for their own care. Stated differently, our belief is that many regulations of the family improve the efficiency of family activities” (363).

Becker acknowledges that the modern theory of regulation and public choice theory call into question the state’s ability to foster both justice and efficiency. Nonetheless, he makes the argument that, “only parents who give their adult children gifts or bequests make optimal investments in children” (363). Becker then leads his readers into a discussion on parental altruism towards children in which he rehearses the well-known “Rotten Kid Theorem”.<sup>46</sup> He notes that inheritance for children is positively correlated to total family wealth and that for poor families’ bequests are rarely made. In response to such a correlation, Becker concludes that the state does indeed play a role in the family, essentially by providing bequests and inheritance through state-sponsored investments in the human capital of children via public expenditures. In explaining why he feels the need for such an intervention, he claims that: “When the rate of return on savings is less than the marginal rate on human capital, both children and parents could be better off with a “contract” that calls for parents to raise investments to the efficient level in return for a commitment by children to repay their elderly parents. Unfortunately, young children cannot be party to such contracts. Without government intervention, social norms, or “guilt” of parents and children, families without bequests would underinvest in children’s human capital...State intervention in the provision of education and other human capital could raise investments in children to the efficient levels” (367).

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<sup>46</sup> In Chapter 8 of the Treatise, the full discussion is given to this idea, which in Becker’s own summary means that, “under certain conditions, both altruistic parents and their perhaps selfish children work out efficient relations that maximize the combined resources of the family as a whole. If this theorem applies to most situations, state interventions in the family could not raise efficiency. The Rotten Kid Theorem fails to hold, however, when parents do not give children gifts or bequests” (Becker 1991, 365).

Becker's emphasis on efficient outcomes within the family sphere continues with respect to old age support for parents. He suggests that the public provision of pensions is a form of *quid pro quo*. For Becker, it amounts to a "social compact" where, "Taxes on adults help finance efficient investments in children. In return, adults receive public pensions and medical payments when old" (370). Indeed, he goes on to note some of the empirical results from the approach to pensions and medical assistance to the elderly in the US. Among them were a greater tendency for, "poor and middle-level older persons...to live apart from their children than they were before social security became important" (374).

Additional areas where Becker calls for intervention include divorce laws, observing that "Divorce laws eased as birth rates began to decline in the nineteenth century" and that in the decades prior to the 1990s that, "low birth rates and the much higher labor force participation of women stimulated a further easing toward no-fault divorce" (376). Birth rates come up as another theme in the context of state intervention towards "optimal population". While admitting that economic science – nor any other science – has provided a "guiding principle" for how to define optimal population. Nonetheless, Becker reaches the conclusion that poor families have too few children and that wealthy families have the optimal amount. While admitting to his readers that this sort of conclusion may come as a "shock", he turns once again to his thoughts on the efficiency of bequests. Here he explains that because the poor leave little if any inheritance for their children, that they may be brought up to the optimum number of children via "welfare programs" and "subsidies to education" (377).<sup>47</sup> Finally, the new chapter on the family and state intervention concludes with a section on intergenerational political rivalry. In that section, he explains that

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<sup>47</sup> Becker isn't suggesting here that governments should or do deliberately prevent contraceptive knowledge from reaching the poor, he rather seems to be stating it in a matter-of-fact fashion.

government debt can be viewed as a way in which the current generation exploits future generations. For Becker (and others) this animosity may be especially true in a democracy where younger generations haven't reached the voting age.<sup>48</sup> However, Becker claims that if altruism is the operating principle of the current group of adults that, "even if the altruism of many parents is not strong enough to lead to positive bequests and efficient investments in human capital, it could be strong enough to ensure that future generations also gain when the present generation uses its political power to issue debt and other obligations to future generations" (379).

When examining the role that the state plays in family life, Becker generally deals with categories of direct legal intervention or the macroeconomic variable of fiscal policy, while leaving out the role that monetary policy might play in altering the incentives surrounding family behaviors like bequests or human capital investments. This exclusion by Becker might not be much of a surprise to those who regard monetary authorities as a purely independent set of economic actors. Even if one does view monetary authorities in this way, the alleged independence of a fiat central bank's actions still doesn't negate its economy-wide impact and if he would have approached this subject, he would have furthered his own agenda of demonstrating how macroeconomic factors impact family behavior and structure.

### **1.2.2: Extensions of Becker's Work**

Alongside Becker's work during the 1970s, Richard Easterlin made additional attempts to develop an increasingly robust theory of fertility as well as to integrate the work of economists and sociologists (Easterlin, 1971). In order to do so, he affirmed the use of the rational-choice and utility maximization assumptions of Becker along with his use of a family production function to

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<sup>48</sup> See: Hoppe, H.H. (2001). *Democracy: The god that failed*. New Brunswick, NJ: Transaction Publishers.

serve as a basis for his own theory of fertility. The result was a theory that centered upon the tradeoff that parents make between a quantity of children and a quantity of all other goods, subject to budget constraints. At the same time, Easterlin aimed to introduce flexibility into his fertility model that would include “the possibility of shifts in output [of children] independent of demand conditions” (Ibid. 62). This was done out of a sense of value that Easterlin placed on the work done by non-economists, especially those in sociology and anthropology. As such, he helped foster a trend in economics to seek out a more cross-disciplinary approach in both methodology and modeling.

Another researcher in family economics who is worthy of note is a former student of Becker and Mincer. Grossbard’s contributions to family economics have been well documented and have honored much of their work. In her own words however, she has generated models that are in contrast to her mentors and that instead have introduced a *non-unitary* view of marriage and family in which it is assumed that: “spouses or partners potentially keep track of their own income and make internal financial transfer within the household. My theory of allocation of time in markets for labor and marriage integrates household production and marriage market analysis and helps understand earnings, fertility choices, consumption, and investments in children.”<sup>49</sup>

Another highlight of Grossbard’s work includes a 1999 article with Lemennicier that offers an Austrian and public-choice perspective on the legal regimes surrounding marriage and divorce. They call for decentralized marriage contracts that are intended to address both the problem of dispersed knowledge and the issue of policymakers’ own self-interest in the creation of family law. The authors claim that a legal framework inspired by private, international commercial law

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<sup>49</sup> Quotation from Grossbard’s personal website at: <https://hceconomics.uchicago.edu/news/3-questions-shoshana-grossbard>. Furthermore, this approach is shared by Chiappori in *Matching with Transfers* (2017)

would avoid some of the problems associated with statutory laws that govern marriage, family, and divorce (Grossbard and Lemennicier, 1999).

Browning, along with Chiappori, and Weiss (2014) have also made major contributions to family economics by providing both an overview and extension of Becker's work in, *The Economics of the Family*. In it, they continued to pursue the rational-choice approach to family behavior while providing increased nuance to Becker's *Treatise*. They sought to unify what they saw as the two major research strands in family economics since Becker. Specifically, they hoped to merge the ideas surrounding *matching* for marriage and what happens *inside* marriage. They contend that the types of matches that are formed help determine what the internal power dynamics of family life will look like. Furthermore, they discuss the importance of changes in wages and prices and their direct effects upon household choices. For example, when those variables change, this is likely to spur a change in the number of labor and leisure hours that households engage in. But they also suggest that "A change in the economic environment *may not affect either the preferences or the budget opportunities* but still have an impact on the decision process" (Ibid. 104, emphasis added).<sup>50</sup>

In another, more recent attempt to move family economics forward, Chiappori (2017) intended to provide greater clarity into the family formation process. In *Matching with Transfers*, he reaches the conclusion that the prior formation of human capital truly matters in marriage markets. Furthermore, he claims that economists should pursue models that consider the joint valuations of both spouses who match as married couples. Moreover, he hoped to see the same

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<sup>50</sup> This claim will of be of some interest later as within Austrian economic theory, this represents an unrealistic assumption that will have limited use. Specifically, any claim that changes in income or wages, that is to say, real income will, by definition alter time preferences as well as the structure of an individual's as well as a couple's ordinal preferences for all economic goods to one degree or another.



joint valuation process utilized in modeling the fertility decisions of adults, whether single or married. A key theme underlying Chiappori's recommendation to make these theoretical and empirical improvements relies on his hypothesis that within marriages, there are power differentials between spouses. He brings forward the idea that there may be unequal shares of decision-making power that each marriage partner holds in expressing and acting upon their differing values. An admitted challenge in this portion of the project is that the data that may be difficult to generate, and from an empirical point of view, it seems as though further development of this research project will require significant qualitative research in this area before moving ahead (Ibid. 225).<sup>51</sup>

Doepke and Zilibotti have deepened the strand of what happens within a marriage by looking more specifically at the behaviors that parents exhibit towards their children (Doepke and Zilibotti, 2019). As the title of their work suggests – *Love, Money, and Parenting: How Economics Explains the Way We Raise Our Kids* – they put forward the theory that parental styles of providing care, instruction, education, and in-home discipline are impacted by exogenous economic realities. Of specific interest to our study is their assertion that rising economic inequality makes a difference in how parents treat their children in a wide array of areas.

On the extension of the topic of state intervention into the family, another supporter of the general use of state power towards the family came from Horwitz (2015). In his 9<sup>th</sup> chapter of *Hayek's Modern Family*, he encourages state intervention into the family, but cautions that it would require “a high burden of proof” to justify such interference into family life since “it is parents who have the right incentives and best relevant knowledge to know what is best for their

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<sup>51</sup> Even if qualitative data is available, researchers may need to work hard to uncover and quantify bias that each marriage partner may indeed have with respect to their perceptions of power within a marriage, let alone a research bias towards making oneself appear more egalitarian than they might be in real life.

children” (224,230). More specifically, Horwitz limits state intervention into families only in cases when there is “clear and present physical danger to children”. It is his contention that prior to state-based interventions that community-based interventions should be sought as an early and primary means of protecting children from harm (236). Horwitz further invokes the state’s power to define marriage. He justifies this view because he contends that economic change over time has completely altered the very *function* of marriage. In his view, the purpose of marriage (both heterosexual and homosexual) has fundamentally changed from creating human flourishing through child-rearing and wealth creation for subsequent generations, to fulfilling the psychological and sexual desires of adults. Therefore, for Horwitz, marriage is literally a different thing than what it used to be, and as a result, it must be addressed by the state in an entirely different way.<sup>52</sup> This view is backed by one of Horwitz’ key normative assumptions, namely that there needs to be a greater distinction between family form and function. In short, he asserts that over time “forms changed as the functions families needed to perform changed, and those changes in function were driven by changes in the economic and political landscape” (6). Furthermore, “The changes in form that have marked the past century or two of their [marriage and family] history have been responses to changes in function deriving from economic and other changes. Because marriage has moved from an economic institution to one centered around psychological and emotional needs, the form has changed accordingly, *all without destroying the institution*” (emphasis added, 252).<sup>53</sup>

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<sup>52</sup> Schumpeter’s view here is helpful again as he predicts that the rejection of the joys of parenthood and lower time preference rates associated with the early-stage growth of capitalism and family life would be surpassed by higher time preference rates, childlessness and a focus on the immediate happiness of the adults in the union. We contend that one of the causes of such a shift – which Horwitz paints as a positive movement – is the intervention of positive persistent inflationary monetary policy and the subsequent proletarianization of all, beginning with the lower classes and proceeding up income levels over time.

<sup>53</sup> This author suspects that Murray might beg to differ on this point as he would likely contend that economic conditions have in fact destroyed the institutions of marriage and family among the poor based on his 2012 observations in *Coming Apart*.

Horwitz further claims – in contrast to Engels’ view – that capitalism set in motion the liberation of first, men, and later women, releasing both of them from the bonds of grinding physical labor and poverty. Once these economic benefits were realized, the function of family moved from a child-rearing institution that emphasized increased income for the current family unit and for parents’ old age provision into an institution sought out by modern adults for their own psychological well-being and pleasure. This approach squares nicely with the sociological view posited by Burgess, Locke, and Thomes (1945, 1963), and bears some resemblance to Mises’ commentary on the importance of the age of contract as bringing liberation to women (1922). Moreover, Horwitz paints a picture of an institution that does not exist as an end, but rather as a tool for attaining both economic and/or psychological ends. He also shares thoughts with both Engels and Schumpeter in that he sees the impact of economic growth and the trends in interventionist capitalistic societies as steering households away from the ‘traditional’ family.<sup>54</sup>

### **1.2.3: Family Economics in the American Context**

Charles Murray’s 2012 book, *Coming Apart* has served as a key motivation for this thesis. His description of the differences in family life that have emerged in the US over the past six decades points out the importance of how income levels tend to have a positive correlation with stable and traditional households. Murray contends that the key driver of economic and household success in a post-industrial economy is the increasing rate of return on knowledge and education

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<sup>54</sup> This ‘deinstitutionalization’ of the family has been long recognized in the West by sociologists, even if for different reasons. Burgess, Locke, and Thomes (1945, 1963) asserted that the family had moved from being an ‘institution’ to a form of ‘companionship’. We will contend that monetary policy has contributed to making it no longer a form of companionship, but rather, a luxury as – in the West – it seems that it can’t be afforded until later stages of life, and that to protect the luxury of high degrees of consumption and future economic certainty, adults who can afford to marry aim for partners who will tend to increase their earnings at a faster rate than lost purchasing power and as a result will tend to have fewer children as the costs of raising them has also rapidly increased in the West. All this tends towards a higher degree of fragility in marriage itself, creating the increased likelihood of separation or divorce, even among wealthier families.

in the modern labor market. He further explains that US colleges and universities serve as great sorting mechanisms in the marriage market. With higher education comes both a greater likelihood of increased lifetime wages and earning potential as well as an increased probability of marrying someone with similar earning potential. This plausible argument also assumes that these couples often spend significant time together in similar academic institutions during the early stages of their marriageable years, forming similar tastes, goals, and values.

Meanwhile, Murray paints a relatively bleak picture for the non-college educated both in terms of their marital and income prospects. He devotes a significant portion of his book to the theme of who marries whom in what may be described as a sub-prime marriage market. In that market, there is a much higher likelihood of cohabitation, unintentional pregnancy, and divorce as compared to those who are more educated and have higher earning potential. In short, those who are more likely to be wealthy marry one another and those who are more likely to be poor and never marry, to cohabitate, or marry and divorce. This phenomenon is known as educational homogamy – marrying a person with similar traits – and some personal and economic traits are simply more suitable to stable household life than others. Moreover, Murray points towards earlier generations and their lack of homogamy with respect to education levels of spouses and the neighborhoods that they populated and sees this change as a lamentable loss.

Murray deepens the empirical descriptions of this two-tiered family experience when he shows the multi-generational impacts of this discrepancy between poor and wealthy households in the US. That is to say that the children of two college graduates are much more likely to repeat this lifestyle pattern of increased education, higher earning potential, and a greater probability of marrying a similar type of person. Furthermore, because family life for these types of couples is more likely to be sustained, the children of in-tact and wealthier families are also more likely to

produce flourishing families of their own and reinvigorate this virtuous cycle, albeit at a generally later age than their parents. As for the children of families that aren't college educated, they have a greater probability of facing divorce, single-parenthood, and general household instability. According to Murray's research these family features also make it less likely for these children to go to college and complete it as others have successfully demonstrated (Zaloom, 2019). In his final analysis, this disparate set of educational, vocational, and familial outcomes is replicated over several generations.

While not directly demonstrating the connection that we intend to show, Murray does give the reader clues that there are very specific labor markets (financial services, higher education services, and civil services) which are located in specific geographic areas, that have relatively high incomes and that maintain traditional family forms.<sup>55</sup> He cleverly labels those areas as America's "super-zips".<sup>56</sup> These high-end suburbs are where the new upper class live and send their children to school. It is in these areas which are adjacent to the governmental and financial centers in the US such as Washington D.C., New York, and Boston, to name a few, where we find the homes of people who have income levels in the 90<sup>th</sup>+ percentile.<sup>57</sup> With this reality unveiled, Murray begins to explain that the disparity between the "super zips" and the rest of the US

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<sup>55</sup> For Murray, the analysis begins in the labor market and the returns on intelligence and intellectual skills. We will contend that the industries that Murray cites as providing rapidly increasing income and wealth are those that are closely connected to new money production by the US financial system. positive and persistent inflationary monetary policy of the Federal Reserve (and other western central banks) have continually produced increased money supplies to those who direct their expenditures into markets that reward a specific type of laborer. More and more these types of laborers - that is to say, college graduates - are directed into the financial services and governmental sectors, the same sectors that Murray cites as those that provide the incomes that make living in the 'super-zips' possible.

<sup>56</sup> This segregation in terms of income, wealth, and geography have even been decried by some in the protestant theological community as a form of moral evil and injustice. See Ince Jr.'s *The Beautiful Community* (2020, p. 123).

<sup>57</sup> Importantly, the St. Louis Federal Reserve itself has indicated that for every \$1 Billion in M3 produced a simple linear regression shows a \$4.6 Billion increase in the total net worth of the top 10% of wealth holders in the US. Source: <https://fred.stlouisfed.org/series/MABMM301USM189S#>

represent a growing chasm in American culture between the haves and have-nots that is embodied in their vastly different household structures, behaviors, and outcomes.

To emphasize this cultural divide or as he puts it, a “new segregation” he presents empirical evidence that these “super zips” are “elite bubbles” that have become more insulated over time. Moreover, the *variance* of incomes from one household to the next in the same neighborhoods has been drastically reduced over time. Murray highlights that in decades past, the highest income earners were dispersed throughout various industries and locations. In more recent years, these high-net worth households have tended to move closer together. This is due, in part, to the type of work they perform in the labor market. The increasing incomes (which we will contend are partially generated by monetary policy) that accrue to these households result in their ability to bid up the price of housing and private education among other things in their immediate areas. According to Murray (p.88-97) this process drives out the less wealthy as the goods and services that are helpful to a family’s flourishing are increasingly concentrated in these super-zips and are simultaneously becoming increasingly unaffordable for middle and most definitely for lower income individuals and households as their incomes have been relatively stagnant when compared to these new elites. To illustrate this divide Murray sees that the inhabitants of what he calls “Belmont” – the upper class, elite bubbles, and “Fishtown” also possess drastically different cultural norms that have emerged through the decades. He cites what he sees as four central “Founding Virtues” which have largely evaporated in the lower classes. Chief among these lost virtues include marriage, industriousness, honesty, and religiosity.

When it comes to changing cultural practices among the lower classes, Murray sees the rise of formerly taboo practices such as cohabitation, children born out of wedlock, and divorce as key reasons for the decline of marriage rates. As for industriousness among the poorest households,

he notes the remarkable increase in the number of lower-income males who work less and less, perhaps due to the low wages themselves.<sup>58</sup> Regardless of the reasons behind it, these men who are out of the labor force obviously fail to attain to the “marriage premium” described by Becker. Moreover, as women in the poorer classes realize that marrying an unreliable man may represent a net negative income proposition, they tend to be more hesitant to pursue matrimony with such men (Carbone and Cahn, 2014).<sup>59</sup> Murray also pointed to the decline of honesty as a virtue in American culture by looking at large increases in incarceration rates among the poor since the 1970s. Furthermore, he pointed to a growing lack of integrity in personal finance as evidenced by the rapid escalation of bankruptcy filings among the poor, especially since the Chapter 7 reforms of 1978 (2012, 201).<sup>60</sup> As for the lost virtue of religiosity, Murray cites falling worship service attendance among the citizens of both “Belmont” and “Fishtown” as proof that all Americans, but especially the poor, are less likely to regularly attend religious events and services (209). Taken together, he makes the plausible argument that since religious communities have a demonstrated tendency to encourage marriage, childbearing and rearing within marriage, and to support individuals whose marriages are struggling. In the decreased religiosity of Americans, he sees a potential cause for the decline of these traditional household patterns. All told, Murray’s description of the decline of traditional family life in the US – and especially among lower income households – represents dramatic shifts in household behaviors and habits over time. Furthermore,

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<sup>58</sup> See Graham and Pinto (2022) for a description of how geographic distance from the elite bubbles and the lowered economic opportunity within those communities has impacted well-being. They also note the increasing number of prime-age males out of the labor force that are part and parcel of those communities and their lack of hope for the future, which certainly doesn’t fair well for family formation.

<sup>59</sup> This author finds Carbone and Cahn’s representation of Murray’s work disingenuous at best. Ironically, their assessment of the dim prospects for lower-class women due to the actions and wage-earning potential of men in their same socioeconomic class is nearly identical with Murray’s arguments in *Coming Apart* (2012).

<sup>60</sup> For the purposes of this thesis, we would present the plausible argument that Murray should include positive persistent inflation as a partial cause of lost purchasing power, distress borrowing, and lost real wages due expansionary monetary policy’s wealth redistribution effects.

it raises the question of what might be causing such cultural and sociological change, and whether Murray's explanation of changing labor markets is indeed the ultimate source of these transformations.<sup>61</sup>

#### **1.2.4: Family Economics in the Western European Context**

A second piece of literature which plays a motivating role in this project, and which has garnered much international attention which has already briefly been mentioned is Thomas Piketty's, *Capital in the Twenty-First Century* (2014). His tone towards capitalism *per se* is skeptical as he blames the recent degree of increasing income and wealth inequality upon the system of free enterprise itself. At the same time, he also notes that at the household level that, "when inflation remains high for a considerable period...there is every reason to believe that the largest fortunes are often those that are best indexed and most diversified over the long run, while smaller fortunes – typically checking or savings accounts – are the most seriously affected by inflation" (Ibid. p. 214). In what presents an opportunity for our project, Piketty doesn't develop this line of reasoning any further. To be specific, he doesn't explore the role of monetary policy in creating redistributive effects, which we believe to be a lost opportunity for getting to the root cause of said redistribution.

Some more recent works have caught on to the redistributive effects of monetary policies (especially monetary shocks in the wake of the financial crisis) and the fact that different households will be impacted in different ways. While not specifically aiming at the impact upon the family institution, we again find that Lauper and Mangiante (2021) have made a contribution

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<sup>61</sup> While we find these social and cultural arguments entirely plausible, we would categorize them as proximate causes and seek to demonstrate that even those four virtues may partially eroded due to positive persistent monetary expansionism. While those specific virtues are not the focus of this thesis, they may indeed be worthy of further research that illuminates the social and cultural impact of fiat money inflationism.



that moves us in a direction that links monetary policy, redistributive effects, and altered family life. Indeed, the heterogeneous wealth and income effects of the monetary shocks that they uncover appear to be linked to the wealth redistribution that Piketty addresses. Moreover, Mangiante and Lauper utilized a *Heterogenous Agent New-Keynesian* (HANK) methodology in their 2021 unpublished paper and realized that these variable outcomes occur (in part) because of the differing consumption bundles within various households. Specifically, they found that inflationary monetary policy implies that poor families are disproportionately harmed by expansionary monetary policy as they see a reduction in real income and wealth through lost purchasing power that results from the fact that their consumption bundle undergoes price increases that aren't always accounted for in inflation (as price increases) statistics. Meanwhile, they observe the benefits to those families that hold real assets prices are increasing, while any price increases in their consumption bundles, *ceteris paribus*, are a relatively small portion of their incomes.<sup>62</sup>

### **1.2.5: Family Economics in Eastern Europe**

Empirical, *ex post* studies on the family in the former eastern bloc nation of the Czech Republic have provided further contours into understanding the theory of family economics. One such study utilized the *New Institutional* approach to understanding Czech social transformation post-1989. In it, the *Velvet Revolution* was viewed as an incomplete form of modernization. Moreover, it didn't sufficiently address the impact of cultural path dependency under socialism, nor the need to update legal and moral codes that would undergird free market operations (Mlcoch, Machonin, Sojka, 2000). Further analysis was offered through the lens of a *Critical Modernization* theory that asserts that after the collapse of the Eastern bloc that, "Everything was subordinated to

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<sup>62</sup> While never acknowledging his work, Mangiante and Lauper (2023) actually provide a strong – even if accidental – empirical example of the Cantillon effect at play.

ensuring a speedy privatization and liberalization of the market and to a restrictive monetary policy” (117). This was done irrespective of social or cultural mores that had become entrenched under communist rule. Furthermore, the mitigation of the state’s formal role in forming industrial policy wasn’t considered to be a problem as the socialist ethos of central planning appeared to remain. As a result of the ongoing trust in centralized economic decision making, the central bank’s monetary policy makers still maintained their power over the printing press. However, their approach was to slow down the rate of increases in money production along with fiscal spending in order to stave off inflation that had plagued many other former Soviet satellite nations.

These policy moves – while still expansionary – were relatively tighter than other former socialist states. At the same time, there was a marked shift in labor market dynamics which saw a large increase in financial returns to university-level education. Indeed, for those who had such an education – heavily endowed with mathematic and computational skills – rapid wage growth in the Czech banking and technology sectors offered increased income for those with suitable skill sets. Even though the growth of the monetary base wasn’t as aggressive as in other portions of Eastern Europe at the time, this process may still be properly described as an example of the *financialization* of the Czech economy (269, 272). In fact, these changes occurred with the Czech economy seeing lower rates of price inflation than many of their former communist comrades (246). With such dramatic economic changes afoot in the Czech case, there was an opportunity to observe what if any changes in family life would occur as a result of this quasi-natural experiment after the collapse of ‘Real Socialism’ (23,31).

Sobotka et.al. provided the observations of family life that provided the lay-of-the-land with respect to the remarkable changes in society in the post-socialist era (2008). While avoiding the economic upheaval that many of the other newly liberalized economies faced, Czech

households nevertheless significant shifts. According to the authors, “The most noticeable change is the intensive postponement of family formation. Fertility rates have fallen to very low levels, in particular among young women and between 1995 and 2005 the total fertility rates dropped below the ‘lowest-low’ threshold of 1.3. Less traditional union forms, especially unmarried cohabitation, have become widespread and marriages have been progressively delayed or even foregone by many younger men and women. Consequently, the proportion of extra-marital births has increased rapidly, surpassing 33% in 2006. Divorce rates, already high during the socialist era, have further increased. The rapid diffusion of modern contraception, particularly the Pill, has contributed to a more careful and cautious planning of family formation and to a steady fall in the number of induced abortions. Changes towards less traditional and less family-centered values and attitudes have been observed as well” (404).

We remind the reader that these types of changes all occurred during what has been characterized as *relatively* ‘tight’ monetary supply. Indeed, the Czech central banking authorities engaged in positive, persistent money supply growth, just to a lesser degree than other nations (Bednarik, 2010). It was in this environment that changes in household habits and structure changed in very similar ways as occurred under positive persistent money growth in the West during the same time period.

When seeking an explanation for these outcomes using earlier theorists, the case of family change in the former Czechoslovakia may serve to validate Schumpeter’s view on interventionist capitalist systems as leading to a dissolution of the family. On the other hand, one may point to Mises’ view that an insufficient institutional or cultural grasp on contractual and property rights resulted in lower divorce rates under the power dynamics of socialism, and once the ethics of contract were introduced, that unhappy women would contribute to the increased divorce rate that

did in fact occur. However, if such values had taken hold, and if the contractual nature of marriage in a post-socialist world had generated greater legal standing for women, then one would expect that Mises' view that contractual ethics would, over time, strengthen marital longevity. Here again it is important that note that Mises seems to put a greater emphasis on the cultural norms of contract, rather than the specific economic conditions that prevailed in the Czech case as he stated, "It would be wrong to assume that...marriages made miserable by economic factors are in any easy as important an aspect of the question as the frequency with which literature treats of them would suggest. There is always an easy way out if people will only look for it" (Mises, 1922, 2008, 99).

#### **1.2.6: The Need for Monetary Policy Integration into Theoretical Family Economics**

The early economic theories surrounding family life have indeed resulted in many extensions, critiques, and debates. In the latter half of the 20<sup>th</sup> century alternatives to Engels, Mises, and Schumpeter were offered through Becker and those who followed his new approach to understanding changes in family life. Economic views of family life have joined the fields of sociology, demography, and legal theory in dissecting household change. Along with each of these fields weighing in on family dynamics, they each bring differing methodologies, which use explanations ranging from the cultural, population shifts, to religious, legal, and ethical explanations. No matter how wide ranging the discussion has become, we contend that there remains a gap in explaining these changes.

Many economists have described the economic conditions that have accompanied family change, but few if any have addressed the role that a monetary policy of positive persistent fiat

money expansion has played in creating those conditions.<sup>63</sup> One might argue that this gap has been filled by reminding us that Becker himself introduces the importance of inflation – as in CPI – in calculating real wages and real interest rates in his *Treatise*. However, if we instead understand inflation as a monetary policy that results in the growth of the money supply, then we may gain a richer understanding of the institutions, habits, and incentives that such a policy creates. Moreover, since it is widely accepted that positive persistent money growth alters the incentives, behaviors, and capital structure of firms, then why would the possibility of changes to household incentives, behaviors, and structure be ignored as they live and move under the same monetary policy? What our work aims to do is to link secular changes in cultural institutions and habits structures back to monetary policy and ultimately to extend the explanation of altered family life all the way back to the decisions of monetary policymakers.

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<sup>63</sup> The closest we have come to seeing this connection made is through our own effort, combining the studies of Sobotka et. al. (2008) to Mlcoch, Machonin, and Sojka (2000). Another close candidate for building this connection was made by Mangiante and Lauper (2023) in what was perhaps an unintentional display of the Cantillon effect and its impact on household budgets, but not on household structure itself.

## Chapter 2: Empirical Economics and the Family

While the emphasis of this dissertation remains on the eventual impact that inflationary monetary policy has upon broader culture, and eventually the households within that culture, others have done a tremendous amount of empirical research on the role that inflationary prices in the economy have had in altering family life.<sup>64</sup> In examining the key categories of family life – formation, fertility, and failure - and the changes some economists have already shown that price inflation has made traditional household life increasingly difficult for some, yet more easily attainable for others. Even though there are some disparate outcomes, there are also a number of secular changes in family life that should be pointed out as we begin exploring the existing empirical work on rising prices and family life.

When it comes to changes in marriage in the US since the mid-20<sup>th</sup> century, dramatic changes in age at first marriage have been observed since 1960. At that time, the average age for first family formation for US females was 20.1 years and 22.2 for males. Forty years later, the first marriage for US women had jumped to 24.4 and to 26.1 for men (Schoen and Canudas-Romo 2005). According to the US Census Bureau, by 2020, these ages have reached 30.5 for men and 28.1 years of age for women (US Census Bureau, 2021). Furthermore, since 1970, the number of newly married people per 1,000 singles aged 15 and over in the US has fallen from 85.9 to 33.2 as of 2019.<sup>65</sup>

As for fertility choices, the decline in total births per woman in the west have been well documented. To quantify the decline in fertility in the US, the average number of children per

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<sup>64</sup> Again, we recognize that over time, the term ‘inflation’ has been given various meanings. For the purpose of a new approach to change in family life, we seek to use the older notion of ‘inflation’ as money supply growth in order to shed new light on how such a monetary policy is transmitted through various channels to contribute to altered household institutions and habits.

<sup>65</sup> <https://ifstudies.org/blog/the-us-divorce-rate-has-hit-a-50-year-low>

woman has plummeted from 3.6 in 1960 to 1.78 in 2020.<sup>66</sup> To further illustrate, the U.S. Centers for Disease Control (CDC) noted that there was a 4% decline in births in 2019 compared to 2018, with an increase of 1% in year over year births in 2020.<sup>67</sup> The long run trend of fertility reduction throughout the western world is certainly evident as the OECD average number of children per woman has dropped from 2.84 in 1970 to 1.58 in 2021.<sup>68</sup> Regardless of the fact that changes in fertility choices are deeply personal and complicated matters, we remain dedicated to providing a partial explanation which has not yet been fully explored.

When it comes to offering explanations for changing patterns in divorce, this too is far from a simple explanation. Indeed, the long-term trend in the U.S. indicate that the divorce rate is clearly rising since the nation's inception. However, in recent decades the rate of newly divorced people per 1,000 married people has seen a subtle decline. This sudden rise, plateau, and recent drop in US divorce rates has certainly been explained by many (Warren and Warren-Tyagi, 2003; Murray, 2012; Browning, Chiappori, and Weiss, 2014; Carbone and Cahn, 2014; Eichner, 2020). To illustrate, new annual divorces per 1,000 married residents stood at 9.2 in 1960 and reached 15.1 in 1970, peaking at 22.6 in 1980. Since then, there has been a slow but steady decline in new divorces to the point in 2019 that there were 14.9 new divorces per 1,000 among the married population.<sup>69</sup>

In the following sections of this chapter, all these broad changes will be set into the context of rising *price inflation*, while we explore the impact of *monetary inflation* in later chapters. To begin with, we lean on the work of others who have already demonstrated how lost purchasing

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<sup>66</sup> <https://www.statista.com/statistics/1033027/fertility-rate-us-1800-2020/>

<sup>67</sup> <https://www.cdc.gov/nchs/products/databriefs/db442.htm>

<sup>68</sup> Source: <https://data.oecd.org/pop/fertility-rates.htm>

<sup>69</sup> <https://ifstudies.org/blog/the-us-divorce-rate-has-hit-a-50-year-low>

power has impacted family life as well as how it has had differing effects upon different types of families. While not every researcher is necessarily looking for the ultimate cause of price increases, we openly acknowledge that rising or falling prices may be brought about by changes in supply and demand. While this is certainly the case, one cannot ignore the possibility that price increases may be influenced by monetary policy as well.

## **Section 1: Marriage**

### **2.1.1: Education, Debt, and the Rising Age of Marriage**

The average age at first marriage is widely known to be increasing throughout the western world. In America, men were entering matrimony at an average age of 23.2 in 1970 as compared to 30.5 in 2020, and women did so at the ages of 20.8 and 28.1 over the same time frame.<sup>70</sup> Significant change has been afoot in the United Kingdom with respect to age of all new marriages. There, the mean age of marriage for women in 1970 went from 24.7 to 33.6 in 2010 and from 27.2 to 36.2 for men over that 40-year period.<sup>71</sup>

In attempting to better understand a theoretical understanding of what has been said about these increasing delays in marriage, we turn to a familiar source. Becker's work provides a theoretical basis and empirical view of marriage and the decision-making process that leads to household formation, through what he called "Assortive Mating" (1974). He describes the process of seeking matrimony as one where a potential spouse aims to improve upon the utility of singleness by obtaining greater total utility through marriage. This type of language clearly reflects

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<sup>70</sup> Per source: <https://www.census.gov/programs-surveys/cps/technical-documentation/complete.html>

<sup>71</sup> Per source:

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/marriagecohabitationandcivilpartnerships/bulletins/marriagesinenglandandwalesprovisional/2012-02-29#age-at-marriage>



an emphasis on rational-choice and utility maximization assumptions. For Becker, potential partners consider factors such as IQ, education level, height, ethnicity, and more.

In a 21<sup>st</sup> century examination of such changes on both sides of the Atlantic, Schoen and Canudas-Romo (2005) noted that in both the US and UK that the increase in co-habitation as an alternative arrangement for adults living together has contributed to a decline in the prevalence of marriage over time. Moreover, these changes have been accompanied by overall delays in both the age at first marriage and in all marriages. Furthermore, Lichter and Qian (2008) showed that another partial cause of delays in first marriage was due to the greater prevalence and social acceptance of cohabitation. In his book on changing family patterns in the US since 1960, Murray (2012) observed that much of the overall increase in cohabitation rates occurred among the poor who are more likely to engage in serial cohabitation.

Naturally, economists have sought to discover partial causes for such changes and once again, they tend to lean on Becker as a starting point. One potential cause that he refers to often is the role that education plays in the marriage decision. Indeed, this thesis' concern with the institutions and habits of an inflation culture lead us to consider the ongoing loss in purchasing power for higher education in America. Research in the US regarding the later age of first marriage has yielded findings stating that the rising cost of higher education and the accompanying debt load held by both men and women is positively correlated to the average age of first marriage. This vein of research (Addo et. al, 2018) shows that the greater the student loan debt, the more likely young men and women are to cohabitate and for longer periods of time as opposed to entering a marriage relationship. Furthermore, with more education, the expectations of young people are that they would marry one with similar educational status, a pattern that both Becker and Murray refer to as educational *homogamy*.

Despite the ongoing price increases and debt loads associated with US higher education, an increasing number of men and women are obtaining college degrees. Nevertheless, these ongoing price increases contribute to financial distress borrowing by young people (and by their parents) in order to obtain a degree. This uniquely American approach to financing college education can take up significant portions of familial income and account for a large part of individual and household debt.<sup>72</sup> Indeed, this course of action is illustrative of the increasing difficulty experienced by middle class and poor families who are attempting to finance the educations of young adults in the US (Zaloom, 2019).

The relationship between student debt loads for young adults and the marriage market is rather intuitive. If a student takes on a significant amount of debt, this means that most of these individuals will graduate with negative net worth. The size of an individual's initial net worth upon graduation is (not surprisingly) positively correlated to the average age of first marriage (Bosick and Estacion 2014, Gicheva 2016). To put it another way, education-based debt levels of the potential spouse have been shown to delay marital matches. What has not been shown yet is that the act of credit creation itself – especially for financing education – is connected to this reality in family life. Furthermore, where there is new credit creation, there is wealth redistribution and in many cases, households that are more capable borrowers have the ability to bid up the prices of higher education tuition and room and board, leading to ongoing increases in prices for higher education tuition in the US over several decades.<sup>73</sup> Indeed, through increasing college costs and increasing student debt loads, US college graduates (men and women alike) often enter the marriage market with significantly negative net worth (Smock et al. 2005). All told, the literature

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<sup>72</sup> As of August of 2023, the average student loan debt to income ratio for new graduates stood at 54.6%, according to wordsrated.com. Per source: <https://wordsrated.com/student-loan-debt-by-year/>

<sup>73</sup> Recent scandals in the US involving bribery for college admissions among the super-wealthy on behalf of their children have illustrated this point for all the public to see.

paints a picture wherein credit creation for higher education leads to an inflationary environment for those who enter and finish a degree, which in turn creates negative net worth, and those debt loads are positively associated with delayed marriage formation.

In a study with even greater specificity on the topic of age at first marriage, it has been shown that if students with bachelor's degrees pursue master's level work, that MBA students not only continue to raise their age of first marriage, while simultaneously decreasing the likelihood of ever being married at all (Gicheva 2016). In fact, this relationship is stronger among female MBAs than for their male counterparts. Bozick and Estacion (2014) found that for every \$1,000 in student loan debt that women carry, they reduce their odds of first marriage by 2 percent per month after undergraduate graduation. Further complicating this reality is the fact that a high debt-to-income ratio for young adults raises the difficulty of entering the US housing market. For many young adults, a potential spouse who is carrying large debt loads will tend to be less marriageable, regardless of whether the couple is considering renting an apartment or purchasing a home (Bleemer et al. 2014).

### **2.1.2: Housing Price Inflation**

Cultures throughout the world view the importance of independent housing for young married couples in an array of ways. For some, a husband fully providing suitable housing for he and his wife are explicit and formal institutions. For others, there may be expectations that the young couple live under the same roof as the extended family. While other cultures are ambivalent in these matters, with either renting or owning being acceptable forms of living for newlyweds. Nonetheless, when it comes to the role that housing plays for new married couples who are on the outside looking in at the housing market, it is difficult to see how rising home prices could be considered an advantage for them.

Recognizing the wide array of cultural attitudes surrounding marriage and housing, we briefly address the connection between rising prices for housing and marriage delays, beginning in Great Britain. There, price increases in the housing market have been shown to keep young people at home (and single) longer than in past decades, thus accounting for one key variable in delaying the age of first marriage there as well (Ermisch and Francesconi 2003). In East Asia, the empirical findings in Singapore are of interest, where qualitative studies on the attitudes of young singles make it clear that the male is under considerable social pressure from family and their potential spouse to acquire a flat. This ability to afford independent housing serves as a significant social marker for the marriageability of that male (Jones et al. 2012, Quah 2008). Indeed, this cultural expectation holds throughout much of East Asia and may also be connected to marriage delays. For instance, in Japan the average age of first marriage for men has risen from 26.9 in 1970 to 30.5 in 2010. Their female counterparts have seen a change in this statistic go from 24.2 to 28.8. (Raymo et al. 2015) The pattern is similar in South Korea and Taiwan. It is apparent to researchers that these increasing costs of housing (and of living in one's own home) do have a positive relationship to age at first marriage (Park and Sandefur 2005). Still more variables that have been found to delay first marriages in East Asia include extended family expectations of co-residence, educational mismatches in the marriage market, and extended family expectations regarding fertility (Mu and Xie 2014).

In the Continental context, Spanish marriage rates were examined through the lens of the housing market as a powerful natural experiment occurred there because of the housing price boom and bust, which peaked in 2008, bottomed out in 2014, while showing a slight recovery through 2019 (Gonzalez-Val, 2022). In this case, there was indeed a negative relationship between housing prices and new marriage formation that was especially strong from 2004 through 2011. As housing

prices rose quickly, the marriage rate went in the opposite direction. While the Gonzalez-Val study was an empirical exercise and didn't have an intentional focus on qualitative or cultural matters of housing and marriage in Spain, it is certainly plausible that new marriages might have been delayed, resulted in more cohabitation, or even the break-up of would-be marriage partners.

As for housing prices and new marriages in the US, Bowmaker and Emerson (2015) also found a negative correlation between housing prices and the overall marriage rate in the US from 1970-1999. In a unique empirical approach, they also found that “the relationship between the cost of owning housing and the cost of renting” also matters in forming marriages, as, “the greater the difference between the annual cost of owning housing and renting as a proportion of per capita income...the lower the marriage rate”. Anecdotally, within the US there is not an explicit expectation that a couple can purchase a home in order to marry. However, this evidence suggests that perhaps there is a degree of some kind of informal or unspoken expectation of home ownership for a married couple during this time period.<sup>74</sup>

Whatever the specific cultural nuances might be, it seems that it would be a reasonable hypothesis that the ability to afford independent housing is some sort of *social marker* for marriageability throughout the globe. A brief review of this connection in the East and the West adds weight to this argument. Nevertheless, there is a lack of theoretical and empirical work that builds the causal chains between inflationary monetary policy, price increases in housing, and delays in the age and prevalence of marriage. Furthermore, housing price increases in the US tend to *help current married homeowners and stabilize their existing marriages* by a significant margin (Klein, 2017). Meanwhile, the same price increases appear to be a barrier to entry for marriage for

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younger, poorer, and newer couples who may see home ownership as a prerequisite for matrimony. Put another way, rising home prices may tend to stabilize some traditional families, while preventing others from forming later, or never at all.

### **2.1.2: Other Considerations**

In the tradition of Ronald Coase, which emphasizes transaction costs for firms, Burdett, Dong, Sun, and Wright (2016) have suggested that this approach be used to examine family formation. They conclude that the real cost of remaining single increase under price inflation which causes the relative cost of the marital transaction versus courting to fall, as the ongoing costs of searching for a mate are steadily increasing. This phenomenon then leads to singles getting married at higher rates than they otherwise would have. Reaching a different empirically led conclusion are Esteve, Lesthaeghe, and Lopez-Gay (2014). They examined Latin American contexts and found that with rising real costs to marriage ceremonies, and rising real costs in divorce, that cohabitation offers a low-cost alternative to traditional marriage, which explains the dramatic increase in the practice from 1970-2007. This has occurred despite the historically conservative cultures of this region. Both sets of researchers use similar frameworks and methodology and have come to differing conclusions that are contextualized and influenced by many other factors. These disparate outcomes reveal the challenge of using empirical studies as the basis for theory on the family and we keep this in mind in our empirical work in Chapter 6, as econometric methods, while providing tremendous value in *describing* the specific contours of a given economic and cultural reality at a given point in time, do not allow us to form a unified and universal economic

theory of the family, nor to provide precise predictions about household behaviors or structures in the future.<sup>75</sup>

In a different set of studies that touches upon marriage formation in the US, there is empirical evidence that shows that among the poor and less educated within the US, that a secular rise in prices have been positively correlated to the increased probability of criminality among single males (Rosenfeld et. al., 2018). When young, uneducated males face rising prices for goods and services, and poor labor market prospects, many have resorted to more lucrative criminal activity for increased income. If these young males are caught in such activity and are prosecuted, their incarceration is associated with low marriageability status, regardless of their racial or ethnic background. Another consequence of male criminality that Rosenfeld et. al. discovered is the positive correlation between male crime rates and the rate of children born out of wedlock, again regardless of race or ethnicity. For women, these formerly incarcerated men are still viewed as potential reproductive partners, but not as traditional husbands or fathers.<sup>76</sup> This situation further erodes the family institution when this process is coupled with the wage increases that has been more prominent for females in the US. This set of circumstances has led many women (even those with relatively low labor productivity) to eschew men as husbands and income-earners in exchange for more secure revenue from the state, their own wages, or even from older family members (Schneider et al. 2018).

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<sup>75</sup> Our goal is to build a framework that provides a universal explanation for both the rush towards and the avoidance of marriage in light of diminished purchasing power, altered incentives and income and wealth redistribution. We contend that this can only be properly accomplished by reflecting on the goals of single adults and the means available to them to achieve those goals.

<sup>76</sup> It has been regularly noted that the rise of the American welfare state that was accelerated through the Great Society Legislation of the 1960s has further encouraged women to seek increased welfare benefits through increased child-bearing, as long as they remain unmarried.

As one would expect with a variety of empirical studies from a wide array of contexts and stylized facts, there are many partial explanations for changes in the process and timing of marriage formation. The preceding section has served to bolster our thesis by showing that price increases, whether real in specific categories like housing or education, or changing relative prices of courting versus marrying seem to play some role in the marriage decision. It is only one step further to examine whether monetary policy has anything to do with those changes in real and relative prices. But there is also the task of examining the cultural institutions and habits that accompany monetary policy, which are difficult to quantify due to their subjective nature. Nevertheless, the empirical link between price changes and family formation seem to provide a clear indication that several prices in the economy do indeed impact a couple's decision on whether to cohabitate, marry, to delay, or even to break off an engagement.

## **Section 2: Fertility**

### **2.2.1: Motivation, Time Preference Rates, and Net Income Flows**

As noted in the introduction of this thesis, fertility rates throughout the world have fallen steadily throughout the world in recent decades. Naturally, social scientists have offered numerous reasons for such a decline. Whatever the reasons, given the advent of low-cost birth control and the normalization of abortion in much of the west, it is clearer than ever that – aside from fertility challenges – childbearing and rearing is a deliberate choice. While it is impossible to probe the precise reasons that motivate every parent to bring children into the world, there are objective and subjective costs that are considered in every human action, and childbearing is no different.

Regardless of these fundamental realities in the choices of parents, there exists within the literature on fertility choice some empirical evidence that it is not only the child's well-being that adults have in view when having kids, but it is also their own. Indeed, a mix of both short and



long-term interests play a part, whether birthing their own biological children, or adopting from other parents. One attempt to explain this decision-making process comes from Boldrin, De Nardi, and Jones (2005) discovered that they could isolate a previously under-studied cause in the decline in total lifetime fertility rates in the US and Europe. They concluded that this decline in total fertility rates in recent history could be largely accounted for by parents' beliefs regarding their children's perceived willingness to care for them – that is the parents themselves – in their old age. This would certainly fall under the long-run type of consideration with respect to fertility choices. Indeed, they conclude that parents who live in welfare states tend to look to social security pensions – more so than children – to provide old age income and care. Given this tendency, parents may reason that they won't need as many children to assist with the financial needs of their twilight years. Two years later, Ehrlich and Kim found that fertility among married adults was reduced in OECD countries for the same reason. Furthermore, they also concluded that there was a negative and non-trivial correlation between social security promises and taxes which further reduce the likelihood of marriages forming at all, let alone having children within those marriages (2007).

While social security is not specifically considered a form of inflation, it may plausibly be understood as a reduction in present real income. Such a reduction in current income may lead to increased time preferences, all else held equal. It is this reduction in real income that may have a greater impact among lower income households. Regardless of income level, any reduction in current real income would tend to reduce a household's willingness and ability to save for the future, an economic choice that may be described as an increase in time preference rates, which may very well have further impact on fertility decisions. Despite this qualification, the observations of Michael (1975) and Lauper and Mangiante (2021), point to the reality that poor

families experience a loss of purchasing power differently than the wealthy, and their experiences may not correspond to the reported price inflation measurements.

Coming from a demographic and sociological viewpoint, Caldwell (1983) described the pattern of familial wealth flows as playing a role in the fertility decision process. He explained that parents in underdeveloped parts of the world would respond to their own lack of labor productivity and purchasing power with a set of choices that are distinct from their poor counterparts in the industrialized nations of the world. He concluded that because low-skilled labor and wages were attainable by young children, poor parents would seek to have more children so that the income that young children could generate would serve to combat the family's lack of wealth. Using this reasoning, parents would not only expect their children to work at an early age, but they would tend to minimize the educational expenditure on each child. If indeed, parents are motivated to higher fertility in this way, it should come as little surprise that the fertility rate for females in the developing world is higher than in wealthier countries.<sup>77</sup>

Unlike most economists who have studied fertility rates, Caldwell's work in international contexts clearly asserted that price inflation leads poor families in low-income countries to increase total fertility. In such contexts, they decide to do so – even if low-cost contraception is widely understood and available – because they believe that their offspring will create net positive income flows. Again, these parents expect that children can, and often do, contribute to overall family income at a young age with their low-skilled labor. Conversely, in developed nations, the

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<sup>77</sup> This phenomenon might also be explained by Becker and Barro's ideas surrounding a "quantity-quality" tradeoff that parents make regarding their children (1974). In short if a parent realizes that net-wealth flows for a child are initially negative, but only turn positive if there are significant investments in per child spending on education (human capital formation), then they will tend to have a lower quantity of children with higher average expenditures on each child, thus increasing their 'quality'.

increasing rates of return in the labor market for educating children in modern developed economies – with what Becker and others would call investments in ‘human capital formation’ – contributes to more careful family planning on the part of these wealthier families in the developed world. As a result of these economic conditions, Caldwell reasons that it is logical that wealthier households in wealthier nations tend to have fewer children, as each child produces negative income flows during their years while living at home. This is largely due to the investment costs incurred by parents for the formation of the children’s human capital (Caldwell, 1983).

In more recent research, Kaplan (1994) suggested an update to Caldwell’s view by introducing the use of an evolutionary understanding of fertility choice. He c should be included as a determining variable as parents in economically well-developed situations self-select mates for intelligence as a form of natural selection. Furthermore, it is implied that this type of natural selection plays a role in determining parental choices about children. It was concluded that this selection of mates also impacts agreement between spouses in terms of the quantity of their children, the spacing in between childbirths, planning and investments in a child’s well-being, the costs of health care, housing comforts, overall safety, and all levels of curricular, co-curricular, and extra-curricular educational activities. Overall, Kaplan proposes a rather comprehensive approach to explaining why parents make the choices they do, with respect to children.

### **2.2.2: Price Inflation and Fertility**

Even though the decision to bring a child into the world is tremendously complex, there are multiple empirically oriented studies that show that price inflation may indeed be a partial explanation for changes in fertility rates over time and across various cultural and economic settings. Robert T. Michael (1975), who collaborated with Becker on several projects, further observed the nuance that wealthy and poor households experience price increases differently. To

be specific, households that were among the lowest quintile of income experienced a higher rate of price increases as a percentage of their overall income for the bundle of goods that they purchased when compared to their wealthier counterparts. His study concluded that this reality (particularly in the stagflation of the 1970s) indicated a significant change in the structure and relative prices in the economy and that even if the CPI statistics don't change at all, that relative prices may still be changing and creating a disproportionate impact on poorer households since they purchase a different basket of goods than their wealthier counterparts. This research theme has been picked up by Lauper and Mangiante (2021) where they utilized a Heterogenous-Agent New-Keynesian (HANK) modelling to demonstrate the disparate impact of monetary shocks on the prices and budgeting strategies that are relevant to households of differing income levels. Put another way: If monetary shocks matter at all in effecting real and relative price structure, then these researchers had tremendous natural experiments at their disposal to demonstrate it from both the 1970s and in the financial crisis of the 2000s with an eye on the impact that was felt by households due to such macroeconomic changes.

When examining price increases in the housing sector and its role in fertility choices, innovative research from England and Wales has emerged as researchers have sought to distinguish between the fertility response to home price increases between renters and existing homeowners. The findings are complementary to those in the US for renters as higher home prices deter would-be owners from having more children. This negative relationship between housing prices and fertility does not hold for British homeowners from 1995 to 2008 (Washbrook 2018). Although there is a positive relationship between home prices and fertility for homeowners, this effect was found to be temporary. This finding is not necessarily contrary to orthodox economic theory because homeowners believe they will acquire more wealth in the future through the sale

of that home. Furthermore, from a net-worth viewpoint, they already possess a higher net worth and this may further diminish their time preference rates, all else held equal. Given this plausible argument, the current and anticipated increase in wealth makes them feel as though they are able to support more children both now and in the future. This explanation of homeowner behavior is consistent with earlier studies in the US where renters have a 2.4 percent decline in fertility for every \$10,000 in average home prices, while the homeowners respond with a 1 percent increase in fertility given the same amount of change in their home prices (Dettling and Kearney, 2011).

If we use Becker's reasoning to shed some light on this outcome, it is a plausible claim that for renters (who tend to be among the lower income brackets), the cost a future home will be too great for them and dissuade them from incurring the cost of the delivery and care of an additional child. In this way, for renters, the price of a home and the demand for additional children may be viewed as having a complementary relationship. However, the reasoning could be reversed for families who currently own a home. They may look at the estimated price of their home and its increasing potential proceeds – which would make these families the beneficiaries of money injections directed into the housing expenditure channel – as creating an increase in real wealth. In turn, this tends to lead to lower time preference rates and orients these households towards more long-run thinking. It is entirely plausible that such a family would give more attention to the possibility of raising an additional child, given the long-run nature of such a choice.

In the case of East Asian households, the negative relationship between the rate of price increases in education and housing and total fertility rates are not only present but have even stronger effects than they do in the West. Japan has been at or below replacement rates since 1957. South Korea has experienced a rapid decline in fertility since the 1970s, and Taiwan's fertility has reached an extremely low 0.9 children per mother in 2010. (Raymo et al. 2015) Once again, these

lower lifetime fertility rates are associated with higher age for a mother's first marriage and first birth, spurred by the high costs of education and housing. In fact, the average age of first delivery in Japan reached 29.3 years of age in 2010. In the same year, the mean age at first birth reached 30.1 in South Korea and 29.6 in Taiwan. Other literature on East Asia explicitly refers to Becker's model (1991) of fertility behavior when studying the impact of housing prices in Hong Kong upon fertility rates from 1971 until 2005 (Yi and Zhang 2009).

In further analysis of the link between housing prices and fertility rates in Asia, other research has utilized cointegration methodology where researchers found that for every 1 percent increase in housing prices there was a statistically significant negative relationship in fertility rates of 0.45 percent. Further testing revealed that housing price inflation can account for about 65 percent of the fertility decrease in Hong Kong since the 1970s. The general pattern of the literature paints a picture of middle-class and wealthy families in developed nations who reduce their fertility through more effective use of contraception in response to the rising costs of housing and of education for each child (Reeves and Venator, 2015).

To summarize, when considering the empirical literature on how changes in real income which arise from relative price and income changes in the economy, there are clear impacts upon household decision making. As monetary intervention occurs, the changes in incentives and price structures result in altered fertility choice as positive and persistent price inflation (or more aggressive monetary shocks) alters fertility choices. Ultimately, there is a tendency for developed nations with interventionist and inflationary monetary policies to have lower fertility rates than they otherwise would have and, in some cases, are leading some of those nations to fall short of zero population growth. Meanwhile, developing nations still have higher fertility rates than the richer parts of the world, but are also declining over time as well, and perhaps for similar reasons.

Furthermore, there are other demonstrations that there is a negative relationship between price increases in housing and education and total fertility rates in *both* developed and developing nations. Once again, while there is a tremendous amount of good work that has been done, we do not see a full theoretical framework that fully explains these phenomena. To articulate the ultimate source of altered fertility behavior we do not see where a robust consideration has been given to the role of monetary policy, its redistributive wealth and income effects, its influence on the structure of prices and accompanying incentive structures and the response of families to fertility choices as a result of that series of economic changes.

### **2.2.5: Biological, Political, and Moral Considerations**

When it comes to the middle-class and wealthy in the United States, declining fertility rates have not only been linked to the reasoning provided by family economists like Caldwell, but healthcare economists have weighed in as well. The Journal of Medical Economics contends that the delay in first marriage and family formation contributes to overall lifetime fertility decline. This has become a medical concern as there are naturally occurring risks that come with pregnancy for older women, such as the increased likelihood of children who have to contend with Downs Syndrome. With the increase in age of first marriage, and subsequent first conception within marriage, total fertility is lower among women who have their first child later in life. This observation may seem as obvious as it is inevitable. However, if it is clear that economic realities impact physiological outcomes, it is easier to see why some would describe increasing prices and the subsequent decline in average total fertility as a public health concern. (Tannus and Dahan, 2018; Sunderam et. al., 2015).

One area of the literature that also addresses fertility choice has to do with the welfare state's role in such decisions. In the US welfare system, there are numerous incentives for unwed

mothers to have more children and not to educate them beyond their years of free public education. If such mothers wanted to help fund higher education for their children, then according to Caldwell's approach, those children would represent a negative net income flow for such a parent. Thus, unwed and poor mothers are presented with an incentive structure that encourages non-education and the more easily realized benefits of children working in low-skilled labor markets in order to contribute to increased family income (Caldwell 1983). It is a plausible expectation then, that there would be a tendency towards more unwed mothers, with more children who are less educated. In this case we contend that the connection between credit-based, demand-side price inflation of higher education costs, sometimes called the 'Bennet Hypothesis'<sup>78</sup>, and the incentive structures of the US welfare state may have meaningful influence over fertility choices among the poor households within a developed, modern welfare-state economy.

Although Caldwell's analysis provides a picture into the welfare state's impact on real income in developed nation-states, there are also welfare schemes in the developing world that alter real incomes and thus incentivize the behaviors that government (or perhaps inflationary central bank activity) offers monetary rewards for, such as increased childbearing. In fact, in poor nations with sizeable welfare states, the literature points to a pattern where parents increase their fertility rates in order to benefit from the net positive income that children can produce via government cash transfers, food subsidies, and the like. This is especially the case in low-skilled labor markets within those nations. Parents in those situations will often remove their children from schooling at the first indication that children can earn income, as the opportunity costs to the family's standard of living is too great. (Rosenzweig and Evenson 1977)

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<sup>78</sup> For details on the Bennett Hypothesis, see: Bennett, William. (1987). "Our Greedy Colleges" *The New York Times*. February 18, 1987.



Further study on the connection between rising prices and falling fertility suggests that parents sense a moral obligation to refrain from having children during periods of money and credit expansion via central bank policy (Abo-Zaid 2013). In this line of reasoning, parents of all socioeconomic levels observe climbing prices and recognize that providing education, nutrition, and general care will be more difficult as they lose purchasing power. For Abo-Zaid, this is not just a phenomenon that prevails in poor families but is becoming increasingly prevalent among the middle and upper socioeconomic classes as well. Furthermore, this loss of purchasing power leads many married couples to seek more than one income (Matthaei, 1980; Warren and Warren-Tyagi, 2003). The German philosopher Joseph Pieper (1952) calls this process “proletarianization” as it indicates an increased preference for income-producing activity in the labor market over leisure, producing a world of “total work”. Whether it is more working hours from one adult, or from two parents, time spent on in-home production and child-rearing is less than would otherwise be the case. However, not all researchers see this as a negative development, in fact, there is a body of literature that provides a normative commentary on this phenomenon and praises this set of preferences and actions. The reason is that proletarianization implies that the smaller number of children will decrease the next generation’s labor supply. In doing so, this will drive average income for women currently in the workforce to higher levels and will tend to produce a cycle of fewer young people competing for work via low wages, thus boosting higher income levels for women, who will then continue to substitute childbearing for income earning *ad infinitum* (Galor and Weil 1996). This theoretical connection, however, has not been found to be empirically robust by some (Jones et al. 2012) who assert that the same would be true for males whose greater earning power would enable women to resume more traditional child-rearing roles.

While the biological, political, and moral factors of fertility determination have a place in the literature, these don't necessarily exclude the role of monetary policy. Indeed, it can be plausibly argued that morals and political actions are influenced by inflationary fiat regimes (Hülsmann, 2008). As for any connection between biological reality and expansionary money supplies, this might at first glance seem like a tenuous connection. However, it has recently been suggested that inflationary monetary policy degrades the quality of food and nutrition (Ammous, 2021), which may in turn impact reproductive health.<sup>79</sup> Indeed, diet, nutrition, and food security are among the factors of what healthcare experts call the “social determinants of health”. These have been shown to impact fertility, maternal morbidity, and mortality, suggesting that the role of price increases in matters of diet, health, and live births should not be dismissed out of hand as irrelevant or trivial (Kozhimannil, et. al., 2019).

### **Section 3: Divorce**

#### **2.3.1: Household Finances and Relational Tension**

Across the world, families also dissolve under the pressure of escalating prices and falling real income. The literature examining US divorce rates since 1929 has shown that during periods of large price increases there is a robustly positive relationship to divorce (Vedder and Gallaway, 1987, Nunley and Zietz, 2012). In the US the clearest evidence of this relationship was illustrated throughout the 1960s and all the way through the mid-1970s as price increases were rapid, as was the increase in the divorce rate. The link between the more aggressive monetary expansion of this era – embodied by the severing of the US dollar from gold by the Nixon administration's reneging

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<sup>79</sup> There is evidence that the ancients also recognized a connection between debasement and inflation and food quality. The Jewish prophet Isaiah (1:22, King James Version) declared, “Thy silver is become dross, thy wine mixed with water”. If taken literally, the prophet seems to identify what modern economists have called “shrinkflation” or a lowering of the quality of food in response to a lowered quality of money that is associated with debasement and inflation.

on the Bretton Woods agreement in August of 1971 – saw new money creation spent by the first receivers (the federal government in this case) go towards the activities of the Pentagon, their preferred military manufacturers and thus the beneficiaries had the benefits associated with real income increases that outpaced price increases that their household expenditures drove upwards. This case, and the rapid loss of purchasing power among the middle and lower classes that resulted from this income redistribution led to more difficult family life for those outside the beneficiary classes (Murray, 2012; Vedder and Gallaway, 1987).

Outside of the American context, in Eastern Asia, the literature on marriage and divorce points out that marriage as an institution has become increasingly less attractive for both those who would be married and for those who are already in marriages, and that macroeconomic factors play a significant in the decaying esteem of marriage and family life (Bumpass et al. 2009, Rindfuss et al. 2004). While many traditional values of East Asian marriage remain intact, some researchers show that it has adopted western values regarding the household as well (Cai 2010, Thornton et al. 2012). In light of these changes, projections show that 20 percent of South Korean marriages are expected to fail by 2023 (Park and Raymo 2013). Nearly 1/3 of Japanese marriages are expected to end in divorce (Raymo et al. 2004). One important contrast between those who divorce in East Asia is that it is clearly more prevalent among lower income couples than for higher income families, which once again affirms that there may be a more universal connection between low or falling real income and disintegrating household life as Murray has described in the US (2012). These lower income families are also less educated and as such researchers have shown that there is a strong negative relationship between education level (and thus earning and purchasing power) and divorce rates (Chen 2012).

Meanwhile, in southwestern Asia, specific price increases in the Iranian housing sector have been shown to drive a broad increase in divorce rates from 1982 through 2010 (Farzanegan and Gholipour 2015). The authors note that this is a particularly troubling social trend in such a conservative Islamic state. Also, in Pakistan, connections have been drawn between price increases for the goods that households typically consume to increases in domestic violence, clinical depression among both men and women, and an increasing divorce rate (Khanam et al. 2015). There is no dispute that local customs surrounding family formation and expectations for familial behavior contribute to a wide variety of responses to changing economic conditions. However, these studies from central Asia also lack a focus on whether inflationary monetary policy and its redistributive effects are linked to differing experiences of inflationary prices. Nor is there a focus on the differing experiences between the early beneficiaries of new money versus the late recipients and the consequences for the sustainability of their family lives and marriages.

For many in the Islamic world, the issue of divorce is not viewed lightly. For some, it is considered a public health risk due to its negative impact on children and women (Barikani et al. 2012). Indeed, a significant body of research has come from Iran in recent years regarding this topic. When examining the causes for a rising divorce rate in Iran, both women and men cite economic dependence upon other family members as a leading cause of divorce. In fact, 58% percent of men seeking divorce in this literature cite economic dependency upon extended family members as a leading cause for the dissolution of their marriages, while 49% of women say the same. Furthermore, 53% of divorced females specifically cited their former husband's inability to pay for the rising cost of living as a prominent factor in their divorces. Further data analysis from Iran indicates that from 2002 through 2010, Iran had reached the highest divorce rate in the Islamic world. Furthermore, and of great importance to this thesis is the observation of what it means to

Iranian men and women to properly provide for one's family. Since the need for housing *independent of extended family is the key social marker* for these couples, it may come as little surprise that the price of housing both home rental and ownership was directly linked to marital tension and divorce (Farzanegan and Gholipour 2015). In the specific urban setting of Tehran, artificially low supplies for housing drove rental property prices to very high levels. Farzanegan and Gholipour are careful to point out that in this context, that there are even stronger positive effects on the Iranian divorce rate, and by implication, particularly so among the middle class and poor.

An interesting cultural reality in Iran that has been shown to further increase divorce rates is the idiosyncratic practice of *Mehrieh*. This payment is traditionally required to be delivered in gold coins (Farzanegan and Gholipour 2018). The price of gold as a reliable measure of a loss of overall purchasing power is one of the most commonly accepted premises in monetary economic theory. The *Mehrieh* asserts the legal right of the wife to request payment in gold jewelry or coins at the time of marriage or after the marriage has commenced. This form of wealth is legally understood to be *her exclusive property* and it is rare that couples treat that wealth as shared income for the household. If the rising money price housing, combined with the rising price of gold places great financial strain on the male spouse to provide for housing – but without the use of the *Mehrieh* – one can reasonably expect greater financial and marital tension. It is entirely plausible that this situation may increase the likelihood of divorce. Farzanegan and Gholipour have also found that the presence of this arrangement has contributed significantly to an increasing age of marriage formation by an average of 3 additional years from 1986–2011. The stated cultural purpose of the *Mehrieh* is to act as a form of self-insurance for the wife and her family. It is used to cushion the financial blow of a divorce in order to protect women from economic ruin. In effect however, the

practice lowers the cost of divorce for women, making it less likely that women will remain in tense marriages. In addition, it has been shown that young brides who are aware of the diminishing purchasing power of currency versus gold actually plan for an early divorce in order to collect the *Mehrieh* as an appreciating asset in order to facilitate their own independent living arrangement. Although this narrative may appear to present a system of perverse incentives to the western reader, it does illustrate the similarity of effects on families due to falling purchasing power against real assets like gold or housing and the increasing divorce rates that accompany these realities, especially among relatively poor households (Conger et al. 1990, Jensen and Smith 1990, Amato and Beattie 2011, Harknett and Schneider 2012, Dehghanpisheh 2014).

### **2.3.2: Legal Frameworks and Labor Markets**

Throughout the literature on divorce, some have suggested that the legal setting for divorce is more important than the economic realities facing households in determining divorce rates (Carbone and Cahn, 2014; Eichner, 2020; Lewis, 2022). Specifically, there is a body of literature that has explored that this ongoing increase in divorce rates in the US. The initial hypothesis was that the particularly high divorce rates of the 1970s just described were directly caused by the adoption of no-fault divorce laws (Peters 1993, Friedberg 1998, Rogers et al. 1999). Wolfers (2006) found that while these changes in the legal environment did have an initially positive (but weak) correlation upon divorce rates, that these effects did not persist over time. Meanwhile, in the UK, a similar conclusion was reached by research which showed that the liberalization of divorce law simply lowered the cost of the divorce transaction, ensuring the end of marriages that were already “on the rocks”, while having no impact in the long-run trend (Smith 1997). Throughout the European continent, divorce rates have also climbed substantially in the post-WWII era. Some have indicated that the rise of the welfare state (itself often funded by inflationary monetary policy)

has encouraged not only lower rates of family formation, but more frequent divorce as well (Balestrino et al. 2013).

When it comes to the study of labor decisions within the family, there have been sporadic attempts to show how altered labor market incentives due to rising prices contribute to divorce. We are by no means the first to attempt to link declining real incomes as having an impact on husbands' and wives' labor market decisions. Indeed, in the critical tradition, Eisenstein (1982) linked the presence of inflation as an *inevitable* feature of "advanced capitalism" that has "required married women to enter the labor force". While we remain open to a link between inflation and female labor force participation, our contention is that price inflation itself and its positive correlation to female labor supply are not an *endemic* feature of free market, and are therefore avoidable.<sup>80</sup> Nor do we make a value judgment on this potential link.<sup>81</sup> Eisenstein seems to adopt a sort of economic determinism in asserting that there will inevitably, necessarily, and always be an increased supply of married women in the workforce when inflation is present. Her assessment of what is happening in terms of the modern mixed economies of the west have much in common with Schumpeter's (1942) assertion that more and more hours are spent in labor activities outside the home as a part of a hyper-rationalistic mindset that prevails in the transition from mixed economies to socialistic ones. In either case, it's clear that both Eisenstein and Schumpeter are describing labor market conditions that contribute to a disintegration of the *bourgeois* family do

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<sup>80</sup> Chapter 6 will discuss changes in labor markets, female wages, and their link to expansionary monetary policy.

<sup>81</sup> Eisenstein claims that this is a positive development as it adds to the feminist role in the struggle towards the demolition of 'patriarchy' that will, "lead to a more democratic and feminist state" (582). She further describes the attempt to combat the broad loss of purchasing power as a "New Right assault [that] is aimed against feminism precisely because it is women's liberal feminist consciousness about their rights to equality that is the major radicalizing force of the 1980s. Liberalism is in crisis today not merely because the welfare state is in crisis as the New Right believes, or because liberalism contains cultural contradictions as the neoconservatives argue, or because capitalism itself is in crisis, as Marxists and left-liberals contend. The "crisis of liberalism" is a result of the conflict between the traditional white patriarchal family, advanced capitalism, and the ideology of liberalism. The married wage-earning woman, black and white, and the potential of her feminist consciousness demonstrates this reality. Hence, the New Right assault against her and the feminist movement in general."

not arise from free economies, but rather those that have significant amounts of interventionist policies.

### **2.3.3: The Need for Monetary Policy Integration into Empirical Family Economics**

This chapter has presented an overview of the multiplicity of empirical approaches to explaining changing family life with respect to marriage, fertility, and divorce. In it, we have seen a nearly universal focus on household-level, microeconomic decisions. While some recent attention has been brought to the effects that macroeconomic realities have upon housing costs, income inequality, and household-level financial decisions, the complete theoretical connection between the actions of monetary authorities (as an ultimate cause) and household financials (as a proximate cause for structural change) is yet to be fully realized. We hope to fill that research gap with the work that remains in this dissertation. As the overall goal of the thesis is to establish how changes in money supply present a new set of incentives to every household, we don't choose this macroeconomic variable randomly. In fact, we pick up a project established in the 1700s by Richard Cantillon that began to address the relationship between money production, the resulting new distribution of real income, and family life, decisions, and structure (Saucier & Thornton, 2010).<sup>82</sup> Although this model is over two centuries old, it still rings true today both theoretically and empirically as we hope to demonstrate in the chapters ahead.<sup>83</sup> Furthermore, while this already lengthy chapter won't permit it, each of the phenomena discussed in this chapter, from changing moral judgments and time preference rates, to rising housing prices and labor market structures

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<sup>82</sup> Chapter 5 provides an exposition on this Cantillon's contribution to economic science.

<sup>83</sup> This same project has been the subject of very strong implications in Hülsmann's work (2016), which asserts that, "Perennial inflation slowly but assuredly destroys the family", and again, "Our study seems to suggest that there is definitely something diabolical in fiat inflation. But we feel incompetent to deal with this question and leave its analysis for another time, or for other scholars." It is precisely this research program that this work is designed to elaborate upon. It is a happy coincidence that the pursuit of such a field of study has also been urged, though perhaps unwittingly, by Becker's call to integrate macroeconomics into our understanding of the transformations undergone by family structures on a worldwide basis, all in order to bring family economics into the spotlight.



can plausibly be linked to the decisions of monetary authorities. In fact, some authors have already suggested that their topics should be given fair consideration by monetary authorities for the social and cultural consequences of their actions (Cowley, 2005; Taylor, 2007; Vargas-Silva, 2008; Teles, 2004; Hülsmann, 2008, 2016; Chen, 2012; Ammous, 2021). By presenting this array of proximate causes for changing family structure we hope to break ground that will prove to be fruitful in future research that more fully explores the formation of the inflation culture, its institutions and habits, and the impact that these phenomena have upon traditional family life and structure.

## **PART 2: Cantillon Effects, Monetary Policy, and the Inflation Culture**

“Credit expansion excessively and unjustifiably forces economic agents’ reflexes and the pace at which they work. While the expansion lasts, people’s capacity for work is pushed to the limit and their entrepreneurial spirit becomes corrupted. Psychological stress and wear follow and are of high human and personal cost.”

*Money, Bank Credit, and Economic Cycles* - Jesus Huerta de Soto

### Chapter 3: Money Production and Cantillon Effects

The Irish-born Frenchman, Richard Cantillon (~1680-1734) provided the field of economics with the first systematic explanation of the redistributive effects of a growing money supply (Saucier and Thornton, 2010). His *Essai Sur La Nature Du Commerce En General* (Essay on Economic Theory) explained whenever new money supply is created, it is directed into specific channels of economic activity. Furthermore, he discovered that the direction of the new expenditures depend entirely on the subjective valuations of the first recipients of the new money or credit, so as to meet the subjective desires of their firms and their households.

In applying Cantillon's discovery to the current context of fiat money creation by the banking system (in contrast to Cantillon's exposition with gold as money), we begin with a simple example of how a growing fiat money supply impacts the labor market. The new expenditures that come from new money/credit creation enable the first recipients – whether governments or commercial banks – to bid up the prices in specific labor markets, to a greater degree than they otherwise would have. Furthermore, a real choice is made to pursue a particular sort of labor activity.<sup>84</sup> As a result, the individuals within the labor markets that are more closely associated with these initial areas of expenditure see increased factor demand, while those areas that are renounced by the initial holders of new money/credit do not and they see their relative wage rates fall in comparison. Cantillon explains that those laborers who are not closely associated with those areas of first expenditure are at a clear material disadvantage. Indeed, these disadvantages emerge in the form of later losses in purchasing power, especially for those laborers far from the new credit channels who are on fixed income contracts.

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<sup>84</sup> Mises (1949) points out in *Human Action* that in such decisions, “acting man chooses, determines, and tries to reach an end. Of two things both of which he cannot have together he selects one and gives up the other. *Action therefore always involves both taking and renunciation*” (p.12, emphasis added).

With respect to Cantillon effects in the US labor market, there has been a significant move towards the financialization of the American economy, especially since the abandonment of the Bretton Woods agreement by the Nixon administration in 1971 (Carbone & Cahn, 2014; Davis and Kim, 2015; Eichner, 2020). However, none of the cited writers mention the role that money production plays in this reality. Others have made this connection more explicitly claiming that Fed policy is implicitly aimed at “financial asset appreciation as a goal of monetary policy” (Epstein, 2001) and that within the Eurozone, “only a minor share of the financial system activity is addressed to fund productive investment in the business sector” (Perillo and Battiston, 2020). These observations imply that – as Cantillon demonstrated – certain economic activities would become less important while those activities that are benefited by the expenditures that stem from an increase in the money supply will grow in relative importance. Such outcomes have potential implications for the labor markets.<sup>85</sup>

### **Section 1: Monetary Theory – Origins of the Medium of Exchange**

In any discussion of monetary theory, it is first necessary to discuss and to provide a demonstration of the origins of money. In doing so, we observe that money is indeed a market-based solution to a market-based problem. The individuals within the social economy of ages past acted in a way to enhance their own utility and opportunities for trade. As the problems of barter arose, such as the indivisibility of certain goods and the well-known problem of the “double coincidence of wants” it was evident that solutions would need to emerge in order to solve these issues, which ultimately limited the division of labor and living standards. In order to grow the scope of trade and the division of labor for survival, an economic good that would facilitate these

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<sup>85</sup> See also McMaken (2020) on the process of global financialization at: <https://mises.org/wire/financialization-why-financial-sector-now-rules-global-economy>

desirable goals was required.<sup>86</sup> In developing a theoretical understanding of these circumstances, Richard Cantillon makes the important observation that it was impossible to fix a “respective intrinsic value” of all goods created in a community (Saucier & Thornton, 2010, 115).<sup>87</sup> He then concludes that, “Therefore, it was absolutely necessary for men to find a substance easily transportable, not perishable, and having, by weight, a proportion of value equal to the different products and merchandises, whether needed or convenient” (115). Furthermore, Cantillon proves to be a bit ahead of his time by anticipating (and rejecting) the simple quantity theory of money stating, “we must not believe, as a general rule, that the market prices of things ought to be proportional to their quantity and to the amount of silver in a particular place” (16).

Menger takes this analysis of the emergence of money another step observing that “In considering the goods he will acquire in trade, each man takes account only of their use value to himself” (Menger, 1871, 2011, 258).<sup>88</sup> He continues articulating the problems of barter as “insurmountable” and that such a situation, “would have seriously impeded progress in the division of labor, and above all in the production of goods for future sale, if there had not been, in the very nature of things, a way out” (258). In addition, Menger makes it plain that the solution to this set of troubles explicitly denies the need for government intervention observing that, “There were elements in their situation that everywhere led men inevitably, without the need for a special

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<sup>86</sup> These comments are not intended to deny the possibility of moneys that arise outside the market. Instead, we agree with Israel (who noted that, “The money we use is valued independently as what it is: a pure medium of exchange by government decree and force, not backed by any commodity” (Israel, 2017, 242).

<sup>87</sup> This is an early articulation of the subjective theory of value by Cantillon that recognizes that individuals will not always be willing to trade away a fixed amount of goods for another good based on their preference ranks at any given point in time and circumstance. This answers the paradox of value posed by Smith (1776) nearly four decades later.

<sup>88</sup> As Cantillon before him, the emergence of subjective valuation is present but far more pronounced by the use of the phrase, “use value to himself” as the basis for creating a trade with another.

agreement or even government compulsion, to a state of affairs in which this difficulty was completely overcome” (258-259).<sup>89</sup>

Menger’s description of the development of money via economic – rather than by political – processes describe a smith that wishes to engage in trade. This smith runs into the problem of the mutual coincidence of wants and finds exchange exceedingly difficult and if he is wise, he would seek out goods that are more marketable or saleable in exchange. To this end, he realizes that, “Possession of these more saleable goods clearly multiplies his chances of finding persons on the market who will offer to sell him the goods he needs” (260). Menger then elaborates on this series of events with a rhetorical flourish exclaiming, “As each economizing individual becomes increasingly more aware of his economic interest, he is led to this interest, without any agreement, without legislative compulsion, and even without regard to the public interest, to give his commodities in exchange for other, more saleable, commodities, even if he does not need them for another immediate consumption purpose” (260). He further comments that custom is sufficient for actors in the social economy to realize the advantage of using a marketable commodity to facilitate exchanges by observing those who successfully discover how to correctly select means to achieve their ends. Furthermore, he realized that “The origin of money...is, as we have seen, entirely natural...Money is not an invention of the state. It is not the product of a legislative act. Even the sanction of political authority is not necessary for its existence” (260,1).<sup>90</sup>

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<sup>89</sup> Indeed, even if one takes the Biblical texts to be pure archetypal fantasy, it is at the very least a narrative that describes the development of bronze forging – likely for use in trade – within 5 generations of the first humans per Genesis, Chapter 4. In the same account, this reality emerged in cities, which clearly imply a substantial division of labor and trade. All of this prior to the mention of any sort of rulers, formal governance, or ruling royalty.

<sup>90</sup> Menger would also state explicitly that, “No one invented it [money]”. He further asserts that “Thus, with the progressive development of social economy, money came to exist in numerous centers of civilization independently. But precisely because money is a natural product of human economy, the specific forms in which it has appeared were everywhere and at all times the result of specific and changing economic situations” (Menger, 2011, 262,3). In a similar vein, Wicksteed (1910, 2012, 127) refers to the market as an “institution” and to money as an “instrument” that emerges from the exchanges made at the level of households and individuals.

In the next major step in elaborating on the development of money through the social economy, Mises concisely observed that, “Indirect exchange becomes more necessary as division of labour increases and wants become more refined” (Mises, 1912, 2009, 31). This necessity breeds the search for more marketable goods used for exchange, that there is a demand for such goods. Mises continues by explaining that, “those goods that were originally the most marketable became common media of exchange, i.e., goods into which all sellers of other goods first converted their wares and which it paid every would-be buyer of any other commodity to acquire first. And as soon as those commodities that were relatively most marketable had become common media of exchange, there was an increase in the difference between their marketability and that of all other commodities, and this in its turn further strengthened and broadened their position as media of exchange” (32).

Once a particular commodity had gone through this process, Mises went on to explain that there are “secondary” functions that money would serve in the social economy, beyond being a *medium of exchange*.<sup>91</sup> Households and firms were also enabled to achieve their ends even more effectively as the medium of exchange would also serve as a *unit of account*, to *facilitate credit transactions* and would act as a *store of value* (Israel, 2017, 239).<sup>92</sup>

In *Man, Economy, and State* (1962, 2009, 194) Rothbard further explains some of the implications of the emergence of money and applies it specifically at the household level. He

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<sup>91</sup> Mises seems mildly annoyed that such “secondary functions” should require discussion as he reflects on Menger’s similar attitude. He plainly asserts that once one concludes that money is in fact that thing which facilitates the interchange of goods and services – a medium of exchange – then all the other functions that money takes on in the social economy can be deduced from this scientific knowledge (Mises, 1912, 2009, 34,5).

<sup>92</sup> In the specific matter of money as a facilitator of credit transactions, Huerta de Soto (2012) provides a thorough explanation on the emergence of credit transactions when he notes that both the *Commodatum* and *Mutuum* forms of contract were regularly used for loaned goods prior to the emergence of money. Additionally, deposit and irregular deposit contracts emerged in the market as a form of safe-keeping or warehousing fungible goods, such as money (2-6).

explains, “With the great variety in human skills and natural resources resulting in enormous advantages from the division of labor, the existence of money permits the splitting of production into minute branches, each man selling his product for money and using money to buy the products that he desires. In the field of consumers’ goods, a doctor can sell his services, or a teacher his, for money, and then use the money to purchase goods that he demands. In production, a man can produce a capital good, sell it for money, and use the gold received to purchase the labor, land, and capital goods of a higher order needed for its production” (194). Much like Cantillon, Rothbard provides a clear illustration of how the households of the doctor or teacher are benefited by such exchanges, as is the producer who exchanges goods for money in pursuit of other projects. This descriptive analysis provides a salient view of the entire operation of the social economy and within households. Ultimately, the emergence of the means of money facilitates the expanding scope and depth of the division of labor and overall efficiency.

Hülsmann also points to similar consequences for the emergence of money from the market, but adds that, along with the expanded division of labor, that this outcome, “contributes to the material, intellectual, and spiritual advancement of each person” (Hülsmann, 2014, 22). One reason for this enhanced state of human flourishing is that wide usage of a generally accepted medium of exchange allows more individuals and households to engage in the international division of labor based on the organizing principles of the “law of association”.<sup>93</sup> This is the phenomenon that we observe when two individuals engage in trade due to their mutual and marginal benefit from doing so. The very existence and emergence of a medium of exchange is

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<sup>93</sup> Mises refers to the law of association as originating with Ricardo’s work in showing that gains from trade emerge when individuals realize that there are gains from trade to be had even for producers who have an absolute advantage in production in comparison to their less efficient neighbors. This possibility arises due to, as Mises put it, “the law of comparative cost” which he deems to be a “particular instance of the more universal law of association” (Mises, 2008, 158-9).



evidence of humankind's desire to participate as easily as possible in the additional utility they experience through mutually beneficial trade. Humans become aware of these gains through observing the law of association through their view of others' lives and through experiencing it themselves. The development of money in the social economy thus tends to lower the cost of enjoying the benefits of trade as potential trade partners lower their costs that are associated with overcoming the double coincidence of wants that stifle trade under conditions of barter.<sup>94</sup>

In order to explain what kinds of money have emerged from the market – and later from governments – Israel adds to the scholarship by expressing what might be called a *typology* of money. He not only describes several types of moneys that have emerged over time, but also the features that have made for good moneys (Israel, 2017, 241-5). He first notes the category of *commodity money*, which have typically been precious metals, but have also included other tangible moneys (ex. Chinese knife money, Wampum shells, compressed tea leaves etc.). The metallic commodity moneys– copper, silver, gold – are notable for their “durability, homogeneity across space and time, a relatively stable value over space and time, a high value to weight ratio...low volume to value ratio...transportability or transferability” (242). A second form that he elaborates on is *credit money*, “which comes into existence when certificates of indebtedness, claims against physical or legal persons, denominated in units of some economic good, typically an underlying commodity, or so-called IOUs (“I owe you”) serve directly as medium of exchange” (242).<sup>95</sup> The third category of money, narrowly speaking, and the most relevant form in the world

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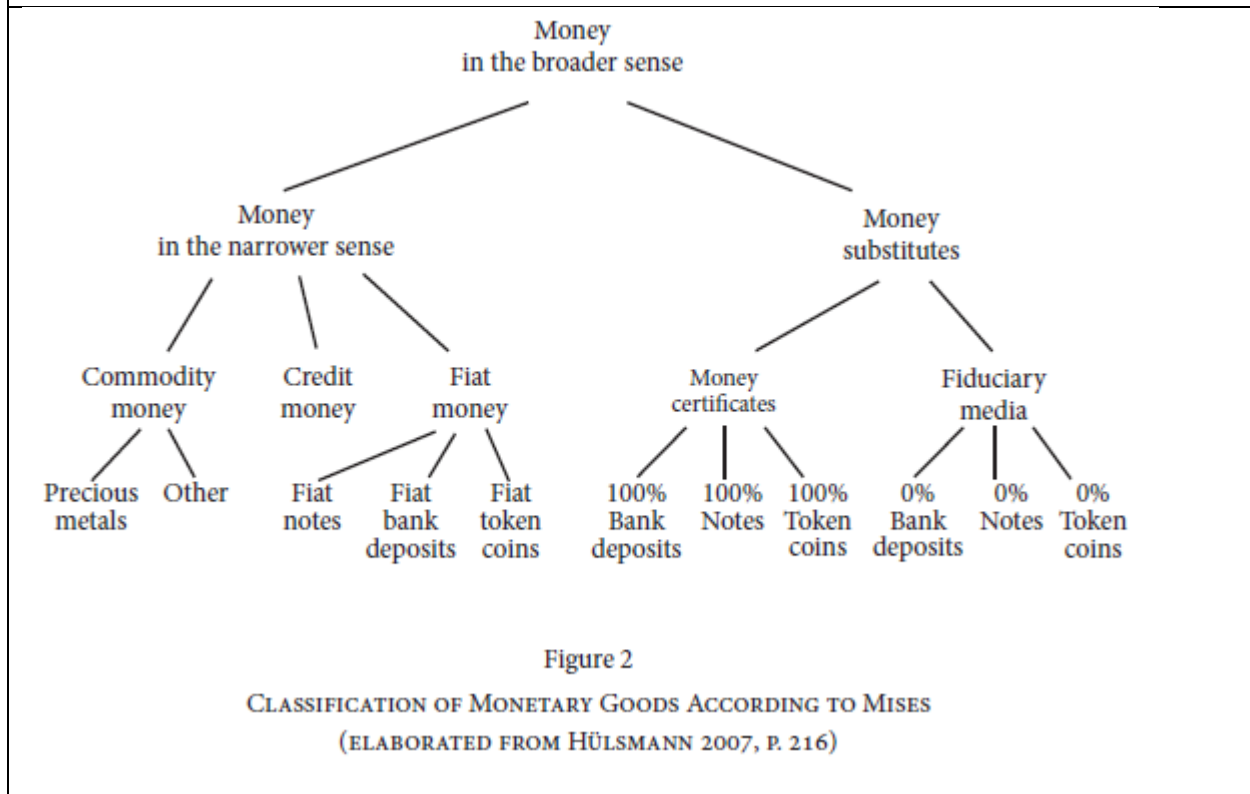
<sup>94</sup> If it is the case that in general, increases in the supply of money make it less valuable as a means of exchange, this is the equivalent of a reduction in the gains from trade and thus erode the benefits of the law of association. In a word, it may be viewed as having ‘antisocial’ effects or in contrast to Hülsmann’s description of the benefits of money used in exchange, lowered purchasing power would tend to lessen the “material, intellectual, and spiritual advancement of each person” that are derived from exchange.

<sup>95</sup> Israel draws a clear distinction between credit money and “mere money certificates that can be redeemed into the underlying money, for example, a commodity like gold, at any point in time at par” (142).

today is *fiat* or *paper money*. Such moneys are typically not redeemable for any underlying commodity and are valued purely for their use as a medium of exchange, although at various times and places this type of currency has been redeemable in metallic commodities. The use of such money is properly considered to be implemented through coercion and as such is exogenous to the social economy. The regular use of government power in bringing about their creation has been well-documented and is especially evident in the American case (Sennholz, 1979; Hülsmann, 2008; Rothbard, 2010; Griffin, 2010; Lowenstein, 2015).

To further explain what Israel has expressed regarding the taxonomy of money, Hülsmann provides us with a visual interpretation Mises's approach to categorizing money in the broadest sense into two subcategories of money in the narrow sense, versus money substitutes. The types of money in the narrow sense include commodity, credit, and fiat as Israel has articulated. He also provides the types of money substitutes as money certificates and fiduciary media. The 'species' (if you will) of money under these types are depicted as such (Figure 3.1):

**FIGURE 3.1: THE MISESIAN TYPOLOGY OF MONEY**



**Source:** Hülsmann, Jörg Guido. (2012). Theory of Money and Fiduciary Media. Auburn, AL: Ludwig von Mises Institute. 34. Available at: <https://mises.org/library/theory-money-and-fiduciary-media>

One of the main concerns of this thesis is to make a comparison of what Cantillon described in terms of household changes which occur under conditions of precious metal commodity money growth against the alterations to family life that occur when fiat money and fiduciary media are growing at inherently higher rates.<sup>96</sup> It is our contention that the household effects under commodity money expansion will be less than those effects under conditions of fiat money and

<sup>96</sup> Hülsmann’s figure leaves the possibility that fiat money may be backed or unbacked by any commodity. As history has shown however, fiat regimes trend away from commodity-backing. This is the current case in the United States, where the money produced through its Federal Reserve system produces fiat money that is backed by the “full faith and credit of the United States” as well as by legal tender laws.

fiduciary media precisely because they may be expanded in far greater amounts and in far less time than commodity money due to their relatively low costs of production.<sup>97</sup>

### 3.1.1: The Unit of Account

A quickly realized consequence of the market development of a medium of exchange is that money prices will emerge. They serve as a ratio of the amount of money used in exchange for economic goods. As mentioned earlier, this role as a *unit of account* can be deduced from money's role as the medium of exchange.<sup>98</sup> What we wish to convey is that as a unit of account it becomes part of calculating profit, loss, income, debt, and wealth. This feature operates within the minds of its possessors and plays a role in determining what an individual or household deems to be a profitable exchange given their individualized, subjective preferences. Given these deductions, we may further conclude that for the possessors of money within a household, that they will consider the array of economic goods offered to them at money prices and assess whether – as Wicksteed put it – “the marginal significance of anything...of which I have a supply stands lower on my [value] scale than it does on yours with reference to something else...of which you have a supply” (Wicksteed, 1910, 2012, 129). Here we see the importance of recognizing that marginal thinking is applied in the case of money and that, as with all commodities, it is part of the subjective calculation that is a prerequisite to exchange.

This observation is vital in the understanding of how the social economy is able to grow in its scope of offerings of goods and services as money's role as a medium of exchange yields a form of language that we call “money prices” to effectively communicate the subjective values of buyers through their price proposals and sellers through their price offerings. Furthermore, these

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<sup>97</sup> This is not to mention that fiat money is by definition a political creation, which may be used for political reasons such as redistributing wealth to governing bodies, officials, their constituents, etc.

<sup>98</sup> Mises, 1912, 2009, (p.34,5)

money prices emerge not merely for consumer goods produced by firms and traded for money from households, but also for factors of production that firms bid on to obtain the economic goods of land, labor, and capital from households. All told, the emergence of money prices in both consumer and factor markets between households and firms facilitates an expansion of economic activity that would not have been realized otherwise. Rothbard describes this desirability of such an outcome by reminding his readers that, “Not only are the problems of coincidence of wants and indivisibility of goods eliminated [with a medium of exchange], but individuals can now construct an ever-expanding edifice of remote stages of production to arrive at desired goods. Intricate and remote stages of production are now possible, and specialization can extend to every part of a production process as well as to the type of good produced” (Rothbard, 1962, 2009, 193).

The implications of this observation are that households use money in their economic calculations when approaching both the consumer markets and factors markets. As money prices emerge in both institutions, household actors use money prices as a part of the formation of their subjective judgment about what trades to engage with and which ones to renounce. In addition, with a growing array of labor activities that emerge from more “remote stages of production” these households select or renounce trades for their labor that are more plentiful and in general they have more options in selecting labor activities that suit their subjective preferences in work as well. Household decision makers will be enabled to select from a larger mix of labor, both outside and inside the home as well as an increased variety of leisure activities that arise because of increased specialization. Likewise, household choices of consumption and savings or investment expand as well, as money’s presence creates lower transaction costs than would exist in a barter economy.

Rothbard further illustrates the importance of money prices to the household when asserting that, “It is clear that the more money income a man receives during any period, the more

money he will be able to spend on desired goods. *Other things being equal...he will strive to earn as much money income in any prospective period he can*" (199, emphasis in original).

He further adds the following with respect to the impact upon a household's decisions, "On the unhampered market of a money economy, producers of commodities and services sell their goods for the money commodity, then use the money acquired to buy other desired goods" (200).

It is precisely these "other desired goods" that will prove to be of great importance as we later discuss how these desires are met with increased expenditures from individual households. The increased demand for such desired goods by those with increased money income will tend to contribute to an increase in money prices for those goods, all else held equal.

### **3.1.2: Credit Transactions**

While credit transactions and lending may certainly exist prior to the existence of money, the ease with which they are generated is increased with the existence of a medium of exchange. Indeed, Mises makes this point in both *The Theory of Money and Credit* as well as in *Human Action*. In the latter work, he notes that, "Money plays in credit transactions the same role it plays in all other business transactions...The applicants for credits approach the lenders who ask a lower rate of interest. The lenders are eager to cater to people who are ready to pay higher interest rates. Things on the money market are the same as on all other markets" (Mises, 1949, 2008, 455,6).

In the preceding text, he once again asserts that economists should be able to effectively deduce from the existence of money as a medium of exchange that credit transactions are an obvious outgrowth. He reminds the reader that, "Credit transactions are in fact nothing but the exchange of present goods against future goods" (Mises, 1912, 2009, 35). Furthermore, Huerta de Soto explains that credit transactions and contracts have a unique feature in that, "The aim of the loan contract is precisely to cede today the availability of present goods to the borrower for his

use, in order to obtain in the future a generally larger quantity of goods [in this case, money] in exchange at the end of the term set in the contract” (de Soto, 2012, 15).<sup>99</sup> If in fact, a medium of exchange has arisen, one of the reasons that it does so is that such commodities are generally regarded as being ‘fungible’. That feature of a medium of exchange allows for it to be replaced with units that are of the exact same type and quality, but not precisely the same particular units. A market-developed medium of exchange fulfills this role and not only increases the depositor/lender’s confidence that they will receive the same value back in the future (with interest), but that the borrower has confidence that the medium may be received by others in exchange for consumer or factor goods. Once the repayment term is met, the borrower can have additional confidence that if a medium of the same quality and type is used, that it will also be readily accepted as a form of repayment (with interest).<sup>100</sup>

For households that wish to engage in the social economy as lenders, it would be simple to see why their subjective values would lead them to lend present goods or money in order to receive future goods or money in a greater quantity. In addition, if there is confidence that the medium returned in the future will hold more real value than what was – to use de Soto’s word – *ceded* to another firm or household, this provides additional incentives for a household to engage in lending of the medium of exchange. Therefore, we would expect that households with a low rate of time preference would have a greater tendency to lend the medium of exchange, and those with a higher

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<sup>99</sup> De Soto draws out this definition in contrast to an “irregular deposit contract” where the depositor retains the right to use the deposited goods at any time and on demand. In such a contract, “in the irregular deposit the availability of the good is not transferred, but rather the good remains continuously available to the depositor...while in the loan contract there is always a transfer of availability from the lender to the borrower” (15).

<sup>100</sup> De Soto explains that beyond this economic explanation for why credit transactions and contracts using a medium of exchange, that legal enforcement of such contracts would further enhance the confidence of all parties to such a contract. To re-emphasize, the loan contract genuinely transfers ownership of the commodity – for the term of the loan – to the borrower for whatever purposes they wish. This contrasts with the legal structure of an irregular deposit, which obliges the holder of deposits to safeguard the deposit and to have it readily available to the depositor on demand, while no such access is granted to the lender in a credit contract (17-19).

rate of time preference to borrow from other households and to repay with interest in the agreed upon term. Confidence inspired by a medium of exchange thus makes credit transactions at the household level an easily deducible outcome. One social effect of such transactions is that of elevated trust among households if the medium of exchange lent out and repaid in a timely fashion with interest, and if it is genuinely of the same type and quality.<sup>101</sup>

While there are clear benefits to households with this secondary function of the medium of exchange there are risks associated with such transactions. For families that tend to lend, they may be mistaken in the amount they wish to lend out in that they may be foregoing present values that cause greater discomfort than they had first anticipated, leading to a sharper decline in their current standard of living than they had thought they would maintain. In addition, there is always the possibility of default, in which case lending households will suffer both present and future losses of real money income. As for the risks to the borrowers, they may find that the goods or services they acquired through borrowing do not render the anticipated satisfaction. Furthermore, situations may arise where households that borrow are unable to repay and thus suffer a loss of reputation, future borrowing prospects, or the seizure of property, if collateral is offered up as security for the debt contract. While these increased risks are very real features of entry into the market for credit transactions, they also carry the benefits of the increased chances of success in credit transactions as a broader array of economic productivity develops through the increased division of labor that was caused by the use of a medium of exchange. Thus, while default is a real threat, the opportunities available to avoid default are more numerous than in a barter economy.

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<sup>101</sup> This effect of trust-building in society is one that is cast into suspicion under fiat regimes as there is reasonable doubt that in times of expansionary fiat money production that what is repaid is of a lower quality than what was lent out initially.



### 3.1.3: The Store of Value

In multiple sections of his *Essai*, Richard Cantillon refers to economic activity at the household level (Saucier and Thornton, 2010). One important example is a demonstration of how the medium of exchange serves as a *store of value* across space. In drawing the contrasting methods of trade in the countryside as opposed to cities, he notes that within the same “state” – not necessarily a nation-state in the modern sense of the word – both barter and money may be used as methods of exchange. He contends that barter is more frequently used in rural areas as for those households, “The things necessary to life are food, clothing, and housing. There is no need for cash to obtain food in the country...If coarse linen and cloths are made there and if houses are built there, as is often the case, the labor may be paid in barter by valuation without cash being needed” (124).

He does, however, contend that cash does not disappear in the countryside as it is still necessary for rural inhabitants to make land rent payments to their city-dwelling owners of the property they inhabit. Furthermore, the medium of exchange is vital to acquire goods from urban settings. Noting that, “the goods obtained from the city, such as knives, scissors, pins, needles, cloths for some farmers or other well-to-do people, kitchen utensils, plates, and generally all that is obtained from the city for use in the countryside (125). This construction by Cantillon demonstrates what Mises meant by the medium of exchange inherently being a “transmitter of value through time and space” (Mises, 1912, 2009, 35). In Cantillon’s narrative, we see a thoughtful demonstration of how the mutually beneficial trade between rural and urban areas demonstrates how money as a store of value helps provide for the transmission of value over space.

As far as households are concerned, this is far from a trivial observation. Since money serves as a store of value over geographic space, there is a tendency for monetary economies to

facilitate a wider physical dispersion of households, given that the geography, climate, and terrain allows for human habitation within a geographically diverse state.<sup>102</sup> Furthermore, as money facilitates trade between rural and urban individuals, they become mutual members of the social economy to a higher degree than if only barter existed, or if the use of money was relegated to urban areas alone. Therefore, the secondary function that the medium of exchange plays as a store of value over space increases the social and economic cooperation between rural and urban households and firms.

The other key attribute that follows from the statement that money is a store of value is that this transmission of value also occurs across time. While we have already touched upon how a medium of exchange enhances the likelihood of credit transactions developing, and that due to the variations in rates of time preference between the multiplicity of households, we now reflect on money's ability to store value over time in the sense that it retains its purchasing power. This feature of the medium of exchange is vital to a household's decision-making processes with respect to future opportunities. If a young, single person desires to save the medium of exchange for a future abode to accommodate a marriage, they are more likely to save and to marry if, all things equal, their saved money maintains or even increases in purchasing power. The same could be said of the desire to bring children into a marriage. In anticipation of new children, parents will tend to have greater confidence in their ability to use money to provide for future needs of their offspring if they trust that their purchasing power will hold or improve in the future. Finally, if the value of

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<sup>102</sup> Here we do not intend to refer to a nation-state in the modern conception of the word. Rather, we simply mean those broad geographic areas where people consider those within the urban and rural areas to be their fellow countrymen bound together by history, culture, and values.

money is preserved in the long run, the overall stability of family operations and behaviors is enhanced as their main means for acquiring goods and services retains its purchasing power.<sup>103</sup>

#### **3.1.4: The Role of the Money Stock**

Once again, we begin with Cantillon as his examination of changes in the supply of commodity-based, market developed money centers the discussion on household life and conduct. We will first reflect on the development of his monetary theory with regard to increases in the money supply, which arise when mining operators find it profitable to extract more gold. In so doing, all those attached to the mining operations will, “increase their expenditures”, “lend the money they have over and above what they need for their expenses and earn interest” (Saucier and Thornton, 2010, 147). What is more, Cantillon provides one of the hallmarks of Austrian monetary theory when he reminds the reader that, “All this money, whether lent or spent, will enter into circulation and will not fail to raise the price of commodities and goods in all the channels of circulation it enters. Increased money will bring about increased expenditure, and this will cause an increase of market prices” (147).<sup>104</sup>

In Thornton’s editorial comment on Cantillon’s observations regarding the channels through which prices are altered, he reminds his readers that, “the simple quantity theory of money is naïve in proposing that a doubling of the quantity of money would double all prices equally. Changes in the quantity of money will change relative prices and have real effects on the economy,

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<sup>103</sup> This is by no means meant to suggest that the basket of goods and services that a household will remain constant over time. Mises makes comment to this effect in his discussion on Irving Fisher’s contribution to the “American stabilization movement” which assumed that “In proportion in which the amount of money required for the purchase of the content of this basket changes, the purchasing power of the dollar has changed. The goal assigned to the policy of stabilization is the preservation of the immutability of this money expenditure. This would be all right if...the basket were always to contain the same goods and the same quantity of each and if the role which this assortment of goods plays in the family’s life were not to change. But we are living in a world in which none of these conditions is realized” (Mises, 1949, 2008, 221).

<sup>104</sup> We remind our readers that Cantillon is here describing a one-time injection of new money into the economy.

a phenomenon now known as the Cantillon Effects” (155). In Cantillon’s own words, there are two key conclusions that are to be reached whenever there is an increase in the supply of money, even in a commodity-based monetary system. First, he notes that, “I conclude from all this that by doubling the quantity of money in a state, the prices of products and merchandise are not always doubled...The change in relative prices, introduced by the increased quantity of money in the state, will depend on how this money is directed at consumption and circulation. No matter who obtains the new money, it will naturally increase consumption. However, this consumption will be greater or less, according to circumstances, It will more or less be directed to certain kinds of commodities or merchandise, according to the judgment of those who acquire the money. Market prices will increase more for certain goods than for others, however abundant the money may be” (156).

Cantillon further illuminates his readers in how the new money supply alters the structure of the overall economy stating, “I conclude that an increase of actual money in a state always causes an increase of consumption and a routine of greater expenditures. But the higher prices caused by this money does not affect all commodities and merchandise equally. Prices do not rise proportionally to the quantity of money unless what has been added continues in the same circulation channels as before. In other words, those who offered one ounce of silver in the market would be the same and only ones to offer two ounces when the amount of money in circulation is doubled, and that is hardly ever the case. I recognize that when a large surplus of money is introduced in a state, the new money gives *a new direction to consumption*, and even a new speed to circulation. However, it is not possible to say exactly to what extent” (157, emphasis added). Moreover, it is precisely this “new direction to consumption” that signals Cantillon’s implication that the structure of the economy is altered, which is contrary to the simplified form of the quantity theory of money, which implies that the real economy is unaffected by a growing money supply.

Mises moves this portion of monetary theory forward by noting that in this discussion that we must also articulate the assumption that these consequences arise as Cantillon described, with the conditions that the demand for money remains unchanged or that it at least doesn't increase to the same degree as new money is produced. In a more fully developed statement than what Cantillon offered regarding the growth in the money supply, Mises explains, "An increase in the stock of money in a community always means an increase in the money incomes of a number of individuals; but it need not necessarily mean at the same time an increase in the quantity of goods that are at the disposal of the community, that is to say, it need not mean an increase in the national dividend." Moreover, "The immediate consequence of both circumstances is that the marginal utility to them of the monetary unit diminishes. This necessarily influences their behaviour in the market. They are in a stronger position as buyers. They will now express in the market their demand for the objects they desire more intensively than before; they are able to offer more money for the commodities that they wish to acquire. It will be the obvious result of this that the prices of the goods concerned will rise, and that the objective exchange-value of money will fall in comparison" (Mises, 1912, 2009, 138-9).

After describing how the new influx of money is used by its first possessors, Mises goes into further detail explaining the eventual effect on those who are *excluded* from this first group, or perhaps never see any increase in real income at all through the new money creation. He provides a more grim picture for those people, explaining, "The increase in the quantity of money does not mean an increase of income for all individuals. On the contrary, those sections of the community that are the last to be reached by the additional quantity of money have their [real] incomes reduced, as a consequence of the decrease in the value of money called forth by the

increase in its quantity” (139).<sup>105</sup> This clear distinction between the consequences of new money creation that accrues to the first receivers and their households versus the later recipients is a genuine hallmark of the Austrian approach that until recently (Mangiante and Lauper, 2023), mainstream approaches to understanding the effects of money supply increases have generally ignored.

After Cantillon and Mises, monetary theorists have continued to elaborate on the non-neutral effects of new money creation upon the real economy and prices. Rothbard took up this argument and provided further elaboration on the importance of time elapsing and how new money injections have a more profound effect on the structure of relative prices than Mises articulated. Specifically, Rothbard emphasized that, “Changes in the demand for money or the stock of money occur in step-by-step fashion, first having their effect in one area of the economy and then in the next. Because the market is a complex interacting network, and because some people react more quickly than others, movements of prices will differ in the speed of reaction to the changed situation. As we have intimated above, the following law can be enunciated: When a change in the money relation causes prices to rise, the man whose selling price rises before his buying prices gains, and the man whose buying prices rise first, loses. The one who gains the most from the transition period is the one whose selling price rises first and buying prices last. Conversely, when

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<sup>105</sup> Mises continues this discussion by critiquing the “mechanical version of the Quantity Theory” by arguing that the adherents to this idea “will be the more inclined to believe that the increase in the quantity of money must eventually lead to a uniform increase in the prices of all economic goods, the less clear their concept is of the way in which the determination of prices is affected by it. Thorough comprehension of the mechanism by means of which the quantity of money affects the prices of commodities makes their point of view altogether untenable. Since the increased quantity of money is received in the first place by a limited number of economic agents only and not by all, the increase of prices at first embraces only those goods that are demanded by these persons; further, it affects these goods more than it afterwards affects any others. When the increase of prices spreads farther, if the increase in the quantity of money is only a single transient phenomenon, it will not be possible for the differential increase of prices of these goods to be completely maintained; a certain degree of adjustment will take place. But there will not be such a complete adjustment of the increases that all prices increase in the same proportion. The prices of commodities after the rise of prices will not bear the same relation to each other as before its commencement; the decrease in the purchasing power of money will not be uniform with regard to different economic goods” (140).

prices fall, the man whose buying prices fall before his selling price gains, and the man whose selling price falls before his buying prices, loses” (Rothbard, 1962, 2009, 812).<sup>106</sup>

This detailed elaboration provides further insight into the restructuring of the economy that arises through altered relative prices. Rothbard’s focus on the entrepreneur and the profits and losses that may come about due to the new influx of cash is no less relevant for households. If a household gains increased money income in the labor market, while their household costs remain low, they are the biggest gainers from the new money production. Meanwhile, those who sell their labor services at a constant wage rate (perhaps due to salary contracts) yet face higher costs in their household budgets are those who lose real income in this situation. While this explanation could have been surmised from both Cantillon and Mises, Rothbard introduces the speed with which they respond to conditions created by the new money supply. Those with the fastest reaction to sell goods or labor services where the new money is being spent first, will stand to benefit the most. On the other hand, those who are slow to move to those areas of productive activity will gain less or even experience decreasing real income and wealth, in contrast to the first movers.<sup>107</sup>

## **Section 2: The Money Stock, Cantillon Effects, and Households**

In order to present the reader with a plausible explanation of why monetary policy ought to be considered as a part of the causal chain of altered family life, an initial theoretical explanation is in order. To accomplish this, we will set the stage using recently documented changes in family life that has already been described in theoretical literature that links a growing money supply to

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<sup>106</sup> One important note that Rothbard adds to this discussion is that “Which people gain, and which lose from any given change is an empirical question, dependent on the location of changes in elements of the money relation, institutional conditions, anticipations, speeds of reaction, etc.” (812).

<sup>107</sup> This does not discount the general need for entrepreneurs to be actively seeking new profit opportunities by the processes of innovation, risk-taking and anticipating the needs of consumers. It is therefore plausible that entrepreneurs don’t necessarily have to offer new or improved goods and services or reduce their input costs to increase their profits. They simply need to offer the marginal unit to buyers who have newly injected cash and be first to market their goods to these households who have greater overall demand for their highest ranked goods.

altered household behavior and structure. The economic variables that were discussed in our introduction and in Chapter 2 represent changing incentives and behaviors among households. Yet, these altered incentives, institutions, and habits of the inflation culture are themselves caused by other determining factors. While explaining the potential connection between monetary policy and the remarkable changes in family life is indeed new in the literature, it comes with sufficient theoretical justification, which the following section seeks to demonstrate.

### **3.2.1: Modern Illustrations of the Cantillon Effect**

Charles Murray (2012) clearly alerted readers of *Coming Apart* that his goal was to look closely at the changes in family life in the U.S. rather than to illuminate its causes. Nonetheless, he gave one area did provide a hypothesis that it was a significant change over time in the labor markets that provides the key economic variable that explained the broad disruptions to American family life. In short, he asserted that the post-industrial economy has placed a premium on education as the means to grow one's income and eventually, household wealth. While we don't dismiss this claim, it is our contention (along with other researchers) that an important driver of changing structure of US labor markets is, in fact, the positive and persistent monetary and price inflation as well as monetary shocks that have occurred under the US Federal Reserve System during the same time period (Albert & Gomez-Fernandez, 2018; Thornton, 2015; Sieron, 2017; Saucier and Thornton, 2010; Romer & Romer, 1998; Doepke & Schneider, 2006). We also acknowledge and uphold the relevance of Cantillon's monetary theory, which discovered that anytime there is growth in a money supply – even under a commodity-based money regime – that there are *positive wealth effects for the early recipients* of new expenditures. This is the case whether it occurs through monetary or fiscal stimulus or from private enterprise. Regardless of which of those three causes predominates, there are eventually *negative wealth effects for the later*



*recipients* of new money and the resulting expenditures. This outcome has been called the *Cantillon Effect*.

This discovery has been more thoroughly explained by others who noted that, “The additional quantity of money does not find its way at first into the pockets of all individuals; not every individual of those benefited first gets the same amount and not every individual reacts to the same additional quantity in the same way. Those first benefited—in the case of gold, the owners of the mines, in the case of government paper money, the treasury—now have greater cash holdings and they are now in a position to offer more money on the market for goods and services they wish to buy. The additional amount of money offered by them on the market makes prices and wages go up. But not all the prices and wages rise, and those which do rise do not rise to the same degree”. He further explained, “Thus, price changes which are the result of the inflation start with some commodities and services only, and are diffused more or less slowly from one group to the others. It takes time till the additional quantity of money has exhausted all its price changing possibilities. But even in the end the different commodities are not affected to the same extent... As long as the inflation is in progress, there is a perpetual shift in income and wealth from some social group, to other social groups. When all price consequences of the inflation are consummated, a transfer of wealth between social groups has taken place. The result is that there is in the economic system a new dispersion of wealth and income and in this new social order the wants of individuals are satisfied to different relative degrees, than formerly. Prices in this new order cannot simply be a multiple of the previous prices” (Mises, 1938, 1990, 72-73).

While Mises described the Cantillon effect in terms that included government-created money, it was Cantillon himself that described the impact of this new distribution of wealth under a commodity money as indicated earlier. For both Cantillon and Mises, and regardless of whether

money is a market or government creation, there is a wealth distribution within society that was different before the new expenditures occurred. What separates the two economists' brief analysis is that Cantillon places a clearer emphasis on the benefits and harm brought to certain *households* as their labor activities are near or far from the new money creation both in terms of time and physical distance.<sup>108</sup>

### 3.2.2: Cantillon's Family Commentary

We further utilize Cantillon's framework because it specifically addresses changes in money supply and its impact on household life. A thorough search for extensions of this work into current family economics is completely absent at worst and deeply neglected at best. Another benefit of beginning with Cantillon is his concise language in describing complex economic phenomenon. In the following passage, he describes precisely how newly created money impacts households, explaining, "In general, an increase of hard money in a state will cause a corresponding increase in consumption and this will gradually produce increased prices. If the increase of hard money comes from gold and silver mines within the state, the owner of these mines, the entrepreneurs, the smelters, refiners, and all the other workers will increase their expenses in proportion to their profits. Their households will consume more meat, wine, or beer than before. They will become accustomed to wearing better clothes, having finer linens, and to having more ornate houses and other desirable goods. Consequently, they will give employment to several artisans who did not have that much work before and who, for the same reason, will increase their expenditures. All this increased expenditure on meat, wine, wool, etc., necessarily

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<sup>108</sup> This is not to suggest that Mises didn't imply or understand that the impact of money creation would impact people at the household level. In fact, in part 1, chapter 4 of his *Socialism* he noted that interventionism of all kinds – which presumably includes monetary interventionism by the state – has social consequences. That chapter is devoted to the interventions of Socialists of various parties and their impacts on family life (Mises, 1951).

reduces the share of the other inhabitants in the state who do not participate at first in the wealth of the mines in question. The bargaining process of the market, with the demand for meat, wine, wool, etc., being stronger than usual, will not fail to increase their prices. These high prices will encourage farmers to employ more land to produce the following year, and these same farmers will profit from the increased prices and will increase their expenditure on their families like the others. Those who will suffer from these higher prices and increased consumption will be, first of all, the property owners, during the term of their leases, then their domestic servants and all the workmen or fixed wage earners who support their families on a salary. They all must diminish their expenditures in proportion to the new consumption” (148-9).

Furthermore, Cantillon’s analysis goes a few more steps to describe the implications of continued money production upon foreign trade, observing that, “If money continues to be extracted from the mines, the abundance of money will increase all prices to such a point that not only will the property owners raise their rents considerably when the leases expire and resume their old lifestyle, increasing their servants’ wages proportionally, but the artisans and workmen will increase the prices of the articles they produce so high that there will be a considerable gains in buying them from foreigners who make them much cheaper. This will naturally encourage several people to import products at lower prices from foreign factories, and this will gradually ruin the artisans and manufacturers of the state who will be unable to sustain themselves by working at such low rates because of the high cost of living” (149).

In a few short paragraphs, Cantillon sets the stage for understanding how a growing money supply impacts wealth distribution, household-level decisions, increasing income inequality, labor market changes, rental prices, rising consumer prices, and international trade. Moreover, he illustrates the difference between the early recipients of new expenditures from new money

productions from the late recipients and the outcomes for their households and firms. The reader will of course notice that this series of causes and effects occur in a hard money context where there are clearly increased costs to exploration, mining, minting etc. Furthermore, the process is the result of – at least initially – a one-time injection of new money and not a continual increase in its quantity, such as is the case in modern economies. Cantillon continues his explanation of new money’s impact, explaining what would happen if new money were *continually* produced, eventually resulting in reduced real income and large, negative trade balances. The simple fact that Cantillon, unlike any other monetary theorist, so clearly makes connections between the monetary base and family life it is natural that we would use his theory and those who followed in his approach to monetary economics.

### **3.2.3: Monetary Economics and Household Finance**

The closest attempts to step into this research gap have come from economists following Campbell’s lead by producing a large body of recent literature on the internal dynamics of household finance (2006).<sup>109</sup> The current landscape of this research program is dominated by efforts to explain how monetary policy impacts household financial decision-making. Some key areas of study have included budgeting practices, consumption, the refinancing of mortgages, education expenditures, and the use of consumer credit. What is currently missing is research into how these changes to household financial decisions impact the *structural* matters of marriage, fertility, or divorce. We interpret this as an opportunity to move closer towards the goal of fully connecting the institutions of inflationary fiat currency to the changes in the household institution itself.

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<sup>109</sup> A search of over 150 of the 3000+ works that cite Campbell’s paper produced no meaningful or substantial commentary on the altered state of family formation, cohabitation, fertility choices, separation, or divorce. The search occurred through Google Scholar (August 3, 2022) for papers that have cited this seminal work.

Some recent work has nudged closer to demonstrating how monetary policy is experienced in a heterogenous fashion among wealthy and poor households through their consumption choices and family (Lauper and Mangiante, 2021). This approach is a part of a wider trend that shows that over time, there has been a shift in the literature of monetary economics that zeroes in on individual effects as opposed to strictly focusing on aggregate phenomena (Michael, 1975; Coibon et al., 2017; Kaplan Schulhofer-Wohl, 2017; Kaplan, Moll, and Volante, 2018; Mangiante and Lauper, 2023). While this line of inquiry is helpful and perhaps is in line with what Becker had in mind when encouraging economists to consider the role that macroeconomic changes impact families, these studies primarily focus on the impact that monetary policy has upon household expenditures, changes in real income, and consumption inequality. Again, while not the goal of those authors, they too come up short in fully explaining how macroeconomic realities alter the family institution.

A more thorough explanation of such broad and radical changes in household life in the U.S. and throughout the West demands further exploration. We now believe that enough research has been done by others to complete the objective of providing a full explanation of how changing macroeconomic reality – in the form of fiat currency and inflationary monetary policy – has contributed to the radically altered family institution in the U.S. over the past half century. We don't come to this idea alone. It has been said with respect to marriage – the entry point to traditional household – that “[a]s a social institution, marriage [family formation] is an adjustment of the individual to the social order” (Mises, 1922, 2015). We will contend that the decisions of monetary authorities to employ a positive persistent inflation in the post-WW2 era have generated a set of habits and institutions, dubbed the *inflation culture* (Hülsmann, 2008, 2016) that have served to alter household life and structure.

### **3.2.4: Household Finance and Altered Family Structure**

This chapter has demonstrated that there is sufficient economic research towards the theoretical and empirical understanding of how economic variables that are exogenous to the household have altered the behavior of families. However, on both ends of this causal chain, there are missing links. Prior to understanding the phenomena of increased debt levels, altered housing and labor markets, we will eventually look at the actions of monetary authorities and how their expansionary policies have influenced these markets. In addition, we will also demonstrate how the new financial realities that households face has altered the structure of households themselves. In doing so, we will extend the field of family economics back to *an* (not *the*) ultimate, though partial, explanation of why household structures have been so dramatically changed in the US over the past half century. Furthermore, we will also see that some groups within society have continued to experience and even strengthen the structures and habits of traditional family life, while others have seen them disappear. Such an unequal set of outcomes that has emerged in the empirical literature provides further evidence that the well-known redistributive effects of monetary policy as described through the political economy methodology may help produce a partial explanation for what lies behind such remarkable changes in household structures of American society.

### **Section 3: Competitive vs Interventionist Money Production**

The following section contrasts society under conditions of monetary competition, versus monetary intervention. The latter involves some agent of a monetary authority or state declaring what money is to be accepted in exchanges, while the former allows for the free exchange of various currencies for each other and for goods and services. We will demonstrate how under competitive conditions, that fiat money would not survive, were it not for legal tender decrees, which political actors are eager to implement. In addition, we show how interventionism tends

towards inflation and the suppression of interest rates while competition in money creates the conditions for a tendency towards falling price levels while maintaining the natural rate of interest.

It is important to note that some economists believe that the orthodox view of the emergence of competitive money is a fiction. Furthermore, they posit that there can't be a distinction between competitive money and fiat money as the former can't exist. The "Chartalist" doctrine developed by Knapp is one such example (1924). The orthodox view – first fully developed by Menger – has been deemed the "Metalist" view by its Chartalist critics. The metalists contend that money emerges out of the limitations of direct exchange (barter), thus producing indirect exchange within the market by utilizing the most marketable good – historically, precious metals. The Chartalists instead claim that the state precedes market money, and that in order to tax, the sovereigns created money and then would impose it upon individuals who then use it as a medium of exchange, mainly due to the necessity of making tax payments in the king's currency. Clearly, this view explicitly rejects the notion of the orthodox view that money is a market phenomenon, claiming that "the state (or any other authority able to impose an obligation) imposes a liability in the form of a generalized, social, legal unit of account – a money – used for measuring the obligation. *This approach does not require the preexistence of markets; indeed, it almost certainly predates them*" (Wray, 2014, emphasis added).

While we acknowledge the existence of the Chartalist doctrine, we nonetheless will apply the orthodox monetary theory in our work. As we do elsewhere, this decision relies upon the work of Cantillon (Saucier and Thornton, 2010) whose monetary theory describes money production in a competitive environment. In addition, we will also refer to those who have followed Cantillon's description of competitive moneys such as Menger (1871, 2011), Mises (1912, 2009), Rothbard (1962, 2009), DeSoto (1998, 2012), and Hülsmann (2008). Another justification for beginning

with what Cantillon asserted regarding monetary supply increases is that he directly referred to the household-level decisions as an important set of consequences of the expansion of the money stock. Yet another reason for this approach is that more modern theories have shown recent signs of turning from an aggregate approach to the impact of monetary policy. In fact, some have begun to acknowledge the reality of heterogeneous actors (i.e., households) and the consequences for those actors, due to altered money supplies. Most notably, the heterogeneous agent, new-Keynesian (H.A.N.K.) approach has shown this tendency (Kaplan, Moll, and Viloante, 2018; Lauper and Mangiante, 2021). Given this growing trend to move the focus of monetary authorities' actions upon individual agents, it would be wise for us to utilize a theory that has, since its inception, accomplished this very task.

### **3.3.1: Fiat Money and Fiduciary Media**

To demonstrate the differing consequences of monetary regimes on family life, we will refer to the modern monetary regimes as those that utilize *fiat money* and *fiduciary media*. While these forms of money have typically been produced by the state via central banks and their member banks, they may still be regarded as a medium of exchange as long as there is still demand for them as such. The essential difference between market-originated commodity money and these forms of interventionist money is that the latter is generated through political, rather than economic processes.<sup>110</sup> While the economic causes for the emergence of money are rooted in the goals of individuals who are seeking to engage in a greater number of voluntary and mutually beneficial exchanges, money produced for political purposes are dictated by the goals of the state and its

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<sup>110</sup> Israel (2017) provides an important clarification on the claim that interventionist money is generated by political processes. He states that, "money, at least base money, is essentially provide by a public policy institution that holds a legal monopoly. Its production is not merely politically regulated" (237, ff. 1). Fiduciary media is considered a political creation as its ongoing existence is protected by political means such as legal tender laws, mandatory deposit insurance, and access to central banks as 'lenders of last resort' in order to protect the banks that issue fiduciary media from insolvency.



agents. Even though the motives of the state might be different than market actors when it comes to the goals that drive the production of a medium of exchange, the secondary functions that any commodity performs as a medium of exchange remain the same.

Even ardent critics of interventionist money generated by central banks and their member institutions concede that the currency they produce may still be considered a medium of exchange. Mises himself noted that, “The subject matter of the theory of indirect exchange is the study of the ratios of exchange between the media of exchange on the one hand and the goods and services of all orders on the other hand. The statements of the theory of indirect exchange refer to all instances of indirect exchange and to all things which are employed as media of exchange. A medium of exchange which is commonly used as such is called money” (1949, 2008, 395).

In short, if non-market actors monopolize money creation by decree and it comes to be generally accepted for all indirect exchanges, even if through legal tender laws, it certainly would fall under the definition of a medium of exchange – or money broadly speaking. Rothbard, who was certainly no friend to central banking, refers to all media of exchange as money. He also clarifies that economic science isn’t concerned with *which* commodities are used as the medium of exchange, stating “that is subject matter for economic *history*” (Rothbard, 1962, 2009, 192; emphasis in the original).

Another key distinction between competitive, market-generated money and fiat currency is that historically, the latter has been produced at a lower cost than the former. Hülsmann explains that whether additional fiat currency is generated by a state-sponsored mint, treasury, or by the banks that are sanctioned by the central banking authority, that fiat currency and fiduciary media may be cheaply produced. Indeed, “in virtually unlimited numbers and at great profit... the marginal cost of producing additional banknotes [and deposits] is close to zero. Moreover, in the

case of paper certificates, extensions of the money are more difficult to perceive than in the case of certificates directly attached to the metal” (Hülsmann, 2008, 92).

It is this low-cost, high-volume production that makes the redistributive outcome of the Cantillon effect manifest in a much higher degree than under new commodity money, which is subject to real economic constraints. Furthermore, fiat money and fiduciary media generation is only constrained by the political will of monetary authorities or the bankers who issue them. As a result, the redistributive effects of new money creation are more likely to have greater degrees of intensity and duration than they would under a commodity-based money. The eventual outcome of adopting fiat over commodity money is that through multiple channels, the real economy its income and wealth structures, production processes, incentives, approaches to consumption, savings, and debt, are fundamentally altered, as are the households within it.

Another way to think of fiat money and fiduciary media is to acknowledge the privileged position they hold as being created and protected by the state, its laws, and its agents. Despite the theoretical work of Cantillon and his intellectual scions, who have articulated the consequences of monetary expansion, the fact remains that the general public continues to accept the fiat regime. However, the portions of the public may be seen as relatively hapless in this state of affairs for the reason that monetary authorities often resort to the political means of legal tender laws.<sup>111</sup> Such decrees require that all economic agents accept the fiat notes in exchange for goods, services, debt payment, and that government agents only accept fiat money or the privileged fiduciary media as tax payment. Such laws provide a unique privilege to the producers of these moneys to guarantee the usage of their product and the political – as opposed to economic – preservation of demand for

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<sup>111</sup> The topic of legal tender laws and their impact will be covered in greater detail in Chapter 4.

such money. While it is certainly true that the demand for fiat currency can and does fluctuate, we also remind the reader that legal tender laws exist to prevent demand – for even the most debased currency – from being reduced to zero.

There is yet another point of departure between commodity and fiat/fiduciary money systems. Hülsmann’s article (2014) makes the case that, “Historically, governments have sought to promote the creation of money not least of all because artificial increases of the money supply are easy ways to fill the public purse. Moreover, various theoretical considerations suggest that an “elastic” money supply might be useful in promoting economic growth. The bottom line is that, under a fiat money system, the money supply is subject to the human will. It therefore tends to grow faster than under a commodity money system” (Hülsmann, 2014). An important implication of this more rapid money growth is that government budgets may rapidly expand, far more so than when commodity money prevails and that, “financial markets tend to grow faster than in commodity money systems” (5).<sup>112</sup>

Other key consequences of fiat money systems that Hülsmann explored included, “the distortion of interest rates, which in turn lead to inter-temporal disequilibria, business cycles, and economic crises” (18). Over the past century, the policies adopted by the U.S. Federal Reserve has aimed at low, but persistently positive rates of inflation (as measured by the Consumer Price

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<sup>112</sup> Hülsmann also successfully anticipates and rebuts the argument that new debt creation has a neutral effect on the net wealth of the borrower as they have new assets, equal to the cost of the debt. However, he responds by explaining, “if Mr. Jones takes out a loan of one million dollars to buy a house, his net wealth does not rise by one cent. It’s true that his gross wealth is now greater, namely by the said million, but his debts have risen by exactly the same amount. So far, so good. However, even if we pay due attention to the difference between gross and net wealth, the fact remains that it does make a difference whether Jones gets the house due to money creation. The difference is that Jones now lives in the nice houses, which without money creation would have been sold at a lower price to someone else... We merely wish to focus on one important aspect, namely, on the fact that, in fiat money systems such as ours, in which money is being created in the form of debt, financial markets tend to grow faster than in commodity money systems” (5).

Index). Despite what might at first glance appear to be a policy of moderation, this long-standing policy – we contend – has resulted in significant alterations in the distribution of both income and wealth structures over time. Furthermore, Hülsmann argues that, “the Fed has created, and could not avoid creating, artificial income differences, benefiting its clients (commercial banks and governments) at the expense of most other market participants. Furthermore, the Fed policy of targeting low but positive inflation rates has been a formidable shot in the arm of financial markets. This artificial growth of financial markets has increased the gap between incomes and wealth, thus reinforcing the position of the already wealthy; and it has also leveraged income differences into even greater differences of wealth” (19).

Despite the unique status that fiat money and fiduciary media operations have been granted by governments and their monetary authorities, and all the consequences that this entails, such a monopoly-produced money remains as the medium of exchange. As noted early in this thesis, the Menger-Mises position on the secondary functions of a media of exchange still hold, despite the fact that the US fiat currency and fiduciary media (i.e., monetary inflation via circulation credit expansion) are produced by a legalized monopoly money producer.<sup>113</sup> Given these realities, we will seek to demonstrate empirically (in Chapter 6) the extent to which ongoing expansion of fiat money and fiduciary media has contributed to producing an inflation culture, and how this fiat-induced reality has altered family life in the U.S.

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<sup>113</sup> It is beyond the scope of this dissertation to discuss what the purposes of state actors are in the creation, maintenance, and policy directions of central banks. These are a matter that economic and political historians must pursue, but their internal and idiosyncratic psychological goals can’t be specifically deduced using the methods available to economic science.

### 3.3.2: Monetary Policy as Interventionism

In order to cover ground that fully connects macroeconomic reality and household life in the modern context, we contend that a good place to start is with monetary policy. If nothing else, it is a suitable starting point because whatever the medium of exchange is, said money touches every transaction in a modern economy in both the markets for factors of production and for consumption goods. One challenge in distinguishing this approach from the use of market-generated, competitive money is that in the modern world, *every* nation conducts monetary policy via central banks that have instituted fiat money regimes. Furthermore, these current conditions also utilize legal tender laws as described earlier. This set of circumstances results in a currency regime with a set of policies handed down from monetary authorities that is appropriately viewed as an *intervention* into the social economy of market exchange.

When examining fiat currency regimes, it is a consistent reality that the monetary authorities who make the decisions on the money stock through direct or indirect policies tend to engage in inflationary monetary policy. This has been the pattern throughout the west and especially the US in the post-World War 2 era. Furthermore, we acknowledge that there are multiple impacts upon the social economy – both firms and especially households – that are produced by central bank policies (Saucier and Thornton, 2010; Keung & Silvia, 2012; O’Farrell & Rawdanowicz, 2017; Israel and Latsos, 2019). Our argument for using this approach is simple: Since both households and firms are the key institutions within the social economy, and since it is the case that firms are known to alter their behaviors and structures in response to monetary policy, then we should also expect that households (as the other key institution in the social economy) would also alter their behaviors and structures in response to the direct and indirect effects of monetary policy.

To conclude this chapter, it is a rather simple assertion that we make, namely, that since all modern money regimes are manifest through central banks which are the monopoly producers of money, and since they hold this power through legal tender decrees, that whatever money is produced is by definition politically and not market generated. As this money is produced through political will, rather than by economic means, the modern monetary systems are properly viewed as interventions into the social economy, and not as a product of voluntary, market-based interactions.

## Chapter 4: Monetary Policy and the Emergence of the Inflation Culture

Every household is different. Each one will behave differently when faced varied circumstances and incentives. The actions taken by households in a social economy are partially based on each their initial position within that economy. Furthermore, their responses to the altered incentives produced by politically produced money and monetary interventionism will either improve their capacity to maintain traditional family life or erode their ability to do so.<sup>114</sup> Despite the idiosyncratic responses and outcomes for each family unit, this does not imply that broadly similar household responses won't emerge. Indeed, it is entirely plausible family responses may be roughly homogenous or heterogenous in the *direction* of their choices, while consistently varying in the *degree* of those responses.<sup>115</sup>

We are reassured that this opening statement is on solid ground, as Richard Cantillon thoroughly described the economic gains and losses that accrued to different families within a state due to a growing money supply (Saucier & Thornton, 2010). To put it mildly, his work from the 1730s was prescient and anticipates the recent emergence of literature on the heterogenous impact of monetary policy by nearly three centuries.<sup>116</sup> While Cantillon was describing the impact of money supply growth with the use of a commodity-based money system, our task is to reflect on

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<sup>114</sup> As the theme of the thesis focuses on inflationary monetary policy, the timeframe of our references will tend to be from western central bank behavior from World War 2 to the present day.

<sup>115</sup> Here we remind the reader of the model presented in the introduction (Figure 1.1, p. 22) where the choices of monetary authorities have direct effects upon households (and firms) in the social economy as growth in the money supply will alter the behaviors of these groups, irrespective of obvious price changes as measured by statistics like the US Bureau of Labor Statistics (BLS).

<sup>116</sup> Economists have been working with the Heterogenous Agent New Keynesian (or 'HANK') models that measure the impact of interventions such as monetary policy (Kaplan, Moll, and Viloante, 2018; Broer, Hansen, Krusell, and Oberg, 2020). It may be simply understood that households have an array of differences that mean that both their reactions to and the consequences of outside economic stimuli will be different from their neighbors. Families are diverse in terms of their views on income-earning activities, preferences for leisure and labor, their thoughts on risk-taking, on savings and consumption, the make-up of their net worth, and on what is an appropriate level of education for their children, just to name a few. As such, we should expect an array of behaviors in response to the exogenous economic stimuli which comes from monetary policy makers decisions.

what money supply growth does to families when it is the result of direct and indirect economic interventionism by a monetary authority that upholds a fiat currency regime.

When speaking of direct intervention and effects, we will describe three specific phenomena that are brought into the social economy by the *monetary authority*, that is to say, the nexus of governments, central banks, and the banks that are members of that state's central banking system. In the modern American case, this nexus refers to the interventions that are introduced into the social economy by the partnership of the US federal government, the Federal Reserve (the Fed) and its member banks.<sup>117</sup> The impact of direct intervention by the monetary authorities are inescapable realities for households and firms. These interventions are, in a word, direct.

Indirect interventions, although pervasive, are sets of actions by members of the monetary authority that produce cultural products which may be avoided by households, albeit with some degree of difficulty. It is not so with direct intervention. These consequences are unavoidable and overarching. Furthermore, we see direct interventions as those which 'break the soil' of the social economy for the more ready and sometimes willing acceptance of the indirect interventions to take root in the social economy. This process has the effect of creating the illusion that direct and indirect monetary interventions are permanent and inherent features of the social economy itself, when in fact, they are exogenous to voluntary exchange and interpersonal actions between all the actors in the social economy, that is to say – monetary interventionism that is present in all interpersonal exchanges.

As mentioned in the prior chapter, the formation of a monetary authority, which sets the current inflation culture into motion, is first molded by the introduction of legal tender laws. Such

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<sup>117</sup> We refer the reader back to Figure 1.1



legal steps have been regarded as a “necessary prerequisite of paper money” (Hülsmann, 2004). The second direct intervention that follows from legal tender laws is a politically rooted expansion of the money supply. Third, there is a suppression of prevailing market interest rates in the social economy, creating a tendency for these rates to be lower than they would have been otherwise. While these types of activities are well-known and thoroughly experienced throughout much of the world, we aim to demonstrate how an inflation culture has emerged through these processes, and to show how the family institution has been impacted by these three direct monetary interventions.

Another important item to emphasize is that whatever household valuations are made considering the conditions created by these acts and the ensuing culture of inflation, that family valuations and choices are inherently subjective. These household actions are universally generated by what the members jointly determine to be the most desirable. Moreover, these choices are informed by a family’s thoughts surrounding the means available to each household at a given point in time.<sup>118</sup> As a result of this reality, we fully expect that even if households appear to be identical in every way, be it their income levels, size, age range and intervals, employment type, etc. that there will be demonstrable differences in their responses to the same external economic stimuli that emerge through monetary interventionism. At the same time, we also rely on the laws of economic science to anticipate some regularities in household actions. With respect to household decision-making and patterns of behavior, it is notable that the imposition of an inflation culture may alter both the *structures and behaviors* of households. Put another way, “government’s fiat makes inflation perennial, and as a result we observe the formation of inflation-specific

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<sup>118</sup> Chiappori, Browning, and Weiss have written about the dynamics within households that determine which individuals are chiefly responsible for decision making (2014). We affirm that each family will have very different internal dynamics with respect to decision making that are formed by a myriad of factors, too numerous to outline here.

*institutions* and *habits*. Thus, fiat inflation leaves a characteristic cultural and spiritual stain on human society” (Hülsmann, 2008, 175, emphasis in the original).

With these brief introductory comments in place, the three sections of this chapter correspond to the monetary interventions of: legal tender laws, an ever-increasing money stock, and artificially low interest rates. Furthermore, we will begin to discuss the cultural consequences that follow these actions and their implications for traditional family life. As each section unfolds, we aim to demonstrate the central claim of this thesis, specifically, that the actions of monetary authorities break the ground for the implanting of an inflation culture with a set of peculiar institutions and habits, which alter household structures and behavior. Finally, we contend that the inflation culture and the altered patterns of family life are heterogenous in some respects, and homogenous in others. Indeed, some households are the beneficiaries of monetary interventionism such that they are preserved and indeed thrive, while other families are far less likely to preserve such traditional structures than they otherwise would have been under a competitive monetary arrangement.

### **Section 1: Legal Tender Laws**

The discussion of the impact of legal tender laws begins with a theoretical analysis that has borne itself out in history. Such regulations have been defined as “money or a money certificate that may be used to make payments *against the will* of one of the exchange partners” (Hülsmann, 2004, 125, emphasis added). Others have described it as a statute that virtually guarantees that the medium in question will become the standard currency in an economy and that “It then cannot possibly fail, and this, of course, practically eliminates limitations on its credit expansion” (Rothbard, 2009, 1017). To elaborate on these legal conditions, we consider an economy where households and firms have already adopted metallic commodity money as the medium of

exchange. In addition, we assume – as it was a regular historical occurrence – that the governing authority gave its own currency the privileged status of legal tender, regardless of its physical content. Under such circumstances, we can deduce several outcomes in the life of families.

#### **4.1.1: Gresham’s Law and Culture**

To form an analysis of the cultural impact of broad legal tender laws, we assume that along with the required acceptance of certain types of money in the social economy that there is also a requirement for a particular exchange ratio between one money and another, that may or may not coincide the going market exchange ratio. Given these initial theoretical assumptions, we now consider the following example provided by Hülsmann. “Suppose for example that both gold and silver are legal tender in Prussia, at a fiat exchange rate of 1/20. Suppose further that the market rate is 1/15. This means that people who owe 20 ounces of silver may discharge their obligation by paying only 1 ounce of gold, even though they thereby pay 33 percent less than they would have had to pay on the free market. Prussians will therefore stop making any further contracts that stipulate silver payments to protect themselves from the possibility of being paid in gold; rather they will begin to stipulate gold payments right away in all further contracts. And another mechanism operates to the same effect. People will sell their silver to the residents of other countries, say England, where the Prussian fiat exchange rate is not enforced and where they can therefore get more gold for their silver. The bottom line is that silver vanishes from circulation in Prussia; and only gold continues to be used in domestic payments. The overvalued money (here: gold) drives the undervalued money (here: silver) out of the market. This phenomenon is called “Gresham’s Law” (Hülsmann, 2008, 126,7).

The net result of such a series of events is to create a class of beneficiaries and a class of those harmed by the consequences of the new legal tender law. In the above example it is the debtors who owned contracts in the newly overvalued money that are the winners. These households can discharge their debts more easily if they possess a quantity of gold sufficient to pay their debtors. Meanwhile, their neighbors who may have had a similar standard of living simply chose to conduct all their business in silver. Indeed, they would have done so with no ill effects, that is until the legal tender law took effect. Such a household would then have to work harder and/or longer hours to obtain more silver or convert to gold at a less favorable exchange rate. This new set of incentives would all arise, thanks to a new legal tender arrangement and a fixed exchange ratio that undervalues the currency they previously held. Such a household finds themselves in the harmed class, through no fault of their own, while their neighbor finds themselves as one of the beneficiaries simply through a new legal decree.

However, in the case described here, the harm is not yet complete. Silver holders will begin to see that their now undervalued currency will begin to be quickly replaced and even exported out of the land. Such a household may need to go to extraordinary lengths to rework contracts to ensure they are now paid in gold, as opposed to silver. They will find this increasingly difficult as fewer firms and households are willing to deal with silver transactions. Such stresses and additional time expenditure spent in re-negotiating contracts would tend to cause a higher degree family turmoil. Yet, their gold-holding neighbor has become instantly richer in real terms, through no additional work or real productivity. Such an outcome reveals one of the important inflation culture effects, which is to *redistribute wealth* and to *exacerbate class distinctions and wealth and income inequality*.

Another consequence of legal tender laws is that it sets the stage for fractional reserve banking. Hülsmann (2008) explains, “the only known technical device for the immediate replacement of the vanishing silver circulation in our example is credit money and fractional-reserve banking. Demand deposits and banknotes can be produced overnight in almost unlimited quantities, and this at virtually zero costs. This is precisely what businessmen are looking for in a situation of a large decline of the price level. They therefore start using fractional-reserve banking to a greater extent than before” (128).

Hülsmann offers us yet another case of *class differential* impacts from this culture of inflation. Noting that: “The reason why governments...started cooperating with fractional-reserve banks was the technical superiority of this type of fiat inflation. It allowed the government to obtain additional revenue that they could not get from their citizens through taxation” (2008, 138). Meanwhile, “from the ordinary citizens’ point of view, the matter looked somewhat less glorious”. Furthermore, he notes that such an arrangement, “established a permanent partnership between governments and banks. Fractional-reserve banking leverages the inflationary impact of legal-tender laws quite substantially. And inversely, legal-tender laws are a boon for fractional-reserve banking” (2008, 138). As the astute reader will know, legal tender laws didn’t stop at privileging banknotes backed (at least partially) by bullion, this process has been replayed to include credit money as well and with similar effects.<sup>119</sup>

The movement from commodity money into fiat money, held up by legal tender laws, which spurred the use of fractional reserve practices, and the increased use of banknotes and demand deposits provides a general case for an oft-repeated historical reality. One might wonder with the clear and indeed predictable outcomes of legal tender laws and legally enforced exchange

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<sup>119</sup> Hülsmann notes that the preceding examples have played a minor role in the history of money and banking, yet they do provide a solid historical set of data that reflect the findings of monetary theory (2008, 145).

ratios that overvalue one currency, and undervalue another, thus creating needless harm to some and unwarranted benefits to others, whether the rulers who enacted such policies were doing so out of ignorance. The answer offered to this inquiry is a firm, no. Again, Hülsmann observes, “Virtually all the political leaders of the Western world enjoyed the services of knowledgeable counselors. There was certainly no great lack of enlightenment in these matters after the fourteenth century. It is therefore more probable that past political leaders intentionally established legal-tender laws in order to reap personal profit from the export of the undervalued money and from the possibility of reducing debts contracted in this money” (2008, 129).

This demonstration of how monetary interventionism serves to generate an inflation culture with increased class differentials has not been a one-time affair. In fact, this pattern has been repeated throughout the centuries and without fail, the rulers benefit through legal tender laws, whether for personal gain or for the advancement of their political or military agendas. As such, the ruling class and those surrounding the throne are direct beneficiaries of this type of monetary intervention. Moreover, this process would tend to insulate them from the need to raise taxes to higher levels for these personal benefits, which would tend to stoke resentment among the populous.<sup>120</sup>

Similar patterns have emerged historically when it comes to governing authorities who wish to benefit themselves by granting legal tender status for a favored *money certificate*. Here again, Hülsmann provides us with a clear picture of how a beneficiary class emerges at the expense of other groups with the stroke of a pen. This may even be the case with the use of *money certificates* that are fully backed by commodity money. He explains that “[by] privileging a

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<sup>120</sup> This economic analysis has been observed by other social scientists who have integrated such outcomes as regularly repeating patterns. From this and similar realities, the public choice theorists like Buchanan and Tullock (1984) and power elite analysts (Mills, 1956) find fertile ground for the development of their case.

certificate through legal-tender laws disrupts the balance that would have been established on the market. There is then an inflation of certificates and a deflation of bullion. Certificates enjoy a wider circulation than they would have had in the intrinsic light of the trust that the market participants put into them. If the law compels Brown to accept banknotes that he does not desire, he might at some point decline certain exchanges that he would have made on a free market. Legal-tender laws therefore tend to reduce social cooperation and to impoverish society” (2008, 132).

This description of events unveils yet another aspect of the inflation culture, namely, that use of money certificates, combined with fractional reserve practices provide the incentives for an increasing prevalence of *moral hazard* on the part of banks as lenders, and clients as borrowers. This increased tendency to take on risky behaviors such as unscrupulous lending and borrowing increase the likelihood of default and bankruptcy over time even though the participants have been given reason to suspect that they will be bailed out by the system’s creators – the monetary authority itself. When such a series of events unfold, all parties involved take on greater risks than they otherwise would, due to the belief (which may indeed be a true one) that they will be rescued by the authority or even by society at large if a crisis unfolds (Facchini, 2015).

The problem of moral hazard that emerges under a system of modern monetary interventionism has added depth and breadth. Indeed, more expansive problems emerge at the individual and societal levels. At the individual and household level, Hülsmann notes that despite the risks involved in the fiat system “no household and no firm individually has an interest in abolishing the fiat system and putting in its place a natural monetary system. The short-term costs of such a transition would be immense. In this, we see that we are in a “rationality trap” in which one is motivated to maintain the fiat money system in spite of all its downsides, and because the

culture at this point is so transformed by more than a century of easy access to fiat money” (2014).<sup>121</sup>

Once these *rationality traps* emerge at the individual level, it has also been observed that the broader society may also tend to adopt what has been called “collective corruption”, which it is argued, contributes to the recurrence of the business cycle (Polleit, 2011). Moreover, Polleit explains that monetary interventionism creates the cultural conditions whereby “an individual can (immediately) reap the benefits from aggressing against the property of others, while he has to bear only a fraction of the damage his action does to society as a whole. He has every incentive to act in this way; he would have to bear the losses of whatever opportunity for violating other’s private property he passes up”. Moreover, it “signifies that the practice of violating individuals’ property rights is becoming, and increasingly so, a commonly accepted “rule of the game.” In sum, collective corruption can be understood as action that violates, or threatens to violate, others’ physical property rights, or leads to implicit theft, and individuals’ self-interest results – once collective corruption is set into motion – to ever greater violations of individuals’ property rights. This is a development in which the rule of law is destroyed, human rights are undermined, and peaceful and productive social and economic development is greatly hindered or even made impossible” (Polleit, 2011, 405,6). Whole these observations include vast consequences for society at large, we might add that such cultural conditions may also reduce the incentive to form traditional families and to grow or pass wealth to children – as an example – due to the knowledge that such wealth will be confiscated through the presence of this *collective corruption*.

To provide further illustrations of the consequences of monetary interventionism, we further expand on the consequences of legal tender for fractional reserve banknotes. Indeed, legal

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<sup>121</sup> Per source: <https://cdn.mises.org/October2014FM.pdf>



tender laws provide legitimacy to every fractional-reserve banking operation which promises to pay the bearers of those notes the specified amount in commodity money, “fractional-reserve banking...is a race to the bottom. Every banker has an incentive to reduce his reserves – to inflate the quantity of his notes – as far as possible”. The logical stopping point for such a race to the bottom is that point where the banker can no longer issue banknotes without the threat of insolvency. As this is the case, “he must keep his note issues within more or less prudent narrow limits”. Thus, where all banknotes are given legal tender privilege, the entire banking system tends to be inflationary, while remaining restrained to a certain degree (Hülsmann, 2008, 138). This “race to the bottom” creates systemic fragility that puts all parties at greater risk, yet due to increased *moral hazard*, *rationality traps*, and *collective corruption*, such risks are dismissed until economic recession or depression sets in.

In modern fiat monetary systems, firms and households find themselves in the midst of these cultural practices and are all prone to a great deal of financial harm. While Cantillon effects show us that there are indeed heterogenous impacts, that is to say, that some firms and households benefit at the expense of others, it is also the case that there may be secular effects that impact all in the social economy. Indeed, the institutionalization of moral hazard and the emergence of what may be regarded as its offspring – rationality traps and collective corruption – will tend to keep a fiat system in place as the consequences for all households would represent significant short-term damage if such a system were abandoned for a competitive money order.

#### **4.1.2: The Monopoly of Money Production and Culture**

The previous section has detailed the historical and theoretical basis for understanding the economic consequences of legal tender laws. The following presents the case for the cultural implications of legal tender laws that are created in favor of a single money producer. Here we

will see that the cultural habits and institutions that arise from such legislation have familial implications as well.

In explaining the mechanics and incentives at work in legal tender laws, Hülsmann (2008, 146) begins by providing the similarities and differences between coinage which may be debased and banknotes that are allowed to be inflated through fractional reserves. In the coinage case, he presents a situation where there are three competing types of coinage and one of them is granted the legal tender privilege. In such a case, there is no “race to the bottom”. Instead, the legal tender coin “now comes to play the role of a standard of debasement – it sets a pace of debasement that the other two coins must slavishly follow”. Yet here, Hülsmann instructs his reader, “monopoly makes legal-tender privileges workable when applied to debased coins. This is why, historically, legal-tender laws were applied to debased coins by and large – of course, as a monopoly of the government’s mint. But notice that the other disadvantages of legal-tender privileges for debased coins still remain: heterogeneity of the coin supply and fiat deflation, reduction of government revenues, economic destruction of the creditors, and disruption of the international division of labor” (146).

Here we see several impacts upon the social economy. First, we witness the harm done to creditors through the tendency for them to be paid back in debased coinage. These individuals (or households that lend) will lose real wealth and as such, are among the harmed class. Meanwhile their debtors gain real wealth in that their repayment with the newly debased coinage is of less real value than their contracts would have required them to pay for prior to the issuance of the enforcement of the monopoly on monetary production. Once again, we see members of society divided into the classes of the helped or harmed depending on which of the coins is favored by the monetary authority. As a further consequence, *increased class differentials* tend to emerge from

such an arrangement. Furthermore, as debtors are the beneficiaries at the expense of the creditors, we see the emergence of a *debt culture* as a component of the inflation culture. For families that tend to run in large amounts of debt, their lives become easier to manage and sustain throughout the inflationary process as their real wealth increases. However, those who had been lenders prior to the legal tender decree are worse off financially and their households will tend to bear the brunt of the challenges faced by a decrease in real income. Whether such households begin to engage in more labor and spend less time in family leisure activities, or if they decide to sell off assets or personal possessions to make up for lost real wealth, their standard of living will have tended to decrease, and their household fragility increase.

Further demonstrating the granting of a monopoly privilege in money production (which includes the legal tender privilege), Hülsmann turns to the most relevant case in modern economies. If a nation has three competing bank notes where fractional reserves are legalized, the privileged banknote will certainly tend to be inflated. However, unlike the case of coinage where the inflation is mitigated and the legal tender coin sets a pace of inflation that the others follow, the banks competing against the privileged firm will radically *accelerate* the inflation of their notes. This comes about because, “fractional-reserve banking systems labor under moral hazard. Each bank has an incentive to be especially reckless in diminishing its reserves (issuing further notes without coverage) because it can rely on the other banks as some sort of safety net. This incentive is just as present if only one bank enjoys legal-tender privileges. All the other banks then have the tendency to use the notes of this bank, which all market participants are obliged to accept in lieu of specie, to cover their own note issues. Thus, we see that, when legal-tender privileges are accorded to just one bank, the cartelization and centralization of the banking industry

crystallizes quite naturally around the privileged bank, thus turning it into the central bank” (2008, 147).<sup>122</sup>

With respect to the culture of inflation, those banks who are closely attached to the centralized bank tend to acquire the benefits afforded to the monopoly money producer, while those more distant from the privileged bank are less fortunate. Those banks that aren't closely tied to the monopoly money producers will tend to have their assets liquidated and consolidated into larger banks, along with many of their former employees. For those who don't benefit from the consolidation or have to seek work elsewhere, the households of such individuals that are harmed by this process could expect greater financial and familial difficulties as a result of the unfolding of this process. For them, and the rest of society, the tendency towards centralization in banking not only has the short-term negative effect of potential unemployment, but the former depositors of the now defunct bank may have the added burden of attempting to re-establish banking relationships, a process that is far from costless. Finally, this pattern of centralization of banking might prime the culture for further forms of centralization and a general loss of self-efficacy having experienced the inescapable consequences of the direct intervention of monopolized money production, coupled with legal tender statutes.

Aside from these cultural consequences, Hülsmann also explicitly raises questions of the *ethics* of legal tender privileges noting that, “legal-tender privileges attack individual choice at its

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<sup>122</sup>This centralization and cartelization benefits one bank and enhances its growth at the expense of depositors in smaller banks. Such impacts will be covered in greater detail in Chapter 7. To this point, it is worthy of note that the Federal Deposit Insurance Corporation (FDIC) reports that from 2000-2021 that the number of commercial banks in the US has shrunk from 8,315 to 4,236. While during the same timeframe the total amount of assets held in that shrinking number of banks has grown from 3.472 Trillion USD to nearly 15 Trillion USD. Similarly, the US's central bank, the Federal Reserve has seen its balances grow in that same twenty year period from 3.829 Billion USD to 3.122 Trillion USD in December of 2022. Sources: <https://www.statista.com/statistics/184536/number-of-fdic-insured-us-commercial-bank-institutions/>. And <https://fred.stlouisfed.org/series/US1NUM>. And <https://fred.stlouisfed.org/series/WRESBAL>

very root. They overrule any contractual agreement that person might make in respect to money. The government imposes the use of some privileged money or money certificate” (2008, 149). Citing Nicholas Oresme, he continues to add that the cultural consequences of a monopoly legal tender regime, against which citizens have no defense, is the pathway to tyrannical rule as the people become accustomed to the removal of their ability to choose – in this case, their preferred form of money – for themselves. One could consider this a significant part of rising class differentials in the inflation culture, more specifically, the rise of a tyrannical ruling and banking class versus the rest of the population. Under such conditions, it is plausible that those who are on the losing side of this equation will tend towards a state of *demoralization* as well (de Soto, 2012, 458). This category could be in play and best embodied by a profound loss of self-efficacy and a resignation among the citizenry to the rising economic and political inequality emerging from the monopoly money privileges along with legal tender decrees. As for family life among the demoralized, some may strive ever more to join the upper class, sacrificing leisure, recreation or family spirituality and in doing so, may experience greater difficulty in maintaining traditional household life.

## **Section 2: Inflationary Monetary Policy and Interest Rate Suppression**

As of the writing of this thesis, the US’s central bank (the Fed) has announced that it would take the policy measures necessary to raise its benchmark interest rate (the Federal Funds Effective Rate) after a decades long trend of near continual decreases. In the midst of governing officials’ response to Covid-19, the suppression of 1-year real interest rates had reached -3.97% in June of 2022, the lowest rate ever recorded in the US.<sup>123</sup> Their aim is to raise it from 0.08% in February of 2022 to between 4.25 and 4.5% in December of the same year, with more potential increases in

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<sup>123</sup> Source : <https://fred.stlouisfed.org/series/REAINTRATREARATIYE>

2023. Indeed, that rate did rise to over 7.5%, well above the initial forward guidance provided in earlier statements. In order to achieve these increases in interest rates, the Federal Reserve announced that it would do so by selling its “Treasury securities and agency debt, and agency mortgage-backed securities, as described in the Plans for Reducing the Size of the Federal Reserve’s Balance Sheet that were issued in May [of 2022]”.<sup>124</sup> Such a statement may simply be summarized as the Fed’s intention to reduce the overall money supply by selling portions of its balance sheet those who are currently holding US dollars and are willing to exchange them for these holdings.<sup>125</sup>

While these steps are being taken to curb high rates of price increases in 2022, their own notes in November of 2022 lack even the slightest suggestion that its own policies might have had a role in the increases in the Consumer Price Index (CPI). Instead, officials placed most of the blame on the conflict in Ukraine and “related events”.<sup>126</sup> Despite denying any potential for any responsibility for the rising price level, the Federal Reserve’s spokespersons clearly believe that the alteration of interest rates *is* predicated upon the money supply it is charged with managing, while somehow, having nothing to do with money’s purchasing power.

Whether the Fed continues to tighten the monetary supply or reconvenes its quantitative easing program, this type of direct monetary intervention will continue to have a role in upholding the US inflation culture. In the sections that follow, we will examine how monetary authorities’ decisions alter patterns of household consumption, savings, and investment and the implications for family stability.

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<sup>124</sup> Source: <https://www.federalreserve.gov/newsevents/pressreleases/monetary20221214a.htm>

<sup>125</sup> A reduction in the money supply should not be confused with a reduction in the rate of growth in the money supply. The approach of the Fed in late 2022 has in fact been to reduce money supply by all three measurements (M1, M2, and M3).

<sup>126</sup> Source: <https://www.federalreserve.gov/newsevents/pressreleases/monetary20221102a.htm>

### 4.2.1: Debt and Debt Servicing

In discussing the impact of increased credit availability and how it impacts households across income ranges and over time and space, we briefly consider the credit creation mechanism in light of the typology of money, discussed in Figure 3.1. While in the common vernacular, people often speak of an increase in the money supply as “printing money” or in new credit as “printing money out of thin air”, this simplified description isn’t far from the truth, especially in the case of fiduciary media and fiat money that is unbacked by money reserves.<sup>127</sup>

In the past, when banks were initially warehouseers of gold or silver, bankers would issue notes that indicated that the bearer of such notes were entitled to a particular amount of precious metal on demand. In cases where bankers began creating and lending more money notes than they had in gold, or when they began issuing checking accounts, economic theorists no longer regarded such as money certificates and certainly not money proper. Rather, such bank emissions were considered ‘fiduciary media’ (Mises, 1953, 2009). As such, “fiduciary media are claims to the payment of a given sum on demand, which are not covered by a fund of money, and whose legal and technical characteristics make them suitable for tender and acceptance instead of money in fulfilment of obligations that are in terms of money”. Furthermore, “Bank fiduciary media are characterized by being dealt with as constituting a debt of the issuing body. They are entered as liabilities, and the issuing body does not regard the sum issued as an increase of its income or capital, but as an increase on the debit side of its account, which must be balanced by a corresponding increase on the credit side” (278). Thus, as fiduciary media expands in a bank’s

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<sup>127</sup> We fully realize that new credit is issued to those deemed to be creditworthy by the lending institution. However, due to the realities of moral hazard in fractional reserve banking and given recent historical episodes of reckless lending due to this moral hazard (i.e., the housing and financial crises of the late 2000s) that members of the central banking system are not liable for the financial losses that their recklessness creates as they are backed by the central bank’s unlimited ability to re-capitalize those insolvent institutions.

asset column by issuing debt, so does its liability column as the deposits are spent and must be repaid.

To appreciate the impact that fiduciary media's expansion has upon various households, it is important that we don't imagine that the deposits of fiduciary media or notes is distributed to 'society'. Rather, we begin by recognizing that such deposits are created for *specific* households, firms, banks, or governments. Such deposits are not all issued simultaneously, nor are they issued in the same amounts, or with the same interest rates. Indeed, these deposits occur at differing times and places, in differing amounts and with different repayment terms for all individual actors. Finally, we must recognize that the recipients of these new deposits are not all equal in terms of their creditworthiness or ability to repay these debts once their deposits have been allocated to the goods and services of their choosing, which of course, are also unique and discreet to each agent of a household, firm, or governing body. By recognizing the discreet nature of the use of new credit, we are better able to formulate theoretical frameworks that are more consistent with reality. Furthermore, such an approach allows us greater clarity as to the economic realities of heterogenous households than would be possible if we simply looked at aggregate measures of the impact of credit expansion.

As we continue to reflect on how inflationary monetary policy might impact all types of households, the Cantillon effect continues to inform us when it comes to changes in household debt levels. Although his original theoretical approach discussed the creation of new money via the costly exercise of gold mining, refining, and minting, in the modern context new money creation mostly occurs in banks who are enabled to create new deposits through debt creation, thus banks are enabled to expand the money supply in a more frequent and far less costly way than what Cantillon described.



#### 4.2.2: Savings and Consumption

As noted earlier in this thesis, it is entirely plausible that there are secular and idiosyncratic household responses to the same exogenous economic stimuli. But before addressing the issue of altered savings and consumption patterns at the household level as a result of the inflation culture, a discussion on the causal direction of prevailing interest rates is warranted. Since it is not our objective to provide a full explanation of originary interest, we rely upon Hülsmann's work on the subject to inform us of the meaning of interest rates (2002).

Since we wish to contrast what household life would look like in the absence of monetary intervention, we must first present the case for the relationship between time preference rates and interest rates in just such a world. It has been explained that the rate of time preference for households is what determines their willingness to save. It is then the accumulation of savings in society when coupled with the demand for money that the market interest rate is discovered. If there is a higher the rate of time preference within a household, the lower the overall savings to consumption ratio will tend to be. If this is a secular tendency, and if money demand holds equal, the prevailing market interest rate will tend to increase.

Another important variable in the partial determination of household time preference rates is that of income and wealth. When a family experience *increases* in real household wealth, the lower the time preference rate will tend to be, thus increasing a household's savings to consumption ratio. The ultimate cause of this outcome is the law of diminishing marginal utility, which also applies to holding cash balances. Conversely, a *reduction* in real income would tend to raise the time preference rate of the household, thus reducing their savings to consumption ratio. Indeed, according to Rothbard (1962), "each person has a time-preference schedule relating to his money stock. A lower money stock will cause a higher time-preference rate for any unit of money

remaining in his possession, until finally his time-preference rate will rise to infinity when the money stock – or rather, the money for consumption – is low enough. Here, one element, a man’s money stock, is varied and his value scale is otherwise assumed to remain constant. Hence, we can in this way gauge the effects of a change in one determinant, the money stock”. He further clarifies, “Actually, it is not his *money* stock that is relevant to his time preferences, but the real value of his money stock...*Ceteris paribus*, an increase in his real income – real additions to his money stock – will lower the time-preference rate on his schedule” (Rothbard, 1962, 444). In Rothbard’s explanation it must be emphasized that monetary interventionism hasn’t entered the picture. Under such unhampered market conditions, the time preference rates of households (and all economic agents) create the supply of savings into the money market and the equilibrium interest rate is observed through the interaction of this money stock and the demanders of that saved money.<sup>128</sup>

It is generally held that low-income households have a higher propensity to consume their marginal increases in income than their wealthier counterparts. However, it must be noted that there are indeed very frugal low-income households as well as spendthrift wealthy ones. Therefore, the most that we can scientifically assert is that each individual household has a set of subjective values that form their time preference rates, which determine the relative importance of having economic goods sooner rather than later. However, once we introduce an interventionist central bank and if its monetary policy suppresses market interest rates, then this will create the conditions

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<sup>128</sup> Rothbard goes on in *Man, Economy, and State* to remind the reader of the complexity and subjective nature of time preference rate formation. Indeed, “There are other elements that enter into the determination of the time-preference schedules. Suppose, for example, that people were certain that the world would end on a definite date in the near future. What would happen to time preferences and to the rate of interest? Men would then stop providing for future needs and stop investing in all processes of production longer than the shortest. Future goods would become almost valueless compared to present goods, time preferences for present goods would zoom, and the pure interest rate would rise almost to infinity. On the other hand, if people all became immortal and healthy as a result of the discovery of some new drug, time preferences would tend to be very much lower, there would be a great increase in investment, and the pure rate of interest would fall sharply” (Rothbard, 1962, 444).

for a redistribution in real wealth and income, with some gaining in real wealth, while others lose real wealth sometime in the future. Those households that are enriched by the introduction of credit expansion have greater real income. However, because the rate of interest has been altered such a family is faced with a dilemma. If the increase in real income contributes to a lowered time preference rate and thus greater savings rate, they must view that extra saving in light of a suppressed interest rate, and thus lower returns than would have otherwise been the case. Indeed, it may be the case that even with higher real income, some households may in fact view the falling return on savings as a reason to maintain or even accelerate their consumption.<sup>129</sup>

Despite this possible exception, it should be clear that for households that face the possibility of being among the harmed class of monetary interventionism who experience a decline in their real income, that they will tend to increase their time preference rates. Moreover, as such families are faced with falling purchasing power and declining rates of return on savings, their prospects of saving to acquire future economic goods grows increasingly dim. Therefore, under such an inflationary monetary intervention, there is a general incentive to increase time preference rates (with the possible exception of those whose real wealth is boosted by this process) and to spur a lower saving to consumption ratio than would have been the case in a competitive monetary arrangement. This outcome arises because households would have less incentive to save than before the intervention due to lower returns on their savings and investment. If indeed, there is a tendency for households with high time preference rates to quickly exchange their money stock

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<sup>129</sup> Indeed, the sordid stories of lottery winners in the US and elsewhere might be enough to convince one that with great and sudden surges in real wealth, that some individuals or households - due to the reality of subjective values that determine the rate of time preferences - actually *decrease* their savings to consumption ratio with such a rapid and dramatic increase in real income.

for present goods, then this tendency would be amplified as they realize that they will receive relatively lower returns on cash balances or on interest earnings in the future.<sup>130</sup>

Since we can't use *a priori* reasoning to be certain regarding the *precise* degree of the difference in the savings and consumption behavior of heterogenous households, we leave this question to empirical studies. In this matter, Beznoska and Ochmann (2004) showed that in the aggregate that the “uncompensated interest rate elasticity of savings, in line with the literature, [is] around zero”. However, they also note that in their study of German households that when they disaggregated the data and looked at differences in household wealth structure that, “some heterogeneity in this elasticity is found along the savings and wealth distribution”. Put another way, in their stylized case, based on a family's total savings and wealth, they responded with differing degrees of changes in their saving and consumption patterns based on changes in the interest rates that prevailed in the economy. These somewhat ambiguous empirical findings re-emphasize the epistemic humility needed to conduct empirical work as well as the genuinely subjective nature of value formation generally and of time preference rate formation specifically. Given this set of theoretical and empirical riddles, one thing is clear, that in an unhampered market, free of monetary interventions, that subjectively formed, individual time preference rates form the saved money stock which determines the market interest rate. Conversely, in an interventionist monetary system, dislocations from what would have prevailed in the interest rate are introduced as the interest rate is suppressed in such a way to alter the patterns of savings and consumption that would have naturally prevailed in a competitive monetary regime.

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<sup>130</sup> Again, we are assuming here that households are only dealing with the direct effects of increased money supplies that drive interest rates lower, without any immediate impacts on the prices for goods that are purchased by these households.

### 4.2.3: Lending Practices

With the introduction of monetary intervention through the channels of fiat currency and fiduciary media, legal tender laws and monopoly money production privileges, we also find that the incentives surrounding lending and borrowing are different than what they would otherwise be under a competitive monetary regime. Facchini (2015) provides an illustration of how the theoretical differences between competitive monetary arrangements would contrast against an interventionist monetary system headed by a central bank by shedding light on the financial crisis of the 2000s. One of the main sections of his paper highlighted the “Artificial Support for Investment and Moral Hazard”. In it, he reminds the reader that in fact, the crisis was, “also the result of public policy support for investment”. Indeed, the situation spurred by interventionist public policy makers tends to ignore the opportunity costs of subsidizing certain activities. Furthermore, “the subsidies benefit specific groups of people or voters” and these interventionist forms of favoritism “increase the moral hazard” of society as a whole, and to the favored group in particular as they are aware of the specific support that policymakers have afforded them. Moreover, “When the State socializes the risk of an economic activity, the firms of this sector start investing in more risky projects than normal. Money moves from industry, for instance, to agriculture. The result will be a rise of farmer loan defaults. That increases the potential instability of [the] economic system”. In this case, this economic fragility was increased through the banking system which increased the risky behavior of banks and lending departments who engaged in massive amounts of subprime lending in the run-up to the crash. While Facchini’s point in this section is broad, he quickly focuses on the realities within the banking sector and its rush into moral hazard explaining “Aside from the investment incentives the creation of a central bank e.g.

a lender of last resort, is an important source of moral hazard and of bad investment”.<sup>131</sup> In short he summarizes that in a system rife with monetary interventionism that lending practices are correctly characterized as such: “In monetary systems with a lender of last resort, the safety it provides encourages the investors and banks to take more risk than necessary. The agents take risks they would not if they did not anticipate that a part of the risk was covered by the central bank and in fine the taxpayer”.

The task of this section is to elaborate on the contrast between such outcomes and those that would prevail under a competitive monetary arrangement. Once again, Facchini’s work (2015) is very helpful in this respect when he observes that “while in unregulated capitalism each bank supports the costs of credit expansion in regulated capitalism with a lender of last resort each bank knows that its activities, even the most risky, are covered by the central banker who commits to helping them if these expectations prove to be errors”. In more specific terms he also notes that in a non-interventionist or what he deems “unregulated capitalism” that a free banking system would prevail. This arrangement refers to “a monetary arrangement in which banks are subject to no special regulation beyond those applicable to most enterprises and in which they also are free to issue their own banknotes or paper currency. In free banking system there is no lender of last resort.” Moreover, under such a system two types of risk are undertaken by lenders and the first is not reimbursed, namely those debt contracts that go into default. The second risk in a ‘free banking’ scenario is that the lender may engage in fractional-reserve banking risk, but he alone will bear it. Both risks serve to put a damper on the moral hazard in lending activity. Of course, neither this author or Facchini dare to claim that moral hazard *disappears* under free banking conditions, rather

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<sup>131</sup> In this passage, Facchini turns White (2008); Salin (2009); Horwitz (2009); and Facchini (2010) to lend support to these assertions.

it is simply asserted that it will be mitigated by the fact that the risk-taker and their business associates are alone responsible for any potential losses. By way of contrast between a free market in lending and interventionist lending, the bearing of risk is indeed one essential difference. Here again, Facchini reminds the reader that “In monetary system[s] with a lender of last resort, this practice [risky lending] is only limited by banks’ obligation to deposit a percentage of their outstanding credit with the central bank”.

To summarize, lending practices under interventionist monetary arrangements are far riskier and in the modern context, when interventions include the provision of a lender of last resort, moral hazard is intensified beyond what would be the case in a competitive system for money and banking. Furthermore, the subcategories of moral hazard – rationality traps and collective corruption – are also amplified through the actions of bankers under an interventionist system. With respect to rationality traps, individual bankers and loan officers would tend to look after their own commission and lending profits even if it creates greater fragility and risk. As for collective corruption, when this moral hazard and rationality trap catches on for more and more people, it incentivizes all the individual actors as well as governing officials to further promote and protect the system that is inherently unstable. In other words, under monetary interventionism, lending becomes more reckless, risky, and rewarding – at least in the short-run – than it would be under an unhampered market in banking and lending.

The impact of overzealous lending that emerges through enhanced moral hazard has had upon firms and governments has been well documented. However, when it comes to the effects they have on the overall structure of family life, precious little has been done. Certainly, economists have investigated the impact of excessive borrowing, bankruptcy, and default on family budgets and finance (Campbell, 2006). But once again, our task is to (briefly) look at what

this tends to do to traditional family structures. One would certainly expect that with a general expansion of new credit that – as Cantillon effects show – there will be those who benefit from such an expansion, some more so than others. In addition, we would also expect that other households will fare poorly under such conditions and that among them, some will be even worse off than others.

#### **4.2.4: Heterogeneity of Borrowers**

For those households that are deemed more capable of repayment they tend to be the earlier recipients of credit offerings. Furthermore, these individuals or households are deemed creditworthy primarily based upon their existing incomes and future expectations of larger incomes. In addition, lenders will tend to provide loans to these more creditworthy households at interest rates that are lower than those who are deemed less likely to repay due to their lower incomes. As for the later and less capable borrowers, their greater difficulty accessing loans might result from low-paying or unpredictable wage-earning jobs. As such, they will be required to engage in prolonged investigations into their finances and higher interest rates if they are approved for credit at all.

Lenders will tend to lend more quickly, in greater quantities, and at lower interest rates to those they deem the most capable of repayment. All things held equal, this would tend to be wealthier firms and households who have a demonstrated ability to repay in a timely fashion. As interest rates are lowered through Fed policies, lenders are assumed to be allowed to engage in discriminatory lending as marginal borrowers may be deemed less creditworthy. As such, the marginal borrowers are typically of lower income levels, and be higher credit risks than the borrowers who were (figuratively) at the front of the line. The result is an immediate new distribution of real wealth in the repayment period.



Having discussed the reality of the difference between borrowers, there is also a need to discuss the nature of the purchases made by these debtors. Setting aside consumer goods debt, we focus upon the use of debt to purchase assets and durable consumer goods. Whether the borrower is considered highly or minimally capable, in the broader economy, there is little if any difference in how such purchases impact the broader social economy and structure of production. However, there may be significant impact upon the households who do the borrowing and purchasing. Here, we rely on de Soto (2012) for a further explanation of this claim: “It is necessary to point out that most consumer credit is extended by banks to households for the purchase of durable consumer goods. We have already established that durable consumer goods are actually true capital goods which permit the rendering of direct consumer services over a very prolonged period of time. Therefore, from an economic standpoint, the granting of loans to finance durable consumer goods is indistinguishable from the direct granting of loans to the capital-intensive stages furthest from consumption” (406).

In either case – the purchase of a capital good or durable consumer good – there is a possibility that real economic well-being may actually decrease, even for a capable borrower or household. Such circumstances can only be avoided if, the economic returns of the goods purchased rise at a higher rate than interest rates paid on debt service. If this condition is violated, then economic well-being will be reduced from one period to the next. In the real world, such things do happen and even the most capable borrowers who get large loans at low interest rates can see negative economic returns if the expected value of the returns from their financed purchase

falls short of such expectations. This kind of loss may represent only psychic losses, but may also include accounting losses as well.<sup>132</sup>

This eventuality illustrates one of the key realities of increased debt loads, even for the most affluent of borrowers, namely, increased financial fragility. Such an outcome also highlights the urgent and non-stop need for increased income to pay for debt servicing. In addition, if an individual realizes gains in psychological wealth or real net worth in the short term through borrowing to acquire assets or durable consumer goods, they will tend to make future purchases with greater haste so as to realize such gains, as fragile and uncertain as they may be. This increased haste and escalating use of credit to purchase any of the three classes of goods further increases the financial fragility of a household, especially in the event of falling asset prices or failed product quality in their durable consumer goods. When accounting for such events, economists have so far failed to fully extend this analysis to the consequences upon the household itself, including its proclivities for altered behaviors and structures that emerge from such a financial situation.

As Hülsmann pointed out, there is a greater likelihood that an already wealthy and more capable borrower will increase their gross wealth by a higher amount than less capable borrowers so that the “distribution of the wealth acquired on credit...mirrors the [existing] distribution of

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<sup>132</sup> Hülsmann provides an illuminating numeric example of how such a capable borrower would benefit more than less capable ones and how existing income may be used to leverage into higher wealth. He explains, “Let us illustrate this wealth-gap leverage effect with a back-of-the-envelope calculation. Assume for simplicity’s sake that all loans have a fixed interest rate; and that in all cases the widespread rule of thirds is applied, i.e. the maximum debt servicing any person is allowed to commit to, is limited in each case to a third of his net income.<sup>6</sup> Thus suppose three representative people: A blue-collar worker earning a monthly income of \$1,800, a white collar worker earning \$3,600 and a high-ranking civil servant earning \$7,200. If all three had borrowing costs of 10%, the blue-collar worker could obtain a loan of about \$72,000; the white-collar worker a loan of about \$144,000; and the civil servant a loan of about \$288,000. Here the initial incomes have been multiplied through the loan market. However, notice that the relative differences between the loan amounts correspond exactly to the proportions between the incomes on which they are based. The civil servant earns twice as much as the white-collar worker, so the loans that he can service are always twice as big as those of the white-collar worker. In other words, distribution of the wealth acquired on credit in our example mirrors the distribution of income” (Hülsmann, 2014).

income” (Hülsmann, 2014, 7). This assertion is in the context of all borrowers paying back loans at the same interest rate. With this assumption in place, there are ongoing repercussions of increased debt loads as all of these debtors “need to work and earn income for longer periods as compared to a situation in which fewer people were to finance their purchases with loans” (8). He also adds that, “From a microeconomic perspective, the loan market *always confers advantages in the short run*, because at the moment when the loan is made it enables the beneficiary to buy and control more goods than he otherwise could. But whether any such advantage also exists in the long run depends, from the point of view of the debtor, on the relationship between his debt service and his future income” (8, emphasis in the original).

In advancing this line of discussion, let us adjust the assumptions regarding interest rates paid by various borrowers. In our modern economy, it is common knowledge that more capable borrowers will be offered lower rates of interest to borrow than their less capable peers. Given this new assumption of differing interest rates, we work through the framework presented in Figure 7.2, and offer the following thought experiment. First, suppose that ongoing credit expansion is the policy adopted by the monetary authorities. Under these circumstances, the most capable borrowers acquire debt at increasingly low interest rates. As these individuals or households acquire new debt, they have certain goals to remove their unease and improve their well-being and select some combination of assets or durable consumer goods. This choice is a vital point in our framework, as human actions in pursuit of ends is fraught with error and miscalculation. Here we present two scenarios with respect to the ultimate outcomes of these decisions. Either the economic agents experience economic gains or losses, calculated by the total economic benefit minus the total economic cost of repaying the loan. When an individual receives a net economic gain from their borrowing activities their real wealth increases, all else held equal. Conversely, if an

economic loss is realized, then their real wealth is also diminished, *ceteris paribus*. It is this new state of affairs that, in turn, impacts the behavior and structure of the household.

When considering the realities of being a later borrower in an environment where prices are escalating over time and where the less credit worthy can expect to need to borrow more to cover these higher price points as well as to pay higher interest rates, the likelihood of realizing economic gains for such individuals and households is certainly diminished compared to their more wealthy counterparts. Due to this challenge, we propose that it is more likely for later less capable buyers to experience economic losses when financing their purchases and to experience real net economic losses than those earlier, more capable borrowers. If indeed this is the case, then we can expect that – although both groups increase their overall financial fragility – a poorer household is at a greater risk than a wealthier one. Given this probability, we would expect that the same pattern emerges for both types of households where marriage prospects are reduced, in-marriage fertility is reduced, and divorce is more likely to occur.

If conditions arise - even temporarily – that lead to economic gains through borrowing for more capable borrowers, then acquiring economic goods via debt becomes all the more desirable. This ongoing increase in the demand for credit in a world where the supply of new credit is perpetually growing, creates the conditions where it is possible that interest rates may still continue to decline, just as they have in the U.S. over the past 60 years. The invitation to take on risky behaviors that encourage borrowers to become more financially fragile is ‘baked into’ fiat money regimes. Furthermore, the effect of this moral hazard is to enhance the fragility not only of household finance and structure, but also that of firms who operate in the same social economy. Firms who are leveraged to higher levels than they otherwise increase the risk of their own demise and the potential layoffs of their employees, the very occupants of the households we are

examining. At the same time, households that are overleveraged threaten the entire financial system if they are unable to service their debts, leading to mass delinquency and defaults. Some may reply that this risk is the very reason that we must increasingly depress interest rates so that businesses may continue to grow, expand, and hire to bring about or maintain full employment. However, one must consider the rising price levels for factors of production, requiring ever more debt, and the ever-increasing need for higher revenues. This is tantamount to the full proletarianization of society for the sole purpose of servicing debt of both households and firms, not to mention national governments. Thus, the ever-increasing debt loads in the U.S. have contributed to a world where leisure is a rarity and flourishing household life is a luxury.

In discussing the differences between early capable borrowers and the higher likelihood that they will experience net economic gains from borrowing versus the stark realities faced by later less capable borrowers, the idea that both types of households experience increased moral hazard and increased proletarianization remain important issues. In the case of the increased moral hazard brought about by the tendency to use financing for capital and consumer goods households throughout the socioeconomic strata are encouraged to acquire a higher standard of living by relatively low interest rates created by monetary intervention.

### **Section 3: Summarizing the Inflation Culture**

While fully recognizing and agreeing with Hülsmann's assessment that there is much work to be done in systematizing the study of the inflation culture, we humbly present a summary of the work that has been done to create a structure for future understanding. The following section provides this author's best attempt (in Table 4.1) to categorize the *institutions* and *habits* that result from the formation of the inflation culture. The details provided in the figure within this brief and

summative section have been derived from *The Ethics of Money Production* (Hülsmann, 2008) and from the “Cultural Consequences of Monetary Interventions” (Hülsmann, 2016).

#### **4.3.1: Institutions and Habits**

With respect to the broad societal impacts that arise from the inflation culture, there are many other features that have been observed with respect to the “cultural and spiritual legacy of fiat inflation” (Hülsmann, 2008, 175). Moreover, we have selected the terms “Inflation Culture Institutions” and “Inflation Culture Habits” as a reference to his statement that “inflation-specific institutions and habits” are formed around the culture that is created by the monetary authority. We assert that this inflation culture is a specific cultural byproduct, created through the nexus of central banks, governments, and the members of the central banking system which impose the monetary interventions of legal tender, money supply increases (whether by unbacked banknotes or by credit expansion or both), and suppressed interest rates.

As the reader will observe in the figure, this economic environment gives rise to the institutionalization of debt culture, rising class differentials, and an enhancement of moral hazard, rationality traps, and collective corruption. While Hülsmann admits that his accounting is an expansive – but by no means exhaustive – description of the habits that are formed through the institutions of the inflation culture, and that there is more work to be done, we submit the figure as a starting point of organizing the thoughts of the reader around the impacts that have been articulated in his work. After this first summary, our task will be to expand this approach to see how the habits that are formed by the inflation culture impact traditional family life specifically in the next chapter.

While the classifications of habits under the inflation culture institutions are certainly up for discussion as some of the habits could reasonably be classified in more than one column – for example, are property rights violations specific to class or to ethics? – it is also possible that one could provide more than three categories of habits.

<b>Table 4.1: Classification of Inflation Institutions and Habits</b>					
<i>The Ethics of Money Production (Hülsmann, 2008)</i>			<i>Cultural Consequences of Monetary Interventions (Hülsmann – 2016)</i>		
<i>Inflation Culture Institutions</i>			<i>Inflation Culture Institutions</i>		
Debt Culture	Increased Inequality	Increased Moral Hazard	Debt Culture	Increased Inequality	Increased Moral Hazard
<i>Inflation Culture Habits</i>			<i>Inflation Culture Habits</i>		
Increased access to credit markets	Increased centralization of power	Increased irresponsibility in financial matters	Increased haste to acquire debt	Decreasing quality of production	Increasing rates of time preference
Decreasing equity finance	Increased size of central government	Increased moral hazard	Decreasing philanthropy	Increasing urgency to join the upper class	Decreased investment in private projects
Increasing business dependence on borrowing	Increasing scope of elite-led war	‘Race to the bottom’ of monetary organization	Increased leveraging of profit	Increasing servitude towards banking and ruling classes	Increased scorn towards conventional morality
Decreasing number of genuine entrepreneurs	Increased Property violations upon the citizenry	Increased materialism and immediate gratification	Increased association with wealth	Creates sectors and classes that are ‘too big to fail’	Increased superficiality in the arts
Increasing recklessness of CEOs	Increased proletarianization	Decreased charity	Decreased capital for non-commercial activity	Decreasing need for ruling class to gain consent of citizenry	Increased moral hazard
Decreasing innovation	Increased costs of raising families	Increasing role of welfare state	Decreasing equity base		Increased likelihood of rationality traps
Increasing debt burdens		Decreasing role of family-based moral education	Decreasing material production		Increased dependency and politicization
Increasing financial dependency			Increasing financialization		Increased demands for government intervention
Increasing financial fragility			Increasing alignment with government interests		

In conclusion, this chapter has provided a plausible argument that even though the possibility of incurring debt, the reality of economic inequality, and risky behaviors are present

in every culture, that fiat currency inflationism intensifies these features. Moreover, we have sought to represent faithfully the work that has already been done in order to provide the groundwork for how these phenomena are connected to changes in family life in the third and final portion of the thesis.



### **Part 3: Inflation Culture and the Family**

“The relentless influx of paper money makes the wealthy and powerful richer and more powerful than they would be if they depended exclusively on the voluntary support of their fellow citizens.

And because it shields the political and economic establishment of the country from the competition emanating from the rest of society, inflation puts a brake on social mobility. The rich stay rich (longer) and the poor stay poor (longer) than they would in a free society.”

*Deflation and Liberty* – Jörg Guido Hülsmann

## **Chapter 5: Casual Empirics on Inflationary Institutions and Habits on Family Life**

The following chapter puts forth an argument that provides an explanation for how the institutions and habits of the inflation culture have impacted family life. It will apply casual empiricism, citing some broad statistical measures from the US that provide insights into the connections between debt culture institutions and the habits that they incentivize. Some of these connections will also include some brief explanations of how such behaviors have impacted family life. Indeed, the incentives surrounding decisions about marriage, childbirth, and family dissolution will be altered through these institutions and the cultural habits that accompany them. The chapter addresses the various inflationary institutions and habits in turn, beginning with the normalization of debt and its impact on the three key decisions surrounding family life. This will be followed by an examination of the impact that increased inequality has had on the overall structure of family life in the US and how enhanced moral hazard has also affected household patterns of behavior.

The first section will demonstrate that the monetary policies that have spurred the increased prevalence of debt have both homogenous and heterogenous effects upon families in the social economy. One important secular effect is that increased leveraging has been normalized across all types of households. This is due to the need to secure goods at a low repayment amount in the early stages of price increases to service debt more easily over time. Despite this generally similar effect upon all types of households, we also recognize that there are differences within this general trend. For example, when new credit expansion begins, the early and more capable borrowers can receive lower rates of interest than the later and less capable recipients of an ongoing credit expansion. Those households will be left with higher prices as they have been bid up by the first credit users, and as they are typically higher credit risks, these later borrowers will pay higher

interest rates as well. Further, we will observe that with ongoing credit growth, households are generally motivated towards a greater debt level than they would have been otherwise. This tends to produce an increasingly proletarian lifestyle of ‘total work’ to service their debts, not to mention broadly increased financial fragility (Pieper, 1959, Autor & Dorn, 2013). The consequences of increasing debt loads upon marriage, fertility choices, and even divorce will then be briefly explored in preparation for our empirical testing of these connections in Chapter 6.

The second section will demonstrate the way in which the Cantillon Effect – as described in Part 2 of the thesis – has been generated through the fiat and expansionary monetary system. Furthermore, when we see the redistribution of wealth and income throughout society, we will also observe different economic conditions that prevail for households within the social economy. Briefly, those individuals that are the beneficiaries of these redistributive effects have better prospects in the marriage market, are better able to effectively plan for and to actually support children (and more of them) and have greater income and wealth to provide for a more secure future, thus improving the likelihood of keeping a marriage intact, until death parts spouses. It is fully acknowledged that income and wealth inequality exist *without* monetary interventionism. However, it is also appreciated that “Capitalism and/or a free-market economy is not the only system that generates income inequality...All societies are, at some point, the host of unequal distribution of income” (Facchini, Jaeck, and Kratou, 2023). What we intend to show is that the inequalities that exist everywhere are enhanced by monetary interventionism and that individuals that are falling behind in such a system are less likely to engage in traditional household formation, fertility patterns, and marital longevity. Meanwhile, those who are made better off by Cantillon effects are more likely to sustain traditional household patterns.

Section 3 addresses the higher degree of moral hazard that emerges in an inflationary culture and how some of its habits also make traditional family life either less appealing or more fragile. As mentioned in earlier portions of the thesis, the subsets of moral hazard – rationality traps and collective corruption – add not only to financial fragility in the broader economy, but in the life of households as well. The encouragement towards greater risk taking – whether financial adventurism and aggressive search for yield or get-rich-quick schemes – also has implications for forming, growing, and keeping a traditional family life. For example, if individuals in the marriage market engage in greater financial risk-taking in the form of increased indebtedness they tend to be deemed less ‘marriageable’ and will then have a greater tendency to stay single longer, cohabitate, or never marry. For married couples who engage in greater risks, the volatility of real wealth that can emerge would tend to generate the kind of financial instability that may decrease the likelihood of having children or more of them. As for the lifelong sustainability of marriage, here too, if the financial risks that have been taken on by couples don’t emerge as expected, we would also expect a greater tendency towards marital tension, and an increase in the likelihood of divorce. One of the emotional realities of love and marriage is that even though moral hazard is generally understood as the socialization of private risk, that when the downside of an individual household member’s risk is realized, that the spouse and children are also a part of broader society and that they too may pay for such miscalculations in any number of ways. This may include the need for additional labor for other household members, not to mention the emotional costs of feelings of shame or bitterness towards the reckless actor, all of which may contribute towards family breakups and estrangement.

While the overall focus of the thesis is on monetary interventionism’s impact on family life, this is not meant to suggest that it is the only form of intervention that alters household

structure and behaviors. Indeed, one of the underlying – though somewhat tacit – observations of Murray’s *Coming Apart* (2012) is that other forms of state action have altered incentives surrounding traditional families and may, in fact, contribute to the changes that we’ve characterized throughout this dissertation. In fact, he asserts that over time that “The institutions surrounding marriage, vocation, community, and faith will be found to be the critical resources through which human beings lead satisfying lives. It will be found that those institutions deteriorate in the advanced welfare states for reasons that are intrinsic to the nature of the welfare state” (p.305). On the other hand, Carlson (1991) points to various ways in which the state can intervene to promote traditional family life, rather than to threaten it. Various tax regimes and subsidies for pro-family practices are, in his view, able to re-institutionalize such family structures. The final section of the chapter will consider several alternative forms of intervention that have been put forward by those examining family change in the US that portray a range of possibilities.

As a final introductory statement for this chapter, Figure 5.1 will be introduced to provide a heuristic tool with which to frame the reader’s thoughts on the chapter’s contents. As a continuation of what was presented in Table 4.1 – The Classification of Inflation Institutions and Habits – there is an attempt to begin to describe the consequences of specific inflation culture habits within the various aspects of family life. While it may be wiser to place it at the conclusion of the chapter, the clarity and simplicity of such a tool should assist the reader in digesting the chapter with greater ease. As with every aspect of human decision making, family choices are deeply subjective and complex phenomena, and the introduction of the table early on is meant, not to oversimplify the issues at stake, but rather to provide focus on the essentials to ask better questions as more ground continues to be broken. Indeed, while we don’t disagree with the fact that the complexity of such decisions calls for a broad range of reasons for family change to be

ignored, we also resist that notion that these changes have been fully explained. So once again, it is our contention that what we are witnessing in terms of family deinstitutionalization are not merely artifacts of changes in labor markets (Becker, 1991; Murray, 2012), or so-called ‘deregulation’ (Eichner, 2020), or are just plainly inherent features of democratic and capitalist societies (Schumpeter, 1942). These approaches for explaining family change lack a scientific basis for a cause-and-effect explanation for *where the cultural features which make family life less sustainable come from*. Therefore, the necessity of providing a systemized approach to understanding the root of those cultural features is taken up here. Finally, we acknowledge that not all the habits and their impact on family life fit neatly into one or another category. Furthermore, the table isn’t intended to be exhaustive in describing the potential impacts on family life within the categories provided. Indeed, one of the purposes of a thesis is to open new avenues of discussion, to pursue the refinement of ideas, and to properly classify these altered tendencies in interpersonal action within economic science. It is the author’s hope that the entirety of the thesis as well as the table itself will serve such an end.

<b>Table 5.1: Potential Implications for Family Life Habits with Inflation Culture Institutions</b>			
	<i>Inflation Culture Institutions</i>		
	Debt Culture	Increased Inequality	Increased Moral Hazard
<i>Family Life Categories</i>	<i>Inflation Culture Habits</i>		
Marriage & Formation	Increasing delays in marriage	Decreased likelihood of inter-class marriage	Decreased attention to conventional morals
	Decreased marriageability	Increased importance of 'marrying up'	Increased reliance on welfare state for non-formation w/ children
	Increased haste to acquire debt	Decreased marriage among lower income individuals	Increased promiscuity in mate selection
	Decreased financial independence	Increased likelihood of cohabitation	Decreased value placed on ethical and religious matching
	Increased likelihood of cohabitation	Increased importance of materialism in mate selection	Increased knowledge asymmetries regarding financial risk-bearing
Fertility Choices & Child-Rearing	Increased delays in childbearing	Increasing likelihood innovations in parenting	Increased modeling of high-risk behavior
	Decreased number of children	Increased differentials in childcare quality	Decreased family-based moral education
	Increased likelihood of abortion	Altered structures of children's play	Decreased reliance on family-based help with children
	Increased likelihood of voluntary childlessness	Increased financialization of retirement	Increased reliance on non-family help with children
	Increased likelihood of dual income and longer labor hours	Increased differentials in child wellness outcomes	Increased likelihood of childhood trauma
			Increased financial fragility and potential childhood trauma
Family Dysfunction & Divorce	Increased likelihood of domestic violence	Increased differentials in divorce rates	Increased likelihood of 'financial infidelity'
	Increased likelihood of staying in violent relationship	Increased likelihood of searching for wealthier mate	Increased likelihood of divorce
	Increased intergenerational tension	Increased tension among couples to "keep up with the Jones's"	Increased rates of time preference
	Decreased likelihood of inheritance	Increased wage differentials between the genders through altered labor market returns	Increased haste in financial decision-making
	Increased likelihood of immigration for higher wages	Increased tendency towards proletarianization	
	Decreased availability of family bonding and leisure		

## Section 1: Debt Culture and the Family

Once the direct intervention by the monetary authority has established a monopoly legal tender statute, the stage is set for ongoing growth in the money supply. It is also the case that in modern fiat contexts, that monetary authorities have given the green light to member banks to create circulation credit that is in excess of reserves. Such an allowance within the regulatory framework of institutions like the US Federal Reserve system have allowed some of the central bank's officers to claim that they lack control over the total money stock and that the banks themselves are the primary creators of new credit. While technically true, it is also the case that the central bank is tasked with regulatory oversight for the member banks and they indeed have the statutory authority to tighten lending practices, which they have been historically hesitant to do. Furthermore, since modern central banks act as lenders of last resort, regardless of how recklessly member banks may behave in their credit issuance, such a situation clearly drives the moral hazard of bankers to engage in ever-greater and ever-riskier lending. It is because of this set of facts that this thesis treats the acceleration of lending as an institution of modern fiat regimes. Moreover, it is also viewed as a sort of direct intervention into the social economy, as the typical citizen has no ability to stop, avoid, or reverse this process. Not only does the citizenry have no control over the expansion of such a money supply via credit creation – except to avoid taking out debt – but they also have no control over who the recipients of the newly created money will be. For that matter, households recognize that for many economic goods in an inflationary economy, they could never accumulate enough savings to acquire those goods *without* credit. Over time, households come to realize the effects of this form of direct intervention by the monetary authority and take on more credit than they otherwise would have and become deeply entrenched in the institutionalized debt culture or else risk the chance of remaining among the permanent renter class (in the case of housing), lacking appropriate transportation where functional vehicles are needed,



or of being unable to provide enough savings for their children's education, all of which are just to name a few of the dilemmas facing US households in the post-WW2 inflation culture. Of course, there are also those households who eventually make themselves better off through leveraging debt during their younger adult years by borrowing for higher education in high paying fields that earn a positive return. Furthermore, if younger individuals or couples more quickly go into debt to acquire real assets, such as a home, then they will grow their incomes while maintaining a payment that, over time, will take up a smaller and smaller portion of their income. In doing so, they are among the winners in an inflationary environment – as long as real estate prices continue to rise. It is this example of growing wealth amid an inflationary environment that encourages many young individuals and couples to extend their credit capabilities to an extent that are higher than they would be in a non-inflationary environment.

### **5.1.1: Debt & Marriage**

This and the following subsections of this chapter will refer to Table 5.1 as a reference point and will then provide brief explanations for how the incentives formed by the inflationary institutions lead to habits and tendencies that alter family dynamics. To begin with, the role that debt has played in the *increasing delays in marriage* and in the *decreasing marriageability* as a debtor in the US has been well established and at this point and we will provide greater elaboration on some of the other arguments put forward in the introductory table.<sup>133</sup>

One key feature of the debt culture is an *increased haste in acquiring debt* among all members of society, but especially among the young. In the US context the use of debt financing among young people is partially due to the high costs of higher education. As a result, much of the

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<sup>133</sup> See Chapter 2, Section 1.

focus of this section will be squarely upon this reality within the US debt culture. Since the early 1990s, this debt has further spurred price increases in higher education. One of the chief causes of this trend is the US federal government's subsidized lending program, which further incentivizes debt accumulation through the promise of below-market interest rates. Coupled with the artificially decreased cost of borrowing, the promise of higher wages that accompany a bachelor's degree have combined to result in a student debt load for US millennials in May of 2023 that stood at an average of over \$40,000.<sup>134</sup> Clearly, if two college graduates do plan to marry, they will on average be carrying twice that amount into family finances, not to mention the possibility of carrying other debts such as credit cards or car loans. As a result, many of them wait to develop careers with higher wages over time to pay down these debts. In doing so, many will tend to avoid marriage due to the need to work more hours to service these debts, allowing for less time in the pursuit of a mate. Furthermore, many young people don't want to burden a potential partner with such obligations and as the financial news provider Business Insider put it in the spring of 2022, "it seems that most people would rather be debt-free than married".<sup>135</sup>

This statement further illustrates one of the other consequences of increased debt loads mentioned in Table 5.1, namely, a *decrease in financial independence*. For younger generations, this steadily rising debt load has resulted in many of them choosing to live less expensively at home with their parents. In fact, 52% of US 18–29-year-olds lived with their parents in 2020, as compared to 29% for the same age range in 1960.<sup>136</sup> Such a delay in financial independence has also taken an additional negative turn for men as they have missed out on the marriage wage

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<sup>134</sup> <https://www-statista-com.cornerstone.idm.oclc.org/statistics/1176727/share-student-loan-debt-generation-usa/>

<sup>135</sup> <https://www.businessinsider.com/debt-delaying-marriage-causing-divorces-student-loans-mortgages-medical-auto-2022-3#:~:text=In%20a%20National%20Debt%20Relief,increasingly%20financially%20minded%20about%20marriage.>

<sup>136</sup> <https://www-statista-com.cornerstone.idm.oclc.org/chart/22823/share-of-young-adults-living-with-a-parent/>

premium. Indeed, between 1990 and 2019, single men saw their income gap compared to married men go from over \$16,000 less than their married counterparts to over \$21,000 in inflation adjusted numbers.<sup>137</sup> Thus, it appears that rising debt levels and the prolonged singleness that accompanies it have a real negative effect on men's wages, which further worsen their marriageability.

For those younger people of marriageable age that carry increasingly large debt loads the amount of attention that must be given to servicing that debt is greater than it would be without it. Therefore, we should expect that the repayment of these debt obligations will require *increased time in the labor market*. Practically speaking, the more time at work and the less time for leisure one would expect that there are diminished opportunities for romance and courtship. Not only that, but it also appears that there may be an increasing taboo in dating relationships for those who carry debt as 13% of student loan borrowers said in 2018 that they delayed even asking someone on a date due to their own debt obligations and 35% delayed the mere discussion of marriage for the same reason.<sup>138</sup> These growing hesitations surrounding dating decisions and even approaching conversations regarding marriage may be further intensified due to the fact that for the timeline for repayment of student loan debt continues to grow and require more time in the labor force. Indeed, it is projected that for the undergraduate class of 2024 that it will require over 7 years to repay student debt, while for those obtaining master's degrees it will take over 18 years.<sup>139</sup>

Finally, with respect to the debt culture's potential impact on marriage, we consider that it is plausible that two indebted adults may not wish to combine their finances formally, which may have contributed to an *increased likelihood of cohabitation*. While there are certainly other social

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<sup>137</sup> <https://www.pewresearch.org/social-trends/2021/10/05/rising-share-of-u-s-adults-are-living-without-a-spouse-or-partner/>

<sup>138</sup> <https://www.lendingtree.com/student/debt-bedroom-survey-shows-student-loan-borrowers-report-decreased-libido/>

<sup>139</sup> <https://educationdata.org/average-time-to-repay-student-loans>

causes for the rise and normalization of cohabitation over time, it is plausible that indebtedness plays at least a small partial role in this phenomenon. Indeed, as student loan burdens have risen, so has the population of US adults living in cohabitation. The percentage of US adults ages 25 to 54 have more than doubled between 1990 and 2019.<sup>140</sup>

### 5.1.2: Debt and Children

After observing the connections between the realities of debt culture in the US and marriage delays, it should come as little surprise that there is also a trend towards *increased delays in childbearing* as well. In fact, for US women who never took out loans, 67.5% of them have had children prior to age 40, while for those who have, only 60% have done so.<sup>141</sup> Of course, the biological realities of fertility imply that the later the age of first nativity, the less time that remains for a woman's child-bearing years, which may compound the likelihood of bearing a *decreased number of children*. Once again, we by no means contend that increasing debt loans are the sole explanation for the continual decline in US fertility rates, but once again contend that they play some partial role in such a change. Moreover, since debt service payments erode a household's real discretionary income, and because there is an apparent positive that real income and the number of children per woman it indeed appears that higher percentages of debt to income would tend to reduce total lifetime fertility.<sup>142</sup>

Stepping into a more controversial area, we consider whether there is a connection between indebtedness and abortion. In following the logic and empirical trends that have just been discussed, if an individual deems abortion as a form of birth control, then it seems reasonable to

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<sup>140</sup> <https://www.pewresearch.org/social-trends/2021/10/05/rising-share-of-u-s-adults-are-living-without-a-spouse-or-partner/>

<sup>141</sup> <https://fortune.com/2023/02/23/millennials-student-loans-birth-rate-children-biden-forgiveness/>

<sup>142</sup> <https://www.gailfosler.com/money-kids-vicious-cycle-declining-fertility-rates-sluggish-economy>

assume that if higher debt loads reduces overall fertility, that rising debt would also tend to produce an *increased likelihood of abortion*. Indeed, and as one might expect, it is difficult to discern the validity of the statistics surrounding abortion in the US. Nonetheless, for those who have collected data on the issue, it does appear that over 95% of them are conducted for “elective and unspecified reasons”.<sup>143</sup> It does in fact appear that in the US, that fewer than 5% are conducted due to fetal abnormality, the mother’s health, life-threatening conditions, or for rape. As a result, we can’t rule out the role that economic factors may play in this decision. Once again, given all of the conflicting interests and data presented it may be best to look to public supporters for abortion and recent high-profile individuals such as the former Federal Reserve chair, Janet Yellen who explained a purely economic rationale in defense of abortion saying, “denying women access to abortion increases their odds of living in poverty or need for public assistance”.<sup>144</sup>

It is obviously the case that many women who have abortions do not remain childless. However, there is also a growing trend within the US culture of debt that does demonstrate that besides a possible increase in the likelihood of abortion, that there may also be an *increased likelihood of voluntary childlessness*. Indeed, the Institute for Family Studies has projected that the current cohort of American women of child-birthing years may have as many as 1 in 4 women will remain childless by 2036.<sup>145</sup> Moreover, US Millennial women are expected to experience childlessness that is very similar to the current childless rates for Japanese women, who currently lead the world in this category. The fact remains that the same generation of US women is the generation that has also carried the highest amount of debt up until this point is about to be

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<sup>143</sup> [https://lozierinstitute.org/fact-sheet-reasons-for-abortion/#\\_edn9](https://lozierinstitute.org/fact-sheet-reasons-for-abortion/#_edn9)

<sup>144</sup> <https://www.politico.com/news/2022/05/10/yellen-banning-abortion-damaging-to-economy-00031339#:~:text=Treasury%20Secretary%20Janet%20Yellen%20testifies%20at%20a%20Senate%20Banking%20Committee%20hearing%20Tuesday.&text=Treasury%20Secretary%20Janet%20Yellen%20on,their%20careers%20and%20their%20families.>

<sup>145</sup> Source: <https://ifstudies.org/blog/the-rise-of-childless-america>

exceeded by the debt loads carried by Generation Z. One would not be surprised then – if there is indeed a correlation between heavy borrowing and non-fertility – that the trend may continue for the foreseeable future.

Another way in which large amounts of debt – student loans or otherwise – impact family life is that they tend to *increase the likelihood of dual-income households and longer labor hours*. There is a clear trend that has risen in the west and in the US that there is a growing number of dual-income households with children (Warren and Tyagi-Warren, 2003). We introduce this reality in the section on fertility because the amount of work that is done outside the home is negatively correlated to total number of children living at home.<sup>146</sup> The logic is that if a couple is heavily indebted, that they will tend to work more and in turn, will tend to have fewer children. One of the motives behind the increased prevalence of this phenomenon is the need to repay all types of debt, chief among them is increasing mortgage costs followed by student loans, and credit cards. Indeed, since the turn of the 21<sup>st</sup> century, most US households have two income earners.<sup>147</sup> While a second income may be perceived at first glance to provide greater insurance against income shocks or unemployment, there is evidence that these families are actually more financially fragile due to their ability to borrow more – which they in fact tend to do (Fisher and Johnson, 2019). Furthermore, once these greater debts are assumed, these married couples tend to work more hours than other family structures, working between 3,300 and 3,400 annual hours in one

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<sup>146</sup> <https://www.bls.gov/opub/mlr/2020/article/comparing-characteristics-and-selected-expenditures-of-dual-and-single-income-households-with-children.htm#:~:text=Both%20full%20time-,Employment%2Dstatus%20proportions,from%2052%20to%2058%20percent>.

<sup>147</sup> Source: <https://www.bls.gov/opub/mlr/2020/article/comparing-characteristics-and-selected-expenditures-of-dual-and-single-income-households-with-children.htm#:~:text=Both%20full%20time-,Employment%2Dstatus%20proportions,from%2052%20to%2058%20percent>.

survey as compared to between 2,400 and 2,600 for cohabiting couples.<sup>148</sup> This increased time in the labor force is than correlated to having fewer children.

Finally, there must also be consideration given to households that benefit from a rush into debt. In the American context it is certainly the case that if an individual or married couple can use financial leveraging at an early age in order to enter the housing market – even in a low-quality, low-price home – that this financialized property asset can serve to grow net worth over time. In fact, for those who do go into the housing market earlier and gain from rising home values which contribute to higher net worth it has been shown that those homeowners tend to *increase fertility* (Washbrook, 2013). Indeed, for those who are able to do so, their net worth tends to grow more rapidly and in greater degrees than those individuals or couples who continue to rent for longer periods of time and for those on the losing end of this financial reality are those who tend to rent for longer periods of time and as prices for home ownership continue to rise, these households tend to see stagnant or declining fertility rates. In addition, there is empirical evidence that in US housing markets the age of the average homebuyer is continuing to escalate. According to the US National Association of Realtors, the median age of first-time homebuyers in 1981 was just under 29 years old. As of 2019, that age has reached 33.<sup>149</sup> Once again, these delays in taking major life steps – delays in marriage, childbirth, and home ownership – are notable factors that determine the type of household structure one lives in, and the debt culture does play a role in altering these ways of living and the timing of these household decisions as well. For those who get into debt (housing debt in particular) earlier, they can experience a positive wealth effect, while those who delay –

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<sup>148</sup> [https://marripedia.org/effects\\_of\\_marriage\\_on\\_workforce\\_participation](https://marripedia.org/effects_of_marriage_on_workforce_participation)

<sup>149</sup> <https://www.financialsamurai.com/the-median-homebuyer-age-is-now-so-old/>

perhaps due to heavy prior debts – miss out on this financialized opportunity, thus creating an increasing gap in the net worth of those individuals and households.

### **5.1.3: Debt & Dysfunction**

One of the more dark and disturbing realities of what the debt culture can breed is increased relational tension within the household. While not all domestic abuse leads to divorce, it is certainly a contributing factor. However, before considering the idea that large debt loads tend to increase the likelihood of domestic partner abuse, there is a growing literature that actually describes a new form of partner abuse – *coerced debt*. Littwin (2012) notes that, “As consumer lending has permeated American life, violent partners have begun using debt as a means of exercising abusive control...Coerced debt can take many forms. It ranges from abusers taking out credit cards in their partners’ names without their knowledge, to forcing victims to obtain loans for the abuser”. Of greatest interest to this thesis is the acknowledgment that “consumer lending has permeated American life”. This seems a rather apt phrase to describe the rise of the debt culture – even if Littwin fails to recognize inflationary monetary policy’s role in contributing to such a situation. This coerced debt is just one way in which it could be said that within American households that the debt culture contributes to an *increased likelihood of domestic violence* along with an *increased tendency to stay in abusive relationships*. However, when most think of domestic violence, they think of physical abuse, and this too has been shown to be positively correlated to higher debt levels in non-American contexts (Reed et.al., 2015). While this may be the most intuitive relationship between debt and violence, it must also be considered that some very highly leveraged households tend to be wealthy, dual income earning situations where net worth is high and relatively speaking, financial tension is low. Once again, there are situations where these high-net-worth-individuals (HNWIs) are among the wealthiest households in America



and they tend to display very traditional household structures, have high degrees of marital harmony and are less prone to divorce.

One of the generally overlooked family consequences for increasing debt loads is the *increased intergenerational tension* that emerges not only through household debt, but also those that are accrued at the national level (Fochmann, et.al., 2018). Indeed, it is found that when older adults can fund their own retirements by shifting the burdens to later generations, they tend to shift the debt burden to their children and grandchildren. Naturally, this tends to produce suspicion if not ill-will between the generations. Within households, enlarged and prolonged parental indebtedness will tend to lower parental net worth. As a result, young children may be placed at an increased disadvantage by losing time with their parents as they must work more hours in order to service their debt payments. Young adult children may – particularly in the American context – face greater difficulties in acquiring a college education. Furthermore, grown children face a *decreased likelihood of an inheritance* because of debt accumulation throughout the parents’ lifetime as well. While it is the case that in the US, that the debts of deceased individuals aren’t transferred to children directly, that their overall estates are charged for outstanding debts, and this would have the tendency to reduce the amount of inheritance received by the following generation – not to mention inheritance taxes.

One additional alteration to family life is that there may be an *increased tendency to emigrate for higher wage opportunities*. If such emigration is to a region with significant cultural, climactic, or other differences, this is some sort of disruption to the family’s functioning, even if the move is generally economically advantageous. Nonetheless, not all family members may be happy with the move. Of course, this increased likelihood of emigration for higher wages can come in several forms. One possibility is that one member of the family moves to an area on their own

and sends remittances to the home. Indeed, there has been a positive correlation discovered between debt and remittances although the causal direction remains uncertain in the case of Mexican emigres – most of whom work in the US (Ambrosius and Cuecuecha, 2016).

One additional and important alteration of family life is that with more debt accumulated over time, the more labor time is required and as a result there will tend to be a *decrease in family bonding and leisure*. Once again, we caution the reader that not every household that has large amounts of debt is unable to spend time together, as some HNWIs have large debt loads, but far more net worth and as a result enjoy lifestyles that include a plethora of leisure time and activities. Nonetheless, it is apparent that this debt burden would tend to reduce family bonding within the middle- and lower-income groups in society, as indeed they do in the US as their debt tends to be tied up into consumer goods that are of varied durability. This dedication to more and more work to service debts at the expense of leisure time is perhaps what Pieper (1959) had in mind when describing a proletarianized world of “total work”. Indeed, others have recently considered this topic and found that “the very real conditions of indebted life are the starting point for theoretical considerations on leisure time” (Wozniak, 2022).

## **Section 2: Increased Inequality and the Family**

As Chapter 3 provided an in-depth look at the Cantillon effect, it is plain that a growing money supply has a heterogenous impact on households and contributes to the growing inequality between those households. When it comes to the credit creation that often characterizes much of the monetary expansionism of modern economies, there are households that benefit from leveraging, and those who don’t often fall behind in terms of real wealth. This reality serves as a natural transition to the next topic, namely, how rising inequalities in wealth and income impact family life and structures. It has been noted that the relationship between wealth and income begins

to change, that this is an indicator of economic mobility. Specifically, a rising wealth to income ratio produces greater difficulty for those wishing to climb the socioeconomic ladder through the hard work of income generation.<sup>150</sup> Moreover, if there are greater challenges in advancing household wealth in recent years than have been the case in the past, one may wonder if the increasing difficulty in growing household wealth might steer some away from traditional household behaviors or structures. This may indeed be the case, especially if individuals believe that taking on traditional household forms no longer facilitates a growth in one's standard of living. Not only this, but if it is the case that rising real income is the norm for some – partly because of monetary policy – and shrinking real income over time is a reality for others, that their ability to maintain traditional structures will also be different. Given these possibilities, the following sections will explore the casual empirical data and plausible arguments put forward in Table 5.1 as to the impact of the inflation culture's increasing inequality upon marriage, decisions regarding children, and family dysfunction up to and including divorce.

### **5.2.1: Inequality and Marriage**

We are certainly not the first to recognize that rising economic inequality may have something to do with changes in family life. While income inequality has been on the rise, just such outcomes have emerged in the US, and this has led some to conclude that “economic inequality is remaking the American family along class lines, and families are not going through the same changes together” (Carbone and Cahn, 2014, 1).<sup>151</sup> Despite Carbone and Cahn's harsh

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<sup>150</sup> See a YouTube video by Karl-Friedrich Israel presented at Mises University on the topic from 2018 at: <https://www.youtube.com/watch?v=GAJEn64EA9s>

<sup>151</sup> Some have recently contended that claims of rising income inequality in the US are inaccurate as wealth and income transfers have eliminated and in fact, reversed the trend of rising inequality. Most prominently, Gramm, Ekelund and Early (2022) in their *The Myth of American Inequality: How Government Biases Policy Debate* by claiming that the statistical measures of inequality used by the federal bureaucracy overstate economic inequality for the purpose of triggering policy proposals that grow the state's power. Although this general process is something that is entirely plausible, if not likely, our main concern here is with a loss in the real purchasing power that comes

critique of Charles Murray's work – claiming that he's 'blaming the victim' – regarding family change, it is he who two years before their work saw that, "a new form of segregation" was arising in family life in the US and that the upper classes who are wealthier and more educated have "separated themselves from just about everyone who isn't as rich and well educated as they are" (Murray, 2012, 70). Indeed, all of these authors point to the same empirical realities and that is that since the 1960s in the US there is a *decreasing likelihood of inter-class marriage*. This is especially true along educational lines. In other words, the main class differentiator (as Murray assiduously points out) is education, and that over time fewer and fewer married couples are 'mixed' in the educational sense. Put another way, educational homogamy has taken hold and it is ever-more rate to find a married couple where one has a bachelor's degree and their spouse doesn't. As a result, singles and couples without college degrees are tending to cohabit more, have less stable jobs and marriages, while those couples where both are college-educated tend to have higher incomes, effectively plan for their children in birth and in their care, and to have a lower likelihood of divorce. Of course, it is reasonable to ask what the causal direction is in these family matters, but there is nonetheless a rise in educational homogamy that authors of various ideological stripes have observed in American family life.

In a related issue, as income and wealth inequality has continued to rise and as upward economic mobility has become increasingly difficult in the US, this creates the conditions for the *increased importance of 'marrying up'*. Carbone and Cahn (2014) provide special emphasis to this

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from stagnant or falling nominal wages, the Cantillon effect, and from real earned income, not income based on after-tax transfers. In fact, (using the central bank's own statistics) it is actually the case that the Fed's statistics show a rising GINI coefficient since the early 1980s that has recently dipped (due to Covid measures). Indeed, it is the case that this measurement does take into account income transfers, the point is that if those income transfers weren't counted, that the measurement would show an ongoing increase in inequality over time and that the Cantillon effect is indeed alive and well in the American economy. John Cochrane, the well known "grumpy economist" has offered a similar critique of Gramm, Ekelund, and Early here as well: <https://johnhcochrane.blogspot.com/2021/03/defining-inequality-so-it-cant-be-fixed.html>

phenomenon, especially with respect to less educated and lower income women, who prefer to receive income from the state as they are surrounded by men of equal or lower socioeconomic status. Given the frustration of not being able to find a male spouse who has prospects of higher future earnings, there is a tendency among those younger and poorer women to turn to the state for provision. Indeed, if marrying up isn't an option, then non-marriage appears to be a more suitable living arrangement for many of the women in this demographic category. All told, this phenomenon leads to *decreased marriage among lower-income individuals* as well as the temporary and indeed quite unstable living arrangements that come about through the *increased likelihood of cohabitation*. While these initial statements place an emphasis on the upper and lower classes, the middle-class situation for those seeking marriage is also undergoing significant changes. In remarking on the middle 1/3 of income earners, a somewhat ambiguous picture emerges on how inequality affects these households. Again, Cardone and Cahn observe, "The women from these families in the middle have done well. Unlike those in the top group, where sons are more likely than daughters to graduate from college and where the gender gap in income has widened, the women in this middle group have outpaced the men. They earn higher grades, stay in school longer, and are more likely to return to complete an unfinished degree later in life...With these changing fortunes, this larger group of successful women in the center seeks to pair with a shrinking group of comparable men. Female high school graduates used to be able to marry men with a college education; today they are much less likely to get married at all" (3).

Given the increasingly wide disparity between the upper and lower socioeconomic classes in the US it should not be surprising that we would see the *increased importance of materialism in mate selection*. As a result of this tendency, we may also expect that other factors that used to predominate in the decision-making process for marriage such as a common religion, family

background, personal values, shared role expectations, and more become less important in mate selection, while seeking a mate for material gain may become more important than it had been in the past. We of course do not suggest that material and economic improvements in one's life are a new phenomenon in the mate selection process. Rather, in a world of rising inequality, it may be more important than when interclass marriage was more frequent in the middle of the 20<sup>th</sup> century (Murray, 2012).

These attempts to “tell the story of what has happened to the American family, and though the tale is at times complex, the conclusion is short and simple: it's the economy, stupid. And any analysis or proposed solution that does not take growing inequality into account is based on a lie. Inequality matters to overall social health, and it matters to the well-being of future generations” (5). This bold statement is meant as a shot across the bow for the argument that household disintegration is purely the result of moral failings as some might suggest. This line of thinking certainly reflects Murray's work that mainly looks at the restructuring of labor markets over the past 50+ years. However, what both these legal scholars and Murray fail to incorporate into their analysis is the effect that monetary policy has upon the tendency towards increased wealth and income inequality, and that such rising inequality indeed manifests in changing habits in the marriage formation process (Domanski, Scatigna and Zabai, 2016; Lenza and Slacalek, 2018; Albert, Penalver and Perez-Bernabeu, 2020; Colciago and Samarina, 2019; Ampudia, Georgarakos, Slacalek and Tristani, 2018).<sup>152</sup>

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<sup>152</sup> We again remind the reader of the role that ‘financialization’ plays as a partial cause of rising income and wealth inequality. Nonetheless, some of these researchers view financialization, “theoretically and empirically, as an independent causal force, potentially changing the balance of power between various actors in production. In this way we describe financialization as a complement to union density, globalization, and marked premiums for skilled work or capital investment as potential explanations of increasing income inequality” (Lin and Tomaskovic-Devy, 2014, 1317). We contend that the assumption that financialization is an independent and proximate cause to be unsatisfactory. Additionally, the claim that “deregulation” in the financial sector was the root cause of this process also ignores the ultimate regulator is the Federal Reserve system which grants privileges to their member institutions

### 5.2.2: Inequality and Children

Doepke and Zilibotti (2019) have provided us with an interesting look into disparate parenting styles in *Love, Money, and Parenting: How Economics Explains the Way We Raise Our Kids*. In it, they acknowledge that within different socioeconomic groups that parenting styles are not only radically different from each other today, but that they represent what this thesis would describe as an *increasing likelihood of innovation in parenting styles*. It appears that parenting styles of the past in the US tended to be relatively homogeneous. However, with the passage of time – and especially since the mid-twentieth century – parenting styles began to diverge along wealth and income lines. The relatively hands-off parenting of the 60s and 70s shifted and a “parenting gap” emerged where the wealthy tend to overschedule, overplan, and overstimulate children in contrast to their poorer counterparts who show evidence of even less supervision than children of generations past, except that much of those children’s play is unsupervised and increasingly entertainment driven. This divergence in styles also manifests itself in an increasingly divergent experience among children as we can witness *altered structures of children’s play*. In decades past, when there was a greater mix of socioeconomic neighborhood (as Murray demonstrates in *Coming Apart*) it would have been more common to see children whose parents were of differing income levels playing together on local sports teams or in shared spaces. However, as Doepke and Zilibotti’s work show, the wealthy now provide accelerated opportunities for their children to participate in increasingly expensive and exclusive travel sports teams, while the children of less affluent parents are left to unstructured, entertainment-based play and less well-funded public or recreational athletics teams. This disparity of childhood experiences continues to

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that don’t exist in other sectors and which are upheld by the Fed’s status as the monopoly money producer. In a generous reading of Lin and Tomaskovic-Devy, one must remember that they are sociologists and not trained economists. As such, they might be excused from recognizing or articulating the role that monetary authorities play in establishing the privileges that the financial and banking sector enjoys.

provide additional opportunities and advantages to the children of the well-to-do in comparison to their poorer counterparts.

One could also expect that given rising income and wealth inequality, besides from growing differences in children's play that there will be increasing differences in the structure of childcare for infants as well. The clearest differentiator between the upper- and lower-income classes in the US childcare system – measured from the mid-60s to the mid-10s – is that the young children of the wealthier strata have more time with their fathers as compared to children in poorer households (Altintas, 2015). Furthermore, it's been found that, concurrent with rising income inequality that “a growing gap in financial investment in children...and a substantial increase in the cost of nonparental childcare, forc[es] families to shift to low-quality child care”. All in all, with a continuing trend of increasing inequality, which we contend is in part due to Cantillon effects, has resulted in *increased differentials in childcare quality*. Moreover, along with these differences in the quality of care, there are also *increased differentials in child wellness outcomes* between the wealthy and the poor. The wellness of children is typically measured across several dimensions including nutrition, health, and education and while it comes as little surprise that these measures for the children of the poor are at lower levels, it is also the case that the class differentials in these matters are widening over time (Miller and Korenman, 1994; Mei et.a., 1998; Bundersen et.al., 2008; Corak, 2013; Autor, 2014; Entwisle, 2018; Dunn et.al., 2020).

### **5.2.3: Inequality and Dysfunction**

In the early 2010s changing family patterns were being detected by many and although we have noted Murray's work (2012) most often, sociologists were also keen to study this reality and one of the leaders among them was Cherlin (2010). Much like Murray, Cherlin identified wide differences in family structure and experiences along educational and income levels. Indeed, both



of them found that among the upper and lower classes, that over time there were *increased differentials in divorce rates*. It is plausible that poorer couples have a greater tendency to divorce than their wealthier counterparts for several possible reasons. Perhaps their expectations of a higher standard of living haven't materialized as hoped, leading to a sense of disappointment and resentment. It could also be the case that one mate seeks out extramarital relationships that might have the allure of a higher standard of living. It could also be that case that the poor – in striving for a better life – spend much more time in the labor market and neglect the cultivation of a loving relationship. Whatever the reason, it is one of the main premises of this thesis that lower real income – whatever the cause – makes sustaining traditional family life more difficult, and if such couples not only have lower incomes to begin with and they face falling purchasing power due to Cantillon effects, their discontent in life and perhaps in marriage itself may be more accelerated than it otherwise would be. This is not to suggest that married life is easy for the wealthy. However, if positive persistent inflation and a rising wealth-to-income ratio in the US economy continue to manifest – as they have for over half a century – then it stands to reason that there is an increasing sense among the lower income and wealth classes that the lifestyles of their more wealthy counterparts is indeed less attainable, further enhancing their dissatisfaction with their marriage partner.

Given this plausible case, it doesn't require much imagination to think that for the poorer classes that there would be an *increased likelihood of searching for a wealthier mate*. Of course, this implies the increased potential for infidelity, emotional, sexual, financial or otherwise.<sup>153</sup> In the case that less well-off couples realize their relatively low living standards but also have a strong

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<sup>153</sup> With respect to a brief data survey on financial infidelity see: Goforth, Alan. 2022. "Financial Infidelity: 40% Say they're Guilty." Benefitspro.

joint desire to improve their situation, this could serve to galvanize or to disrupt their marriage relationships with an *increased tendency to “keep up with the Jones’s”*. It may indeed be the case that mimetic behaviors play a role in such pursuits of material gain, but as Girard cautions, can give rise to rivalry and increased tension.<sup>154</sup>

Another potential source of marital dysfunction, rivalry, and even divorce arises from *increased wage differentials between the genders through altered labor market returns*. Becker (1991) was an early proponent of the notion that one of the leading causes of the rise in divorce rates in the 60s and 70s was women’s increased earning power in the labor force. Indeed, our data analysis in Chapter 6 (Figure 6.2) suggests that this idea isn’t too far-fetched. What differentiates our analysis from Becker’s and Murray’s is that they attribute the rising earning power to changes in labor markets, while we add the contention that the labor markets themselves have been altered via monetary policy. This thesis is far from dismissing the labor market argument, but does provide an explanation for how those markets have been altered using orthodox monetary theory as presented in Cantillon and others who followed in his line of thought. Altogether, these changes in the labor market, spurred by monetary interventionism point to a plausible connection between the latter and family dysfunction and even dissolution.

A related consequence of married couples – poor or wealthy – who attempt to “keep up with the Jones’s” is that in order to acquire, maintain, and devote more time to income-bearing activities, all classes will demonstrate an *increased tendency towards proletarianization*. In this process, couples are swept into such a lifestyle of what Pieper (1959) called “total work”. The household tradeoffs for such a way of life come at the expense of family leisure, production,

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<sup>154</sup> For a well-known analysis of Girard’s work see: Palaver, Wolfgang, and Gabriel Borrud. 2013. *René Girard’s Mimetic Theory*. Michigan State University Press.

spiritual and instructional time, and the observation of traditional gatherings and rituals. All of which lead to a demoralization of those seeking family life which may push marriages to the breaking point (Huerta de Soto, 2012; Carbone and Cahn, 2014; Schumpeter, 1942; Engels, 2010).

### **Section 3: Moral Hazard and the Family**

Standard definitions of moral hazard of course refer to increased risk-taking in light of contracts or insurance arrangements that cover the losses incurred by careless individuals. As discussed in earlier portions of this thesis, this is manifest in interventionist monetary systems with the lender of last resort. However, we also contend that this not only distorts the behaviors of bankers or insured individuals, but this becomes a general feature of the inflation culture and is made evident in other habits and behaviors. Through the institutionalization of moral hazard more and more individuals are encouraged to take risks that they otherwise wouldn't take – especially in financial matters – or else they will risk being left behind. Furthermore, the inflation culture's other features – a rush into leverage and debt and rising income and wealth inequality – make the threat of being left behind all the more serious. Therefore, individuals take on financial and indeed personal risks that they otherwise wouldn't take to try and improve their standard of living. In such a culture, recklessness tends to abound, while temperance and judiciousness are cast aside. Furthermore, we would expect that unconventional moral codes and other behavioral innovations would tend to prevail, all of which tend to challenge traditional structures and choices in family life. These risky forms of living are further encouraged where an interventionist state exists – especially one that promises to bail out individuals whose ill-fated risk taking ends in unexpected dire straits. If the promise of the state is to salvage individuals from such a fate, then we should expect that whatever behaviors and consequences are protected, that they will be encouraged and intensified, often at the cost of traditional family arrangements.

Admittedly, this is one of the more challenging sections to write as the connections to moral hazard in monetary matters is clearer than in matters of morals. However, we do look once again at Murray's *Coming Apart* (2012) for assistance. While he doesn't go into detail regarding moral hazard and its impact on family life, there is a clear undercurrent in his writing that indicates that the welfare state plays a role in corrupting what he sees as the key moral foundations for preserving traditional household behaviors, namely: marriage, industriousness, honesty, and religiosity. Indeed, he often cites the welfare state's corrosive effect upon all of these areas that he sees as playing a role in the general retreat in traditional family life in the US over the last half century. In short, he sees the state as creating for itself a sort of "parent/father of last resort". As such, he views marriage and husbandry as being replaced by the state's welfare payments. Furthermore, the state provides income without work, a civic religion without God, and as an entity that exonerates dishonesty. This thesis raises no objection to these assertions, but rather we add to it explaining that the cultural consequences of monetary intervention are, in fact, coupled with the interventions of the welfare state. Of course, we choose not to explain or provide a full explanation of how monetary intervention and welfarism are related. However, the potential connections between these two forms of intervention may indeed constitute a larger research program on interventionism in general. In anticipation of such a project, we will follow this section with some brief and general observations on broader interventions that impact family life.

### **5.3.1: Moral Hazard and Marriage**

While Murray (2012) has had much to say on the role that changing morals, habits, and religiosity may play in altered attitudes towards marriage, our task is to suggest the ways in which moral hazard – induced through monetary inflationism – impacts the various aspects of family life. In doing so, we freely admit that these connections may be more loose and perhaps

less plausible than those posed in the previous two sections. Nonetheless, we begin by contending that the habit of moral hazard tends to produce a *decrease in conventional financial behaviors*. While among the wealthy, calculated financial risks in asset markets has been a well-known and thoroughly practiced activity throughout the generations, the conventional methods of saving for the future among the poor have been the simple saving of cash balances. In an inflationary world, these cash balances tend to lose their purchasing power over time and in order to overcome that loss in purchasing power, the poor and middle classes will have a tendency to take greater risks in speculating on the future. Alternatively, it may also be the case that relatively poor individuals will simply save cash balances for longer periods of time in order to meet their family goals. Indeed, if one is single and has a lower income either choice tends to put them behind financially (in the case of holding cash balances) or to increase their financial fragility (in the case of taking on financialized risks and the search for higher yields). Whichever course of action is taken, both present their own set of risks and in the case of preparing for marriage, may tend to contribute to a lack of marriageability or to delays in marriage as these individuals have to wait for their financial ship to come in.

Another changing phenomenon that Murray points out is that the tendency for increased childbirth out of wedlock represents (in our words) an *increased reliance on the welfare state for non-marriage with children*. Alongside this tendency is the greater possibility of *increased promiscuity in mating and mate selection*. For Murray, he lays the blame for these shifts towards marriage avoidance and increased promiscuity squarely at the feet of the welfare state which he believes incentivizes such behaviors. After all, marriage rates among the bottom 30% of income earners in the US fell from 84% in 1960 to just 48% in 2010 (Murray, 2012, 158,9). While it is clear that the welfare state does indeed pick up the tab for out of wedlock childbirths in the US, it

may also be the case that inflationism may appear to struggling young mothers to provide a way to stay afloat financially. For instance, it is entirely possible that the suppressed interest rates that are offered through an inflationary banking system may provide the allure of taking on more consumer debt than would otherwise be feasible under non-interventionist interest rates, thus adding to the financial fragility of a single-mother household, which tends to further increase reliance on public assistance. It is in just such an example that we may have some insight into the interaction between inflationism and welfarism.

If indeed financial risk-taking is encouraged in an inflationary culture, then it would stand to reason that even if one is aware of their own financial risk-taking habits, that they can't always be sure about the same habits in a potential spouse. Such a situation represents an *increase in knowledge asymmetries regarding financial risk-taking*. Becker (1991) is keen to explain that such information mismatches may remain hidden and not become a major issue at the outset of courtship or marriage. However, once these tendencies are discovered later in the marriage, they may serve to increase tension and raise the likelihood of marital tension or divorce. Regarding the genuine knowledge of one's potential spouse, it also seems reasonable that due to increased information uncertainty and the rising prevalence of financial risk-taking that there would be a tendency to place a decreased value on ethical and religious matching. Indeed, McClendon (2016) has found that religious matching is becoming less important over time, especially among younger adults, while its importance tends to rise the older that potential marriage partners become.

### **5.3.2: Moral Hazard and Children**

Regardless of the intentionality that parents approach the training of their children with, there can be little doubt that children tend to emulate the attitudes, words, and actions of the

adults they spend time with. As a result of such obvious truths, it should be abundantly clear that if moral hazard pervades the actions of adults, that they *model high-risk behaviors* for the children in their lives. Closely related to this phenomenon is the likelihood that adults who take on unconventional and high-risk lifestyles – whether in dietary, sexual, or financial matters – that this will tend to result in a *decreased emphasis on family-based moral education*. While these assertions may come off to the reader as an exercise in moralizing and preaching, there is evidence from the medical literature that high-risk adults tend to create household environments for children that tend towards neglect, mismanagement, or worse.

In keeping with the potential connection between Murray’s assertions about the welfare state and our discussion of monetary interventionism and what is potentially an underappreciated connection, we assert that increased socialized risk-taking leads parents to display an *increased reliance on non-family care for children*. It could be rationally argued that the simple act of handing a young child over to a non-parental caregiver is a risky act. If the reader has borne witness to parents dropping off their son or daughter on the first day of childcare or kindergarten, this is an unescapable observation: parents are concerned, and some are terrified of entrusting their kids to others. While sending children to schools with presumably trustworthy professional educators might not seem like a tremendous risk to some, we ask whether such a risk (as great or minimal as it may be) is more or less likely to occur in an inflationary world. If it is the case that parents feel the need to generate ever-greater income due to financial risks they’ve taken on, and therefore a greater need to spend time in the labor market, then it stands to reason that they would need to handoff childcare duties to others. And this is a risk that many young parents dread and wish that they didn’t have to take on. Despite giving non-parental caregivers the benefit of the doubt, this handoff can’t be considered a risk-free action by parents. Indeed, there are sad accounts of

mistreatment of children in these situations that represent *an increased likelihood of childhood trauma*. Unfortunately, Beal and Greiner (2016) have found that in the US, that such children are at a greater risk of neglect and maltreatment when under nonparental care, even if they are extended family relatives.

On the sobering topic of childhood trauma, there is a body of psychological research that indicates that the consequences of financial moral hazard may indeed be a source of *increased financial fragility and potential childhood trauma*. The impact of economic adversity among children isn't to be underestimated according to Kim et.al. (2021). In fact, their study of adults with adverse childhood experiences (ACEs) indicate that childhood episodes of economic adversity have a greater impact on longitudinal mental health than do parental suicide attempts. While on an ethical and moral level, there is certainly no comparison between a loss of life by way of suicide and a bankruptcy or eviction due to reckless financial actions, it is nonetheless instructive that household financial fragility and adverse economic conditions – whatever their direct or indirect causes – does indeed play a role in children's well-being and reckless financial behaviors in the midst of an inflationary culture certainly don't seem to improve child wellness.

### **5.3.3: Moral Hazard and Dysfunction**

One of the potentialities of increased moral hazard within households in the inflation culture is a tendency towards financial risk-taking. It is entirely plausible that in couples where there is a mismatch in terms of risk-aversion there may be an *increased likelihood of financial infidelity*. This is a phenomenon that was touched upon in an earlier section, but bears repeating here as risk-taking mismatches can lead the spouse with higher risk-taking tendencies may be more likely to acquire financial obligations in a dishonest way. As demonstrated earlier, the tensions that result from such an act, once discovered may be a genuine threat to marital



longevity, and if the offense is serious enough can reasonably be understood to *increase the possibility of divorce*.

Another potential consequence of the increased moral hazard that comes as a part of the inflation culture is that one or both spouses in a couple will tend to exhibit *increased rates of time preference*. This argument isn't meant to suggest that increased time preference rates are only reserved for married couples in an inflation culture. In fact, we contend that this mindset tends to become all-pervasive in such a society. Moreover, higher risk-taking may come as a result of a myriad of incentives presented to individuals in an inflation culture such as taking out loans that have suppressed interest rates, "teaser" loans or adjustable rate mortgages (ARMs) such as those that prevailed in the run-up to the 2008 financial crisis. Indeed, many individuals and young families took on such alluring forms of borrowing, thus raising their financial fragility. This rush into credit instruments by many could correctly be viewed as a demonstration of an increased haste in financial decision-making. This was largely due, in part, to the attractiveness of booming real estate prices in the US. Moreover, many individuals and couples stretched themselves financially and exhausted their savings during this period, only for many of them to lose tremendous amounts of wealth, and even their marriages. In fact, in the 20-year run-up to the crisis, Payne (2014) found that the divorce rate peaked in 2008 at 19.4 per 1,000 married men and women. After these marriages were liquidated, those that remained saw a lower divorce rate in 2009 and slowly rising until falling again in 2013. This pattern suggests to this author that high levels of debt and financial risk-taking reached a fever pitch in 2008 – as did housing prices – and quickly collapsed, taking previously tension-filled marriages with them.<sup>155</sup>

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<sup>155</sup> This process of a quick 'liquidation' of marriages that were already on the rocks is a pattern that Wolfers (2006) suggested was present with the sudden rise in divorces in the 1970s emerged, but with only temporary effects once no-fault divorce law swept the country.

## **Section 4: The Broad Context of Interventionism and the Family**

At the outset of the previous section, it was suggested that there may be a connection between the observations that Murray (2012) has made about the role of the welfare state's interventions into family life and the role that the monetary authorities play in creating an inflation culture that exhibits the institutional features that breed incentives and habits that also serve to alter family life. While we can't pursue the former idea in depth, we do have reason to believe that the broader theme of interventionism into the social economy is worth deeper development and work in the future. For now however, there are several brief subsections that warrant our attention.

### **5.4.1: Interventionism and Families**

As we have done throughout the thesis, there has been an acknowledgment that a fiat money system directed by monetary authorities and a state-sponsored central bank have the capacity to dictate money supply through a monopoly production of money and legal tender laws. In such a world, the broader social economy is impacted by the choices of these individuals. Moreover, every transaction between firms and households in that social economy is conducted using that money. As a result, not only are firms' behaviors and structures altered, but so too are those of households as we've demonstrated in the preceding sections. While continuing to focus on inflationary monetary policy, and its tendency to create price increases in the social economy, under such instances, governments may respond to these conditions with further interventions of its own into the social economy.<sup>156</sup> If and when this series of events unfolds, we may witness the

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<sup>156</sup> It would be a plausible assertion that government intervention into the economy through a taxing authority and its impacts on family life warrant an entirely separate thesis. Such a project may be combined with monetary interventionism to form a general theory of government intervention and the family, and perhaps in the specific context of modern democracies. As modern interventionist states tend towards confiscatory taxation and ongoing inflation, there are ample empirical examples to choose from as well as a large literature on how these institutions impact firms. We suggest that such a theory may be applied not just to impacts on businesses, but to households as well.

indirect effects of monetary policy through the channel of government intervention upon family life. Similar to the presentation of Table 5.1, we will present a framework for understanding the ways in which household choices and sustainability is jolted out of place by monetary and governing authorities in Figure 5.2.

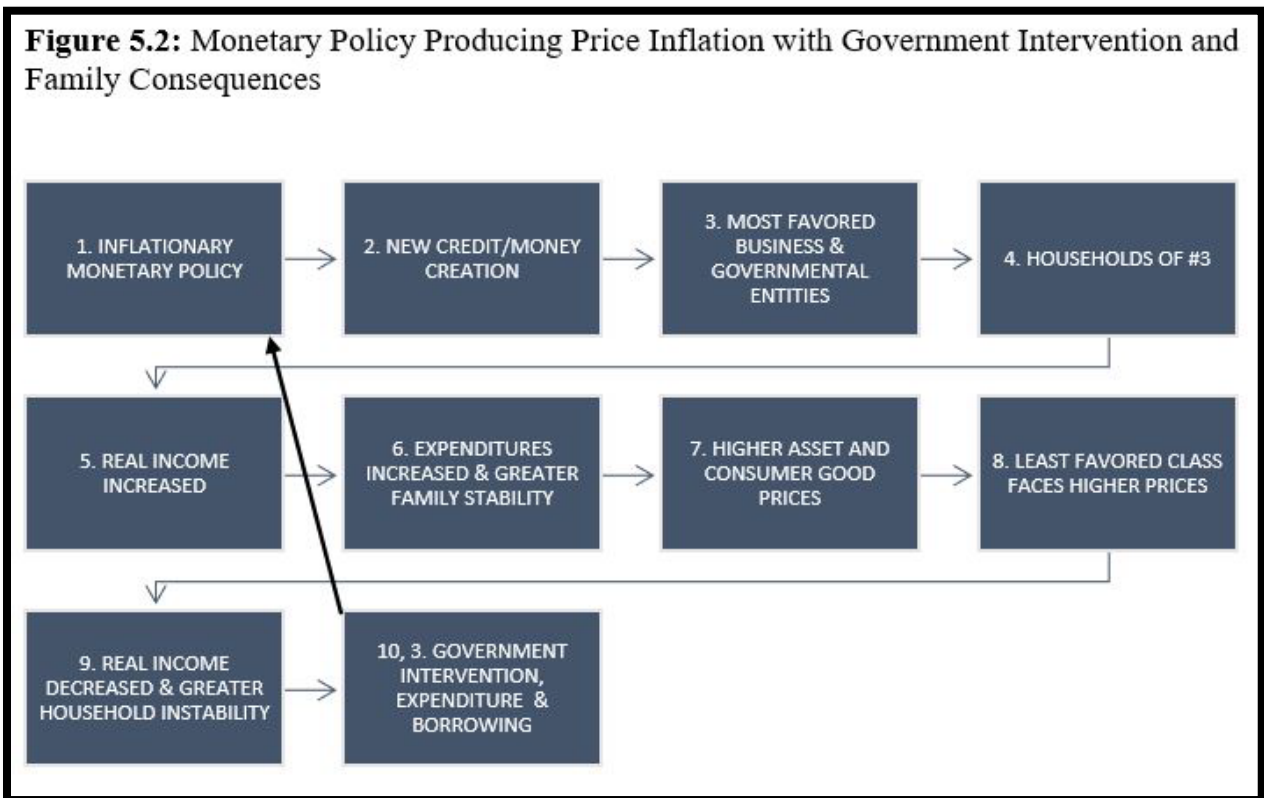


Figure 5.2 is intended to demonstrate the indirect impact of inflationary monetary policy (1) and its relationship to other forms of government interventions within a continual loop of activities. Through this process, each time new credit is created (2), there are those who are first in line to receive the new credit. They constitute a class of beneficiaries (3) as those who are employed by government, or the preferred businesses accrue benefits to their own households (4) – just as Cantillon described. Furthermore, these individuals and their households experience an increase in real income (5) and are able to bid the highest necessary price to obtain the goods and

services that benefit their households the most (6). Thus, prices on those goods are raised (7). After some time has passed and these expenditures trickle down to the non-preferred groups, whatever increase in income they receive – if any at all – is met with higher prices for goods and services in the economy (8). This situation represents a reduction in the real income of those households (9), resulting in greater difficulty in sustaining their previous standard of living, and may be dramatic enough of a reduction so that family life is genuinely disrupted.

In this figure, we further assume that this society is a modern democracy in which this harmed class has the capacity to lobby governing officials within government to intervene in the economy in hopes of receiving relief of some kind (10). If such a government doesn't collect sufficient tax revenues to provide for such benefits, it must resort to their relationship with the monetary authority by further demanding monetary policy intervention (1). As this process repeats, if the beneficiaries are the same group, and if those harmed are also the same group, then it is evident that this process will tend to repeat and that the harmed class and their households (8) will tend to be further harmed once the process repeats. Moreover, it is also evident that the harmed class is encouraged towards either finding a way to join the favored class, or to continue its lobbying activities. If they remain in the harmed class and continue in the lobbying effort, this will tend to intensify and accelerate the deinstitutionalization of their own family lives. While this process reveals interventions by governing officials to be the proximate cause for what may be regarded as perverse incentives for households to engage in political activism and lobbying – rather than enhanced economic productivity – it becomes somewhat difficult to detect the fact that the ultimate cause of this cycle lies in the monetary authority's willingness and ability to inflate the money supply.

Several observations may be taken from this process. Chief among them is that for each monetary intervention, there is some favored class or group within society that tends to benefit at the cost of everyone else. For those who are the beneficiaries of such monetary interventions, their personal incomes are enhanced and since their benefits are concentrated in the hands of a few. Initially, the harm to other individuals and households seems to be minimal if not impossible to detect. In practice, these beneficiaries tend to include those in the bureaucratic or administrative class whose departmental budgets and personal incomes are increased in order to carry out the new interventions and spending plans if they work for the government affiliated with the monetary authority. Alternatively, if those individuals work in the commercial banks that are the first creators of new credit, they too benefit as new credit is issued to borrowers, as they earn commissions on those origination fees and potentially with later interest payments. As Cantillon pointed out, whenever new money is created (or fiscal expenditure is made), the first group the government deems in need of such funding *personally benefit* from these new interventions and their concomitant expenditures. Consequently, their real household income is boosted, and the family lives of these individuals become more stable and tend to flourish. If they already are wed and have children, they are more able to provide for existing or future children than before the intervention. Furthermore, these households will have a greater tendency to remain intact to a higher degree than before the intervention's fresh cash injection. When the newly increased incomes lead to increased buying power in the market for assets, goods, and services, these households become the first bidders on scarce resources which will only lead to even higher prices on these goods. Nonetheless, their households are further stabilized in this process. The reader should recall that this entire series of events was set in motion by inflationary monetary policy, which is followed by price increases in later periods, only to have government intervene and

provide initial benefits to a particular class who is enabled to further bid up prices for scarce goods and services. These enhanced price increases then fall upon the classes who were not the recipients of the intervention and expenditure by government and see their real incomes fall as a result.

#### **5.4.2: Altered Incentives**

Given the framework described in the previous section, monetary interventionism creates a set of incentives for the harmed class to view lobbying and the use of political power as the best means to increase real income. Thus, they either have to find a way to successfully convince the political class, or to join the beneficiary class – which may seem impossible to do. These become the two general pathways to improving their real income in order to improve family life. Moreover, with monetary authorities setting the conditions for the continual loss of purchasing power, and with the belief that government intervention can serve to improve the standards of living among those who are actually the harmed by *both* monetary and government interventions, the incentive to continue lobbying efforts continues to grow over time. The net effect of this process is to lead people in the harmed class to *prioritize the political means of escaping poverty* and improving family life in exchange for the economic means of improving their standard of living. As the proposed framework in Figure 5.2 demonstrates, this ongoing activity only serves to exacerbate the wealth inequalities already present in the real world under a natural money order, let alone a fiat world where inequality is accelerated beyond what it would be under sound money. Add to this the further wealth redistribution that accumulates in the households of those who carry out government interventions, and society has the recipe for a perpetually impoverished class, coupled with consistently increasing wealth inequality.

If the intervention called for by the harmed class is for taxation against the beneficiary class, this will create the *appearance* of increased equality of wealth from a statistical standpoint,

especially if government statisticians count transfer payments and welfare payments as income. However, if the people in the harmed class see this as a reward for political activism, then further time and effort will be poured into the political means of raising income, with less and less economic productivity initiated. The resulting reduction in the production of goods and services further leads to inflationary prices. If these patterns persist over time, such a group of people is not subject as much to proletarianization, but rather politicization.

### **5.4.3: Politicization**

To further describe the process of politicization, it finds its proximate cause in government interventionism. However, we've demonstrated how monetary policy may in fact be an – though perhaps not the only – ultimate cause of such social divisions between the beneficiary and harmed classes. One of the costs of politicization is the neglect of economic activity in order to create wealth and a stable life for one's household. When this leads to diminished economic opportunity and stagnation, job prospects become scarcer, and the reality of unemployment becomes more pervasive. For young people who might wish to pursue marriage and family formation, this is more difficult than it would otherwise be under the cloud of the inflation-intervention-politicization process.

One of the perverse outcomes of such a systematic series of events is that increased real income may be achieved through this political, rather than economic process. However, those who take on marriage commitments or wish to raise children into adulthood will find the political process of gaining the real income necessary to carry this out more reliable than the economic means. Finally, given such a situation, we would also expect divorce to be a greater likelihood in situations where job instability, unemployment, and economic despair and demoralization are

further enhanced by the underlying and ongoing price increases brought on by the inflation-intervention-politicization cycle (de Soto, 458).

The indirect effects of expansionary monetary policy under fiat money systems does indeed have an impact on the social economy and upon family life. Through Figure 5.2 we've demonstrated that under monetary interventionism there arise, over time two general classes of people. In the case of the inflation-debt-moral hazard-proletarianization cycle, those who are already wealthier have a better – though not 100% certain – chance of gaining real wealth over time. In the case of the harmed class, we observe traps of poverty that become increasingly difficult to escape. For those living as a part of the harmed class, it is understandable that despair for the future may tend to arise between single men and women when it comes to the ability to jointly provide for a marriage, children, or to sustain such a living arrangement. While we freely acknowledge that human decisions regarding marriage, childbearing, and divorce are indeed very complicated and entirely subjective, we also feel that the framework provided presents a plausible argument that the ultimate cause of the heterogenous impacts on US family structure may indeed be – at least partially – rooted in monetary interventionism.

#### **5.4.4: Pro-Family Interventionism**

While the previous sections reveal some of the troubling aspects of positive persistent inflation, followed by more interventionism, we also aim to discuss those other policies that have been proposed to slow or reverse the deinstitutionalization of family life in the US. Of course, the true test of economically sound actions is to show – theoretically and then empirically – whether the goals of the intervention can be achieved given the nature of human beings and the realities of economic law. If indeed, various interventions can be shown to meet these criteria, there may be



reason for economists to put forward proposals to policy makers in order to meet their ethical goals.<sup>157</sup>

Allan Carlson (1991) is one such economist that believes that he is on solid ground with government interventions that can help preserve traditional family structures. He claims that one of the policy decisions that has been shown to effectively help increase family stability is the use of an “indirect, tax-relief-oriented approach”. One clear example of this type of specific intervention is the use of mortgage interest as a tax deduction. He points to stabilizing housing markets in the Post WW2 era as evidence for the continuation of this policy as increased home ownership has been positively associated with marriage, fertility rates, and negatively correlated to divorce. Carlson does however acknowledge that even this policy, “came at some economic cost” as “Investment funds were diverted from other potential uses into home construction; natural market forces were tampered with. It is arguable, though, that the gains far exceeded the cost” (273). A combination of interventions – income tax relief and incentives towards home ownership – both have the tendency to generate a higher real income in the households where they are applied. In doing so, these approaches may indeed improve the stability of family life for the marginal households who are able to take advantage of these opportunities. However, it is possible that those households that remain outside of the ability to take advantage of such programs will face even greater difficulty in obtaining housing in the future if the suggested interventions lead to higher home prices than would have otherwise prevailed.

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<sup>157</sup> It should be noted that there are groups that have indeed expressed goals and intentions that explicitly wish to do away with the traditional nuclear family. One recent example is the not-too-subtle title, *Abolish the Family* by Sophie Lewis (2022). This volume provides a clear set of means to achieve the authors goals of eliminating the traditional family and “replacing it with nothing”.

Setting aside policy measures that may be taken by the state, Carlson also called for the increasing reliance on social conventions that he believes households ought to demand of firms. In his preface to, *The American Way*, he noted a 1999 survey in which 87% of U.S. respondents to a worldwide survey felt that society should be centered around family and church life. The other options for the center of life included, government, business, or individual (Carlson, 2003, iv). Carlson states his surprise with these findings, which led him to conclude that – at least in the U.S. – that the social veneration of marriage, childbirth, home-centered industry and education would tend towards the, “[a]ffirmation of the family as the natural and irreplaceable human community” (169). In describing the apparent sentiments of a large portion of the American public, Carlson held that households could indeed hold greater sway over firms in demanding wages and scheduling practices that increased the likelihood of preserving family life in the traditional mode.

Both inside and outside of the U.S. Carlson also investigated pro-family non-interventionist approaches. In general, he aimed to study movements that rejected Cold War era communism and industrialized capitalism. He characterized these social movements as those who, “sought to protect and renew the “natural communities of family, village, neighborhood, and parish. Unlike Communist, these searchers defended private property in land and capital goods and underscored the dignity and rights of individuals and families. Unlike both liberal capitalists and Communists, they treasured rural culture, family-scale farming, gender complementarity, and the vital household economy” (Carlson, 2003, v).<sup>158</sup>

He characterized these movements as those that were seeking multiple *Third Ways*. There, Carlson claims that the way forward in preserving traditional family life entails five key tenets: 1.

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<sup>158</sup> In the descriptions of ‘capitalism’ that Carlson and his subjects bring forward, they pay no attention to monetary authorities and their possible roles in creating the sort of income inequality and wealth redistribution that is described throughout their work.

Uphold the “treasure” of private property; 2. Expel efficiency as a goal for the family, and altruism as a goal of the state; 3. Defend the “natural family economy” by appealing to evolutionary biology and history; 4. Place more faith in cultural norms than in the actions of the state; 5. Increase the infusion of religion into cultural, political, and economic decision-making (184,5). Whether one agrees with these as the proper means to bring about increased stability into family life, Carlson should be credited with proposing multiple avenues for pursuing a better future for families and children. By invoking both public policy and socially generated solutions to altered family life, he manages to gain critics among those who are antagonistic towards the state and those who are suspicious of the institutions that he calls upon to help preserve traditional family life. Nonetheless, in all his suggestions, he doesn’t address our primary question into the partial role that monetary policy might play in the current state of affairs in the family and which may also be blocking the vision for family renewal that Carlson has expressed.

Two relatively recent contributions from legal scholars have made the claim that free-market reforms and “deregulation” in the west that have led to dissolving family life among the lower classes in the U.S. and that the solution is increased government intervention in multiple forms (Carbone and Cahn, 2014; Eichner, 2020). In *Marriage Markets: How Inequality is Remaking the American Family*, Carbone and Cahn identify that wealth and income inequality is indeed one reason for the disappearance of marriage among the lower classes. They also develop a rationale for why there has been an increase in inequality over the past several decades. The authors claim that both “culture” and “structure” contribute to the divergent rates of marriage among the poor and wealthy, and that they are themselves intertwined (Carbone and Cahn, 2014, 22). They further assert that underclass culture was changing due to structural changes in the economy, most notably, “the initial effects of the disappearance of stable manufacturing jobs from

the urban north” which emerged in the early 1960s (25). Rather than exploring the economic causes of this type of economic change – lost jobs in heavy industries – the authors instead ask the question, “[H]ow does a loss of employment change cultural norms and how does gender affect the result?” (27).<sup>159</sup> The question itself implies that culture matters in upholding the traditional family, as well as economic means to maintain such a lifestyle.

In further describing the economic changes after the 1960s, Carbone and Cahn note that: “By the late eighties, however, companies began to send blue collar jobs abroad, to expand the contingent or temporary workforce in lieu of salaried workers, and to trim their management ranks. The prosperity of the late nineties increased the return to investment in education – and CEOs and financial analysts enjoyed outsized increase in income – but blue-collar wages never recovered” (46).<sup>160</sup> Rather than exploring any economic causes for economic phenomena, Carbone and Cahn point to the changing decisions regarding marriage upon changing attitudes around sexual activity, the persistence of patriarchal attitudes among men, a lack of educational resources for parents, insufficient state funding for childcare, and a ‘one-size-fits-all’ family legal setting that should, they claim, dispense family justice in varied legal codes based on income level (196-8).

From Eichner’s standpoint, it is the *Free-Market Family* that has led to the rapid disintegration of the family in America (2022). Her contention is that indeed, rising economic inequality is a partial explanation for the decay of traditional family practices. The other,

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<sup>159</sup> When referring to gender in this question, they are specifically citing the reality that most of the jobs that were shifted overseas from an American industrial base from the 1960s forward were jobs previously held by men.

<sup>160</sup> Despite eviscerating Charles Murray in their introductory chapters, Carbone and Cahn (perhaps unwittingly) provide the same precise diagnosis for rising inequality after the 1960s as Murray does, citing the increasing returns to education and the largest wage increases among the financial sector of the economy. This is the sort of process that economists refer to as the ‘financialization’ of the economy. While citing the increasing wages among financial sector employees (p.64) they make no attempt to explain why such a concentration of factor payments has occurred in that sector. We contend that this financialization is the direct and inevitable result of expansionary monetary policy in a fiat money arrangement.

overlooked cause of this disintegration is that “[T]he defeat of American families by market forces was the product of a long-term failure of American public policy. That defeat occurred because, *beginning in the 1970s*, American policy makers began to sell families out a misguided ideal of free markets...an increasingly widespread, albeit wrongheaded, view that insulating families from market forces made them weaker, and that all policymakers needed to do to ensure healthy families was to *deregulate markets*” (xvii, emphasis added).<sup>161</sup>

The characterization of the U.S. economy as becoming less regulated since the 1970s leads Eichner to conclude that additional intervention by governing authorities must be enacted to save the family from the social economy, of which households are a part. Furthermore, Eichner calls for “publicly subsidizing parents to stay home with their child during the first year or years” (197), “heavily subsidizing programs that support children’s early development” (198), direct wage controls through “[r]egulation of the market to limit wage inequality” (198). Not to mention, “[g]enerous subsidies to all families with children combined with measures that decrease economic inequality” (198).<sup>162</sup> Furthermore, government must further intervene to “limit the hours employees can be made to work” (199). While we certainly may agree that rising inequality in terms of real wealth and income have the effect of leaving the lower classes worse off than they would be if inequality was reduced, we view the unusual historic growth of inequality over the past half century as having a real economic cause – fiat currency and inflationary monetary policy.

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<sup>161</sup> The reason for our emphasis is that we regard the beginning of the 1970s as the beginning of a new era of increased economic, and especially, monetary interventionism in the U.S. as the Nixon administration ended any pretense of a commodity based monetary system, abandoning it for a purely interventionist, fiat monetary policy enacted by the Federal Reserve.

<sup>162</sup> Eichner contends that the method needed to decrease economic inequality is to reinvigorate the New Deal principles of the 1930s by instituting an ever-increasing minimum wage, increasingly progressive taxation, and support for collective bargaining (205). There is ongoing debate among economists as to whether any of these policies can achieve the goal of decreasing real income and wealth inequality.

## Chapter 6: The Econometrics of Monetary Policy, Inflation Culture, and Family Life

When presenting empirical research, a high degree of epistemic humility is required. The following chapter represents an attempt to meet this standard. As we are attempting to show the connection between fiat currency regimes and cultural and familial change, we do so, recognizing that these are extremely complex phenomena. In addition, the variables to be presented are often indirectly related to one another. Moreover, we are also aware that a long-time horizon is being addressed in our data set. As such, we acknowledge that there are many factors outside of positive and persistent inflation that have impacted family life during the post WW2 period. This reality will tend to blur the connections between inflationary monetary policy and family life.

Some key examples of other factors impacting family life include the increasing educational and labor force participation among women in the US, the normalization of contraception, its low cost, broad and inexpensive access to abortion and no-fault divorce, declines in religiosity, and the general cultural acceptance of cohabitation are just a few factors that certainly have had an impact on trends in traditional family life (Becker, 1992; Nakonezny, Shull and Rodgers, 1995; Glenn, 1997; Robinson 1997; Hamilton and Ventura, 2006; Wolfers, 2006; Torr, 2011; Rosenfeld and Roesler, 2019; Reynolds and Walther, 2020; Sassler and Lichter, 2020; De Coninck, Van Doren and Matthijs, 2021; Kumar, 2022).

Aside from these challenges, we also wish to put econometrics in a proper perspective, particularly when considering the difficulty (or perhaps the impossibility) of measuring concepts like culture, institutions, or habits. Israel (2023) provides a healthy dose of humility and a reminder of the original conception of econometrics by noting that Pawel Ciompa (1867-1913) – himself the first to use the term “econometrics” – labeled it as *descriptive economics*. Following this tradition, we do not seek to use statistical findings to apply inductive reasoning to proclaim

universal truths. Rather, we simply assert that the correlations that are discovered (whether economically significant or not) are merely illustrations of highly contextualized situations. Moreover, we also recognize that the complexity of individual decision-making processes (not to mention biological processes in the case of fertility changes) over a large time series are subject to influences that: first, have no data available and second, are not even measurable.

Considering these limitations, we will present simple regression models that use independent variables that themselves are known to be altered by monetary policy, and those independent variables are considered for their impact in changing family behaviors and structures. The goal is to see to what extent, in the given context, the independent variables are empirically associated with the dependent variables of age at first marriage, total fertility rates, and divorce rates. We seek nothing more and nothing less.

Given the limits of econometrics to predict human behavior in all contexts and the limitations of the data that we do have available, we do not expect to find high degrees of correlation or statistical significance. Furthermore, there are certainly no expectations of immediate impacts from changes in monetary policy. For example, one should not anticipate that the announcement of a 25 basis-point increase in the Fed funds rate will cause an immediate rush into marriage by younger couples who anticipate higher returns on savings and a more secure financial future. We make no such assertions. Nonetheless, as a standard practice, we will use rates of change in annual intervals to study these correlations. In addition, we provide in the appendix an even simpler approach where data indexed to a base year are deployed to see whether correlations are discovered. Indeed, in the case of indexed data there are numerous statistically significant correlations, yet by themselves they may be open to the charge of being spurious. Therefore, we also deploy an Autoregressive Distributed Lag (ARDL) exercise to the data that

presents the rate of change in our variables. This final exercise is appropriate as we have a mix of stationary and non-stationary data, and we already know that there is autocorrelation between several of the x-variables as well. As such, we hope to discover how long it takes for various x-variables to impact the family life variables, while we also acknowledge that the household data itself is path dependent and that its trends from one period exhibit ongoing patterns. For example, the fertility rate continues to have a negative trend, while the age at first marriage for both men and women have an ongoing positive trend. Again, all of this detail is to temper the researcher's expectation of finding statistically significant variables in an ARDL model.

Despite the limitations that have been described, every effort will be made to find relevant data that goes back as far as possible. We are fortunate in that our data offers a starting point that is directly related to inflationary events – such as the collapse of the Bretton Woods agreement in 1971. Since others have already shown that the phenomena of the inflation culture do indeed emerge from the positive and persistent growth in the money supply, we will test whether there is correlation between the rates of change in several inflation culture characteristics and the rates of change in age at first marriage, fertility, and divorce.

The first section of the chapter will illustrate how several economic realities have already been shown by earlier scholars to impact traditional family structures and behaviors. We will begin with an examination of the literature surrounding rising debt levels as this will be the variable that we utilize throughout our own original empirical analysis to discover its effects on household formation, fertility, and divorce. In addition, we will also analyze the scholarship that has been produced with respect to inflationary policy and its consequences in housing markets, human capital investments, labor markets, and income inequality. Due to space and time constraints, these variables will be included in our linear regression models but will not be scrutinized with the same



theoretical detail as rising debt levels that are of primary importance in the inflation culture. Further research is certainly warranted as a part of the larger project of discovering and describing the importance of these variables within the inflation culture.

In the second section of the chapter, we will address changes in family formation. With respect to traditional marriage, one of the primary metrics used to measure changes in family formation has been the average age at first marriage. In the US, this statistic has been steadily increasing over the past half-century (Stevenson & Wolfers, 2007; Brown, Lin, & Mellencamp, 2022).<sup>163</sup> An overview of potential causes of this trend have included the women’s liberation movement, the sexual revolution, changes in labor force participation, gender-based income inequality, and the retreat from marriage among the less educated alongside sustained rates of marriage among the highly educated (Murray, 2012; Aughinbaugh, Robles, & Sun, 2012; Carbone & Cahn, 2014; Eichner 2020).<sup>164</sup> We then set out an argument that while these variables have played a role in delays in marriage, there may indeed be a link between inflationary monetary policy and the increase in the average age of first marriage. The channels through which such changes are measured include the debt channel, which for young US couples is acquired through the educational process. We will also examine the link between housing costs and family formation. Finally, we look at how labor markets are impacted by a growing money supply, which are related to the sexual division of labor and the “marriageability” of men and women. As we are only aiming to demonstrate correlation and not causation, we lean on the results from linear regressions to test hypotheses with respect to age at first marriage.

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<sup>163</sup> Source: U.S. Census Bureau, Decennial Censuses, 1890 to 1940, and Current Population Survey, March and Annual Social and Economic Supplements, 1947 to 2022.

<sup>164</sup> See also: “Middle class marriage is declining, and likely deepening inequality” by Reeves and Pulliam, March 11, 2020. Available at: <https://www.brookings.edu/research/middle-class-marriage-is-declining-and-likely-deepening-inequality/>

Section 3 will examine the trends in fertility. The crude birth rate has continued to decline, not just in the US, but throughout the globe. While we will make the case that monetary policy is related to the creation of an inflation culture, and that it has given rise to institutions and habits that reduce fertility, we by no means believe that it is the only thing that matters in declining total fertility rates. Just to mention two such variables, the lowered costs and increasing acceptance of contraception (Cavalcanti, Kocharkov and Santos, 2023) have had a role to play in lowered total fertility. In addition, the educational level of women has had a negative impact on total fertility throughout the world, and not just in the US (Van Bavel, 2012; Impicciatore and Tomatis, 2020). As in the section on age at first marriage, linear regressions to test for correlation will be utilized.

The fourth and final section of the chapter will deal with the ways in which the inflation culture has influenced changes in divorce rates. The data on divorce in the US has followed a curious path. Indeed, the ratio of divorce to the number of existing marriages rose at a moderate pace in the 1960s, climbed dramatically in the 70s, declined in the 1980s, plateaued in the 90s and has been falling since the mid-2010s. While this pattern doesn't lend itself to a positive correlation with steady money supply growth (which has continued to rise dramatically and almost without interruption over the same period), we have provided the presence of Cantillon effects as theoretical explanation for what has driven income and wealth redistribution that is continuing to occur, and which continues to impact family life. Given these empirical findings and theoretical applications, we now contend that there has been a *liquidation of marriage* in the lower and middle socioeconomic classes over time. Moreover, and in part due to inflationary pressures, the marriages that are being formed and manage to survive tend to be clustered among couples that have been the beneficiaries of the redistributive features of the Cantillon effect. These marriages are more likely to stay together due to the advantages accrued in this wealth redistribution process.

While the goal of a thesis is to make a new contribution to the literature, as we believe such an assertion provides, we acknowledge that there are other important factors that have influenced divorce patterns over time. Some brief (but far from exhaustive) examples include how labor force opportunities for women have had an impact on divorce rates, and especially in “low quality” marriages or those with “mismatched” spouses (Sayer and Bianchi 2000; Parker, Durante, Hill and Haselton, 2022). In addition, we would expect that there is some impact on divorce trends due to the intellectual influence of feminism throughout the decades (Budig, 2004; Strow and Strow, 2006). Furthermore, there is evidence that relative increases in female wages when compared to male wages are related to an increased likelihood of divorce, although this trend has varied in degree over time (Schwartz and Gonalons-Pons, 2016). We also observe that higher male wages make couples less likely to divorce (Hopcroft, 2021), and that increased paternal confidence towards children is a significant factor that is correlated to a reduced probability of divorce as well (Anderson, Kaplan and Lancaster, 2007).

To re-emphasize these introductory thoughts, while it is the contention of this thesis that there is an important connection between fiat inflation, the institutions and habits of the inflation culture, and family life, we fully acknowledge that there are other meaningful factors that impact the timing and rate of marriage, total fertility choices, and marital dissolution.

### **Section 1: Established Links Between Inflation Culture and Family Life**

The aim of this first section is to demonstrate the extent to which debt levels, which include student loans, credit card and mortgage debt, as well as housing and education price levels along with changes in labor markets have impacted family life in the US since the 1960s. As already noted, indexed data is used in order to illustrate how much each of these variables has changed over time in relation to the various aspects of family life. Moreover, we will establish how initial

research has already been done in order to illustrate (though not describing it as such) that the inflation culture habits and institutions described in Chapter 5 are indeed relevant to family life, and that these phenomena are caused by fiat currency inflationism.

### **6.1.1: Debt Levels**

One of the most frequently discussed variables that has been shown to alter family life is the rising debt levels of young adults who have, in recent years, held heavier credit obligations than previous cohorts of young adults (Houle, 2014; Bozick & Estacion, 2014; Addo, 2014; Haneman, 2017; Gicheva, 2016; Napolitano, Tevington & Carr, 2021). This rising level of indebtedness among young adults - particularly in the US – has altered their approach to family life, marriage, and cohabitation. Increased leveraging over time isn't present only among younger households. As Mason and Jayadev (2014) have observed, as early as the 1930s US household indebtedness began to rise, and the very recent appearance of lowered household leveraging is overstated as a result of the historically high default rates since the mid-2000s. While observing these increases in debt levels, some have attempted to explain its causes *without* looking directly at the policies of the monetary authorities (Barnes & Young, 2003; Iacoviello, 2008, Kamenetz, 2006).

Another important link between monetary expansion, the inflation culture, and family life is the presence of increased debt loads that coincide with decreased total fertility rates. Indeed, this relationship has been observed within wealthier economies throughout the globe (Sun, 2019). Among developing nations, it has also been found that once credit markets are opened up to relatively poor families that already have children that there is a positive relationship between the number of children and a propensity to acquire debt in order to keep up with rising prices in the

economy that are brought on by credit expansion (Habibullah and Mustafa, 2021).<sup>165</sup> Meanwhile, there are studies that found that these increasing debt loads have been linked to trends in divorce (Dew, 2011; Fisher & Lyons, 2006). While not acknowledging the debt and divorce connection, some have successfully demonstrated the direct and indirect effects of monetary policy upon individual and household indebtedness (Ferretti and Vandone, 2019; Sparks and Wood, 2020; Evemy, Yates and Eggleston, 2020; Sparkes and Wood, 2021). Given the state of the scholarship that fails to make full connections between fiat currency, debt accumulation, and family change (with Meera (2019) as the only known exception), we believe that it is justifiable to pursue a more complete theoretical and empirical linkage between these variables.

One of the key insights that comes from recognizing the presence of Cantillon effects is the realization that the impact of money supply growth cannot be neutral. New money supply will flow into the markets that the first users (or perhaps borrowers) value the most.<sup>166</sup> As an example of this process in action, we quickly note the case of expansionary circulation credit and the debt creation through the specific channel of the US Federal student loan programs. In this process, we can see that new deposits created through this channel will enter the M2 money supply as this new credit becomes a part of a college or university's checkable deposits. As a result of this mechanism, we hypothesize that there may be a positive correlation between the overall money supply (as part of M2 growth would include college/university bank deposits) and newly acquired student loan debt. Through the student loan program, there is increased demand for higher education and the

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<sup>165</sup> To our knowledge, Ahamed Kameel Mydin Meera of the Movement for Monetary Justice is the only one to have explored the link between fiat monetary systems and its impact on fertility rates. In an undated working paper, Meera explains that the, "fiat money system, is significantly responsible for the shrinking population and its related problems". Source: <http://mmj.my/wp-content/uploads/2019/02/Korea-Fertility-Paper.pdf>

<sup>166</sup> Professor Mises clarified this theoretical finding by distinguishing between commodity credit and circulation credit. He notes that 'commodity credit' is that which is created through lending saved commodity-backed money to borrowers to be paid back at interest. Whereas 'circulation credit', which he defines as, "the issue of notes and the opening of accounts that are not covered by money" (Mises, 1953, 269).

factors that go into providing it, thus raising the higher education price index. As a result of this ongoing process, each model will include the variables of the Indexed M2 Money Supply, the Indexed Consumer Debt Load, and the Indexed Higher Education Expenditure.<sup>167</sup>

### **6.1.2: Higher Education Market**

In the U.S., the empirical reality of the surge in higher education costs would come as no surprise to Murray (2012) or Becker (1991) as they both cite increasing returns to education and human capital formation as being a driver of changing family dynamics. For young adults, the cost of their university education within the US has led many of them to take on greater debt loads through the federal and private lending programs. As noted in an earlier section, this debt accumulation has been linked to delays in marriage (Addo, 2014; Bozick and Estacion, 2014). Ultimately, this increasing cost of human capital accumulation has been fueled by inflationary practices by banks and the federal authorities. Knowing their own experience – and anticipating increasing costs for their own children should young couples decide to have them – we turn to Kaitlin Zaloom’s work (2019). Her book entitled, *Indebted*, outlines the household-level impacts of increasing education costs including their choice of residence, increasing debt loads, and even examples of fraudulent ways of recording divorce and child support expenditures to manipulate outcomes of federal aid, scholarships, and loan acquisitions to afford college costs (2019). Besides the immediate impact of the decreased affordability of college education, the desire for parents to increase the ‘quality’ of their children – as Becker put it – leads them to give ever more attention to the rising costs of providing educational, physical, and social opportunities that will allow their

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<sup>167</sup> We utilize the total consumer debt index as a measurement of the inflation culture’s tendency towards greater debt as there are uncertainties with respect to the data for student loan debt.

children to thrive in adulthood.<sup>168</sup> As one may view bids on education as a derived demand that originates in the labor market it is entirely plausible that such price increases are driven – in part – by an increased taste for the incomes and lifestyles afforded by higher levels of educational attainment as well as by government subsidies in the form of loan guarantees, grants, and scholarships.<sup>169</sup>

Carbone and Cahn (2014) have also described the impact that higher education, its costs, and social ramifications have had in the US marriage market. For these scholars, the trend in men’s education has led to several effects: “Rising inequality has affected men more than women, increasing both the number of men at the top who are eager to pair with high-status women...both [men and women are] pickier about potential mates and wary of early commitments that might limit future opportunities...Now both look for mates who reflect (and enhance) their own expectations about the ability to enjoy the good life. Two substantial incomes rather than one make the difference between the home overlooking the golf course and the modest tract house in the less tony school district” (2014, p.2)

One additional reality is that path dependency is likely to play a role in the statistical outcomes found in Table A.4. Indeed, the men who are willing and able to pay for the higher education costs are those who may do so by self-selecting into higher education. This may be due

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<sup>168</sup> The American Enterprise Institute has regularly produced an annual graphic analysis that depicts price inflation in various categories dating back to the year 2000. Far and away, the prices for medical services and higher education and its ancillaries have led the pack in real price increases in the US economy. Source: <https://www.aei.org/carpe-diem/chart-of-the-day-or-century-8/>

<sup>169</sup> William Bennett, the former Secretary for the U.S. Department of Education once observed that the increase in demand for higher education in the U.S. that was driven by labor markets and, especially by various forms of subsidies to pay for college would cause dramatic price increases in tuition. This would be the case because for the most part, Bennett viewed the quantity of degrees provided by colleges and universities as having relatively inelastic supply. Even the critics of this view caution that they can’t conclusively deny the claim. (Alisa F. Cunningham, Jane V. Wellman, Melissa E. Clinedinst, Jamie P. Merisotis, and C. Dennis Carroll. 2001. *Study of College Costs and Prices, 1988–89 to 1997–98*, Volume 1. National Center for Education Statistics.

to several factors such as: family expectations, greater native intelligence, or that these men simply enjoy the learning process itself. These attributes by themselves may lead to higher income potential in the first place, not to mention the greater amount of schooling that these men obtain.

One may wonder how non-educated men are responding to higher education costs. Simply put, some aren't pursuing education beyond secondary school. With the lower expected income that results from this lack of education, their viability in the marriage market declines relative to more highly educated men and are overall, less employable. Carbone and Cahn affirm this in stating that "the marriage rates of both employed and unemployed men declined" since the 1960s (p.73), a point which Charles Murray also emphasizes, but by citing the particularly strong drop off in male marriage among less educated men since then (2012, p.158-9). Such outcomes raise questions regarding the differences between male and female responses in the marriage market with respect to inflationary pressure in the price for higher education (See Appendix A, Section 1)

American households have responded to this phenomenon not just with altered internal financial maneuvering, but they have changed their fertility patterns as a result. It is plausible that as witnesses of rising costs for higher education in their own lifetimes, that they would anticipate similar price increases in educating their own children. As a result, much ink has been spilt to illustrate this powerful dynamic in reducing the total fertility rate over time. This is not just the case in America, but globally as well (Becker and Tomes, 1986; Borg, 1989; Becker, Murphy and Tamura 1990; Ogawa et. al., 2009). While there are critics of the view that anticipated net costs matter in fertility decisions, they too acknowledge that *economic* realities such as the lowered costs of contraception, higher average female educational attainment and labor force participation rates, and declining child mortality rates as the true drivers of falling total fertility (Mason, 1997). However, Becker and others actually include these factors in their fertility models and it seems



that the disagreement is one over the degree to which the various factors matter in the later and reduced fertility trends throughout the world.<sup>170</sup> Given these realities in the markets for education in the US and their relationship with family matters, we will include the higher education price index as a control variable in the linear regressions in later sections of this chapter. We anticipate that there will be a degree of correlation between price changes in this category and altered family behavior and structure and that changes in this market are largely influenced by inflationary fiat credit expansion through the channel of the US Federal Loan program, as well as through lending that takes place with private banks. Furthermore, Murray (2012) has observed that the more highly educated a couple is, the less prone to divorce they are. Meanwhile, those individuals who – for whatever reason – avoid the higher education system or don't complete their degrees tend to earn less, tend to exhibit a greater propensity to non-marriage and cohabitation than their more highly educated peers. Through this reality, we can clearly see a divergence of family experiences based on the amount of education attained by potential marriage partners. In addition, if levels of education make for lasting marriages among the highly educated and non-marriage for the less educated, we may have reason to suspect that educational mismatches – and the political and cultural differences that may clearly separate people with a wide disparity in educational attainment – are a predictor of divorce as well (Murray, 2012).<sup>171</sup>

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<sup>170</sup> The topic of this thesis could be accused of having too narrow of a focus on a single economic variable – monetary policy – in explaining family transformation. However, our goal isn't to ignore other explanations for family change, but rather to consider a variable that has been unjustifiably passed over as a determinant of the many proximate causes for altered household behavior and structure, which we view as viable and important determinants of changing household dynamics and structures.

<sup>171</sup> Intriguing findings in Finland by Marika Jalovaara (2003) indicate that if women have higher educational levels and earnings than their husbands, the risk of divorce at all levels of the husbands' income increases.

### 6.1.3: Housing Markets

Another area that frequents the economic literature showing its impact on household decision-making are the realities of the U.S. housing market. This is an important connection for us to make in providing an explanation for the phenomenon that Murray continually points out in his book, which is, that real wealth matters in upholding traditional nuclear family life. As illustrated earlier in this thesis, there is a clear demonstration of the redistribution of income and wealth that takes place through the Cantillon effect. Through it, the early beneficiaries of new credit are in an advantageous position to form marriages, have the desired number of children, and avoid divorce. In the most extreme cases in the US, those early recipients of new credit form families and live in what Murray calls the ‘Super Zips’. For them, as the beneficiaries of fiat inflation, traditional family life is more likely to thrive than for those who are among the later recipients of new money (Murray, 2012, 78-103). Moreover, these homeowners tend to hold post-bachelor’s degrees and have jobs primarily in the sectors of federal governance, finance, healthcare, or in academia. With their ever-increasing incomes, these households are enabled to bid higher and higher prices on homes. For the less educated, poorer, or for renters in these areas, it is ever-more challenging to afford homes in these regions.<sup>172</sup> Indeed, for those living on the outskirts of such neighborhoods have seen a rapid disintegration of family life, with non-marriage, cohabitation, delayed marriage, reduced fertility, and higher divorce rates (Reeves and Venator,

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<sup>172</sup> Murray has described this set of conditions “a new kind of segregation” where the rising incomes and home values of these households enable them to build “elite bubbles” where one resident could say, “On my former block in Washington DC were my next door neighbors (Princeton ’57 and Radcliffe ’66), the folks next to them (both Harvard ’64) and the people across the street (Yale ’71 and Yale Law ’74) plus me (Harvard ’66 and Yale Law ’69). Just a *typical American neighborhood*, in other words” (emphasis added, 84). While it won’t come as much of a surprise to learn that highly educated individuals tend to marry in live in upper-class neighborhoods, what is surprising is how people with the same level of education in the 1960s lived in far more diverse neighborhoods in terms of wealth and educational attainment. In fact, Massey, Rothwell, and Domina (2009) noted that housing and wealth disparities that were characterized primarily by racial differences in the 1960s have diminished through the 2000s. However, housing segregation based on educational attainment and income level now predominate.

2015; Addo, 2014; Painter and Vespa, 2012; Farnham, Schmits and Sevak, 2011; Klein, 2017; Atalay, Li and Whelan, 2021; Yi and Zhang, 2009).<sup>173</sup> It is our contention that this entire process is a part of the inflation culture as expansionary monetary policy incentivizes a flight into real assets through the use of debt, resulting in the sort of wealth redistribution that characterizes housing markets in the US and in other modern economies with similar monetary policies. Along with debt levels, we will also incorporate housing price levels into our empirical <sup>174</sup>analysis.

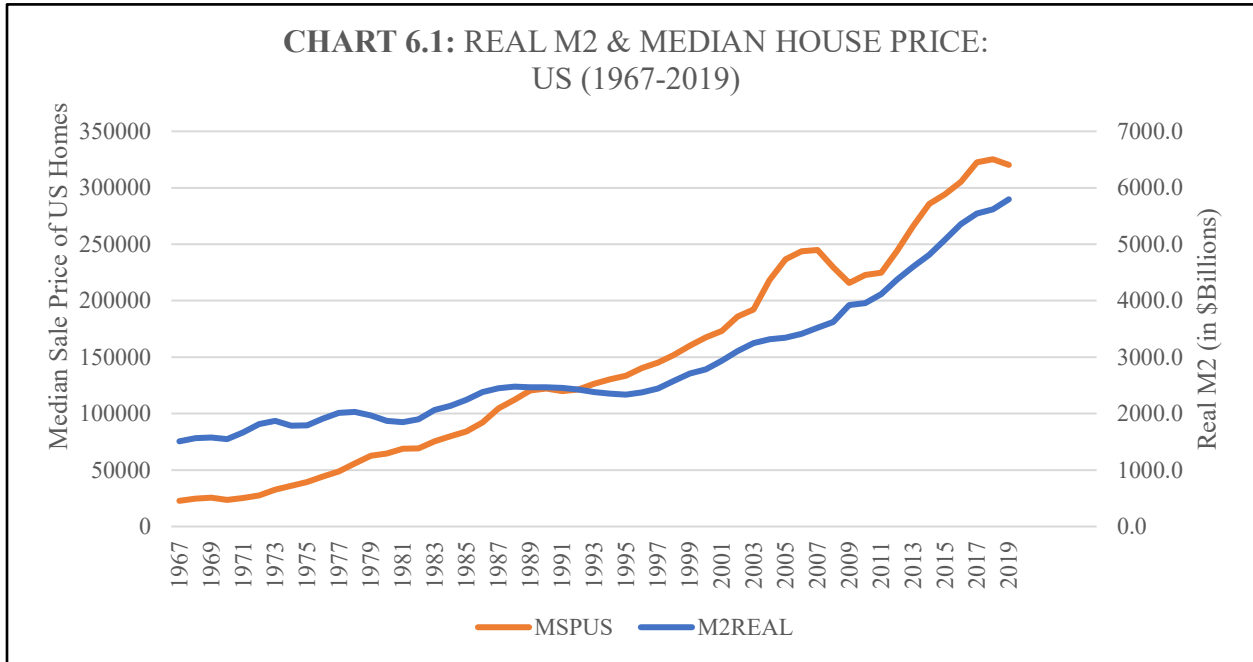
As the overarching theme of this thesis is to link monetary policy to family life, we again introduce the role that an expansionary approach plays in an important artifact of family life, namely housing. Chart 6.1 provides a visual illustration of the trend that exists between real M2 in the US since the waning years of the Bretton Woods agreement up to the pre-Covid era. At first glance, the positive correlation seems clear.<sup>175</sup>

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<sup>173</sup> Taylor (2007), Williams (2018), Xu and Tang (2014), and Ume (2018) all make the case – and they are not alone – that there is a direct correlation between loose monetary policy and overall housing price increases. However, like all dispersions of new credit that originate with monetary policies of various kinds, the price changes will be uneven with respect to location, temporal proximity to the new credit release, and in the degree of price changes.

<sup>175</sup> <https://fred.stlouisfed.org/>. For further explanation and a simple linear regression, see Appendix A, Section 2.

Outside of the US, where home ownership on the part of the male spouse is more explicitly a cultural demand for marriage, researchers have pointed to this very connection in China (Wrenn, Yi, and Zhang, 2019). In Spain, from 1998, there has been a significant negative relationship



between home prices and the overall rate of new marriages formed during that time until 2018 (Gonzalez-Val, 2022). Another study from Taiwan illustrates the marriage market advantage that men have when they are already on possession of a home, represented by the positive correlation between their existing real estate wealth and the probability of marriage (Chu, Lin, and Tsay, 2020). While the social expectation of home ownership (or the expected capability for it) is more explicit outside the US, its presence across the globe may suggest the need for qualitative data with respect to the relative importance of home ownership in marriage formation within the US as compared with educational attainment, expected income, and other relevant variables in the complex decision of when and whom to marry.

#### 6.1.4: Education and Labor Markets

Murray uses labor market change over the past half-century as the main explanation for dramatic changes in U.S. family life. The returns to education and ‘brains’ (as he put it) led to increased demand for higher education, beginning in the 1960s. This increased demand with a stable supply of university degrees led to higher prices for tuition, making a bachelor’s degree less affordable for the poor and middle class. In response, the US federal government expanded that demand even further with more and larger amounts of aid and loans. Naturally, this led to even higher prices, and while overall increases in educational attainment did emerge, these increases were dwarfed by rising prices. As a result, the men and women who were able to obtain those degrees tended to marry one another, leading to a new metric in marriage - educational homogamy. As a result of this process, Murray described the reality of concentrated income among those highly educated couples, who preserve traditional family patterns. Meanwhile, all the other households that haven’t obtained those same levels of education or wealth through labor market activity have seen traditional household structures and practices evaporate over time (Murray, 2012).

In the last four decades, the market demand for college-educated workers has brought an increase in median real wages of 9.2%, while those with advanced degrees have seen a 27.5% increase in real median wages from 1979 to 2019. Meanwhile, those with less than a high school diploma have seen their real median wages *fall* by over 14% in the previous 40 years.<sup>176</sup> When we apply the reality of Cantillon effects, we are also led to give attention to the particular *sectors* that have seen the fastest growth in wages and employment over the past decades. Indeed, some sectors have fared far better than others. If such changes are the result of monetary inflationism, then we

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<sup>176</sup> Source: Congressional Research Service at <https://crsreports.congress.gov>. Available at: <https://sgp.fas.org/crs/misc/R45090.pdf>

would expect to see the financial sector among those leading this growth. Without doubt, the financialization of the US economy has emerged over this same timeframe (Foroohar, 2016). Specifically, the financial, medical, and healthcare sectors have been the labor markets that have grown in concert with the financialization process. Moreover, and of great relevance to the life of the family, these areas of employment now possess a majority of female workers, and many of them in positions of leadership.<sup>177</sup>

Recent measurements from the Bureau of Labor Statistics (bls.gov) indicate that within some of the fastest growing wage categories, women hold the majority of those positions. Furthermore, as of 2023, approximately 7 million prime-age males in the US have left the workforce permanently as wages in fields that have traditionally held jobs have lagged behind the financial, health, and educational sectors.<sup>178</sup> Specifically, within the US financial sector at the end of 2022, 55.7% of financial managers were female. Two of the other areas of largest wage and labor market growth have occurred within the sectors of higher education and health care. These changes are evidenced by some of the highest rates of price increases within the US economy since the turn of the 21<sup>st</sup> century.<sup>179</sup> Within the health services fields, 77.6% of those employed in the sector are women, while 75.7% of medical practitioners are females as well.<sup>180</sup> With respect to Educational administrators, 68.1% are currently women.<sup>181</sup> As these are growing fields of

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<sup>177</sup> Per the Bureau of Labor Statistics at the end of 2022, women make up the majority of those currently employed in the fields of: financial managers (55.7%), education and childcare administrators (68.1%), medical and health services managers (71.6%), nurse practitioners (88.7%), healthcare practitioners and technical occupations (75.7%), credit counselors and loan officers (54.8%). Source: <https://www.bls.gov/cps/cpsaat11.htm>

<sup>178</sup> <https://www.nationalaffairs.com/publications/detail/education-and-men-without-work>

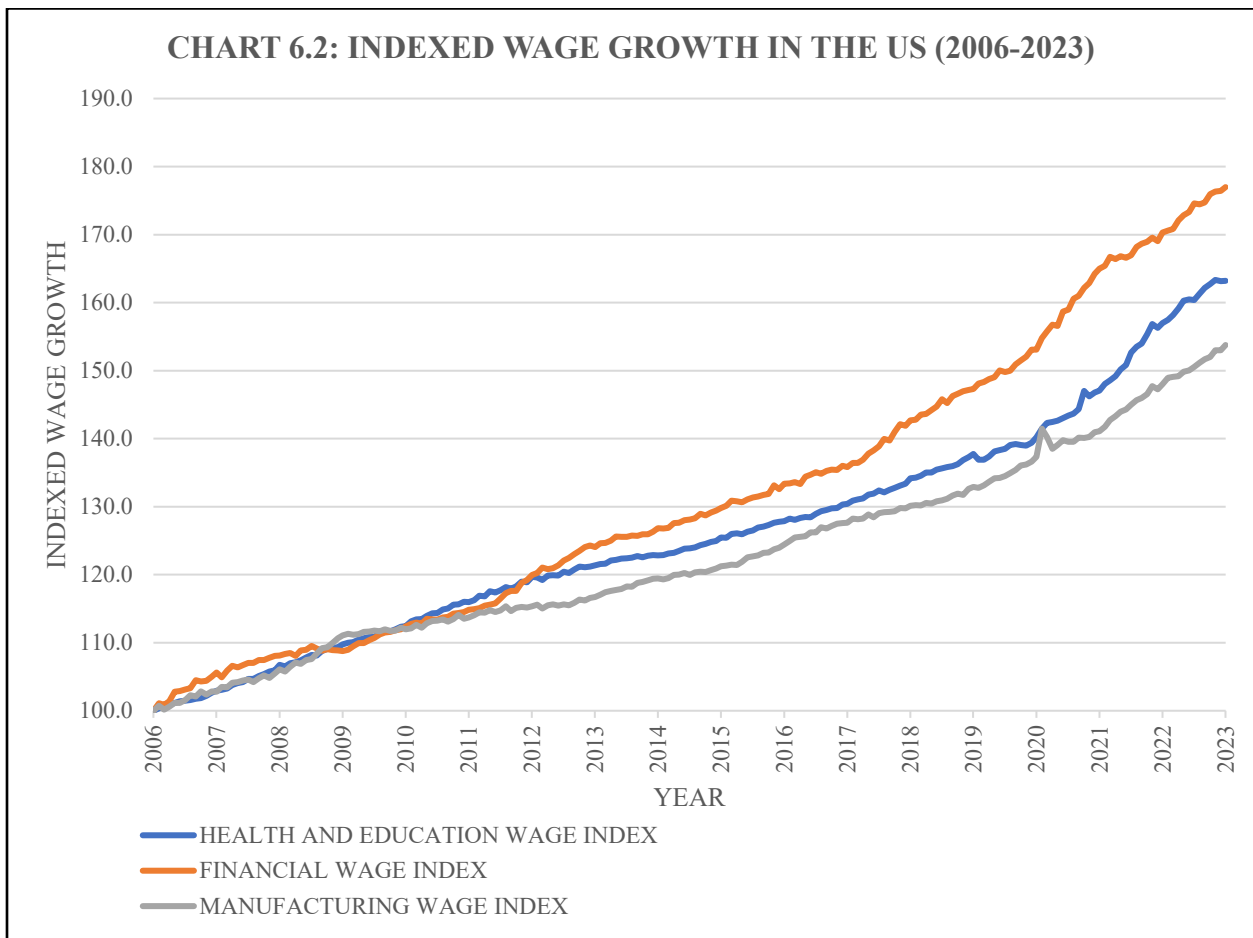
<sup>179</sup> Source: <https://www.aei.org/carpe-diem/chart-of-the-day-or-century-8/>

<sup>180</sup> Source : [https://www.bls.gov/opub/ted/2022/over-16-million-women-worked-in-health-care-and-social-assistance-in-](https://www.bls.gov/opub/ted/2022/over-16-million-women-worked-in-health-care-and-social-assistance-in-2021.htm#:~:text=Source%3A%20U.S.%20Bureau%20of%20Labor,End%20of%20interactive%20chart.&text=In%202021%2C%2016.4%20million%20women,million%20workers%20in%20the%20industry.)

[2021.htm#:~:text=Source%3A%20U.S.%20Bureau%20of%20Labor,End%20of%20interactive%20chart.&text=In%202021%2C%2016.4%20million%20women,million%20workers%20in%20the%20industry.](https://www.bls.gov/opub/ted/2022/over-16-million-women-worked-in-health-care-and-social-assistance-in-2021.htm#:~:text=Source%3A%20U.S.%20Bureau%20of%20Labor,End%20of%20interactive%20chart.&text=In%202021%2C%2016.4%20million%20women,million%20workers%20in%20the%20industry.)

<sup>181</sup> Source: Bureau of Labor Statistics: Annual Averages – Characteristics of the employed – Table 11b. “Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity”. Available at:

governmental investment (some of which comes through central government borrowing via credit expansion) are experiencing high rates of price inflation for their services, it is entirely plausible that wages in these fields are also continuing to climb. Indeed, wage growth in these female-dominated sectors has seen markedly higher wage growth since the mid-2000s when compared to the manufacturing sector, a traditionally (and currently) male-dominated labor market, per chart 6.2.<sup>182</sup>



<https://www.bls.gov/cps/tables.htm>. In addition, the American Association of University Women reports that as of 2023, over 50% of Faculty Department Chairs are female, over ½ of nontenure-track lecturers and instructors are also women. On the other hand 44% of tenure track faculty and 36% of full professors are female. Available at: <https://www.aauw.org/resources/article/fast-facts-academia/>

<sup>182</sup> Source: Fred.stlouisfed.org. Available at: <https://fred.stlouisfed.org/series/CES650000003>

We suggest that the gap in these real wage rate changes may plausibly contribute to the massive dropping out of males from the US workforce. Such a shift in factor bids are partly attributable to Cantillon effects which reverberate in the US labor market. Again, when new money/credit is directed at some activities, others are renounced, and the labor markets in the renounced sectors will see relatively smaller bids (or real growth) than in the favored sectors. Furthermore, these relative wage losses may lead fewer individuals to find such work attractive. Couple this with international competition in manufacturing and, this may be a recipe for male exit from manufacturing, and a steady decrease in the male labor force participation rate.

Certainly, one may chalk these gains in women's wages and educational attainment to a wide array of cultural and attitudinal changes. At the same time, when financialization has taken root in an economy and the sectors that are often the first beneficiaries of new credit creation grow and gain unusually high returns, we would expect that ever more resources would be directed towards these activities. Moreover, we would also expect that fewer scarce resources would be directed towards other forms of employment.<sup>183</sup> If those renounced sectors are those that primarily employ men, while the evidence shows that the growth industries employ relatively more women, it is perfectly reasonable to expect some impact on the sexual division of labor within households.

Further evidence of ongoing change in labor markets that imply changes in family life include the fact that dual-income married families have risen from 43.6% in 1967 to 54% in 2022.<sup>184</sup> Furthermore, there is evidence outside the US that such changes are afoot in Europe as well.<sup>185</sup> There is little doubt that the non-neutral effects of a growing money supply and the ways

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<sup>183</sup> Indeed, at the end of 2022, males made up 94.3% of all workers in the natural resources, construction, and maintenance occupations.

<sup>184</sup> Per source: <https://www.bls.gov/opub/reports/womens-databook/2021/home.htm>

<sup>185</sup> Israel and Schnabl (2023) have disentangled German inflation data and developed alternative measures to more accurately assess the impact of inflation and its impact at the individual household level. They have suggested that



in which it alters the overall structure of production in a nation (as explained in Chapter 3) have altered the types of jobs that are in demand in the US. As labor force participation and the sexual division of labor in the home as well as in the labor market have always been a reality, there is every reason to expect that fiat currency inflation will have labor market effects that reverberate into household structure as well as the labor-leisure tradeoffs that families make. As such, labor market variables will play a role in our empirical modeling in later sections of this chapter. Specifically, we will be looking at the labor force participation rates of men and women indexed to 1967 levels as a part of a multivariate linear regression analysis.

While further study on the matters presented in this chapter are certainly possible, we believe that the first, basic steps of econometric analysis are sufficient to warrant a deeper exploration into the contours of how monetary policy has impacted marriage decisions within the US, and indeed in other parts of the world. Given these strong initial results, it is somewhat puzzling that the role of monetary policy into rising costs of housing and education haven't been explored elsewhere. Furthermore, there is a general dismissal of the importance of the recognition of Cantillon effects upon social realities such as labor market structures, shifting wage differences, and the sectoral shifts in labor markets that are subject to central bank influence, as evidenced by the financialization of the US, and indeed of other Western economies.

There are undoubtedly limitations on this initial empirical study. However, we suggest that further work may be done to collect and disaggregate data with respect to which sectors and specific firms are the early recipients of new expenditures that arise from credit creation by the Fed, the ECB, and by their member banks in order to discern who are truly the first recipients of

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“[f]rom a household perspective, a transition from single to dual-earner, often one full-time and one part-time employee, is a way to compensate the decrease in real labour income per labour hour. The household as a whole can even have a higher real income, but it requires a sacrifice in terms of less time spent outside of the workplace”.

those expenditures. If such data is or becomes available, the measurement of the impact of such decisions on those sectors (and those that are excluded) is warranted as we will perhaps discover that central banks that ignore Cantillon effects may fall short of the mandates for the common good such as full general employment, by favoring certain types of employment at the expense of others. Furthermore, it may be a greater general appreciation for the impact that such changes in housing prices, costs of education (particularly in the US) and in the structure of labor markets and the impact that these factors have upon family life.

## **Section 2: Age at First Marriage**

The rising age at first marriage is a worldwide phenomenon. One of the most cited reasons for this trend is the hypothesis that increasing amounts of education for both women and men tends to delay marriage, not just in the US, but around the world (Cherlin, 1980; Goldstein and Kenney, 2001; Schoen and Canudas-Romo, 2005; Payne, 2012). Furthermore, the social acceptance and perceived economic necessity of cohabitation in the west have also played a role in raising this trend (Murray, 2012; Dush, Jang and Snyder, 2018). While we acknowledge the importance of such factors – and others – the following sections attempt to show that the institutions and habits of the inflation culture that arise from central bank inflationary policies are indeed worthy of consideration as factors that impact the age at first marriage in the US.

With the cautionary introduction to this chapter as well as an explanation for the independent variables that we've selected provided, we now wish to explore the findings of multivariate linear regressions on data from 1967-2020. Table 6.1 provides the indexed correlations over time. In it, we see several factors that are correlated to the age at first marriage, including the growth of Real M2, consumer debt levels, higher education expenditure levels, and the female labor force participation rate. These findings also account for the impact of housing

price levels, male and female educational attainment, and male labor force participation rates. Of course, it may be argued that these are spurious correlations. As one might expect, there are high adjusted-R squared values. At the same time, we have no expectations that somehow young men and women hear about a new policy direction of the Federal Open Market Committee (FOMC)

**Table 6.1: Linear correlation of indexed variables to the indexed age at first marriage for men (1967-2021)**

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and P-Value									
	Coefficient & P-Value	Intercept & P-Value	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2IND	(0.0907) <2e-16***	(96.1586) <2e-16***	0.8259	-	(0.0515) 0.0006***	(0.0357) 0.0016**	(7.614e-3) 0.5758	(0.0248) 0.0252*	(0.0324) 0.0458*	(-0.0205) 0.0159*	(0.0299) 0.0123*	(0.0325) 0.0116*	(0.0256) 6.02e-6***
CONDEBTIND	(5.815e-03) <2e-16***	(1.042e+02) <2e-16***	0.8631	(-0.0040) 1.12e-7***	-	(-0.0034) 1.87e-8***	(-2.589e-3) 0.0011**	(-0.0036) 5.7e-7***	(-0.0035) 1.95e-6***	(-0.0041) 4.13e-6***	(-0.0034) 1.76e-6***	(-0.0035) 2.3e-6***	(-0.0035) 4.98e-9***
HOUSEIND	(2.060e-02) <2e-16***	(1.006e+02) <2e-16***	0.9391	(0.0052) 0.0540	(-0.0016) 0.6567	-	(4.158e-3) 0.2255	(0.0013) 0.642	(0.0016) 0.5681	(0.0049) 0.1565	(0.0020) 0.4658	(0.0015) 0.5959	-
HIGHEDIND	(9.298e-03) <2e-16***	(1.04e+02) <2e-16***	0.8997	(0.0095) 0.0004***	(0.0083) 0.0111*	(0.0126) 8.92e-6***	-	(0.0099) 4.06e-7***	(0.0113) 9.71e-7***	(0.0064) 0.0312*	(0.0111) 5.64e-9***	(0.0124) 2.04e-5***	(0.0099) 5.13e-13***
WOMBACHIND	(0.0779) <2e-16***	(92.7553) <2e-16***	0.9691	(0.0031) 0.9148	(-0.0769) 0.0541	(-0.0381) 0.2292	(7.583e-2) 0.0033**	-	(-0.0259) 0.2744	(0.0413) 0.2274	(-0.0298) 0.2795	(-0.0389) 0.2231	-
MENBACHIND	(0.1863) <2e-16***	(77.175) <2e-16***	0.9663	(0.0259) 0.5903	(0.0271) 0.6370	(0.0295) 0.5124	(-1.062e-1) 0.0158*	(-0.0089) 0.7937	-	(0.0756) 0.1722	(0.0097) 0.7645	(0.0281) 0.5363	-
WOMLFPRIND	(0.52671) 1.66e-12***	(44.4651) 3.79e-7***	0.6055	(0.1821) 7.46e-6***	(0.3863) 1.23e-5***	(0.3312) 2e-16***	(1.867e-1) 0.0090**	(0.2839) 5.46e-6***	(0.3314) 2.45e-6***	-	(0.3175) 6.27e-6***	(0.3232) 6.68e-6***	(0.2764) <2e-16***
MENLFPRIND	(-2.1180) <2e-16***	(311.071) <2e-16***	0.9525	(-0.1112) 0.7526	(-0.2659) 0.5401	(0.2600) 0.4415	(-1.121) 7.25e-5***	(-0.0076) 0.9805	(0.0548) 0.8288	(0.0756) 0.1722	-	(0.2068) 0.5596	-
INTERCEPT	-	-	-	(87.5324) 0.0205*	(84.6309) 0.08187	(35.6874) 0.3287	(1.938e+2) 1.52e-9***	(68.5830) 0.0384*	(58.2822) 0.0458*	(-0.0668) 0.8773	(64.6787) <2e-16***	(42.2584) 0.2776	(67.6228) <2e-16***
Adjusted R-Squared	-	-	-	0.9892	0.9846	0.9905	0.986	0.9903	0.9905	0.9853	0.9905	0.9904	0.9908
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:  
REALM2IND (Real M2 Indexed to 1967=100);  
CONDEBTIND (Consumer Debt Indexed to 1967 = 100);  
HOUSEIND (Median House Sale Price Indexed to 1967=100);  
HIGHEDIND (Higher Education Expenditure Indexed to 1967 = 100);  
WOMANBACHIND (Women with Bachelors Ages 25-49 Indexed to 1967 = 100);  
MENBACHIND (Men with Bachelors Ages 25-40 Indexed to 1967 = 100);  
WOMLFPRIND (Womens Labor Force Participation Rate Indexed to 1967 = 100);  
MENLFPRIND (Mens Labor Force Participation Rate Indexed to 1967 = 100)

Note: Models 1-8 include (coefficients) in parentheses below and with Intercept and Adjusted R-Squared values at the bottom of the column.  
Note: Bi-Variate columns represent linear regression models where only one independent variable is regressed on the dependent variable.  
Data Sources: Age at First Marriage Data - census.gov; Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

and decide to cancel their wedding as a result. What these correlations do remind us of however, is that it is *not inevitable* that debt levels *must* increase over time along with rising age at first marriage. Indeed, all of these changes, like expenditures on housing, money supply growth etc. are all the result of real human choices in the real world and are by no means unavoidable or inevitable. Our next step is to look at the rates of change in these indexes over time, and Table 6.1a

presents both bivariate and multivariate analysis of the independent variables that we have presented as being plausibly related to the rising age at first marriage for men in the US.<sup>186</sup>

**Table 6.1a: Linear Correlation to the Rate of Change of the age at first marriage: Men (Annual Data: 1967-2021)**

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and <i>P-Value</i>								
	Coefficient & <i>P-Value</i>	Intercept & <i>P-Value</i>	Adjusted <i>R-Squared</i>	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
REALM2ROC	(-0.01135) <i>0.685343</i>	(0.0055) <i>0.0002***</i>	-0.01569	-	(0.0047) <i>0.905</i>	(0.0184) <i>0.633</i>	(0.0016) <i>0.966</i>	(0.0189) <i>0.627</i>	(0.0165) <i>0.673</i>	(0.0038) <i>0.919</i>	(0.0120) <i>0.745</i>	(0.0168) <i>0.672</i>
CONDEBTROC	(-0.01110) <i>0.6477</i>	(0.0059) <i>0.0057**</i>	-0.01482	(-0.0612) <i>0.143</i>	-	(-0.0606) <i>0.118</i>	(-0.0464) <i>0.2253</i>	(-0.0618) <i>0.142</i>	(-0.063) <i>0.135</i>	(-0.0475) <i>0.234</i>	(-0.0604) <i>0.139</i>	(-0.0648) <i>0.132</i>
HOUSEROC	(-0.003267) <i>0.87336</i>	(0.0053) <i>0.00123**</i>	-0.01838	(0.0085) <i>0.748</i>	(-0.0108) <i>0.667</i>	-	(0.0014) <i>0.9592</i>	(0.0080) <i>0.765</i>	(0.0064) <i>0.813</i>	(0.0084) <i>0.759</i>	(0.0062) <i>0.817</i>	(0.0065) <i>0.812</i>
HIGHEDROC	(0.02731) <i>0.491</i>	(0.00341) <i>0.219</i>	-0.009701	(0.0443) <i>0.383</i>	(0.0156) <i>0.757</i>	(0.0512) <i>0.346</i>	-	(0.0546) <i>0.325</i>	(0.0549) <i>0.321</i>	(0.0605) <i>0.279</i>	(0.0456) <i>0.367</i>	(0.0538) <i>0.337</i>
WOMBACHROC	(0.020539) <i>0.7220</i>	(0.0045) <i>0.0323*</i>	-0.01641	(0.0403) <i>0.622</i>	(0.0151) <i>0.855</i>	(0.0384) <i>0.638</i>	(0.0386) <i>0.6414</i>	-	(0.0223) <i>0.740</i>	(0.0316) <i>0.704</i>	(0.0365) <i>0.657</i>	(0.0358) <i>0.666</i>
MENBACHROC	(0.02384) <i>0.7184</i>	(-0.0047) <i>0.00716**</i>	-0.01635	(-0.0269) <i>0.780</i>	(-0.0037) <i>0.969</i>	(-0.0274) <i>0.776</i>	(-0.0345) <i>0.7218</i>	(-0.0037) <i>0.963</i>	-	0.0146 <i>0.870</i>	(-0.0356) <i>0.705</i>	(-0.0277) <i>0.776</i>
WOMLFPRROC	(0.089636) <i>0.403294</i>	(0.0046) <i>0.0005***</i>	-0.005403	(0.1800) <i>0.305</i>	(0.0993) <i>0.568</i>	(0.2059) <i>0.261</i>	(0.2226) <i>0.2278</i>	(0.1995) <i>0.277</i>	(0.1824) <i>0.280</i>	-	(0.2238) <i>0.201</i>	(0.2032) <i>0.274</i>
MENLFPRROC	(0.050756) <i>0.838817</i>	(0.0053) <i>0.0002***</i>	-0.01807	(0.0780) <i>0.815</i>	(-0.0307) <i>0.929</i>	(0.1262) <i>0.721</i>	(-0.0127) <i>0.9690</i>	(0.1318) <i>0.710</i>	(0.1514) <i>0.661</i>	(0.2512) <i>0.462</i>	-	(0.1284) <i>0.274</i>
INTERCEPT	-	-	-	(0.0048) <i>0.188</i>	(0.0036) <i>0.367</i>	(0.0042) <i>0.265</i>	(0.0066) <i>0.0348*</i>	(0.0045) <i>0.243</i>	(0.0041) <i>0.284</i>	(0.0037) <i>0.339</i>	(0.0042) <i>0.276</i>	(0.0043) <i>0.277</i>
Adjusted R-Squared	-	-	-	-0.0743	-0.1248	-0.7145	-0.09203	-0.0745	-0.07203	-0.09869	-0.07316	-0.9338
Observations	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:

- REALM2ROC (Real M2 Rate of Change);
- CONDEBTROC (Consumer Debt Level Rate of Change);
- HOUSEROC (Median House Sale Price Rate of Change);
- HIGHEDROC (Higher Education Expenditure Rate of Change);
- WOMANBACHROC (Women with Bachelors Ages 25-49 Rate of Change);
- MENBACHROC (Men with Bachelors Ages 25-40 Rate of Change);
- WOMLFPRROC (Womens Labor Force Participation Rate, Rate of Change);
- MENLFPRROC (Mens Labor Force Participation Rate, Rate of Change)

Note: Models 1-9 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.

Note: The first Bi-Variate column represents linear regression models where only one independent variable is regressed on the dependent variable.

Data Sources: Age at First Marriage Data - census.gov; Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

In interpreting the results of Table 6.1a, we find that the simple, bi-variate models do produce statistically significant relationships. However, these correlations tend to have negligible explanatory power for the annual rates of change in men’s age at first marriage. This is of course indicated by negative adjusted R-squared results for the entire model. We are not surprised then, that once we run models controlling for all variables (models 1-8) there are no statistically significant variables and the same negative R-squared results. As such, we don’t attempt to build a tenth model which would isolate any statistically significant variables in hopes of creating a more

<sup>186</sup> We direct the reader to the appendix for further empirical evidence that helps further establish the connection between fiat money expansion, inflation culture habits, and altered family life.

robust model. Given these results, we justifiably deploy a bi-variate ARDL model in Table 6.1b to describe what if anything these inflation-induced variables have to do with men getting married at later and later ages.<sup>187</sup>

**Table 6.1b:** Bivariate ARDL Model on Annual Rates of Change in the Age of First Marriage for Men (1967-2021)

<i>Independent Variable</i>	<i>Dependent Variable w/ (coefficient) &amp; p-value</i>			Observations
	AGEMENFMROC	AGEMENFMROC (t-1)	Adjusted R-Squared	
REALM2ROC (t-1)	(-0.0083) 0.7962	(-0.3909) 0.0063 **	0.09317	55
CONDEBTROC (t-3)	(0.1291) 0.01738 *	(-0.4340) 0.0019 **	0.187	55
HOUSEROC (t-1)	(0.0023) 0.9197	(-0.3842) 0.0069 **	0.0903	55
HIGHEDROC (t-2)	(0.0032) 0.968	(-0.4079) 0.0051 **	0.0903	55
WOMBACHROC (t-1)	(-0.0326) 0.5575	(-0.3881) 0.0059 **	0.1002	55
MENBACHROC (t-1)	(0.0363) 0.5999	(-0.3958) 0.0051 **	0.0975	55
WOMLFPROOC (t-9)	(-0.2665) 0.2341	(-0.4031) 0.0187 *	0.1512	55
MENLFPROOC (t-1)	(-0.5980) 0.0103*	(-0.3791) 0.0049 **	0.204	55

Note: The variable abbreviations correspond to the previous table and the lags (t-x) are provided by the optimal lag exercise in R-Studio.

Here, we take note of statistically significant relationships between the rates of change in the consumer debt level and the rate of change in the men’s labor force participation rate upon the changes in the age of first marriage for men. If indeed labor markets and debt levels are impacted by inflationary monetary policy by giving rise to the debt culture and the financialization of the

<sup>187</sup> We continue to press towards an ARDL model since after applying an augmented Dickey-Fuller Test, we found that one of our dependent variables (Crude Birth Rate Rate of Change) was stationary at level (I(0)), and the remaining variables (the rate of change in the Age at first marriage for men and women and the rate of change for the divorce rate) are stationary at the first difference (I(1)), we proceed to find optimal lags and then to the ARDL test.

economy, we may expect to see these variables change with an increase (and increasingly large rates of change) in money supply.<sup>188</sup>

As is the standard procedure with ARDL modeling, we now conduct a multivariate test to detect the nature of the relationship between the rates of change in the age of first marriage for men regressed against all of our independent variables. Furthermore, we utilize the combined optimum lag and present these results in Table 6.1c.

**Table 6.1c:** Multivariate, ARDL Model for the rate of change in men's average age at first marriage (1967-2021)

<i>Independent Variables with Combined Lag Employed (t-4): (coefficient) &amp; p-value</i>										
<i>Dependent Variables at optimal lag</i>	INTERCEPT	REALM2ROC (3)	CONDEBTROC (2)	HOUSEROC (2)	HIGHEDROC (4)	WOMBACHROC (1)	MENBACHROC (2)	WOMLFPRROC (1)	MENLFPRROC (3)	AGEMENFMROC (1)
AGEMENFMROC (1)	(0.01713) 0.1116	(-0.10810) 0.2225	(-0.56866) 0.0228 *	(0.10554) 0.0289 *	(0.28070) 0.0316 *	(-0.45065) 0.0103 *	(0.41726) 0.0361 *	(0.56512) 0.1538	(0.82376) 0.3032	(-0.58836) 0.0256 *

Adjusted R<sup>2</sup> = 0.4547  
 Note: Independent variable column headings include the lag that is the lowest p-value generated in the ARDL model in R-Studio, with the corresponding coefficient and p-value in the row below the heading.

As suggested earlier, we do not expect to see much in the way of statistically significant correlation between the lagged variables upon the rate of change in the age of men at first marriage. However, upon running the ARDL model, we were surprised to find several variables that have a statistically significant correlation to the rate of change in men's average age at first marriage. First, we find that an increase in the overall debt level decreases the rate of change in men's marriage rate two years later. Also, an increase in both the price levels of housing and higher education costs are correlated with an increase in the rate of change in men's age at first marriage

<sup>188</sup> Note: When running an ARDL model where MENLFPRROC is the dependent variable and REALM2ROC is the independent variable, there is a statistically significant negative correlation on the rate of change in the male labor force participation rate of -0.0648 with a significance level of 0.000053, and with a one year lag there is a statistically significant positive correlation of 0.0618 at a significance level of 0.00040, while there is no statistical significance between the current and one year lag for the change in the men's labor force participation rate. This suggests that there may be a correlation between the rate of change in money supply, rates of change in the men's labor force participation rate, and then in the rate of change in the age of first marriage for men. Such a pattern of events suggests that it is plausible that an increase in the rate of money supply production contributes negatively to the rate of change in the male labor force participation rate, and that when this rate falls, the rate of change in the age of first marriage increases in what happens to be an overall trend of later marriage for men. Meanwhile, the same testing of the degree of change in consumer debt levels compare to the rate of change in real M2 money supply didn't yield a statistically significant relationship. This result leads us to take the further step of drawing all of the x-variables into one model against the rates of change in the age of men at first marriage to be explored in Table 6.1c.

and that the effect is strongest two years after the change in prices for those goods. In addition, educational attainment for both men and women show correlation to men's first marriage age, but with opposite effects. Indeed, the higher the rate of change in the number of women with bachelor's degrees, the following year, there is a negative correlation to the rate of change in men's age at first marriage, while the opposite is true for the rate of change in men with bachelor's degrees, with a two-year lag. Finally, there is a statistically significant and negative relationship between the previous year's rate of change and the current year's rate of change in the age of first marriage for men. In other words, if in the prior year there is a large rate of change (up or down) in men's age at first marriage, the following year will tend to have a relatively smaller change.

We are somewhat surprised to find that labor force participation rates for both men and women didn't seem to be correlated through the lens of an ARDL analysis. Of course, subtle differences in data sets can contribute to such an empirical outcome. Nonetheless, some have explained that a high labor force participation rate among women is a factor delaying men's marriage. According to several other studies, there appears to be a perception among women that the gain from marrying a younger man with lower wages is less than it would be from marrying men of older age with a better track record in the labor market, even extending into their 40s (Becker, 1973; Oppenheimer, 1988, 1994, 1997; Brown, Lin and Mellencamp, 2020).

Ultimately, as with all deliberate human choice, all that economic science can claim is that men are entering marriage at a later date because they deem the benefits of marriage to exceed its costs at later ages. While there are indeed many variables at play in this decision, it is possible to look back and see what variables mattered more or less in the past in influencing these individual decisions. Like Oppenheimer, we concur that "aggregate-level analyses have serious drawbacks for investigating this micro-level hypothesis [regarding age at first marriage], not least of which is

establishing a convincing causal ordering”, especially when applying econometric tools to the examination of past human choice (Oppenheimer, 1997).

We now move to the rising age of first marriage for women and use the same variables as we did for men in the previous tables. Our initial linear regression showing the correlation between indexed growth over time, yield much the same as the first table of its kind. Once again, we see high adjusted-R squared values as most of these variables are clearly changing together over a long time span (Table 6.2).

**Table 6.2: Linear correlation of indexed variables to the indexed age at first marriage for women (1967-2021)**

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and P-Value									
	Coefficient & P-Value	Intercept & P-Value	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2IND	(0.1077) <2e-16***	(96.0935) <2e-16***	0.8144	-	(0.0504) 0.0006***	(0.0294) 0.0003***	(5.37e-3) 0.5732	(3.64e-2) 3.26e-5***	(0.0234) 0.0115*	(-0.0330) 1.79e-5***	(0.0194) 0.0203*	(0.0235) 0.0082**	(0.0260) 0.0010**
CONDEBTIND	(7.008e-3) <2e-16***	(1.055e+2) <2e-16***	0.877	(-0.0046) 7.63e-14***	-	(-0.0041) 2.01e-12***	(-3.262e-3) 9.97e-9***	(-3.96e-3) 4.62e-11***	(-0.0043) 8.31e-12***	(-0.0049) 1.82e-9***	(-0.0041) 1.73e-12***	(-0.0043) 1.34e-12***	(-0.0039) 4.95e-12***
HOUSEIND	(2.475e-2) <2e-16***	(1.012e+2) <2e-16***	0.9479	(0.0055) 0.0045**	(-0.0010) 0.7583	-	(4.7e-3) 0.05321.	(3.09e-3) 0.1511	(0.0025) 0.2447	(0.0064) 0.0311*	(0.0036) 0.067.	(0.0028) 0.1622	-
HIGHEDIND	(1.112e-2) <2e-16***	(1.053e+2) <2e-16***	0.8994	(0.0069) 0.0002***	(0.0041) 0.1748	(0.0095) 2.59e-6***	-	(1.31e-2) 5.84e-14***	(0.0121) 1.6e-10***	(0.0026) 0.2852	(0.0070) 7.28e-8***	(0.0089) 8.09e-6***	(0.0069) 1.62e-7***
WOMBACHIND	(0.0936) <2e-16***	(91.7461) <2e-16***	0.979	(0.0954) 1.78e-5***	(0.0185) 0.6122	(0.0666) 0.0038**	(1.49e-3) 2.75e-11***	-	(0.0247) 0.1613	(0.1505) 3.16e-6***	(0.0800) 0.0001***	(0.0650) 0.0044**	(0.0882) 2.74e-5***
MENBACHIND	(0.2233) <2e-16***	(73.7801) <2e-16***	0.9713	(-0.0882) 0.0105*	(-0.0879) 0.1053	(-0.0841) 0.0099**	(-1.84e-1) 1.32e-7***	(-2.49e-2) 0.3241	-	(-0.0360) 0.4367	(-0.1168) 4.54e-6***	(-0.0866) 0.0075**	(-0.1253) 1.31e-6***
WOMLFPRIND	(0.6428) 2.67e-13***	(32.4066) 0.0006***	0.6315	(0.2423) 9.13e-13***	(0.4215) 7.28e-7***	(0.3588) 7.42e-11***	(2.45e-1) 5.88e-6***	(4.1e-1) 3.03e-13***	(0.3189) 9.0e-9***	-	(0.3348) 7.8e-10***	(0.3442) 4.46e-10***	(0.3514) 2.06e-10***
MENLFPRIND	(-2.5167) <2e-16***	(351.4514) <2e-16***	0.9402	(0.1105) 0.6509	(-0.2394) 0.5545	(0.4372) 0.0683.	(-6.26e-1) 0.0011**	(6.97e-1) 0.0036***	(0.8089) 7.53e-5***	(0.0487) 0.8937	-	(0.3400) 0.1663	-
INTERCEPT	-	-	-	(62.9558) 7.63e-14***	(82.2105) 0.0706.	(18.2653) 0.4739	(1.4e+2) 6.17e-10***	(-1.36e+1) 0.5703	(-19.1342) 0.3674	(86.4465) 0.0298*	(67.1339) <2e-16***	(30.2722) 0.2578	(65.0881) <2e-16***
Adjusted R-Squared	-	-	-	0.9964	0.9906	0.9968	0.9952	0.9963	0.9964	0.9927	0.9968	0.9968	0.9966
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:  
REALM2IND (Real M2 Indexed to 1967=100);  
CONDEBTIND (Consumer Debt Indexed to 1967 = 100);  
HOUSEIND (Median House Sale Price Indexed to 1967=100);  
HIGHEDIND (Higher Education Expenditure Indexed to 1967 = 100);  
WOMANBACHIND (Women with Bachelors Ages 25-49 Indexed to 1967 = 100);  
MENBACHIND (Men with Bachelors Ages 25-40 Indexed to 1967 = 100);  
WOMLFPRIND (Womens Labor Force Participation Rate Indexed to 1967 = 100);  
MENLFPRIND (Mens Labor Force Participation Rate Indexed to 1967 = 100)

Note: Models 1-8 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.  
Note: Bi-Variate colums represent linear regression models where only one independent variable is regressed on the dependent variable.

Data Sources: Age at First Marriage Data - census.gov; Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

Just as before, we then shift our attention to the rates of change in all of the chosen variables. After running simple bi-variate analysis on each independent variable, we built the model to the point where all variables were considered and only those that proved to be statistically significant remained in creating Model 8 (per Table 6.2a). In this case, we utilize a 10<sup>th</sup> model as



in the full 9<sup>th</sup> model we found that a statistically significant relationship between rate of change in the consumer debt level and the rate of change for the age of first marriage for women. We also included the annual rate of change in housing prices as it was near statistical significance. As a result, the simplified Model 10 yielded no statistically significant relationship between the remaining two variables and the rate of change in women’s age at first marriage.

**Table 6.2a:** Linear Correlation to the Rate of Change of the age at first marriage: Women (Annual Data: 1967-2021)

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and <i>P-Value</i>									
	Coefficient & <i>P-Value</i>	Intercept & <i>P-Value</i>	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2ROC	(0.0110) <i>0.613</i>	(0.0057) <i>2.64e-6***</i>	-0.01393	-	(0.0161) <i>0.591</i>	(0.0382) <i>0.200</i>	(0.0125) <i>0.6453</i>	(0.0326) <i>0.2660</i>	(0.0281) <i>0.3450</i>	(0.0192) <i>0.4956</i>	(0.0217) <i>0.4314</i>	(0.0288) <i>0.3290</i>	-
CONDEBTROC	(-0.0021) <i>0.9106</i>	(0.0062) <i>0.0004***</i>	-0.01862	(-0.0612) <i>0.0493*</i>	-	(-0.0446) <i>0.133</i>	(-0.0485) <i>0.0934.</i>	(-0.0629) <i>0.0480**</i>	(-0.0614) <i>0.0550.</i>	(-0.0553) <i>0.0644</i>	(-0.0615) <i>0.0448*</i>	(-0.0682) <i>0.0349*</i>	(-0.0223) <i>0.3055</i>
HOUSEROC	(0.0234) <i>0.1386</i>	(0.0047) <i>0.0002***</i>	0.0228	(0.0398) <i>0.0496*</i>	(0.0181) <i>0.345</i>	-	(0.0308) <i>0.1282</i>	(0.0389) <i>0.0564.</i>	(0.0359) <i>0.0822.</i>	(0.0377) <i>0.0670.</i>	(0.0359) <i>0.0786.</i>	(0.0363) <i>0.0773.</i>	(0.0331) <i>0.0741.</i>
HIGHEDROC	(0.0136) <i>0.6606</i>	(0.0051) <i>0.0203*</i>	-0.0151	(0.0414) <i>0.2779</i>	(0.0174) <i>0.651</i>	(0.0430) <i>0.302</i>	-	(0.0590) <i>0.1578</i>	(0.0615) <i>0.1433</i>	(0.0625) <i>0.1337</i>	(0.0453) <i>0.2308</i>	(0.0575) <i>0.1684</i>	-
WOMBACHROC	(0.0343) <i>0.4454</i>	(0.0050) <i>0.0031**</i>	-0.0076	(0.0710) <i>0.2477</i>	(0.0416) <i>0.510</i>	(0.0778) <i>0.217</i>	(0.0664) <i>0.2881</i>	-	(0.0166) <i>0.7445</i>	(0.0603) <i>0.3305</i>	(0.0644) <i>0.2956</i>	(0.0634) <i>0.3056</i>	-
MENBACHROC	(-0.0159) <i>0.758</i>	(0.0063) <i>1.24e-5</i>	-0.017	(-0.0945) <i>0.1933</i>	(-0.0707) <i>0.341</i>	(-0.0943) <i>0.205</i>	(-0.1031) <i>0.1597</i>	(-0.0534) <i>0.3688</i>	-	(-0.0644) <i>0.3339</i>	(-0.1076) <i>0.1279</i>	(-0.0958) <i>0.1877</i>	-
WOMLFPRROC	(0.0482) <i>0.565</i>	(0.0057) <i>2.76e-7***</i>	-0.0125	(0.1112) <i>0.3961</i>	(0.0417) <i>0.752</i>	(0.1663) <i>0.237</i>	(0.1717) <i>0.2148</i>	(0.1444) <i>0.2934</i>	(0.0791) <i>0.5329</i>	-	(0.1817) <i>0.1640</i>	(0.1509) <i>0.2728</i>	-
MENLFPRROC	(0.0784) <i>0.687</i>	(0.0062) <i>1.96e-7***</i>	-0.0157	(0.1049) <i>0.6746</i>	(0.0241) <i>0.927</i>	(0.1792) <i>0.509</i>	(0.0406) <i>0.8679</i>	(0.1975) <i>0.4575</i>	(0.2713) <i>0.2999</i>	(0.2826) <i>0.2657</i>	-	(0.1914) <i>0.4712</i>	-
INTERCEPT	-	-	-	(0.0051) <i>0.0671.</i>	(0.0034) <i>0.263</i>	(0.0044) <i>0.140</i>	(0.0066) <i>0.0057**</i>	(0.0045) <i>0.1194</i>	(0.0036) <i>0.2144</i>	(0.0037) <i>0.2022</i>	(0.0041) <i>0.1628</i>	(0.0041) <i>0.1604</i>	(0.0058) <i>0.0006***</i>
Adjusted R-Squared	-	-	-	0.01178	-0.06722	-0.03642	-0.00896	0.009674	-0.005379	0.006329	0.02114	0.01121	0.02413
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:

- REALM2ROC (Real M2 Rate of Change);
- CONDEBTROC (Consumer Debt Level Rate of Change);
- HOUSEROC (Median House Sale Price Rate of Change);
- HIGHEDROC (Higher Education Expenditure Rate of Change);
- WOMANBACHROC (Women with Bachelors Ages 25-49 Rate of Change);
- MENBACHROC (Men with Bachelors Ages 25-40 Rate of Change);
- WOMLFPRROC (Womens Labor Force Participation Rate, Rate of Change);
- MENLFPRROC (Mens Labor Force Participation Rate, Rate of Change)

Note: Models 1-9 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.

Note: The first Bi-Variate columns represent linear regression models where only one independent variable is regressed on the dependent variable.

Data Sources: Age at First Marriage Data - census.gov; Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

As with the previous set of models, we proceed to dig deeper into these relationships using a bivariate ARDL test, and in this case we find no statistically significant variables in a bivariate analysis. Indeed, the previous period's rates of change in women's age at first marriage doesn't appear to be correlated to itself (Table 6.2b). As a result of these findings, the multivariate approach is necessary to gain greater clarity as to the extent of the impact the inflation culture variables had on women's marriage age.

**Table 6.2b:** Bivariate ARDL Model on Annual Rates of Change in the Age of First Marriage for Women (1967-2021)

Variable	Dependent Variable w/ (coefficient) & p-value		Adjusted R-Squared	Observations
	AGEWOMFMROC	AGEWOMFMROC (t-1)		
REALM2ROC (t-1)	(0.0224) 0.3800	(-0.2405) 0.0859	0.2805	55
CONDEBTROC (t-3)	(0.0530) 0.2485	(-0.2492) 0.0941	0.01787	55
HOUSEROC (t-1)	(-0.0063) 0.7396	(-0.1973) 0.7112	0.02392	55
HIGHEDROC (t-2)	(0.1124) 0.0818	(-0.2105) 0.1357	0.03826	55
WOMBACHROC (t-1)	(0.0124) 0.7862	(-0.2378) 0.0953	0.0042	55
MENBACHROC (t-1)	(-0.0226) 0.6866	(-0.2413) 0.0866	0.00867	55
WOMLFPRROC (t-9)	(0.2629) 0.1423	(-0.2699) 0.1006	0.1945	55
MENLFPRROC (t-1)	(-0.2610) 0.1771	(-0.2452) 0.781	0.0451	55

Note: The variable abbreviations correspond to the previous table and the lags (t-x) are provided by the optimal lag exercise in R-Studio.

After creating an ARDL model that incorporated all of our independent variables against the rate of change in women's age at first marriage, we once again found a few surprising results. Several statistically significant variables emerged that are correlated to the rate of change in women's age at first marriage (Table 6.2c). The growth rate of real M2 was negatively correlated to the rate of change in women's age at first marriage with a lag of one period, while both the

change in the housing and higher education price indices produced positive correlations in the second and fourth lagging periods respectively. In contrast with the ARDL model for the age of men at first marriage, the rates of change for men’s educational attainment was negatively related to the rate of change in women’s age at first marriage, and within the same time period. A key difference in these models is that there is a statistically significant correlation between the rate of change in the male labor force participation rate with the rate of change in women’s age at first marriage. In other words, all else held equal, the larger the change in men’s labor force participation rates, the larger the changes in women’s age at first marriage. This finding seems to square nicely with earlier comments regarding the relationship between men in the work force and their ability to find a marital match (Oppenheimer, 1988, 1994, 1997; Brown, Lin and Mellencamp, 2020).

**Table 6.2c:** Multivariate, ARDL Model for the rate of change in women's average age at first marriage (1967-2021)

Independent Variables with Combined Lag Employed (t-4): (coefficient) & p-value										
Dependent Variables at optimal lag	INTERCEPT	REALM2ROC (1)	CONDEBTROC (0)	HOUSEROC (0)	HIGHEDROC (3)	WOMBACHROC (2)	MENBACHROC (0)	WOMLFPRROC (3)	MENLFPRROC (3)	AGEWOMFMROC (1)
AGEWOMFMROC (1)	(0.009117) 0.17279	(-0.258771) 0.00114 **	(-0.125306) 0.07089 .	(0.164196) 0.00660 **	(0.448108) 0.00598 **	(-0.105986) 0.20050	(-0.236556) 0.02128 *	(-0.362796) 0.17649	(1.341634) 0.01257 *	(-0.186913) 0.34267

Adjusted R<sup>2</sup> = 0.6326  
 Note: Independent variable column headings include the lag that is the lowest p-value generated in the ARDL model in R-Studio, with the corresponding coefficient and p-value in the row below the heading.

Despite these findings, we once again caution the reader from drawing too strong of a conclusion using aggregated data, in accordance with Oppenheimer’s view on the complicated matters of human choice that surround family life (1997). Indeed, we acknowledge that the complexity of the marriage choice is based on the subjective valuations of men and women and that these findings are under the peculiar, cultural, economic, religious, technological and ideological circumstances that presented themselves to the American public from 1967 until now.

### Section 3: Fertility Rates

The decline of fertility rates throughout the globe has been thoroughly documented (Caldwell, 2006; Valenzuela, Carcamo and Urquidi, 2016; Nakagaki, 2017; De Silva, Tenreyro,

2020; Gotmark and Andersson, 2020) and has in fact led some to openly dispute the claims of some who have claimed that overpopulation and a Malthusian future was a near certainty (Ehrlich, 1968). While we once again acknowledge that fertility choices are extremely complicated acts of human choice (let alone the biological factors), we contend that the rise of the inflation culture through fiat currency inflationism has not been thoroughly examined for its impact on such decisions. The following section represents an attempt to use descriptive economic (econometric) tools to see to what degree the inflation culture's features of rising prices in education, and housing, along with debt levels, labor force participation and educational attainment all play in the role in the overall decline in total fertility rates.

As with the previous section, we first offer the reader a simple linear regression on all of the variables that we have deemed to be relevant in measuring against the overall fertility rate – measured by the crude birth rate since the 1960s.<sup>189</sup> Table 6.3 demonstrates relatively high adjusted R-squared values as these indexed figures tend to have a tight fit over time. Nevertheless, we can't draw any definitive conclusions with these results alone, although the female and male labor force participation rates do seem to have the most consistent correlations to fertility rates.

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<sup>189</sup> The crude birth rate is a measurement of the number of live births per 1000 of a region's population.

**Table 6.3: Linear correlation of indexed variables to the indexed crude birth rate (1967-2021)**

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and P-Value									
	Coefficient & P-Value	Intercept & P-Value	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2IND	(-0.0933) <2e-16***	(100.7483) <2e-16***	0.789	-	(0.0738) <i>0.1126</i>	(0.0979) <i>0.0259 *</i>	(0.0484) <i>0.2824</i>	(0.0391) <i>0.3634</i>	(0.0749) <i>0.1318</i>	(-0.0472) <i>0.102</i>	(0.0443) <i>0.3501</i>	(0.0741) <i>0.1366</i>	-
CONDEBTIND	(-0.0057) <2e-16***	(91.9439) <2e-16***	0.7472	(-0.0012) <i>0.6151</i>	-	(0.0005) <i>0.8276</i>	(-0.0009) <i>0.7038</i>	(-0.0008) <i>0.7624</i>	(0.00002) <i>0.9919</i>	(-0.0013) <i>0.622</i>	(0.0012) <i>0.6477</i>	(0.00004) <i>0.9886</i>	-
HOUSEIND	(-0.0197) <2e-16***	(95.2184) <2e-16***	0.7762	(0.0196) <i>0.0551 .</i>	(0.0113) <i>0.3097</i>	-	(0.0139) <i>0.2178</i>	(0.0104) <i>0.3672</i>	(0.0106) <i>0.3535</i>	(0.0190) <i>0.115</i>	(0.0169) <i>0.1344</i>	(0.0112) <i>0.3263</i>	-
HIGHEDIND	(-0.0092) <2e-16***	(92.3534) <2e-16***	0.8026	(0.0061) <i>0.5202</i>	(0.0128) <i>0.1967</i>	(0.0147) <i>0.1516</i>	-	(0.0016) <i>0.8113</i>	(0.0191) <i>0.0214 *</i>	(-0.0009) <i>0.924</i>	(-0.0018) <i>0.7836</i>	(0.0127) <i>0.2222</i>	-
WOMBACHIND	(-0.0745) <2e-16***	(102.6977) <2e-16***	0.7984	(-0.0803) <i>0.4652</i>	(-0.1758) <i>0.1509</i>	(-0.1698) <i>0.1797</i>	(-0.0579) <i>0.4768</i>	-	(-0.2578) <i>0.0081 **</i>	(0.0075) <i>0.949</i>	(-0.0671) <i>0.5485</i>	(-0.1762) <i>0.1648</i>	-
MENBACHIND	(-0.1745) <2e-16***	(116.3617) <2e-16***	0.7628	(-0.1801) <i>0.3239</i>	(-0.1752) <i>0.3257</i>	(-0.1649) <i>0.3587</i>	(-0.3136) <i>0.0294 *</i>	(-0.3424) <i>0.0143 *</i>	-	(-0.0666) <i>0.725</i>	(-0.3942) <i>0.0043 **</i>	(-0.1752) <i>0.3309</i>	-
WOMLFPRIND	(-0.4002) <i>6.88e-6***</i>	(135.1324) <2e-16***	0.3068	(0.4178) <i>0.0037 ***</i>	(0.7388) <i>0.0041 **</i>	(0.7982) <i>0.0020 **</i>	(0.5987) <i>0.0108 *</i>	(0.5617) <i>0.0140 *</i>	(0.6882) <i>0.0074 **</i>	-	(0.6713) <i>0.0112</i>	(0.7394) <i>0.0051 **</i>	(0.0838) <i>0.105</i>
MENLFPRIND	(2.1028) <2e-16***	(-113.2724) <i>8.15e-14***</i>	0.8464	(1.7414) <i>0.1951</i>	(2.4710) <i>0.0702 .</i>	(2.857) <i>0.0375 *</i>	(1.097) <i>0.2027</i>	(1.497) <i>0.2272</i>	(3.415) <i>0.0014 **</i>	(1.840) <i>0.221</i>	-	(2.466) <i>0.0831 .</i>	(2.2872) <2e-16***
INTERCEPT	-	-	-	(-95.2447) <i>0.4631</i>	(-198.9) <i>0.1835</i>	(-246.7) <i>0.0935 .</i>	(-42.18) <i>0.6233</i>	(-79.42) <i>0.5378</i>	(-298.4) <i>0.0113 *</i>	(-77.74) <i>0.625</i>	(68.9231) <i>0.0010 **</i>	(-198.4) <i>0.1986</i>	(-141.5218) <i>6.42e-9***</i>
Adjusted R-Squared	-	-	-	0.8604	0.867	0.8642	0.8626	0.8613	0.8642	0.842	0.858	0.8641	0.8512
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:  
REALM2IND (Real M2 Indexed to 1967=100);  
CONDEBTIND (Consumer Debt Indexed to 1967 = 100);  
HOUSEIND (Median House Sale Price Indexed to 1967=100);  
HIGHEDIND (Higher Education Expenditure Indexed to 1967 = 100);  
WOMANBACHIND (Women with Bachelors Ages 25-49 Indexed to 1967 = 100);  
MENBACHIND (Men with Bachelors Ages 25-40 Indexed to 1967 = 100);  
WOMLFPRIND (Womens Labor Force Participation Rate Indexed to 1967 = 100);  
MENLFPRIND (Mens Labor Force Participation Rate Indexed to 1967 = 100)

Note: Models 1-8 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.  
Note: Bi-Variate colums represent linear regression models where only one independent variable is regressed on the dependent variable.

Data Sources: Age at First Marriage Data - census.gov; Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

In the next step of our empirical analysis, table 6.3a illustrates that when measuring the annual rates of change in fertility our selected variables, these didn't yield any statistically significant relationships. However, one variable – the rate of change in the male labor force participation rate – did approach significance in model 1. Given the theme of our thesis and a bit of intuition, we combined that variable with the rate of change in the real M2 money supply in Model 10. In doing so, we found that indeed there was statistical significance for the former, but not the latter. Furthermore, this simplified model produced an adjusted R-squared of 0.1882.<sup>190</sup>

<sup>190</sup> There is little doubt that attitudes regarding children, contraception, and abortion play a role in fertility choice. However, for the sake of consistency we employ the same set of independent variables in modeling this type of family choice. That is not to say that there is no reason to include these other factors, or to attempt to detect whether an inflationary central banking regime has anything to do with these attitudes. Indeed, some have already explored the connection between prices (such as housing) and fertility choices (Dettling and Kearney, 2014) while ignoring the role that the central bank plays in such outcomes. Furthermore, as Dettling and Kearney illustrate, we also make no claim that the trends present in our analysis show that *all* couples lower total fertility as a result of rising prices for housing. Rather, we acknowledge that (as with all fiat inflation) that there are those who are financial beneficiaries and those who are less well-off. For the beneficiaries of the monetary supply growth (like current homeowners) they will tend to have higher real wealth, and this wealth effect increases the likelihood of higher fertility. Conversely, those who are searching for a new home will face higher prices with a lower tendency to have children, and thus reduce total fertility during that time through their chosen means, up to and including abortion.

Once again, we remind the reader of the limitations of aggregate statistics that may mask the internal reality and micro-level nature of fertility choice. In an age where contraceptive prices are extraordinarily low or are provided to women through employer-based insurance or Medicaid, not to mention broad and low-cost access to contraception and abortion through organizations like Planned Parenthood (who also receive taxpayer subsidies throughout the US) it is all the more clear that birthing a child is indeed a deliberate and entirely subjective choice, although initial pregnancy may not always be.

**Table 6.3a: Linear Correlation to the Rate of Change of the crude birth rate (Annual Data: 1967-2021)**

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and P-Value									
	Coefficient & P-Value	Intercept & P-Value	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2ROC	(-0.2215) 0.00662**	(-0.00166) 0.67064	0.1146	-	(-0.1105) 0.287	(-0.1391) 0.181	(-0.1295) 0.180	(-0.1246) 0.233	(-0.1329) 0.213	(-0.1369) 0.174	(-0.1743) 0.864	(-0.1306) 0.219	(-0.1444) 0.0827
CONDEBTROC	(0.1666) 0.01961*	(-0.02056) 0.00106**	0.08151	(0.0796) 0.4771	-	(0.0864) 0.400	(0.1064) 0.291	(0.1161) 0.298	(0.1288) 0.255	(0.1162) 0.268	(0.1490) 0.1762	(0.1078) 0.344	-
HOUSEROC	(0.011769) 0.8489	(-0.00906) 0.0594	-0.01816	(-0.0489) 0.4973	(-0.0041) 0.950	-	(-0.0325) 0.645	(-0.0286) 0.689	(-0.0338) 0.643	(-0.0319) 0.656	(-0.0352) 0.6305	(-0.0328) 0.651	-
HIGHEDROC	(0.1658) 0.1621	(-0.01902) 0.0234*	0.01836	(0.06940) 0.6131	(0.0596) 0.653	(0.0093) 0.949	-	(-0.0015) 0.992	(0.0086) 0.954	(-0.0005) 0.997	(-0.0795) 0.5607	(-0.0038) 0.979	-
WOMBACHROC	(-0.035084) 0.840	(-0.007351) 0.242	-0.01808	(0.0653) 0.7677	(0.1344) 0.539	(0.0869) 0.690	(0.0997) 0.649	-	(-0.0456) 0.802	(0.0979) 0.655	(0.1060) 0.6342	(0.0999) 0.652	-
MENBACHROC	(-0.22075) 0.267	(-0.004153) 0.410	-0.004783	(-0.3039) 0.2468	(-0.3378) 0.190	(-0.2994) 0.247	(-0.2975) 0.248	(-0.2311) 0.276	-	(-0.2773) 0.243	(-0.3711) 0.1484	(-0.2980) 0.254	-
WOMLFPRROC	(0.699805) 0.02718*	(-0.012416) 0.00111**	0.07155	(0.2799) 0.5541	(0.2722) 0.552	(0.0856) 0.860	(0.0981) 0.839	(0.0893) 0.855	(-0.1237) 0.785	-	(0.2904) 0.5374	(0.0995) 0.840	-
MENLFPRROC	(2.254318) 0.00169**	(-0.001337) 0.71791	0.1556	(1.5787) 0.0855	(1.4506) 0.116	(1.1971) 0.209	(1.1961) 0.169	(1.1956) 0.855	(1.4343) 0.128	(1.2462) 0.168	-	(1.1861) 0.217	(1.7499) 0.0196*
INTERCEPT	-	-	-	(-0.0087) 0.3766	(-0.0318) 0.758	(-0.0046) 0.209	(-0.0045) 0.575	(-0.0037) 0.717	(-0.0059) 0.572	(-0.0046) 0.651	(-0.0046) 0.6569	(-0.0044) 0.675	(0.0015) 0.7089
Adjusted R-Squared	-	-	-	0.1331	0.1447	0.1576	0.1614	0.1576	0.137	0.1606	0.1328	0.1432	0.1882
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:  
REALM2ROC (Real M2 Rate of Change);  
CONDEBTROC (Consumer Debt Level Rate of Change);  
HOUSEROC (Median House Sale Price Rate of Change);  
HIGHEDROC (Higher Education Expenditure Rate of Change);  
WOMANBACHROC (Women with Bachelors Ages 25-49 Rate of Change);  
MENBACHROC (Men with Bachelors Ages 25-40 Rate of Change);  
WOMLFPRROC (Womens Labor Force Participation Rate, Rate of Change);  
MENLFPRFOD (Mens Labor Force Participation Rate, Rate of Change)

Note: Models 1-9 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.  
Note: The first Bi-Variate columns represent linear regression models where only one independent variable is regressed on the dependent variable.  
Data Sources: Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

Indeed, as we've suggested, the complexity of fertility choices clouds the long-run relationship between the selected variables and the deeply personal choices surrounding childbearing. While bi-variate analysis yields statistically significant outcomes for every variable in the rate of change linear model, once we begin to expand the linear model to control for other variables on fertility choice, the picture becomes less clear. In Model 7, those variables that either

approach statistical significance (REALM2IND and MENLFPRIND) allow for their use in Model 8. In that final model, we have a somewhat surprising result in that changes in the female labor force participation rate and real M2 growth play no significant role in determining total fertility rates. However, the factor that does is the male labor force participation rate. This suggests that when more men are participating in the labor force at higher rates, that higher fertility rates tend to prevail. There are many narratives that could develop from such a finding. However, we again urge the prudence that economic science provides us in that we can only assert that the decision to have a child and the cost-benefit analysis that goes into this deliberate choice appears to potentially include men's labor activity level. Murray (2012) suggests that there has been a cultural decline in male "industriousness" that has led to a decline in traditional family patterns, and particularly in the lower income brackets. However, he also contends that the presence of the welfare state counteracts this lowered fertility.<sup>191</sup> Nevertheless, there is reason to believe that men's labor force participation rates have informed fertility choices in the US over the past half century and that inflationary monetary policy has played a role in male workforce engagement.<sup>192</sup> Once again, we believe that these outcomes do show that monetary policy matters in the labor force and that labor markets have an impact on fertility choice that warrants further study.

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<sup>191</sup> Indeed, there has been a vast expansion in the US federal government's spending on "Income security" in the form of welfare and social services. With 1967 as a base year, the indexed amount has grown to a level of 12,685.4 as of 2022, per: <https://fred.stlouisfed.org/series/G160371A027NBEA>. Although this reality would be especially intriguing to further study its impact on total fertility rates, we believe that a study on this sort of intervention is best left for a more thorough follow-up or companion study to this thesis, whose main focus is on monetary interventionism's impact on family life

<sup>192</sup> This connection is elaborated on more in Appendix A, Section 3.

**Table 6.3b:** ARDL Model on Annual Rates of Change in the Crude Birth Rate (1967-2021)

<i>Dependent Variable w/ (coefficient) &amp; p-value</i>				
<i>Independent Variable</i>	CRUDEBIRTHROC	CRUDEBIRTHROC (t-4)	Adjusted R-Squared	Observations
REALM2ROC (t-1)	(0.2507) <i>0.0065 **</i>	(-0.3272) <i>0.0184 *</i>	0.3565	55
CONDEBTROC (t-3)	(0.1256) <i>0.4975</i>	(-0.2321) <i>0.1176</i>	0.2078	55
HOUSEROC (t-1)	(0.2642) <i>0.000057 ***</i>	(-0.0702) <i>0.5776</i>	0.4208	55
HIGHEDROC (t-2)	(0.5771) <i>0.0384 *</i>	(-0.3509) <i>0.0185 *</i>	0.2991	55
WOMBACHROC (t-1)	(0.1280) <i>0.4686</i>	(-0.2111) <i>0.1750</i>	0.1282	55
MENBACHROC (t-1)	(0.0434) <i>0.8419</i>	(-0.2302) <i>0.1273</i>	0.1551	55
WOMLFPRROC (t-9)	(0.0461) <i>0.9293</i>	(-0.3032) <i>0.0550 .</i>	0.1423	55
MENLFPRROC (t-1)	(-0.6153) <i>0.3911</i>	(-0.1883) <i>0.1667</i>	0.3058	55

Note: The variable abbreviations correspond to the previous table and the lags (t-x) are provided by the optimal lag exercise in R-Studio.

As with the previous models, we acknowledge that the x-variables are interrelated, and that the previous period's rate of change may impact the next rate of change for both x and y variables. So, we proceed with both a bivariate and multivariate ARDL test to see the extent to which this is the case for rates of change in the crude birth rate. Table 6.3b illustrates the findings of the bivariate analysis and here, there are stronger results for the independent variables than we've seen in previous models. Indeed, the rates of change in real M2, housing prices, and higher education prices (lagged to the second year) all had statistically significant impact on the rate of change in the crude birth rate.

In moving into the more complex ARDL model to describe the ways in which our variables impacted the rate of change in the crude birth rate, we discover that there are no statistically significant correlations that emerge. Indeed, the only variables that came close to this standard was the rate of change in the housing price index in the first lagged period, the rate of change for men



with bachelor’s degrees in the current period, and the change in the female labor force participation rate in the first lagged period (Table 6.3c). With a p-value of 0.0968, the rate of change in the male labor force participation rate also comes close to possessing a statistically significant correlation to the rate of change in the crude birth rate.

**Table 6.3c:** Multivariate, ARDL Model for the rate of change in crude birth rate (1967-2021)

<i>Independent Variables with Combined Lag Employed (1-4): (coefficient) &amp; p-value</i>										
<i>Dependent Variables at optimal lag</i>	INTERCEPT	REALM2ROC (0)	CONDEBTROC (0)	HOUSEROC (1)	HIGHEDROC (0)	WOMBACHROC (3)	MENBACHROC (0)	WOMLFPRROC (1)	MENLFPRROC (1)	CRUDEBIRTHROC (1)
CRUDEBIRTHROC (1)	(-0.033581) 0.2628	(0.273495) 0.1513	(0.242891) 0.3953	(0.267178) 0.0814	(0.620707) 0.2438	(0.338968) 0.3162	(-0.901812) 0.0521	(2.237748) 0.0593	(-3.828679) 0.0968	(0.256004) 0.5757

Adjusted R<sup>2</sup> = 0.4899  
 Note: Independent variable column headings include the lag that is the lowest p-value generated in the ARDL model in R-Studio, with the corresponding coefficient and p-value in the row below the heading.

Once again, we reiterate that the subjective valuations that go into the decision to birth and raise a child are complex, and the things that may have been important to consider in the past may become more or less important compared to new and emerging concerns of parents. As the ARDL model doesn’t yield conclusive quantitative inferences regarding fertility choice, there always seems to be room for further qualitative studies into fertility choices, the use of contraceptives, abortion, and other family planning measures and what factors motivate such decisions.

#### Section 4: Divorce

Although divorce is often a difficult experience and potentially a sensitive subject, this author has nonetheless regularly asked students, “What is the leading cause of divorce?” Their answers typically include responses like financial worries, infidelity, poor health, the death of a child, or the prevalence of alcoholism, pornography, or other disagreeable taboos. While these all have been shown to impact marital dissolution, the sarcastic (but true) reply is simply, “marriage”! For those students lacking a sense of humor, they are not amused, while the rest who do quickly realize that this is meant to be a statement regarding statistical inference. On a more serious note, it has been pointed out elsewhere in this thesis that divorce is indeed the least well understood aspect of family life from both a theoretical and empirical point of view. Because of this, the results

in our empirical analysis will also provide room for deeper exploration of the ways in which inflation culture habits and institutions contribute to divorce rates. Given that this is the case, we do have a more significant set of linear regressions describing the links between monetary inflation, cultural habits, and divorce statistics in the appendix.

For the first introductory analysis, however, we utilize linear regressions, with the results displayed in Table 6.4. In it, we see that several of the variables do track with divorce over the time series in question with statistically significant correlations. Among them are positive correlations with the overall debt level, a negative correlation between the divorce rate and the educational attainment of women (not surprising given Murray's discussion on the issue (2012)), but positively for men. Furthermore, we observe a negative correlation to the male labor force participation rate, which Murray also takes note of throughout *Coming Apart* (2012).

**Table 6.4: Linear correlation of indexed variables to the indexed divorce rate (1967-2021)**

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and P-Value									
	Coefficient & P-Value	Intercept & P-Value	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2IND	(-0.2353) 2.25e-9****	(202.5274) <2e-16***	0.4841	-	(0.0250) 0.8398	(0.0666) 0.5369	(0.1433) 0.1996	(-0.1740) 0.184	(0.1202) 0.4220	(-0.0388) 0.5654	(0.2207) 0.0714	(0.1309) 0.2924	-
CONDEBTIND	(-0.0148) 2.03e-9****	(181.0455) <2e-16***	0.486	(0.0145) 0.0206*	-	(0.0154) 0.0181*	(0.0163) 0.0099**	(0.0098) 0.205	(0.0169) 0.0341*	(0.0148) 0.0250*	(0.0134) 0.0432*	(0.0167) 0.0120*	(0.0130) 0.0176*
HOUSEIND	(-0.0469) 4.88e-8****	(186.7117) <2e-16***	0.4219	(-0.0153) 0.5388	(-0.0152) 0.6083	-	(-0.0315) 0.285	(-0.0374) 0.5168	(-0.0224) 0.4963	(-0.0193) 0.1006	(-0.0473) 0.1006	(-0.0302) 0.2931	-
HIGHEDIND	(-0.0237) 5.43e-10****	(181.8124) <2e-16***	0.5106	(-0.0179) 0.4506	(0.0132) 0.6175	(-0.0115) 0.6530	-	(-0.1033) 6.26e-6****	(-0.0834) 0.0013**	(-0.0253) 0.2866	(0.0376) 0.0252*	(-0.0062) 0.8128	-
WOMBACHIND	(-0.1619) 8.16e-7****	(200.2324) <2e-16***	0.3588	(-1.3665) 7.23e-6****	(-1.3534) 0.0001***	(-1.5534) 9.98e-6****	(-1.5933) 2.72e-10****	-	(-0.5445) 0.0607	(-1.2789) 2.95e-5****	(-1.865) 3.43e-8****	(-1.5361) 1.25e-5****	(-1.6496) 4.06e-14****
MENBACHIND	(-0.2935) 0.0004****	(213.0752) <2e-16***	0.1975	(2.1218) 2.09e-5****	(2.1354) 4.55e-5****	(2.1029) 2.35e-5****	(2.1975) 7.64e-8****	(0.6728) 0.106	-	(2.2826) 5.68e-6****	(2.792) 8.08e-11****	(2.1305) 2.00e-5****	(2.8380) <2e-16***
WOMLFPRIND	(-0.1279) 0.6818	(172.3501) 0.0001***	-0.01561	(0.4666) 0.1761	(0.7308) 0.2731	(0.8767) 0.1609	(1.1031) 0.0541	(-0.5142) 0.445	(1.658) 0.0314*	-	(1.241) 0.0616	(1.0350) 0.1085	-
MENLFPRIND	(4.2776) 2.52e-6****	(-241.9555) 0.00227**	0.3317	(-8.7526) 0.0109*	(-5.1661) 0.1571	(-8.4983) 0.0149*	(-6.7825) 0.0023**	(-15.89) 9.13e-5****	(-18.98) 1.2e-7****	(-8.3213) 0.0222*	-	(-7.4452) 0.0387*	(-4.5723) 0.0067**
INTERCEPT	-	-	-	(870.4845) 0.0144*	(483.8895) 0.2289	(818.2395) 0.0288*	(612.5486) 0.0056**	(1725) 5.36e-5****	(1904) 1.32e-6****	(857.0666) 0.0267*	(-1189) 0.0220*	(688.1589) 0.0785	(456.6276) 0.0081**
Adjusted R-Squared	-	-	-	0.9157	0.9055	0.9157	0.9176	0.8749	0.8773	0.9129	0.9096	0.9159	0.9128
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:  
REALM2IND (Real M2 Indexed to 1967=100);  
CONDEBTIND (Consumer Debt Indexed to 1967 = 100);  
HOUSEIND (Median House Sale Price Indexed to 1967=100);  
HIGHEDIND (Higher Education Expenditure Indexed to 1967 = 100);  
WOMANBACHIND (Women with Bachelors Ages 25-49 Indexed to 1967 = 100);  
MENBACHIND (Men with Bachelors Ages 25-40 Indexed to 1967 = 100);  
WOMLFPRIND (Womens Labor Force Participation Rate Indexed to 1967 = 100);  
MENLFPRIND (Mens Labor Force Participation Rate Indexed to 1967 = 100)

Note: Models 1-8 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.  
Note: Bi-Variate columns represent linear regression models where only one independent variable is regressed on the dependent variable.  
Data Sources: Age at First Marriage Data - census.gov; Bachelors Degree Data - statista.com; All other data - fred.stlouisfed.org

As with the earlier portions of the chapter, we now examine the rates of change in all variables under consideration for this time series and as with those sections, fewer independent variables possessed statistically significant correlation to changes in the divorce rate. Indeed, only changes in the female labor force participation rate provided a statistically significant link to changes in the divorce rate. This squares nicely with what Becker anticipated (1973, 1981) in the early years of studying families through the economic lens. Meanwhile, more recent studies have further explored this link, and there continues to be far more attention given to the role of married women and their labor force participation and its impact on the family than to male labor force participation's role in the divorce rate (Greenwood, Guner, Kocharkov and Santos, 2016; Raley and Sweeney, 2020). Killewald offers further nuance in the literature on divorce (2016), finding

that male labor force participation tends to prevent divorce, while women’s labor force participation seems to have little effect on the matter, at least in the aggregate.

**Table 6.4a:** Linear Corellation to the Rate of Change in the Divorce Rate (Annual Data: 1967-2021)

Dependent Variable	Bi-Variate Results			Multi-Variate Results: (Coefficient) and P-Value									
	Coefficient & P-Value	Intercept & P-Value	Adjusted R-Squared	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
REALM2ROC	(-0.3052) <i>0.0584</i>	(0.0097) <i>0.2220</i>	0.04835	-	(-0.1544) <i>0.4104</i>	(-0.0802) <i>0.6732</i>	(-0.0816) <i>0.6402</i>	(-0.1551) <i>0.4187</i>	(-0.1224) <i>0.5217</i>	(-0.3080) <i>0.1294</i>	(-0.0848) <i>0.6371</i>	(-0.1250) <i>0.5150</i>	(-0.0394) <i>0.7984</i>
CONDEBTROC	(0.24495) <i>0.0806</i>	(-0.01748) <i>0.1440</i>	0.03866	(-0.1845) <i>0.3596</i>	-	(-0.0451) <i>0.8112</i>	(-0.2102) <i>0.2530</i>	(-0.1994) <i>0.3314</i>	(-0.1821) <i>0.3698</i>	(0.0876) <i>0.6763</i>	(-0.1955) <i>0.3201</i>	(-0.1576) <i>0.4455</i>	-
HOUSEROC	(0.1987) <i>0.0932</i>	(-0.0105) <i>0.2428</i>	0.03439	(0.1575) <i>0.2253</i>	(0.1308) <i>0.2758</i>	-	(0.1874) <i>0.1490</i>	(0.1516) <i>0.2520</i>	(0.1740) <i>0.1886</i>	(0.1994) <i>0.1709</i>	(0.1750) <i>0.1854</i>	(0.1728) <i>0.1938</i>	-
HIGHEDROC	(0.18728) <i>0.419</i>	(-0.01161) <i>0.472</i>	-0.006269	(-0.0833) <i>0.7349</i>	(-0.2462) <i>0.3076</i>	(-0.2223) <i>0.4062</i>	-	(-0.1651) <i>0.5434</i>	(-0.1679) <i>0.5314</i>	(-0.0585) <i>0.8422</i>	(-0.0838) <i>0.7321</i>	(-0.1534) <i>0.5702</i>	-
WOMBACHROC	(0.133397) <i>0.693</i>	(-0.003696) <i>0.760</i>	-0.01584	(-0.5321) <i>0.1834</i>	(-0.5493) <i>0.1683</i>	(-0.4305) <i>0.2866</i>	(-0.5069) <i>0.2075</i>	-	(-0.3295) <i>0.3179</i>	(-0.5586) <i>0.2082</i>	(-0.5045) <i>0.2101</i>	(-0.4989) <i>0.2183</i>	-
MENBACHROC	(0.6663) <i>0.0807</i>	(-0.012551) <i>0.1943</i>	0.03863	(0.3412) <i>0.4667</i>	(0.4051) <i>0.3828</i>	(0.3543) <i>0.4562</i>	(0.3664) <i>0.4331</i>	(0.0129) <i>0.9735</i>	-	(0.9457) <i>0.0506</i>	(0.4142) <i>0.3651</i>	(0.3469) <i>0.4623</i>	-
WOMLFPRROC	(2.453200) <i>2.29e-5***</i>	(-0.013646) <i>0.0314*</i>	0.2758	(3.0500) <i>0.0007***</i>	(2.6249) <i>0.0025**</i>	(2.9508) <i>0.0018**</i>	(2.8220) <i>0.0023**</i>	(2.9285) <i>0.0019**</i>	(3.1373) <i>0.0003***</i>	-	(2.7017) <i>0.0023**</i>	(2.8774) <i>0.0022**</i>	(2.3886) <i>0.0002***</i>
MENLFPRROC	(2.239736) <i>0.121</i>	(0.007402) <i>0.339</i>	0.0268	(-0.7158) <i>0.6592</i>	(-1.4784) <i>0.3715</i>	(-1.1496) <i>0.5104</i>	(-0.6891) <i>0.6604</i>	(-1.1391) <i>0.5135</i>	(-1.3804) <i>0.4120</i>	(0.6474) <i>0.7195</i>	-	(-1.0915) <i>0.5290</i>	-
INTERCEPT	-	-	-	(0.0004) <i>0.9806</i>	(0.0029) <i>0.8768</i>	(0.0061) <i>0.7486</i>	(-0.0020) <i>0.8892</i>	(0.0013) <i>0.9435</i>	(0.0064) <i>0.7329</i>	(-0.0031) <i>0.8803</i>	(0.0049) <i>0.7946</i>	(0.0046) <i>0.8069</i>	(-0.0121) <i>0.1727</i>
Adjusted R-Squared	-	-	-	0.2598	0.2572	0.239	0.2615	0.2418	0.2579	0.09924	0.2603	0.2507	0.2628
Observations	55	55	55	55	55	55	55	55	55	55	55	55	55

Dependent variables represent the following:  
REALM2ROC (Real M2 Rate of Change);  
CONDEBTROC (Consumer Debt Level Rate of Change);  
HOUSEROC (Median House Sale Price Rate of Change);  
HIGHEDROC (Higher Education Expenditure Rate of Change);  
WOMANBACHROC (Women with Bachelors Ages 25-49 Rate of Change);  
MENBACHROC (Men with Bachelors Ages 25-40 Rate of Change);  
WOMLFPRROC (Womens Labor Force Participation Rate, Rate of Change);  
MENLFPRROC (Mens Labor Force Participation Rate, Rate of Change)

Note: Models 1-9 include (coefficients) in parentheses with *p-values* in italics below and with Intercept and Adjusted R-Squared values at the bottom of the column.  
Note: The first Bi-Variate column represent linear regression models where only one independent variable is regressed on the dependent variable.  
Data Sources: Divorce Data - Our World in Data; All other data - fred.stlouisfed.org

Following the pattern of the earlier portions of this chapter, we now turn to an ARDL model that examines the singular relationship between the rates of change in the divorce rate and our independent variables at the appropriate lags (per Table 6.4b). In it, we find that changes in the divorce rate are positively correlated to changes in the rate of M2 growth, the changes in the price index for higher education, and negatively correlated to the rate of change in the men’s labor force participation rate.

**Table 6.4b:** ARDL Model on Annual Rates of Change in the Divorce Rate (1967-2021)

<i>Dependent Variable w/ (coefficient) &amp; p-value</i>				
<i>ible</i>	DIVPKROC	DIVPKROC (t-5)	Adjusted R-Squared	Observations
REALM2ROC (t-1)	(0.5006) 0.0009 ***	(0.1011) 0.5046	0.4815	55
CONDEBTROC (t-3)	(-0.0856) 0.7845	(0.1489) 0.4220	0.2621	55
HOUSEROC (t-1)	(0.0159) 0.905	(0.1366) 0.473	0.2754	55
HIGHEDROC (t-2)	(1.0207) 0.0243 *	(0.1281) 0.4485	0.3496	55
WOMBACHROC (t-1)	(0.3903) 0.2235	(0.0940) 0.6251	0.3909	55
MENBACHROC (t-1)	(-0.4417) 0.2795	(0.2352) 0.1855	0.3694	55
WOMLFPRROC (t-9)	(0.4214) 0.6687	(0.1030) 0.6320	0.2271	55
MENLFPRROC (t-1)	(-2.7945) 0.0103 *	(0.1281) 0.4118	0.4461	55

Note: The variable abbreviations correspond to the previous table and the lags (t-x) are provided by the optimal lag exercise in R-Studio.

This set of outcomes presents several possibilities when describing the reality of divorce in the US over the past several decades. In concord with Killewald (2016) these results suggest that male labor force participation is more important than for women in determining marital stability. This confirms, in many ways what Murray has already observed in that men with bachelor's degrees tend to retain employment and at higher wages and as Raley and Sweeney (2020) have implied, "husbands' full-time employment remains essential to stable marriages".

In sticking to our method of empirical examination, we now employ an ARDL model that controls for all the variables discussed in this chapter in Table 6.4c. There, we find that there are no statistically significant correlations between any of our variables. The closest independent

**Table 6.1c:** Multivariate, ARDL Model for the rate of change in divorce rate (1967-2021)

<i>Independent Variables with Combined Lag Employed (t-4): (coefficient) &amp; p-value</i>										
<i>Dependent Variables at optimal lag</i>	INTERCEPT	REALM2ROC (0)	CONDEBTROC (4)	HOUSEROC (1)	HIGHEDROC (2)	WOMBACHROC (1)	MENBACHROC (0)	WOMLFPRROC (1)	MENLFPRROC (4)	DIVPKROC (1)
DIVPKROC (1)	(-0.8893) 0.1150	(-0.47076) 0.1979	(-0.59570) 0.2820	(-0.30756) 0.2342	(1.31441) 0.2435	(1.33589) 0.0871	(0.87252) 0.2656	(-3.41988) 0.1049	(-4.27331) 0.1662	(0.34746) 0.2263

Adjusted R<sup>2</sup> = 0.4519

Note: Independent variable column headings include the lag that is the lowest p-value generated in the ARDL model in R-Studio, with the corresponding coefficient and p-value in the row below the heading.

variable to meeting that standard was the rate of change in the number of women with bachelor's degrees, lagged to the prior year. For this highly stylized data set, we are not entirely surprised to see that women's educational attainment has something to do with divorce, as there is ongoing discussion about the impact that it has upon divorce. Some have suggested that a more highly educated cohort of females that arose in the 1960s and 70s had better job prospects, and believed that they would be better off divorcing (Rotz, 2016). However, when divorces began to decline in the 1980s other factors seemed to play a greater role in marital stability, such as a higher average age at first marriage, indicating that more highly educated women were waiting to marry, and that poorer, less educated women weren't getting married to the same degree. This set of circumstances that Rotz describes reminds us of the complex nature of divorce and that some of our independent variables – as indeed they do – impact one another, providing credence to the ARDL approach to this complex question.

As we have done throughout this thesis, we stress the redistributive impact of inflationary monetary policy and the relevance of Cantillon effects upon traditional family life. As the structure of wealth, and indeed production are changed in a complex interplay of monetary channels, expenditures, and human choices that are matters of the heart, it is not surprising that finding conclusive empirical results remains aloof. Nonetheless, what we can see is that aggregate measurements may mask the specific choices of individuals and those within different socioeconomic groups. Furthermore, the long time horizon that we have worked with is rife with cultural, religious, educational, technological, and medical changes that have all contributed to altered family life. Despite all of these empirical challenges, we simply maintain that there may be better ways, data sets, or even attempts at more qualitative studies with respect to marriage and families during the period under consideration that might provide a clearer picture of the causal

relationship between monetary policy, the inflation culture, and family life. There is little doubt that this area of scholarship is full of opportunities to pursue this line of thought with unique and novel approaches.

## **Chapter 7: Conclusion**

The aim of this thesis has been to describe how the adoption of fiat currency and expansionary monetary policy lead to an inflation culture whose institutions and habits tend to deinstitutionalize traditional family life. As such, we have introduced a novel and previously ignored variable into the study of altered family life. While recent studies have shown how altered behaviors in household finances are created through positive and persistent money supply growth (Campbell, 2006; Mangiante and Lauper, 2023), we are the first to extend this analysis from the decisions of central banks through the actions of individual households and into the secular trend of the deinstitutionalization of the traditional family.

The following sections will first summarize the path from fiat currency expansion and the deinstitutionalization of the family that is accompanied by the disappearance of traditional household habits among the lower socioeconomic classes, alongside their preservation among those families that benefit from inflationary policies. The second section will speak to the limitations of this study from both a theoretical and empirical point of view and the third suggests further extension into other areas of economic and political interventions that may also produce altered family patterns. The final section will discuss the nature of the costs and benefits to various households and family life that emanate from fiat money, asking the reader to discern whether such outcomes are desirable.

### **Section 1: Summarizing the Inflation Culture's Impact on Family Life**

To consolidate the findings of the main body of this thesis, we return to a now familiar schematic to understand changing family life – family formation, fertility, and divorce. As the reader is well aware, we focus on the connections between inflationary monetary choices, the resulting inflation culture, and the consequences of inflation culture habits upon traditional



household life. As demonstrated in part 2 of the thesis, the redistributionist effects of a growing money supply (Cantillon effects) have non-neutral and heterogeneous impacts on every household and individual in the economy. Given this reality, we will now summarize the ways in which these consequences are demonstrated in the various phases of traditional family life.

### **7.1.1: Marriage and Inflation Culture Habits**

For any interpersonal human action to take place, and especially one with such complex motivations such as marriage, it requires that both spouses have an *ex ante* belief that they will derive a greater utility than if they chose to delay marriage, to remain single or to live in cohabitation. Thus, it is apparent that *both* a husband and wife recite their vows in the belief that married life will result in greater utility. The question before us is whether the elements of inflation culture make such decisions more or less likely, and whether the nuptials will tend to occur sooner, later – or not at all. While we considered economic factors that have been shown to alter marriage patterns and timing, we are also the first to build the connection between those factors and the role that fiat inflationism plays in causing those conditions in the first place.

With our central focus applied to the American context, it has been shown that delays in marriage since the 1960s have been linked to numerous economic datum that have been identified as institutions or habits of the inflation culture. To begin with, one of the key features of an inflationary fiat currency is the use of circulation credit (Mises, 1953). This sort of increase in the money supply leads to interest rates below the natural rate and *ceteris paribus*, increases the quantity borrowed. Furthermore, if the assets obtained through borrowing are viewed as pathways to increases in real future wealth (such as higher education degrees or housing) individuals will enter into such debt at a younger age, and with greater haste than would have otherwise been the

case. This precise scenario has played out in the US in recent decades and has been shown to delay marriage and to encourage cohabitation (Addo, 2014; Bozick and Estacion, 2014; Addo, Houle and Sassler, 2018).

Our own empirical analysis provides an additional insight into the fact that this process also serves to drive the prices for higher education higher than they otherwise would have been. Thus, marginal participants in higher ed who opt not to take out student loans make themselves less “marriageable” as their lower educational status lowers their expected lifetime earnings. Indeed, such individuals will then have a greater tendency to avoid traditional marriage altogether or to cohabit instead. On the other hand, those who are able to take out loans and enter fields that are the beneficiaries of the redistributionist effects of inflation make themselves more “marriageable”. Not only are they more likely to get married and stay married, but such couples are also becoming less common over time. The net result of this process of inflationary circulation credit in the US student loan market (where both private banks and government-sponsored enterprises are sellers of loans) is that fewer and later marriages are taking place over time. For those that do form are happening at later ages, and for a growing number of young adults in the US who opt to steer clear of this system, they are increasingly remaining single or not marrying at all. For those who do take on debt for the purposes of higher education, housing purchases or both, if they are able to see this financial time-based commitment through, they tend to be the beneficiaries of such a system of fiat inflation. They are rewarded for the habit of hastening into debt with more stable family life if property values go up and as long as their education secures them gainful employment, and this is especially so for the husband (Killewald, 2016; Raley and Sweeney, 2020).

Carbone and Cahn (2014) along with Murray (2012) have provided some of the most compelling pictures regarding the realities of how income inequality and its increasing intensity are altering marriage patterns. These authors share concerns about the instability and stagnant wages found in lower-skilled labor markets and the impact that this has had upon male industriousness, job-stability, and ultimately, marriageability. With all of these factors being on the diminished over time some may point to globalization, a lack of union power, or “deregulation” (Eichner, 2020), and financialization as the main culprits in producing men in the marriage market who aren’t desirable to women of a similar educational and skill level.

What all of these diagnoses miss is that monetary interventionism drives Cantillon effects which produce the problems that are cited as the proximate causes for men’s struggles in the marriage market. Moreover, the financialization of the US economy is best described, not as a form of “deregulation”, but rather as a direct consequence of inflationary intervention by the monetary authorities – which is indeed the nexus of governmental and banking power – that has served to create such the situation that Murray, Eichner, and Carbone and Cahn decry.

With respect to moral hazard and the marriage market, we’ve hypothesized that there is a tendency for asymmetric information to emerge in relationships with it comes to risk-taking behavior. Indeed, one potential spouse may actually believe that their partner’s income can serve as insurance for their poor financial decision-making, high debt loads, or for other unscrupulous financial behavior. Becker (1991) notes this distinct possibility and that if newlyweds aren’t sufficiently aware of their partner’s level of risk-aversion then they may have a high price to pay, that may even result in divorce proceedings later on.

### 7.1.2: Fertility Rates and Inflation Culture Habits

As the inflation culture emerges with the overriding reality of the Cantillon effect through inflationary fiat currency and credit creation, individuals tend towards greater moral hazard, debt accumulation, and greater levels of inequality prevail than would have otherwise been the case. As a result, the habits of *consumerism* and *materialism* become more prevalent in the lives of people in such a society. As Schumpeter predicted, we would expect such people to resemble more of the *homo economicus* attitude that pays much more attention to material matters in life and tend to neglect non-material goals like familial love and affection, which implies a downgrading of children in their preferences (1942). If indeed these are the outcomes of an inflation culture, then we view the secular decline of fertility rates – despite the incentives created by the welfare state – as providing an important explanatory variable in the declining fertility among modern inflationary economies.

While there are certainly other factors that have contributed to overall fertility decline that have been well documented. Not least of these are a wider acceptance of modern contraception, up to and including abortion, which are all provided by governments or offered in the market for relatively low prices. Furthermore, the role that women's education, wages, and labor force participation rates have played in declining fertility rates have also been well documented. Moreover, our own analysis of the economic determinants of declining fertility rates find that there may be an underrated determinant, that of male workforce participation. Indeed, we found a statistically significant, positive, and economically meaningful impact that men's labor force participation plays in fertility. Since male industriousness has seen a serious decline in the US since the 1960s – as Murray (2012) and Carbone and Cahn (2014) have amply illustrated – this lack of male household provision may have contributed to the fertility decline. Furthermore, we

have also provided the theoretical and empirical case (in Appendix A, Section 4, Part A) that this indeed is a symptom of the Cantillon effect's impact in the American economy. This series of events has begun with inflationary fiat currency growth, new expenditures into specific fields, with a renouncement of other fields that have turned out to be male centers of employment. Meanwhile, the industries that have benefitted from inflation and the subsequent financialization of the economy have been those that tend to employ higher percentages of women. Although our empirical findings didn't lead to an obvious conclusion that higher wages for women and greater concentrations of their presence in these fields had any impact on overall fertility, others have found such links (Greenwood, et.al., 2016; Siegel, 2017).

In summarizing the key takeaways regarding the inflation culture's impact on fertility choices, we must emphasize that childbirth and childrearing are indeed a deliberate set of choices. As with all human action, children are brought into the world through conscious actions that assume that at least the mother of the child prefers to bring forth a child versus not, *ceteris paribus*. This fact implies that other factors that may unseat this preference are demoted on a mother's (and perhaps a father's) ordinal preference scale. Put another way, childbirth shows that at least for a certain point in time, the mother prefers the presence of a child to their non-presence. What we contend is that the habits of thought and living within the inflation culture may indeed tend to demote the importance of children, especially among those who are on the losing end of Cantillon effects, whereas the beneficiaries of the same effects may tend to be more comfortable bringing their children into a world of increasing real wealth and income. Nevertheless, we see that for even the beneficiaries of Cantillon effects in the modern context, that they too exhibit higher time preference rates than the well-to-do of the past, and that over time these realities combine for a

lower overall fertility rate, especially in contexts where fiat currency inflationism is known to have been positive and persistent – some may say permanent – since the end of WW2.

### **7.1.3: Divorce and Inflation Culture Habits**

In summarizing our theoretical and empirical findings on divorce it is recognized that our conclusion is a novel one. The positive and persistent money growth and price increases of the post WW2 era have set the Cantillon effect and the inflation culture into motion. As a result the former has led to an ongoing redistribution of wealth and income and the former have led to increased moral hazard, greater debt accumulation, and increased inequalities. Of course, some groups have benefited from these processes while others have been set back and find advancement harder than it was prior to the onset of inflationism. This set of circumstances and general conditions alters the incentives for staying married. As a result of these realities, there has been a liquidation of marriage, and higher divorce rates among those harmed by the inflation process since the 1960s. Meanwhile, the beneficiaries have enjoyed stable and lasting traditional family life (Murray 2012, Carbone and Cahn, 2014).

More recent scholars have found similar patterns with respect to the post-WW2 patterns of divorce that we have described (Schwartz and Gonalons-Pons, 2016; Killewald, 2016; Greenwood, Guner, Kocharkov and Santos, 2016; Raley and Sweeney 2020). While this scholarship identifies the proximate causes for this pattern, such as spousal wage-gaps, female-to-male relative earnings, labor market instability, in-home technology, the ratio of female to male household labor, and female labor-force participation, among others. A brief search reveals that none of these more recent studies even use the phrases “inflation” or “monetary policy”. Furthermore, none of them suggest that there are any cultural effects or altered incentives in any of those categories that can

be traced to the general conditions and incentives created through an inflationary fiat regime. However, they do see each of these factors as influencing the patterns that have emerged in divorce behavior and there is wide-spread agreement on what that pattern is.

Further evidence that divorce is associated with inflationary monetary policy is provided by Chowdhury (2013) who demonstrated that in the run-up to the 2008 financial crisis, that divorce rates are, in fact, “pro-cyclical”. That is to say, when inflationary monetary policy prevails, couples of all income levels are more prone to divorce. This more recent set of findings squares nicely with what Vedder and Gallaway discovered in the inflationary period prior to the Great Depression (1987). Indeed, more recent scholarship – while ignoring the relevance of money supply growth that these previous scholars had understood – all acknowledge that the middle and lower income/wealth holding households with statements like, “Marriage has declined since 1960, with the drop being more significant for noncollege-educated individuals versus college-educated ones. Divorce has increased, more so for the noncollege-educated. Additionally, positive assortative mating has risen. Income inequality among households has also widened” (Greenwood, Guner, Kocharkov and Santos 2016). Or “recent research on divorce, repartnering, and stepfamilies points to the persistence of marriage as a stratified and stratifying institution and indicates that the demographic complexity of family life is here to stay” (Raley and Sweeney, 2020). And another example, “For marriages formed after 1975, husbands’ lack of full-time employment is associated with higher risk of divorce, but neither wives’ full-time employment nor wives’ share of household labor is associated with divorce risk” (Killewald, 2016).

Each of these descriptions of the proximate determinants of divorce may be attributed to Cantillon effects and the inflation culture. The descriptions of what is driving divorce decisions by more recent scholarship squares with the descriptions of Murray, Carbone and Cahn and Eichner

(2020) and with ours as well. However, we assert that the proximate determinants of divorce that have been so thoroughly and consistently documented are themselves manifestations of the Cantillon effect and the other features of inflation culture. The low rates of marriage and high rates of divorce among the less-educated and lower-income households, juxtaposed against the retention of marriage and low rates of divorce among the highly educated and high-income earners are simply evidence that the general economic conditions provide a set of costs and benefits that are different among these increasingly unequal groups. This reality serves to create the perception – real or not – among those harmed by Cantillon effects that, *ex ante*, they would be better off divorcing, while those who benefit by the same effects believe that they would be better off staying married, regardless of the *ex post* outcomes. What this thesis accomplishes is to legitimize the question of whether fiat currency inflationism influences the incentives and conditions around which individuals make this divorce decision, and we hope it has done so in convincing fashion.

## **Section 2: Limitations**

Every thesis and scientific endeavor faces its own limitations and this work is certainly no exception. The most important limitation that we acknowledge is that imposed by economic science itself. Namely, we admit that all human action is the result of deliberate choice by actors who are pursuing *ex ante* benefits that are greater than their *ex ante* costs, according to what each actor subjectively selects as their highest ordinal preference. We do not in any way mean to suggest that the realities of an inflationary regime in any way require individuals to act in a deterministic way. In fact, we are only arguing that the general conditions, institutions, and habits of inflationary cultures create a new set of incentives that are imposed or are exogenous to a free society. Furthermore, we also acknowledge that there are many factors not directly or obviously affected by inflationism that influence family life such as overall life expectancy, improvements in medical



technology that lower childhood mortality and others. We simply limit ourselves to the claim that fiat inflation, the Cantillon effects that follow it, and inflation culture habits and institutions impact the general conditions and incentives faced by acting humans and that these new incentives influence household-level decisions. We claim nothing more and nothing less.

Another limitation is that imposed by the overall timeframe we have in view. The post-WW2 era, running up to the present day, is a long period that contains many factors that have influenced household choices. Therefore, we do not pursue a mathematical path to “prove” causality using granger causality tests over short time intervals. As noted earlier, our linear regression approach in the empirical chapter doesn’t dare to suggest that when a monetary authority alters the money supply by one unit that there will be immediate and discernable reactions by market actors that lead them to rush out and get married, file for divorce, or choose to abort or give birth. Instead, we seek to show correlation over time between money supply growth and show that it is indeed endogenous to other factors like labor market structure, real price increases, and educational patterns as individuals seek to join the new beneficiary class that fiat inflation creates. Indeed, the instructive power of Cantillon effects demonstrates that very endogeneity. Furthermore, economists have up until this point largely ignored the connection between a growing money supply and family life (with the possible exceptions of Vedder and Gallaway, 1987; Chowdhury, 2013; and Meera<sup>193</sup>) while Cantillon explicitly did so. Thus, they have decided that money supply growth is exogenous to family life decisions. Faced with this modern-day limitation, we have decided to play along with this notion. However, our empirical analysis has found that indeed money supply growth does, in fact, impact factors that impact family

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<sup>193</sup> Available at: <http://mmj.my/wp-content/uploads/2019/02/Korea-Fertility-Paper.pdf>

life, like labor force participation rates and educational attainment, just as Cantillon's work explicitly states in some instances and implies in others.

Finally, we acknowledge the limitation that our data sets themselves present, having come from the US only, and thus they are highly stylized to a specific cultural, historical, and sociological set of realities. While it is certainly the goal of economic scientists to discover universal truths and – equally certain – that statisticians and mathematicians and their tools can help us understand and disentangle stylized and unique historic data sets, we nonetheless run up against a set of limitations that can be addressed by the other social sciences such as sociology and psychology. Specifically, the data itself refers to material conditions that affect incentives, which tend to form new habits and institutions. The precise mental processes that form new patterns of thinking, new ordinal rankings of preferences, altered time preference rates etc. are under the purview of psychologists and sociologists, as has been implied or explicitly stated by economists of varying perspectives (Mises, 1949, Becker and Mulligan, 1997; Frederick and Loewenstein, 2002; Delaney and Doyle, 2012; Bartos, et.al., 2021). Once again, this reality causes us to take pause, adopt a full dose of epistemic humility and acknowledge that economic science can only tell us so much, and that is that subjective valuations guide conscious choice and that these choices are applied within the context of household life.

### **7.2.1: Inflation Culture: Connecting Macroeconomic Realities with Altered Ways of Living**

The earliest use of the term that we can find with respect to the term “inflation culture” comes from Hayo (1998), where it is argued that certain people groups who are accustomed to low amounts of inflation, and who raise a clamor when price levels rise have what might be better described as an anti-inflation culture. He found that in such nations the will of the people is a meaningful restraint on fiat inflationism. Others have looked at how culture has been impacted,

not under long periods of positive, persistent money supply growth, but under periods of hyperinflation, such as the Weimar case in 1923, stating that, “[t]he ever-faster-swelling stream of money betrayed long-held persuasions, swept away economic livelihoods, and destroyed the trust and confidence of a whole generation” (Widdig, 2001). The author that appears closest to capturing Hülsmann’s meaning of “inflation culture” (2008) is that of Toporowski (2008), who marks the impact of “financialization” as “no mere temporary departure from equilibrium in a standardized model of capitalism. It changes the character of capitalism and the range of choices that firms, individuals and households face. An enhanced option to consume without income is bought at the cost of financial instability, industrial decadence, and regressive social values” (2008). While we certainly are in agreement with Toporowski’s assessment, it appears that the fullest development remains in Hülsmann’s *Ethics of Money Production* (2008). In summary, our approach is certainly novel, but not unheard of. While Toporowski’s work has focused in recent years on different topics related to Kalecki’s views on financial fragility and business cycles (2014), Hülsmann has shown a more consistent pattern of writing on the topic of cultural manifestations of loose monetary policy (2015, 2016). Hence, we have sought to more fully develop and describe the schema of the inflation culture presented by Hülsmann, which could be said to parallel Toporowski’s “financial instability”, “industrial decadence”, and “regressive social values” (2008), with the terms “inherent fragility of fractional-reserve systems” (Hülsmann, 2008), “capital consumption” (Hülsmann, 2012), and “spiritual degradation” (Hülsmann, 2008).

### **7.2.2: Intersections with other Social Sciences**

As noted earlier, economic science lacks the tools to identify the specific mental and psychological processes by which a person raises their time preference rates. However, that doesn’t mean that they have *nothing* to say on the matter. Indeed, economists rely on the law of diminishing

marginal utility in order to explain how time preference rates decrease as real income and wealth increase (Rothbard, 1962; Hülsmann, 2008). Nevertheless, economists may also speak to the role that incentives play in raising or lowering the costs of certain behaviors, whether they be savings/consumption patterns, marrying earlier or later, working more or less outside of the home, etc. It is in these sorts of categories that we seek to provide a more profound and universal explanation. If indeed all economists agree that monetary policy in a fiat regime has implications for the structure and behavior of firms, governments, capital markets, labor markets etc. then why indeed has there been so little attention on its implications for households? For our part, we believe that this is a worthy territory to cultivate scholarship and one in which a small – but formidable – group of economists has opened to us.

With respect to this topic's opportunities for work with other social scientists, we suggest that time preference rate formation and the thoughts of psychologists and in particular, family psychologists might play a role as children certainly learn from their parents' certain attitudes towards money, savings, and consumption. Furthermore, we see opportunities to look into the theories of presented by the likes of Rene Girard and his work on mimetics to discover how the reality of rising wealth and income inequality in society drive desire and a culture of 'keeping up with the Joneses' that may lead the less wealthy to acquire more debt in an effort to keep up such appearances.<sup>194</sup> Finally, we anticipate that there will be more work that needs to be done within economic science itself to more fully develop the implications of Cantillon effects on labor markets, educational choice, and family internal dynamics in response to the conditions that he describes (Saucier and Thornton, 2010).

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<sup>194</sup> Indeed, even ancient wisdom literature has addressed this very human phenomenon as axiomatic; "One person pretends to be rich, yet has nothing; another pretends to be poor, yet has great wealth" (Proverbs 13:7, NIV).

### **Section 3: Extensions**

As with all novel approaches, they should be grounded in previous research and serve as a bridge to further study. We believe that this thesis accomplishes such a task. The specific area of extension are hinted at in earlier sections and the most opportune and rich area for study is to turn towards fiscal policy and its impact on household behavior and structure. While we do affirm the previous section, where other work with social scientists of differing fields may provide further nuance and depth of understanding, the nature of extending a research program calls for a greater breadth, which we will hereby describe.

#### **7.3.1: Household Economics, Fiscal Policy and the Welfare State**

The overall approach of this thesis is to connect an exogenous policy – fiat monetary policy – as a catalyst for cultural change, which impacts household behavior and structure. It is our belief that the same approach may be taken to the exogenous imposition of taxation and spending in modern societies. One of the most obvious ways in which this may be examined is to take a systematic approach to describe both theoretically and empirically how varying tax structures impact family life. Certainly, one may classify taxation into several categories, for example, taxes on inheritance, consumption, income, or on supposed vices, to see how such incentives alter household behavior. Not only that, but the spending from those tax revenues upon various categories like the welfare state, education, old-age security, and more may be examined for family impact as well. Indeed, this author believes that if a combined treatise on the impact of monetary *and* fiscal policy were created that we may inch closer to a unified economic theory of the family and the interventionist state.

### **7.3.2: Modern Interventionist Culture**

If the previous section and the extensions it suggests are feasible, then we believe that this brings forth an opportunity to ask how and why it is that cultures have varying degrees of fiscal and monetary intervention. One hint that this may be a fruitful approach comes from a somewhat obscure work from Emmanuel Todd called, *The Explanation of Ideology: Family Structure and Social Systems* (1985). His more recent work, *Lineages of Modernity* (2019) and Henrich's *The Weirdest People in the World* (2020) may provide motivation as well as some explanation for what has made modern societies by and large, interventionist in both fiscal and monetary matters. The radical literature on this question has been well established by Hoppe's *Democracy: The God That Failed* (2001), which points to democracy as a system which invites intervention due to the possibility that the majority can use interventionist politicians and policies in order to legally loot their neighbors and share in the spoils without producing anything except their votes. We would seek to discover whether there are any cultural, or perhaps familial patterns of thinking and acting that provide the fertile ground for interventionist states to exert control over monetary and fiscal matters. Is there something in the culture itself that invites these interventions? Is there something about the modern state itself that progressively intervenes, not only into market activity and structure, but into households as well? Indeed, the search for and the answers to these questions may include contributions from economics science.

### **Section 4: Household Level Costs and Benefits of Fiat Inflation**

Costs and benefits are subjective. While there are certainly types of costs and benefits that can be measured using the methods of accounting. However, when it comes to real people making real decisions in the real world, human judgment and valuation is always in play. This is no less

true for entrepreneurs than it is for young couples, divorcees, widowers, or single adults and the households they belong to.

As we have examined the ways in which a fiat monetary regime expands money supplies, and the Cantillon effect that arises from such actions, we see that many different incentives are altered. Furthermore, depending on where a household is in terms of the costs and benefits of inflationary money supplies, they may alternatively improve their prospects for traditional family life or see those prospects evaporate over time. Of course, there are those individuals and households who recognize the economic patterns that emerge under conditions of fiat inflation and take actions that they believe will place them and their families among the winners, rather than stay among those who are harmed. For many of them, they pursue ever-higher educational status, work more hours, and take greater financial risks and go into real asset investment. Just as certain is that some succeed in these endeavors, and others fail.

It is clear that in the general public's mind, the term "inflation" itself holds a negative connotation, whether they view it as an increase in un-backed money, or as whatever rate is reported to them by their governments in some sort of price index, or whether they simply look at the price of gasoline relative to the last fill-up. However, this general understanding hides the plain fact that there are some who do benefit by it, while there may be many individuals and households who don't – regardless of one's formal definition of what inflation actually means. Therefore, when asking the reader to evaluate for themselves whether fiat currency growth is a net positive or net negative, they must consider that – as Cantillon himself saw – that there are winners and losers when money supply increases. Those on the winning side see their family life in a much better position to succeed, and those who don't adopt alternative household behaviors, habits, and patterns.

Among conservatives, they have seen changing trends and forms of household life as cause for alarm. Emblematic of this approach is the following: “A byproduct of inflation (which itself results from macroeconomic policy) is a substantial cost associated with marital discord. Accordingly, recognition of that cost reduces the likelihood that any inflationary policy will be socially desirable...The findings here reinforce the view that inflationary macroeconomic policies are, on balance, a burden to our society” (Vedder and Gallaway, 1987). Such an assessment is specifically referring to price inflation, rather than money supply expansion. Nonetheless, Vedder and Gallaway express open concern about such developments in family life and see those changes as something to be addressed through further interventions. Murray takes a more *laissez faire* approach to the changes that he documented in *Coming Apart*. However, when pressed in public settings, his reluctance to offer solutions as a conservative and libertarian are a tacit acknowledgement of the costs of further intervention and potential unintended consequences for additional policy directives towards family life.

On the other hand, progressives and radicals view the changes and withering away of traditional families among lower income individuals as a positive outcome and hope for its acceleration. Furthermore, as Lewis (2022) views the continued evaporation of traditional family life – and ultimately, the state – as a desirable end, asserting, “the only way to ensure the destruction of the patriarchal state is for the institution of the family to be destroyed” (p.33). She states plainly that once this goal is achieved, that the complete abolition of traditional family life, “advances a vision of a future in which children and adults together – having eliminated capitalism, work, and the sex distinction itself – democratically inhabit large, nongenetic households” (p.57). If our analysis is correct with respect to the ways in which fiat inflation undermines the traditional family among a large portion of the population, it seems that Lewis would call for more aggressive



inflationism as an appropriate and desirable policy tool in order to speed the institutions abolition. However, based on our analysis, such an action would tend to solidify the traditional family even further among the beneficiaries of even greater inflation via the Cantillon effect. For the far left, it seems that the tool of inflation would be insufficient to achieve the goal of family abolition, and perhaps very costly to the lower socioeconomic classes, whose plight the left champions.

To straddle the positions between the ideological right and left, some have adopted the claim that changes in family structures are strictly speaking, the natural process of a “spontaneous order” (Horwitz, 2015). As such, altered family functions and the forms that follow should be viewed as forms of innovation and creativity in a changing world, and that such changes are essentially neutral, because “[t]he very dynamism of the market economy has been reflected in the dynamism of cultural change, including the family” (p.6). Horwitz further articulates this position by laying claim to the mantle of classical liberalism and Hayekian thought by explaining that, “classical liberalism can offer an alternative perspective that both acknowledges the irreplaceability of the family and values the diversity in family forms, while also understanding the ways in which each is rooted in economic freedom. Classical liberalism also has an optimism in the face of *social change* that distances it from the economic pessimism of the left and the cultural pessimism of the right” (p.8, emphasis added). What is interesting in Horwitz’s work is that as a self-styled Austrian economist, he doesn’t build the connection between the inflation culture, and household behaviors which the noted Austrians, Hülsmann (2008) alluded to, and to which Hoppe (2001) made explicit in earlier works. Thus, despite the multiple forms of intervention into the market economy, Horwitz seems to gloss past these realities and suggest that what is in operation in modern economies today are genuinely free economies, and that this freedom has led to increases in women’s wages and altered family life. In short, Horwitz sees

capitalism's success leading to innovation in family life, while more than 70 years earlier, Schumpeter saw capitalism's success (in a mixed, but not free economy) as leading to the erosion of traditional family life, and the undermining of capitalism itself (1942).

As we close, it will be plain to the reader that our contention is that inflationary fiat currency regimes, once introduced, have the tendency to alter traditional family structures among those who are outside inflation's beneficiary class. This process has in fact contributed to significant changes in family life in the US in the post WW2 era, as Murray has so thoroughly described. While the resulting inflation culture and Cantillon effects have contributed to family change among many in the lower wealth and income brackets, it also appears that this same inflationary policy has served to bring more women into the workforce and balance their participation with men as the industries that have benefited from the financialization of the economy have majority female workforces. Furthermore, the upper classes have been enabled by this process to solidify family life and to create and maintain multi-generational wealth, thus passing these habits on to their children who further increase their own economic productivity. Given the outcomes of inflationism upon family life, and in light of how various ideological positions inform the reader on what a desirable future for family life looks like, and finally, with the knowledge of who benefits and who is harmed in this policy process, we leave it to the reader to evaluate the costs, benefits, and then to determine the desirability of fiat currency inflation and its impact on traditional household life.

## Appendix A: Supplementary Empirical Findings

### Section 1: M2, Debt, Higher Education Levels, and Marriage Markets

Given the financial realities within the US higher education industry, the first linear regression model we deploy aims to measure the extent of the relationship of indexed real M2 growth (1967 = 100) to the indexed growth of personal consumption expenditures on higher education.<sup>195</sup> Table A.1 demonstrates that this connection is economically and statistically significant with a high degree of positive correlation in quarterly intervals. Specifically, for every 1 unit increase in the real M2 money stock index, there was a 9.7429 increase in the higher education expenditure index. The p-value allows us to reject the null (that the two variables are not correlated) and the tightness of fit is quite high for a single-variable model at 0.9158.<sup>196</sup>

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Higher Education Expenditure Index	M2 Index	9.7429	< 2e-16	0.9158

Given the high degree of correlation between M2 money supply and higher education expenditures over nearly six decades, we further explore the connection between the actions of the

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<sup>195</sup> Data sets were acquired from: fred.stlouisfed.org and included the variables of “Real M2 Money Stock” and “Personal Consumption Expenditures: Services: Higher Education”.

<sup>196</sup> Some may object that the high adjusted R-squared value is simply due to the fact that the model uses time-series data and that the data points are ‘path-dependent’. However, it is *not* a necessary fact that both educational indexes and money supply *must* rise over time. To the contrary, prices are the result of demonstrated preferences of real people in the real economy, as are decisions by real policy makers to expand the money supply. If it is the case that human decision-making gives the appearance of path dependence, one may ask what institutional influences keep path dependence in one direction continually. Furthermore, one notable difference in the US economy of a falling price level over time is the consumer price index for computers, peripherals, and smart home assistants which certainly are not falling due to a lack of demand or investment. This is not to mention the recent reductions in the supply of real M2, which is clearly an indicator of deliberate human choice. In short, it is *never* the case that rising price indexes are an *inevitable* feature of any economy, and path dependency as a cause of increased expenditure that is continual is suspect when there are other important examples of decisions that move prices for other goods in opposing directions.

central bank to see whether aspects of the inflation culture have emerged in the market for higher education. An important historical note is that there was a notable expansion of the US student loan program in the 1994 academic year after the passage of the Student Loan Reform Act.<sup>197</sup> At that point, the US Government-Sponsored Enterprise (GSE) ‘Sallie Mae’ began to gain market share in the student loan market (itself based on circulation credit creation) and become a dominant player by 2020, holding approximately 18% of total student loan debt alongside other major players such as Navient (18%) and Wells Fargo (8%).<sup>198</sup>

The following set of linear models (Table A.2) explore the relationship between money supply growth, an overall debt level index, and the price increases in the market for higher education tuition in the US, since 1967.<sup>199</sup> While initial bi-variate regression indicates that there are positive relationships that are all statistically significant, there are of course some relationships that are stronger than others as indicated by an array of R-squared values. What remains for the period from 1967 until 2022 is the statistically significant, economically meaningful, and highly correlated relationship between fiat money expansion and the higher education expenditure index, even when controlling for the roles that total debt accumulation, and the growth in the number of men and women obtaining bachelors degrees is accounted for. An intriguing finding is that when all four variables are considered, the influence that male bachelor’s degree demand has is a

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<sup>197</sup> An important historical note is that there was a notable expansion of the US student loan program in the 1994 academic year after the passage of the Student Loan Reform Act. At that point, the US Government-Sponsored Enterprise (GSE) ‘Sallie Mae’ began to gain market share in the student loan market (itself based on circulation credit creation) and become a dominant player by 2020, holding approximately 18% of total student loan debt alongside other major players such as Navient (18%) and Wells Fargo (Per source: <https://lendedu.com/blog/history-of-student-loans>)

<sup>198</sup> Per source: <https://protectborrowers.org/130-billion-psl-market/>

<sup>199</sup> It should be noted that there are clear beneficiaries to the process of student loan expansion. Chief among them are university mid-level administrators who hold positions that were created due to the increased revenues that the student loan programs brought into the university systems.

negative one upon the higher ed index, while the female bachelor degree demand is positive and statistically significant.<sup>200</sup>

<b>Table A.2: Indexed Variables Relating M2 and Educational Markets (1967 = 100)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Consumer Debt Index	M2 Index	14.6748	2e-16 ***	0.8449
Higher Education Expenditure Index	Consumer Debt Index	0.62731	2e-16 ***	0.9655
Higher Education Expenditure Index	M2 Index	3.5285	2.44-10 ***	0.9838
	Consumer Debt Index	0.4235	2e-16 ***	
Higher Education Expenditure Index	M2 Index	1.75768	0.00119 **	0.9889
	Consumer Debt Index	0.13946	0.02672 *	
	Men w/ Bachelors Index	-12.24837	2.8e-05	
	Women w/ Bachelors Index	9.88265	6.72e-06	

<sup>200</sup>Given these results, it appears that indeed there is a correlation between growing money supply. While the portion of M2 that is created through circulation credit and the US Federal Student Loan Program is indiscernible, and that particular data is unavailable, there is no doubt that this credit makes up some portion of M2 as it is by definition a deposit in the accounts of colleges and universities. One explanation for this positive correlation between education costs higher M2 is the enactment of the Student Loan Reform Act of 1993. This is an indication that the so-called “Bennett Hypothesis” may have been confirmed. Namely, that student aid causes what some would consider “demand-pull” inflation. In contrast, we consider this a consequence of the Cantillon effect, which identifies the source of the increased demand as originating with circulation credit expansion.

These empirical findings are consistent with what has been expressed by Best and Keppo (2012); Cellini and Goldin (2014); and Lucca, Nadauld and Shen (2019). In short, these economists have provided evidence of what some call “demand-pull” inflation. We consider this a clear manifestation of the Cantillon effect, which identifies the source of the increased demand – the increase in circulation credit through the federal student loan programs. Through this effect, there are clear benefits to the first recipients of the newly created credit. Specifically, the students who acquire higher education services, and the employees of the universities themselves who are the recipients of the students’ expenditures. On the other hand, as prices have continued to rise in the higher education sector, later potential students are left with higher tuition payments than would otherwise have been the case. When categorizing this phenomenon as a subset of the inflation culture, this process clearly fits into the category of the debt culture, which normalizes the use of credit for education expenditures to a higher degree than was previously the case. In addition, as we have included the overall level of consumer debt in this empirical study, increased levels of consumer debt have also been incentivized through the modern fiat currency and banking systems in place in the US.

We now turn to the question of how and to what extent this increased debt load – primarily held by young adults – impacts their marriage prospects. On this matter, it has been shown that increases in student loan debt delays marriage to the degree that “an increase of \$1,000 in student loan debt is associated with a reduction in the odds of first marriage by two percent a month” (Bozick and Estacion, 2014).

In seeking to illustrate whether this relationship holds in more recent years, we continue with the same empirical method by indexing both total debt load and the change in average age at first marriage to analyze the former’s impact on the average age of first marriage for males and

females respectively. After running a bi-variate linear regression, there is a statistically significant link between the two variables and R-squared values above 0.94 indicate a positive correlation (per Table A.3).<sup>201</sup> The strength of correlation between overall debt loads and delays in marriage are in line with Bozick and Estacion’s findings through 2019 with respect to student debt loads and delays in marriage. In our view, this strengthens the argument that debt matters in delaying marriage in the US, as the total debt load takes into account not only student loan debt, but other forms of credit obligations as well. Moreover, as their data set was taken at the end of the academic year of 1997, the general trend of debt and marriage delays seems to hold over two decades later, and extending back three decades prior.<sup>202</sup>

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Men’s Age at First Marriage Index	Consumer Debt Index	5.815e-04	<2e-16 ***	0.8631
Women’s Age at First Marriage Index	Consumer Debt Index	7.008e-03	<2e-16 ***	0.877

The key interpretation that we take away from these results is that is reflected in the work of Carbone and Cahn (2014) where they describe the marriage market that has emerged in the US over the past several decades. For them, this trend among men is reflected in several observations:

<sup>201</sup> Granger tests that do not approach P-values of 0.1 are non-applicable.

<sup>202</sup> Bozick and Estacion noted that for college graduates in the spring of 1997, “In our analytic sample, 45.7 percent graduated from college with student loan debt, and among those who did, the average burden was \$10,538” (p. 1876). In addition, we note that the average student loan debt for a graduate in the spring of 2019 amounted to an average of \$28,950, per The Institute for college Access and Success (Sourced at: <https://ticas.org/affordability-2/student-aid/student-debt-student-aid/report-class-of-2019-four-year-graduates-average-student-debt-is-28950/#:~:text=October%20of%2C%202020-,REPORT%3A%20Class%20of%202019%20Four%2DYear%20Graduates',Average%20Student%20Debt%20Is%20%2428%2C950>)

“Rising inequality has affected men more than women, increasing both the number of men at the top who are eager to pair with high-status women...both [men and women are] pickier about potential mates and wary of early commitments that might limit future opportunities...Now both look for mates who reflect (and enhance) their own expectations about the ability to enjoy the good life. Two substantial incomes rather than one make the difference between the home overlooking the golf course and the modest tract house in the less tony school district” (2014, p.2)

**Section 2: M2, Housing Costs, and Marriage Markets**

With respect to the importance that M2 Money Supply plays in changes in the Median Housing Price Index, we again employ a simple bi-variate model to see what initial findings are available. Indeed, there is reason to suspect that the two variables are positively correlated. We aren’t the first to suggest that there is such a relationship, although through a different direction by Crawford, Low, and Rinaldo (2013). They hypothesized that delays in

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Median Housing Price Index	Real M2	4.4765	<2e-16 ***	0.9097

marriage, with its single-income status means that with homes becoming less affordable, there is less home ownership among those 35 and younger. We suggest a different approach in the causal links, where monetary policy drives higher prices in the housing market (as suggested in Table A.4). Such increases in housing costs may tend to delay marriage, as home ownership may be viewed as a *social marker* of marriageability (per Table A.5). Ultimately, we admit that there may be bi-directional effects between all of these variables, but our inclusion of monetary policy in this chain events is – to the best of our knowledge – the only attempt to include monetary policy in the



analysis that connects fiat currency inflationism, increasing housing costs and the rising age at first marriage for both men and women in the US context – albeit in a set of two, separate and simple bi-variate linear regressions. In the second bi-variate regression (Table A.5) there is indeed a statistically significant relationship between age at first marriage and the housing price index over the past five-and-a-half decades for both men and women, with women reacting to higher housing prices with a slightly longer delay in marriage. While such a brief analysis of this question hardly lays the question to rest, it is an initial indicator that the link between M2, housing prices, and delays in marriage may have merit in more complex linear regressions that utilize other relevant control variables (as demonstrated in Chapter 6).

<b>Table A.5: Single Variable Models Linking the Median Housing Price Index, and Average Age of 1<sup>st</sup> Marriage for Men and Women (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Average Age of Men at 1 <sup>st</sup> Marriage	Median Housing Price Index	2.06e-02	<2e-16 ***	0.9391
Average Age of Women at 1 <sup>st</sup> Marriage	Median Housing Price Index	2.475e-02	<2e-16 ***	0.9479

### **Section 3: M2, Labor Markets, and Marriage Markets**

When applying a bi-variate analysis on the impact that money supply growth has had on the male labor force participation rate since 1967, there is a *negative* and statistically significant, relationship between real growth in M2 money supply and the male labor force participation rate, per Table A.6. Conversely, there is a *positive* coefficient in female labor force participation that is

statistically significant, yet the adjusted  $R^2$  value indicates that much of the variance in female labor force participation is explained outside of real M2 production.<sup>203</sup>

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Male Labor Force Participation Rates Index	Real M2 Index	-0.04366	<2e-16 ***	0.9023
Female Labor Force Participation Rates Index	Real M2 Index	0.07349	0.00012 ***	0.2322

Carbone and Cahn (2014) have explained that the marriage markets have been fundamentally altered through the financialization of the economy and that men are less marriageable than they have ever been in the US economy. Table A.7 attempts to illustrate this idea by regressing the average age at first marriage on the respective labor force participation rates index of men and women. Indeed, there is a negative correlation for men with respect to their age at first marriage and the overall male labor force participation rate that is statistically and economically significant, and over 95% of the variation in that age is explained by the labor force participation rate. The economic significance is that men's labor force participation has been in steady decline since the 1960s, falling by over 16%, leading to a 32% increase in the age at first marriage over the same time span.

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<sup>203</sup> The BLS itself contends that a major factor in explaining the variability of female labor force participation in the second half of the 20<sup>th</sup> century into the 21<sup>st</sup> is the rapid growth in female educational attainment, where now women make up the majority of all degree earners in the US at the undergraduate and graduate levels. Source: <https://www.bls.gov/opub/reports/womens-databook/2021/home.htm>

<b>Table A.7: Male/Female Labor Force Participation Rates &amp; AAFM (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Average Age of Men at 1 <sup>st</sup> Marriage Index	Male Labor Force Participation Rate Index	-2.11799	2 e-16 ***	0.9525
Average Age of Women at 1 <sup>st</sup> Marriage Index	Female Labor Force Participation Rate Index	0.52671	8.15 e-15***	0.6907

Conversely, the positive correlation between female labor force participation and age at first marriage for women fits a common narrative surrounding marriage delays. This squares nicely with the claim of Carbone and Cahn that the most marriageable women are those who have been in the workforce the longest and that for those of especially high earning power (perhaps in the medical, financial, or educational administrative fields), and they are the most likely segment of people in the US to be married (2014). Furthermore, their claims are analogous to ours when stating: “Every serious scholar who has examined employment emphasizes that what took place in the workplace in the nineties mirrored the changes in the family: both showed improvements at the top and declines at the bottom. Wages increased steadily for those with college degrees or more and stagnated or fell for those with less education. The impact on family stability, though, came less from the decline of wages per se and *more from the loss of work*” (p. 75, emphasis added).

Furthermore, they reprise Charles Murray’s observations that the general loss of work has led many less educated men to drop out of the labor force altogether, leaving them less desirable in the dating and marriage markets. As for those men in the labor force, they are there in part due to their higher levels of education. These simple econometric exercises put forward in this appendix imply that due to higher costs in education that fewer men are pursuing such education, and as a result, more and more of them are deemed unmarriageable due to the fact that women are

more educated and have come to hold the majority of positions where new credit expansion is being spent. As there are fewer men who are marriageable, and those who are fit the profile of a highly educated, high-earning individual, they are at a much greater advantage than their less-educated counterparts in the marriage market. This growing gap between more and less-educated men gives rise to what Murray describes as the near disappearance of marriage among the less-educated class who live in “Fishtown” and their more affluent – and very distant – neighbors in “Belmont” (Murray, 2012).

#### **Section 4: M2, Labor Markets, and Fertility Choices**

In utilizing several aggregate factors that are shown to be caused by monetary policy and incorporating them into a model that estimates their effects on fertility choice, it appears that using this indexed data from 1967-2021, we find that the two variables that matter the most in estimating fertility is the labor force participation rate among men and women respectively. In an interesting finding, the male labor force participation rate appears to be more statistically significant than the female rate. In addition, its influence is of a higher magnitude. These findings certainly seem to square with the findings of Murray (2012) and Carbone and Cohn (2014) who both make the argument that a lack of reliable men in the labor force is a drag on fertility rates, especially within marriage. Furthermore, the impact is so great that for every 1% decrease in the former, there is a 2.28% decrease in the latter. While this result may at first glance appear to cast doubt on the narrative that welfare spending has a positive correlation to birth rates, we urge caution, since we (deliberately) don’t control for that variable, as the role of taxation and spending (fiscal interventionism rather than monetary interventionism) is an important topic that is an issue best dealt with in another study. Nevertheless, we present the brief findings on the relationship that

both male and female labor force participation rates has had upon total fertility rates below in Table A.8.

<b>Table A.8: Male/Female Labor Force Participation Rates &amp; Crude Birth Rate (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Crude Birth Rate Index	Male Labor Force Participation Rate Index	2.28718	<2e-16 ***	0.9525
Crude Birth Rate Index	Female Labor Force Participation Rate Index	0.08384	0.105	

### **Section 5: The Polynomial Approach to Divorce Data:**

As the overall behavior of the divorce data in the US since the 1960s initially rises rapidly, peaking and then plateauing in the early 80s, with a steady decline up until today. This narrative represents a negative parabolic behavior, as such, we selected several variables from our initial models and squared their values to detect whether there is more explanatory power with a polynomial approach. Furthermore, it seemed appropriate to provide more empirical analysis of this type as divorce rates are the least well understood of the main categories of family economics. As several approaches and modeling combinations have been used with indexed data we did find that the adjusted R-squared values and P-values generally (although not always) possess high degrees of correlation between these variables and the divorce rate. Again, we are looking at correlation over time, and not causation, which of course would require other types of econometric testing, that will need to be reserved for future work. Nevertheless, there are some intriguing correlations that arise when we consider that the divorce rate may indeed exhibit parabolic behavior with respect to the data provided. The essentials of the summary output from R-studio are depicted below:

<b>Table A.9: Real M2 Index &amp; Divorce Index (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Real M2 Index	-0.08652	0.592	0.4831
Divorce Rate Index	(Real M2 Index) ^2	-0.0002833	0.348	

<b>Table A.10: Total Consumer Debt Index &amp; Divorce Index (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Total Consumer Debt Index	0.01494	0.081829 .	0.5816
Divorce Rate Index	(Total Consumer Debt Index) ^2	-0.000007132	0.000667 ***	

<b>Table A.11: Median Home Price Index &amp; Divorce Index (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Median Home Price Index	0.05324	0.0302 *	0.5682
Divorce Rate Index	(Median Home Price Index) ^2	-0.00006453	0.0000063 ***	

<b>Table A.12: Men &amp; Women w/ Bachelor's Index &amp; Divorce Index (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Women w/ Bachelors Index	-1.771	<2e-16 ***	0.9812
Divorce Rate Index	(Women w/ Bachelors Index) ^2	0.002473	2e-16 ***	
Divorce Rate Index	Men w/ Bachelors Index	7.614	<2e-16 ***	
Divorce Rate Index	(Men w/ Bachelors Index) ^2	-0.01844	<2e-16 ***	

<b>Table A.13: Men &amp; Women Labor Force Participation Rate Index &amp; Divorce Index (1967-2019)</b>				
<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Women's Labor Force Participation Index	30.03	<2e-16 ***	0.9595
Divorce Rate Index	(Women's Labor Force Participation Index) ^2	-0.1181	2e-16 ***	
Divorce Rate Index	Men's Labor Force Participation Index	128.1	1.63e-06 ***	
Divorce Rate Index	(Men's Labor Force Participation Index) ^2	-0.6652	5.63e-06 ***	

**Table A.14: Men & Women Labor Force Participation & Bachelor's Rate Index Regressed on the Divorce Index (1967-2019)**

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Women's Labor Force Participation Index	8.223	0.0840 .	0.9595
Divorce Rate Index	(Women's Labor Force Participation Index) ^2	-0.02995	0.0960 .	
Divorce Rate Index	Men's Labor Force Participation Index	38.55	0.1800	
Divorce Rate Index	(Men's Labor Force Participation Index) ^2	-0.2081	0.1913	
Divorce Rate Index	Women w/ Bachelors Index	-1.550	2.17e-06 ***	
Divorce Rate Index	(Women w/ Bachelors Index) ^2	0.002307	4.26e-06 ***	
Divorce Rate Index	Men w/ Bachelors Index	5.764	2.07e-05 ***	
Divorce Rate Index	(Men w/ Bachelors Index) ^2	-0.01483	4.38e-06 ***	



**Table A.15: Total Consumer Debt Index & Educational Level Index Regressed on the Divorce Rate Index (1967-2019)**

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Total Consumer Debt Index	0.005120	0.669	0.9813
Divorce Rate Index	(Total Consumer Debt Index) ^2	-0.00000162	0.457	
Divorce Rate Index	Women w/ Bachelors Index	-1.907	5.48e-07 ***	
Divorce Rate Index	(Women w/ Bachelors Index) ^2	0.002850	3.53e-07 ***	
Divorce Rate Index	Men w/ Bachelors Index	8.028	<2e-16 ***	
Divorce Rate Index	(Men w/ Bachelors Index) ^2	-0.01991	5.35e-15 ***	

**Table A.16: Higher Education Price Index & Educational Level Index Regressed on the Divorce Rate Index (1967-2019)**

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Higher Education Price Index	-0.01322	0.484	0.9808
Divorce Rate Index	(Higher Education Price Index) ^2	0.000001819	0.685	
Divorce Rate Index	Women w/ Bachelors Index	-1.602	6.70e-06 ***	
Divorce Rate Index	(Women w/ Bachelors Index) ^2	0.002443	1.24e-07 ***	
Divorce Rate Index	Men w/ Bachelors Index	7.540	<2e-16 ***	
Divorce Rate Index	(Men w/ Bachelors Index) ^2	-0.01879	<2e-16 ***	

**Table A.17: Median Home Price Index & Educational Level Index Regressed on the Divorce Rate Index (1967-2019)**

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Coefficient</i>	<i>P-Value</i>	<i>Adjusted R<sup>2</sup></i>
Divorce Rate Index	Median Home Price Index	-0.03424	0.385	0.9819
Divorce Rate Index	(Median Home Price Index) ^2	0.000005231	0.762	
Divorce Rate Index	Women w/ Bachelors Index	-1.633	1.11e-07 *	
Divorce Rate Index	(Women w/ Bachelors Index) ^2	0.002422	5.69e-08 ***	
Divorce Rate Index	Men w/ Bachelors Index	7.518	<2e-16 ***	
Divorce Rate Index	(Men w/ Bachelors Index) ^2	-0.01827	<2e-16 ***	

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**Titre :** La transformation des familles par la culture d'inflation

**Mots clés :** Politique monétaire, économie de la famille, inflation, culture

**Résumé :** Des changements spectaculaires dans la structure et les comportements des familles se sont produits dans le monde occidental après la Seconde Guerre mondiale. Les retards de mariage, l'augmentation de la cohabitation, l'augmentation des naissances hors mariage, la baisse des taux de fécondité et la normalisation du divorce sont désormais des caractéristiques habituelles de la vie des ménages. Bien que ces caractéristiques soient observées dans toutes les classes socio-économiques, elles sont particulièrement concentrées chez les pauvres et la classe moyenne inférieure en termes de revenus.

Les économistes ont mis en évidence les causes potentielles de la nature hétérogène de ces changements dans les ménages, notamment l'évolution des marchés du travail, l'augmentation du rendement des investissements dans l'éducation, la hausse des prix de l'éducation et du logement, et la modification des cadres institutionnels.

Des juristes et sociologues ont affirmé que ces changements radicaux sont dus à la législation du divorce, à la déréglementation du secteur financier et à la mondialisation.

Nous soutenons qu'un facteur a été négligé dans l'explication de la modification de la vie des ménages. Il s'agit du rôle de la politique monétaire inflationniste. En effet, au fil des décennies, les régimes modernes de monnaie fiduciaire qui tendent à une croissance positive et persistante de la masse monétaire ont favorisé l'émergence d'une culture de l'inflation. Celle-ci se caractérise par un ensemble d'institutions, d'habitudes et d'incitations qui accélèrent l'inégalité des revenus et des richesses, l'endettement et l'aléa moral, ce qui rend le déclin du modèle de ménage traditionnel plus probable qu'elle ne le serait autrement. Nous concluons donc que la politique monétaire a un impact significatif sur la culture et la famille.

**Title :** The Family in the Inflation Culture

**Keywords :** Monetary Policy, Family Economics, Inflation, Culture

**Abstract:** Dramatic changes in the structure and behaviors of families have occurred throughout the western world in the post-World War 2 era. Ongoing delays in marriage, increasing cohabitation, rising childbirth outside of wedlock, declining fertility rates, and the normalization of divorce are now regular features of household life. While these features are seen in all socioeconomic classes, they are particularly concentrated among the poor and lower-middle class.

Economists have pointed to potential causes for the heterogenous nature of these household changes, including changing labor markets, increased returns to educational investments, rising prices for education and housing, and altered institutional settings. Legal scholars and sociologists have contended that the

sweeping changes have been driven by divorce law, the deregulation of the financial industry, and globalization.

We contend that there has been a neglected factor in explaining altered household life, namely, the role of inflationary monetary policy. Indeed, over the decades, modern fiat currency regimes with a tendency towards positive, persistent money supply growth have spurred the establishment of an inflation culture. It is characterized by a set of institutions, habits, and incentives that accelerate income and wealth inequality, indebtedness, and moral hazard that make the deinstitutionalization of the traditional household pattern more likely than would otherwise be the case. We conclude therefore, that monetary policy has a meaningful impact on culture and the family.