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DECENTRALIZATION, SUBNATIONAL GOVERNMENTS' BEHAVIOR AND MACROECONOMIC INSTABILITY: THE CASE OF MALAYSIA

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Université d'Auvergne, Clermont-Ferrand I
Faculté des Sciences Economiques et de Gestion
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**DECENTRALIZATION, SUBNATIONAL GOVERNMENTS'
BEHAVIOR AND MACROECONOMIC INSTABILITY: THE CASE
OF MALAYSIA**

Thèse présentée et soutenue publiquement pour l'obtention du
Doctorat en Sciences Economiques

par
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Sous la direction de
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L'Université d'Auvergne n'entend donner aucune approbation, ni improbation aux opinions émises dans cette thèse. Ces opinions sont propres à l'auteur.

*Untuk mak dan abah,
semoga Allah mencucuri rahmat ke atas rohmu.*

Alfatihah...

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INTRODUCTION GENERALE.

Lors des deux dernières décennies, une vague de décentralisation a déferlé sur le monde entier. En effet, selon Ebel (2000), parmi les 77 pays en développement et en transition recensés dans le monde, 63 ont mis en place une politique de décentralisation.

Il convient tout d'abord de définir ce que l'on entend par décentralisation. Malgré le fait l'existence d'une littérature assez vaste sur la question, il n'y a, à proprement parler pas de définition précise de la décentralisation. Ceci est dû en particulier au fait que ce concept englobe une variété très diverse d'arrangements et de reformes institutionnelles. Selon Bird (1993, p. 208), "*Decentralization seems often to mean whatever the person using the term wants it to mean*".

Oates (1972) a défini la décentralisation comme le degré d'indépendance qu'ont les différents niveaux de gouvernements dans les prises de pouvoir en matière de fourniture de biens publics. Minis et Rondineli (1989) ont distingué trois types de décentralisation : (1) la décentralisation spatiale qui est définie comme un processus de diffusion de la population et des activités urbaines sur l'espace géographique du pays, (2) la décentralisation de marché qui se réfère à un processus de création des conditions dans lesquelles les biens et services sont fournis par le marché et non plus par les décisions gouvernementales et (3) la décentralisation administrative qui est "*...the transfer of responsibility for planning, management and the raising and allocation of resources from the central government and its agencies to field units of government agencies, subordinate units or levels of government, semi-autonomous public authorities or corporations area-wide, regional or functional authorities, or non governmental private or voluntary organization.*" (Rondinelli and Nellis 1986, p.5). Cette dernière catégorie est par la suite divisée en trois types : déconcentration, délégation, et dévolution. On trouve d'ailleurs cette même typologie chez Bird and Vaillancourt (1998) pour lesquels :

- *La déconcentration* est définie comme la dispersion des responsabilités du gouvernement central vers les bureaux régionaux ou vers des unités administratives locales. Le gouvernement central ne fait que déplacer certaines tâches au niveau local sans toutefois accorder aucune marge de manoeuvres à ces unités locales. Ces dernières n'ont ainsi qu'un pouvoir très limité dans la prise de décision.
- *La délégation* est définie comme une situation dans laquelle les gouvernements locaux agissent en tant qu'agents du gouvernement central en exécutant certaines fonctions à la place de ce dernier. Dans ce cas, les gouvernements locaux peuvent avoir une certaine marge de manoeuvre concernant la fourniture des biens publics mais ils doivent en fin de compte suivre les directions et les demandes du gouvernement central.
- *La dévolution* se réfère à la situation dans laquelle les exécutions et l'autorité dans la prise de décision se trouvent entre les mains des gouvernements locaux. Ces derniers sont des unités indépendantes et peuvent donc répondre aux préférences et aux besoins de la population locale en matière des biens et services publics.

Dans le cadre de cette thèse, notre définition de la décentralisation rejoint cette dernière catégorie. Plus particulièrement, une politique de décentralisation est entendue ici comme celle qui résulte d'un accroissement des responsabilités accordées aux gouvernements locaux ou régionaux. Cette situation peut, dans certains cas, se traduire par la création d'une nouvelle entité institutionnelle.

Quelles sont les raisons qui ont poussé autant de gouvernements à décentraliser ? En fait, cette tendance vers la décentralisation est interprétée par certains auteurs comme la dernière étape dans le mouvement dialectique des paradigmes sur le développement (Bardhan and Mokherjee 2005, Sharma 2004). Selon ces auteurs, jusqu'à la moitié des années 80, les idées dominantes sont favorables à un rôle économique très important de l'état qui par la suite a donné naissance à des formes extrêmes de centralisation. Les décisions prises de façon

centralisée ont été considérées comme un moyen pour rationaliser les ressources rares et pour dépolitiser la population alors que la décentralisation a été perçue comme susceptible d'accroître les clivages politiques, ethniques et religieux (Scheineder 2003). Vers la fin des années 80 et le début des années 90, la tendance s'est inversée et a été plutôt vers la réduction du rôle de l'état ainsi que la diminution de la taille du service public. Le service public n'est plus considéré comme un facteur favorable pour la croissance économique mais comme un obstacle. Au milieu des années 1990, on assiste à un renouvellement des idées sur le rôle du secteur public dans le développement économique. La littérature redécouvre ainsi l'importance du rôle du secteur public et notamment celui des gouvernements locaux, ce qui explique les politiques de décentralisation observées dans plusieurs pays (Sharma 2004).

D'autres auteurs mettent plutôt l'accent sur une explication politique pour comprendre l'engouement que suscite la décentralisation (Shahid et al, 1999 ; Rojas 1998 ; Willis et al, 1997). Pour ces auteurs, la décentralisation résulte de la baisse continue de la crédibilité d'un état centralisé. Cette baisse de crédibilité a été attribuée à plusieurs facteurs: à l'échec économique du gouvernement central qui a pour conséquence une baisse du soutien de la part des travailleurs et des employeurs, à l'absence relative de guerres civiles ou de troubles sociaux qui diminuent le degré d'acceptation par la population d'un état central puissant et autoritaire, et enfin à l'émergence d'une classe moyenne urbaine et éduquée qui a pour corollaire une baisse de la relation traditionnelle « patron-client » entre le gouvernement et les gouvernés.

Mais pour certains auteurs, il n'existe pas d'explication générale au phénomène de décentralisation. Les causes de la décentralisation peuvent être très variées et différentes d'un pays à l'autre (Ebel et Yelmez, 2000 ; Litvak et al. 1998). Aussi, Ebel et Yilmaz (2000) ont observé que les pays en développement se sont tournés vers la décentralisation afin d'échapper à « *...the traps of ineffective and inefficient governance, macroeconomic instability and inadequate economic growth* », alors que dans les pays ex-communistes, la décentralisation est la conséquence directe de la transition vers l'économie de marché et la démocratie. Quant aux pays d'Amérique Latine, l'origine de la décentralisation se

trouverait dans la pression politique qu'exerce la population sur le gouvernement pour plus de démocratie. Enfin, sur le continent africain, la décentralisation a servi d'étape vers l'unité nationale.

Quelque soit son origine, une politique de décentralisation aura d'importantes répercussions qui parfois peuvent se révéler contraires aux effets bénéfiques attendus. Il existe une littérature assez vaste et importante sur les effets de la décentralisation notamment dans trois domaines particuliers : la croissance, la gouvernance et la qualité des services publics¹. Cette vaste littérature révèle l'absence d'un consensus chez les économistes quant aux véritables effets de la décentralisation. Par exemple, concernant le lien entre décentralisation et service public, alors que Eskeland et Filmer (2002) ont trouvé que la décentralisation conduisait à un meilleur résultat scolaire parmi les écoliers argentins, West et Wong (2002) ont démontré qu'en milieu rural chinois, la décentralisation s'est traduite par une baisse de la fourniture des services publics.

On remarque également qu'il y a peu d'études qui ont été consacrées aux liens entre décentralisation et stabilité macroéconomique. C'est regrettable dans la mesure où Proudhon (1994) et Rodden (2005) ont suggéré que, du fait notamment des comportements irresponsables des gouvernements locaux sur le plan budgétaire, la décentralisation peut exercer des effets négatifs sur la stabilité macroéconomique. C'est donc à cette question fondamentale que cette thèse sera consacrée.

Notre recherche.

L'objectif principal de cette thèse est de mettre en perspective le lien entre les comportements des gouvernements locaux et les effets de la politique de décentralisation sur la stabilité macroéconomique. Précisément, la thèse s'applique au cas particulier de la Malaisie, ce qui n'empêche cependant pas une étude transversale utilisant des données sur plusieurs pays.

¹ Voir Shah et al. (2004) pour un résumé de ces études ou Breuss et Eller (2006) pour un résumé d'études sur le lien entre décentralisation et croissance économique.

Le choix de la Malaisie est motivé par la constatation que malgré leurs responsabilités assez limitées, les Etats² en Malaisie ont du mal à s'assumer financièrement et dépendent largement des transferts du gouvernement central. De plus, même après avoir pris en compte ces transferts, certains Etats restent largement déficitaires. Mais plus important encore, suite à ces problèmes de financement qui se sont accumulés au cours du temps, certains Etats se sont retrouvés dans des graves difficultés financières et n'arrivaient plus à honorer leurs dettes envers le gouvernement central. Dans une étude publiée en 2004 par le Bureau de l'Auditeur Général de la Malaisie, 7 des 13 Etats ont été qualifiés comme « *at the verge of bankruptcy* » du fait notamment de l'état de leurs finances qui est jugé très médiocre. Il a été révélé que ces sept Etats accumulaient plus de RM 2 milliards (soit environ 570 millions de dollars) de retard dans le service de leur dette envers le gouvernement fédéral³. De plus, ces Etats accusaient également un déficit allant de RM 95 millions (27 millions de dollars) jusqu'au RM761 millions (217 millions de dollars). Par ailleurs, on remarque que ce problème n'est pas un phénomène récent. Déjà en 1967 (10 ans seulement après l'indépendance du pays et 4 ans après la formation de la fédération telle qu'elle est connue aujourd'hui), le ministre des Finances de l'époque a mis en garde certains Etats qui selon lui n'ont pas su gérer leurs finances correctement et qui par la suite ont été obligés de se tourner vers le gouvernement central afin de financer leurs dépenses courantes⁴. Le cas de la Malaisie nous fournit donc un

² Dans le cadre de notre étude, nous allons utiliser le terme « *états* » pour désigner les « *state governments* » qui seront notre principale unité d'analyse. Nous n'utilisons pas le terme « *gouvernements locaux* » pour ne pas confondre avec les « *local governments* » qui constituent un autre type de gouvernement situé en dessous des « *états* ». Le terme « *gouvernements régionaux* » ne convient pas non plus puisqu'il se réfère à un autre niveau de gouvernement ou d'institution qui même s'il n'existe pas formellement, a été occasionnellement utilisé pour désigner le regroupement des « *états* ».

³ Plus exactement Johor RM512.24 millions, Kedah (RM491.83 millions); Pahang (RM312.29 millions); Kelantan (RM153.62 millions); Sabah (RM49.15 millions); Perlis (RM48.18 millions); Terengganu (RM190.77 millions) dan Negeri Sembilan (RM79.66 millions).

⁴ Selon le ministre, « ... *in the course of 1965 and 1966, the Federal Treasury had, on a number of occasions, no choice but to issue money from the State Reserve Fund to some states, a few of which had literally no money to pay even the current salaries and wages of their employees...Some of these States can justify their request for assistance from the Federal Government... There are however others which have shown little sense of financial responsibility and which think nothing of indulging in deficit financing without even knowing how their deficits are to be financed... I should now like to state... that the Federal Government will not consider any request for help from any State unless the Treasury is satisfied that the State concerned has practiced the utmost economy and done everything it could to help itself by increasing its revenue to the maximum extent possible from the sources available to it* ». (Siaran Akhbar Kuala Lumpur pp.39-40.)

exemple où une politique de décentralisation, même si elle ne se traduit que par un rôle assez limité des gouvernements locaux peut quand même se révéler problématique.

Nous essayons donc tout au long de cette thèse, d'analyser de manière approfondie les causes des problèmes financiers que rencontrent certains des Etats malaisiens et de proposer, en s'appuyant sur les résultats obtenus des mesures de politique afin de les résoudre ou de les réduire. En effet, l'une des explications qui ont été mises en avant par le rapport de l'Auditeur Général pour expliquer ces problèmes est l'irresponsabilité des Etats dans la gestion de leurs finances⁵. Mais comment expliquer ces comportements indisciplinés ? De toute évidence, les Etats ou les gouvernements locaux ne sont pas intrinsèquement mauvais et ne vont pas systématiquement dépenser plus que ne le permettent leurs revenus. Il faut donc chercher les facteurs qui poussent ces Etats à se comporter ainsi.

L'idée centrale de cette thèse est l'hypothèse selon laquelle les Etats tout comme les autres agents économiques ne font que réagir aux incitations inhérentes aux institutions et aux systèmes (sociaux, politiques, institutionnels ou économiques) qui les entourent. Ainsi nous nous demandons si les comportements indisciplinés qui sont à l'origine de ces difficultés financières ne sont pas les conséquences directes des réactions des Etats face aux incitations inhérentes aux institutions malaisiennes. Autrement dit, nous nous posons la question suivante: les institutions qui régissent le système intergouvernemental en Malaisie sont-elles propices à des comportements indisciplinés de la part des Etats?

Afin de répondre à cette question, nous allons identifier ces institutions et examiner leurs caractéristiques pour finalement déterminer quelles sont leurs conséquences sur les comportements des Etats. Evidemment, nous ne pouvons étudier de manière exhaustive toutes les institutions existant dans le pays. Nous limitons donc notre analyse à trois de ces institutions qui selon nous caractérisent le mieux l'environnement dans lequel évoluent les Etats malaisiens.

⁵ L'autre explication consiste à mettre en cause l'étroitesse de la base des revenus octroyée aux états malaisiens.

Tout d'abord, nous nous intéressons à l'institution politique du pays en nous interrogeant sur les effets de représentations des Etats au niveau législatif et exécutif sur les comportements en matière de dépenses. Nous partons de l'hypothèse selon laquelle, les hommes politiques sont des êtres rationnels qui cherchent avant tout à maximiser leur propre bien-être. Ainsi, ils vont agir de manière à faire progresser leur carrière. En agissant de cette façon, il leur arrive de privilégier certains Etats par rapport aux autres en fonction de leur importance pour la progression de leur carrière politique. Et inversement les Etats aussi vont pouvoir utiliser ces hommes politiques notamment s'ils sont bien placés, pour négocier certaines faveurs de la part du gouvernement central. D'où la question : Les Etats malaisiens sont-ils plus irresponsables fiscalement lorsqu'ils ont relativement plus de représentants qui siègent au Parlement et/ou dans les cabinets ministériels ? Nous nous sommes aussi posés la même question dans le cas où le gouvernement au niveau des Etats partage la même idéologie politique que le gouvernement central.

Ensuite, nous nous intéressons au système de transferts intergouvernementaux. Il se peut que les problèmes financiers des Etats malaisiens résultent de leur incapacité à exploiter au mieux leurs ressources fiscales. Cette situation incite les Etats à devenir plus dépendants des transferts intergouvernementaux pour financer leurs dépenses. Or cette dépendance à son tour, peut avoir des effets négatifs sur les comportements des Etats notamment du fait qu'elle casse le lien très important entre dépenses et revenus. Les Etats sachant que leurs dépenses seront en partie financées par « l'argent de l'autre » ont tendance à être moins regardants dans leurs dépenses. En bref, la question que nous nous posons est de savoir s'il y a un lien négatif entre le système de transferts intergouvernementaux et les efforts fournis par les Etats dans la collecte de leurs taxes.

Enfin, nous nous interrogeons sur les effets de l'institution juridique et réglementaire sur les comportements des Etats. Pour faire face au risque de comportements indisciplinés des gouvernements locaux en matière de dépenses, plusieurs pays y compris la Malaisie ont adopté des réglementations qui consistent

à limiter l'accès de ces derniers au crédit. Si ces réglementations sont effectives, elles vont fonctionner comme une sorte de contrainte de liquidité sur les décisions des Etats en matière de dépenses. Et indirectement, le gouvernement fédéral va pouvoir contrôler les dépenses des Etats. La question que nous nous posons est de savoir si ces réglementations ont été considérées par les Etats comme une véritable contrainte budgétaire ou bien si elles sont facilement contournées.

La structure de la thèse.

Cette thèse sera divisée en cinq chapitres.

Nous commençons dans le premier chapitre par une revue de littérature sur les fondements théoriques de la décentralisation. Ensuite, nous présenterons les études empiriques qui ont été faites sur les conséquences de la politique de décentralisation, à savoir les effets sur la croissance économique, ceux sur la gouvernance et la corruption et ceux sur la fourniture des services et biens publics.

Avant de commencer notre étude sur le cas malaisien, il est nécessaire dans un deuxième chapitre de faire une analyse économétrique sur les effets de décentralisation sur la stabilité macroéconomique, d'autant plus qu'une revue de littérature montre que ce sujet a été relativement très peu abordé. Notre étude empirique sur les effets de la décentralisation sur la stabilité macroéconomique commence par la présentation des fondements théoriques de la relation entre ces deux variables. Nous procédons ensuite à l'estimation économétrique en utilisant la méthode de données de panel. Dans notre estimation, nous utilisons trois variables pour représenter la stabilité macroéconomique : le taux d'inflation, le taux de change et le déficit budgétaire du secteur public. La décentralisation est mesurée par la proportion des dépenses et des revenus des gouvernements locaux.

Notre analyse sur le cas malaisien est abordée à partir du chapitre 3. Dans ce chapitre, nous présentons le fonctionnement du fédéralisme budgétaire tel qu'il est pratiqué dans ce pays. Nous examinons tout d'abord les circonstances qui ont amené à l'adoption d'un système fédéral. Puis, nous analysons comment les

différentes fonctions et responsabilités ainsi que les sources de revenus sont partagées entre les différents niveaux du gouvernement. Les conséquences de cette répartition sont ensuite abordées dans la section suivante.

Dans le chapitre 4, nous examinons empiriquement les effets des variables politiques et institutionnelles sur les comportements des Etats. En utilisant la méthode des moments généralisés (GMM) proposée par Arrelano et Bond (1992), nous testons l'hypothèse selon laquelle le fait d'avoir plus de représentants au Parlement et dans l'exécutif influence les comportements des Etats en matière des dépenses. Nous nous intéressons aussi à la question de savoir s'il y a effectivement un transfert de ressources supplémentaires par le biais de ces variables politiques et institutionnelles.

Le chapitre 5 sera consacré à l'analyse des effets du système de transferts intergouvernementaux sur les efforts fournis par les Etats dans la collecte des taxes. A cet effet, nous utilisons la méthode d'analyse de frontière stochastique qui nous permet d'avoir non seulement les niveaux d'efficience technique des Etats dans leur collecte des taxes mais également les différents facteurs qui expliquent ces efficacités techniques. Ainsi en introduisant les transferts intergouvernementaux comme l'un de ces facteurs, nous allons pouvoir examiner empiriquement les effets de ces derniers sur leurs comportements en matière de collecte de leurs propres revenus.

Finalement dans le chapitre 6, nous abordons la question relative aux effets des réglementations concernant l'accès des Etats au crédit sur les comportements de ces derniers. Pour cela, nous nous référons à la théorie du revenu permanent dans l'hypothèse des anticipations rationnelles (Hall 1976) selon laquelle les décisions de consommation sont prises par les agents économiques de manière à maximiser leur utilité compte tenu de leur contrainte budgétaire. En adaptant cette méthodologie aux comportements des Etats, nous faisons l'hypothèse selon laquelle les réglementations vont agir comme une contrainte de liquidité qui empêchera les Etats de lisser leur consommation dans le temps. Autrement dit, si les réglementations sont effectives, les Etats ne vont pas pouvoir observer un comportement de « *forward-looking* » et vice-versa. Afin de tester cette théorie

empiriquement, nous utilisons la méthode de moments généralisés (GMM) proposée par Arrelano et Bond (1992).

Nous espérons donc a partir de cette thèse proposer une autre approche permettant d'aborder la problématique des difficultés financières auxquelles doivent faire face la plupart des Etats malaisiens depuis plusieurs années. En mettant en lumière les rôles des différentes institutions qui régissent le fonctionnement du fédéralisme budgétaire dans ce pays, nous espérons pouvoir mieux comprendre les comportements des Etats et par la suite contribuer a l'élaboration des politiques économiques plus adaptés aux circonstances du pays afin de résoudre de manière plus efficace ces problèmes.

CHAPTER 1. LITTERATURE REVIEW

Introduction

Before we proceed with our study, it is important to have a general idea of the current development of the literature theoretically and empirically on the question of decentralization. It is thus the aim of this first chapter to present and discuss the main studies that have been done so far in the area of decentralization. It is noteworthy that the issue of decentralization has been widely studied not only from the economic point of view but also through the lenses of political scientist as well as other social scientists.

In the first section, we present the theoretical arguments that are put forward by the proponents of decentralization. In section two, the arguments against decentralization will be discussed. Finally, the findings of empirical studies of the effects of decentralization will reviewed in the third section.

1. Theoretical arguments of decentralization

1.1 Musgrave trilogy

While the earlier analysis on the benefits of a decentralized system was led by Hayek (1945) and Tiebout (1956)⁶, the foundation for most of the conventional literature of fiscal federalism is the study of the public sector carried out by Richard Musgrave (1959) within a welfare economics' framework. Musgrave proposed the functional responsibilities of different levels of governments. According to his analysis, the public sector has to perform three main tasks:

- 1) stabilizing the economic process in order to reduce business cycle fluctuations (stabilization function)
- 2) redistributing income in order to equalize income distribution which is the result of market forces (redistribution function)
- 3) changing the allocation by providing public goods and correcting the external effects of private economic behavior (allocation function)

⁶ Hayek (1945) stressed the capacity of sub national governments to make decisions that cater to local circumstances while Tiebout emphasized the role of competition among local governments in allowing citizens to match their preferences with a particular menu of local public goods (1956).

While the stabilization and the redistribution functions are traditionally assumed to be best placed at the central government's level, decentralized tiers of government are left with the primary responsibility of providing local public goods and services.

There are essentially four reasons why stabilization function was considered inappropriate for sub-national assignment⁷. First, raising debt at the local level would entail higher regional costs but benefits for such stabilization would spill beyond regional borders and as a result too little stabilization would be provided. Second, monetization of local debt will create inflationary pressures and pose a threat for price stability. Third, currency stability requires that both monetary and fiscal policy functions be carried out by the center alone. Finally, cyclical shocks are usually national in scope (symmetric across all regions) and therefore require a national response.

As for the redistribution function, the justification that it should be assumed by the central government is based on two arguments which in turn are based on two seemingly contradictory assumptions. On one hand, under the assumption of full mobility of economic units, subnational government led redistribution policies will result in a non-optimal segregation of the citizens; the rich will migrate to jurisdictions which offer the lowest redistribution while the poor will be grouped into jurisdictions that have the most generous redistribution. Wildasin (1991) showed that under the assumption of factor mobility, a decentralized policy of redistribution is socially inefficient. This is due to the fact that the region pursuing a redistribution policy will only internalize the additional costs brought over by the migrations which are induced by the policy. It ignored however the positive impact that this migration will have on other regions. Thus in order to prevent such an outcome, it is preferable for the central government to be in charge of establishing an equitable distribution of income⁸. On the other hand, under the

⁷ These views have however been challenged by several writers on both theoretical and empirical grounds (see e.g. Dafflon, 1977; Sheikh and Winer, 1977; Gramlich, 1987; Walsh, 1992; Biehl, 1994; Shah, 1994; Mihaljek, 1995; Huther and Shah, 1998, 2005) yet they continue to command considerable following.

⁸ This argument has also been challenged. de Mello (2004) argued that the recognition that taxpayer mobility may be more limited than expected. Pauly (1973) argued that in order for a income redistribution policy to be Pareto-efficient, it is necessary for it to be differentiated across regions. Redistribution is thus considered as a public good to which the theorem of decentralization can be applied. Guihery (1997) argued that due to informational advantage (better control of beneficiary, knowledge and monitoring of the

assumption of immobility of the population, Buchanan (1950) argued that a centralized redistribution policy will allow state with different fiscal capacity to provide equal service at equal taxation. Furthermore, a decentralized redistribution policy is plagued by coordination problem. When regional governments conduct a redistribution policy they are likely to be influenced by local populations and end up making decisions which are inequitable from the national point of view (Boadway and Flatters, 1982). The fiscal competition among jurisdiction will also lead to redistribution that is inefficient and inequitable (Michel et al. 1995).

1.2. Oates's theorem of decentralization

In his theorem of decentralization, Oates (1972) formalized the basic efficiency argument for the decentralized provision of certain public goods. The theorem states that

“...for a public good- the consumption of which is defined over geographical subsets of the total population, and for which the costs of providing each level of output of the good in each jurisdiction are the same for the central or the respective local government- it will always be more efficient (or at least as efficient) for local governments to provide the Pareto-efficient levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all jurisdictions” (Oates 1972, p.35).

The theorem basically postulates that on ground of economic efficiency local public goods and services should be provided by local governments. This is based on the fact that not all public goods have similar spatial characteristics. Some public goods will be beneficial for the whole country such as international diplomacy or national defense while others such as state roads or forestry services will only benefit certain states or regions. Furthermore, the preferences as well as the costs for public goods might differ across jurisdictions. In other words, Oates suggested that central government provides goods and services which concern everybody in the country whereas local governments

beneficiary's situation, better and finer management of public finance) decentralized redistribution policy may turn out to be more efficient.

provides local public goods and services, the effect of which is mainly local. The “correspondence principle” (Oates 1972) constitutes another justification for the provisions of local public goods by local governments as this allows an approximate correspondence between those who benefit from their provision, those who pay and those who decide on the amount provided.

The key point in the theorem of decentralization is that individual local governments due their contiguity with the local population and geography have better access to the information regarding spatial characteristics as well as diversity in preferences and costs than the national government. As a result, public goods supplied by the local governments are more likely to conform to the needs and preferences of the population than those offered by the national government. This view is similar to the one held by Hayek (1945) who suggested that because local governments have better information than the national government about local conditions and preferences, they will make better decisions. The central government according to Oates will most probably end up providing a similar bundle of public services and goods to the whole population regardless of their different needs and preferences. Furthermore, besides the informational constraint, the central government may also face political pressures that prevent it from delivering differentiated public services and goods according to local circumstances. Due to a national sense of equal treatment a central government may find it difficult to provide more generous levels of public outputs in some jurisdictions than in others (Oates 1999)⁹.

⁹ The arguments that central governments are not capable of providing different bundle of goods to different jurisdictions have a long history in the literature. For example, Alexis de Toqueville in his analysis of the US federal system in the 1830’s asserted that “*In great centralized nations the legislator is obliged to give a character of uniformity to the laws, which does not always suit the diversity of customs and of districts; as he takes no cognizance of special cases, he can only proceed upon general principles...since legislation cannot adapt itself to the exigencies and the customs of the population, which is a great cause of trouble and misery*” (Vol. I, p.163). More recently, Hamlin (1991) argued that central government are “*constrained to adopt policies that apply uniformly across the entire population*” (p. 194) and Crémer et al. (1995) take the assumption to mean “*the government is assumed to be institutionally compelled to adopt a uniformity constraint in service delivery*” (p.99).

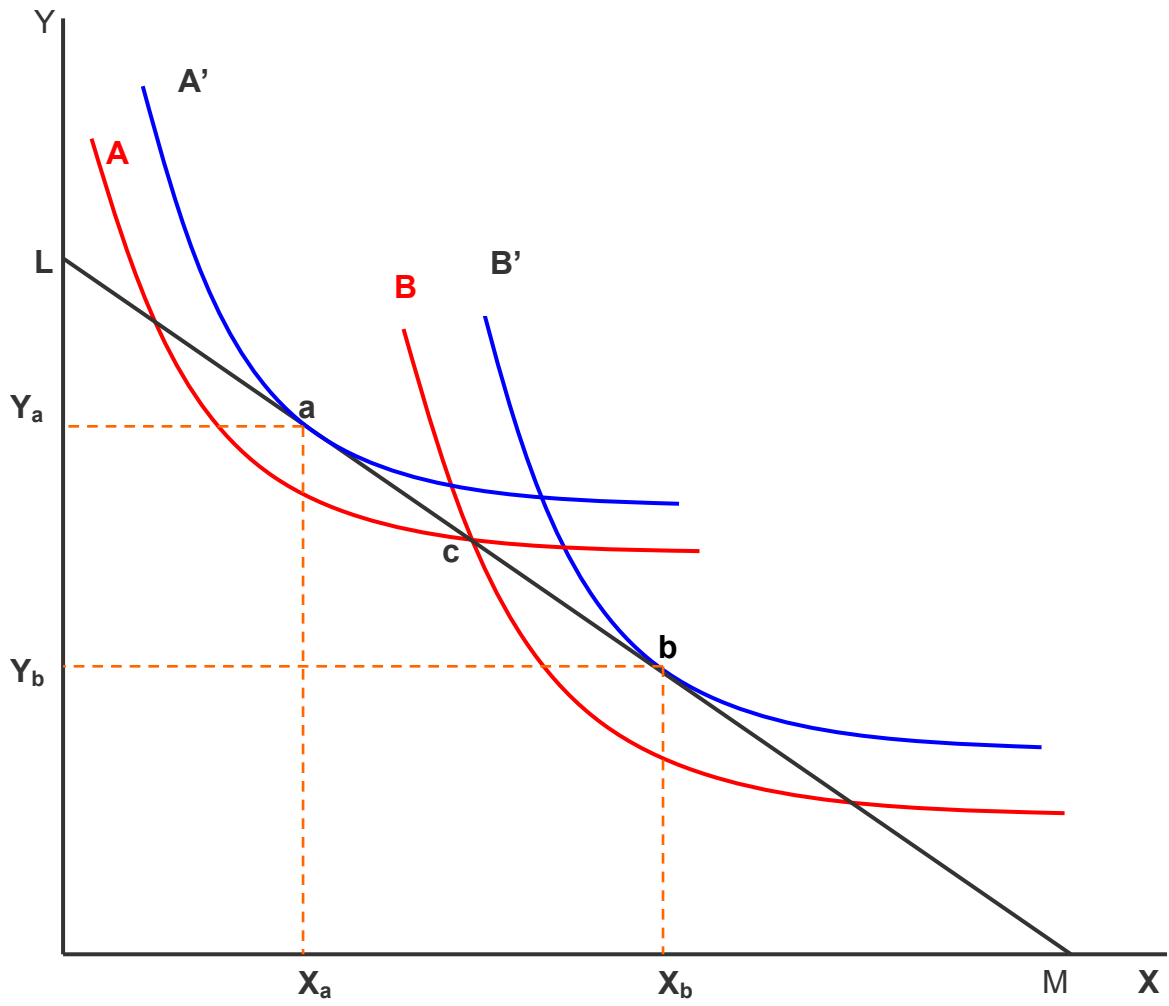
Figure 1.1 below illustrates the welfare benefits that can be obtained from decentralization of public services delivery. X and Y represent per capita quantities of two local public goods. BC is a budget constraint that determines the quantity of local goods that can be provided. When the production of local goods are decentralized, there will be two local governments A and B which will settle at point a and b respectively, thus producing X_a and Y_a in jurisdiction A and X_b and Y_b in jurisdiction B. However, in a centralized system, central government will settle at point c which correspond to a lower indifference curve for both A and B. This indicates that the centralized provision of public goods resulted in a welfare loss.

It is important to note here that not all local public goods should be provided by the local governments. According to Oates, the decision whether to decentralize or not is basically a tradeoff between the inefficiencies under centralized provision of public services stemming from more uniform outputs that fail to reflect divergences in local tastes and conditions versus, on the other hand, inefficiencies in local provision resulting from the failure to internalize interjurisdictional externalities¹⁰. Therefore where spillover effects across local jurisdictions are relatively small and where the variation in efficient levels of local outputs is relatively large, the case for decentralized provision is obviously stronger (and vice-versa).

The uniformity principle implied in Oates's theorem has been seriously criticized in the literature both on theoretical and empirical grounds. It should be noted however that these critics did not question the advantages of decentralization. Rather they proposed new approaches in modeling the centralization-decentralization tradeoff.

¹⁰ According to Oates, “. . . in the absence of cost-savings from the centralized provision of a [local public] good and of interjurisdictional externalities, the level of welfare will always be at least as high (and typically higher) if Pareto-efficient levels of consumption are provided in each jurisdiction than if any single, uniform level of consumption is maintained across all jurisdictions” (Oates 1972, p. 54).

Figure 1.1. Welfare benefits of decentralization



Source: Prud'homme R. (1995)

In Seabright (1996), there is a tradeoff in terms of local “accountability” (sensitivity of outcomes to local preferences) versus a coordination of policies under centralization that serves to internalize interjurisdictional interdependencies. In his model, Seabright discusses the problem of political accountability theoretically in terms of allocation of control rights in the context of incomplete contracts, where breaches of contract are observable, though not verifiable in administrative or judicial review, and are subject to periodic electoral review. His model has both central and local elected officials. In his framework, centralization allows benefits from policy coordination, which is especially important if there are spillovers across jurisdictions. However, centralization has costs in terms of diminished accountability, in the sense of reduced probability that the welfare of a given locality can determine the re-election of the government. Elections are, of course, extremely blunt instruments of political accountability, and other institutional devices and unelected community organizations (like nongovernmental organizations) may be deployed to strengthen local accountability. Tommasi and Weinschelbaum (2000) compare decentralization and centralization by posing the political agency problem in terms of the number of principals (relative to agents). In their model, citizens are viewed as principals and their elected representatives as agents. In the case of centralization, the number of principals is very large but the number of agents is small, whereas in the case of decentralization, there is only one agent per locality. The larger the number of principals, the more serious is the problem of coordination in contracting with agents. According to the authors, decentralization is preferable to centralization when the problem of interjurisdictional externality is less important than the coordination effect.

In Besley and Coate (2000), the focus is on the importance of political aggregation mechanisms. Under a decentralization system, public goods will be selected by locally elected representatives. Under a centralized system however policy choices are determined by a legislature consisting of elected representatives from each district, so that conflicts of interest between citizens of different jurisdictions play out in the legislature. Depending on how the central legislature functions, they show that centrally determined outcome exhibits various sorts of misallocations. They also show that the

familiar presumption that larger spillovers across jurisdictions help the case for centralization is no longer as clear under such political economy considerations.

Lockwood (2002) also reexamined Oates' theorem from a political economy perspective. The model showed how the tradeoffs between centralization and decentralization took place under three types of constitutional choice designs: unanimity rule with possible side payments (the benchmark case), unanimity rule without side payment and majority rule without payment. The model to some extent confirms Oates' analysis that decentralization is preferable when externalities are small and/or regions are heterogenous. However, in the model the cost for centralization is not policy uniformity but rather the inefficient choice of projects due to cost-sharing and lack of responsiveness of the legislative process to the within-regions benefits. Janeba and Wilson (2003) developed a model in which inefficiencies in local provision have their source in tax competition, while inefficiencies under a centralized system result from minimum-winning coalitions within a centralized legislature.

1.3. Decentralization and competition

In addition to Oates's argument, decentralization is also defended on the basis that it can bring to the public sector some of the allocative benefits that a competitive market brings to the private sector. This view is based on the works of Tiebout (1956) who argued that citizens "vote with their feet" and choose to reside in jurisdictions that offered the service mix best suited to its preferences. Tiebout's paper was in response to the claim made by Samuelson (1954) that decentralized choice could not result in an efficient provision of public goods. Tiebout contested this view and showed that, albeit under a number of very restrictive assumptions, a country which is divided into several jurisdictions can lead to an optimal provision of public goods. According to Tiebout, by choosing a particular jurisdiction, the citizens revealed their preferences in term of public goods supplied as well as of the taxes that they have to pay in order to finance them. And owing to the fact that the citizens can easily move to other jurisdictions, the public officials will be more efficient in using the resources and tend to provide goods and services which correspond better to the needs and preferences of the population. Under

this mechanism, not only that the public services and goods will be tailored according to the needs of the population, the final outcome in the public sector will also approach that of an efficient market since at the margin the benefit from consuming the public good or services will be equal to the cost in term of benefit taxes (Tanzi 1996).

It is also argued that decentralization will lead to competition among jurisdictions for the mobile factors of production. This line of arguments is based on the works of public-choice approach who considers public officials as utility-maximizers with their own objective functions. In particular, Brennan and Buchanan (1980) characterized the public sector as a “Leviathan” who seeks its own aggrandizement and fiscal decentralization is considered by the authors as a mechanism that may constrain the expansionary tendencies of the Leviathan. For the proponents of decentralization, interjurisdictional competition under factor mobility will reduce the monopoly power held by government officials with regard to local laws, regulations and bribe because they will have to compete for the mobile factors of production, (Wiengast, 1995; Breton, 1996; Edward and Keen, 1996; Arikan, 2000). Jurisdictions which are poorly governed (manifested by high levels of corruption or low levels of public service provision) will be overlooked by these mobile factors in profit of those which have better infrastructure and are less corrupt. In other words, the need to attract capital may render local officials more honest and efficient, and prompt them to invest more in infrastructure. In a similar but relatively different vein, Besley and Case (1995) argue that “benchmark competition” allows voters in adjacent jurisdictions to compare directly tax prices paid and public goods received, assessing whether decentralized governments are wasting or stealing resources. If one assumes that a component of tax revenue is always stolen or wasted, having a more efficient jurisdiction next door might put limits on the size of that component.

Taking another perspective, Qian and Weigast (1997) and Qian and Roland (1998) claimed that local competition for mobile factors will also raise the opportunity cost for bailouts thus hardening the budget constraints of governments. According to their theory, the crucial incentive problem stems from the inability of governments to commit to not bailing out financially troubled state-owned enterprises, commonly referred to as

soft budget constraints. The bailing out of these enterprises will cause great fiscal strain and reduce the ability of governments to provide required infrastructure for private investors. The opportunity cost of bailouts is thus the underprovision of infrastructure which in turn will result in reduced private investment. Paralleling arguments in the theory of firm, Qian and Roland argued that decentralization will raise the opportunity costs to local governments of bailing out inefficient firms or wasteful public expenditures. This is because competition among local governments in attracting capital to their region creates an externality which increases the opportunity cost of subsidizing inefficient enterprises, which in turn reduces the incentives for bailouts. In other words, jurisdictional competition in a decentralized system serves as a disciplinary device to punish inappropriate intervention by local governments' officials.

1.4. Productive efficiency

The proponents of decentralization also claimed that decentralization will lead to increased productive efficiency for it will give voters more electoral control on the incumbents¹¹. According to Tanzi (1996), with decentralization, local officials are directly responsible for providing a public service and blamed for failure. Consequently, they will have a greater interest in succeeding. And to the extent that local services are financed by the jurisdiction's own revenues, so that there is a close link between the benefits provided by these services and the costs to the local tax-payers, citizens will have strong incentives to monitor the local authorities closely. Seabright (1996) and Persson and Tabellini (1999), showed that decentralization under some conditions, reduce the incentives for incumbents to divert rents from tax revenue, because under decentralization, the (negative) link between such rent diversion and the probability of re-election is stronger. Persson and Tabellini (1999) consider the impact of decentralization where bureaucrats are agents trying to minimize effort and maximize the probability of re-election. Agents in a centralized bureaucracy are responsible for a multitude of tasks

¹¹ An increase in productive efficiency can also be obtained through a decrease in lobbying activities by interest groups which both distort policy choice and increases waste of public funds (Barankay and Lockwood 2005). However, certain authors Bardhan and Mookherjee, 2003; Bordignon, Colombo, and Galmarini, 2003; Redoano, 2003) emphasized that the link between decentralization and lobbying is somehow ambiguous.

that affect many localities; by contrast, under decentralization, each politician is responsible for a specific task that is particular to a single jurisdiction. The intuition is that, under decentralization, politicians are held directly accountable for their actions. Instead, under centralization, all that matters is aggregate performance, which attenuates the link between effort and rewards. Thus, under decentralization, more direct accountability should improve politicians' performance. Hindriks and Lockwood (2005) extend this argument to show how decentralization may increase the equilibrium probability that corrupt incumbents are voted out of office.

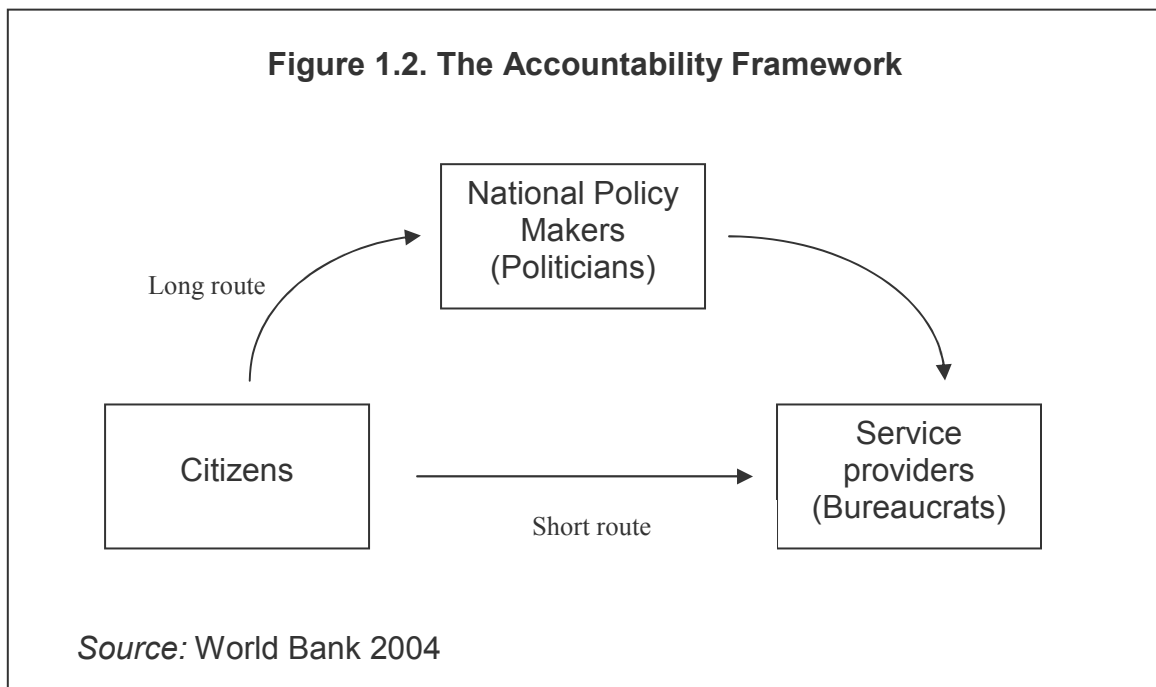
Another way of looking at this idea is through the simple accountability framework as illustrated in the World Development Report 2004. The key idea behind this framework is that the public have two routes by which they can hold the providers of public services accountable for the quality of their service (see figure 1.2). The first is the "long route," whereby the public give feedback to policy makers about their preferences, who will then control the providers of public services. The second is a "short route," whereby users give direct feedback to service providers, creating pressure and providing information that helps policy makers hold them accountable for their performance. Decentralization adds a new relationship into the framework which is that between central and local government and shortens the link between policy makers on one hand and citizens and public service providers on the other (see figure 1.3). In this new framework, the local government will be able to better assess the needs and preferences of the populations due to their proximity. It will also lead to a better political accountability as the local populations will be able to monitor more closely the activities of the local politicians. Similarly, local politicians by being closer to the local services providers are potentially more able to monitor the performance of the latter.

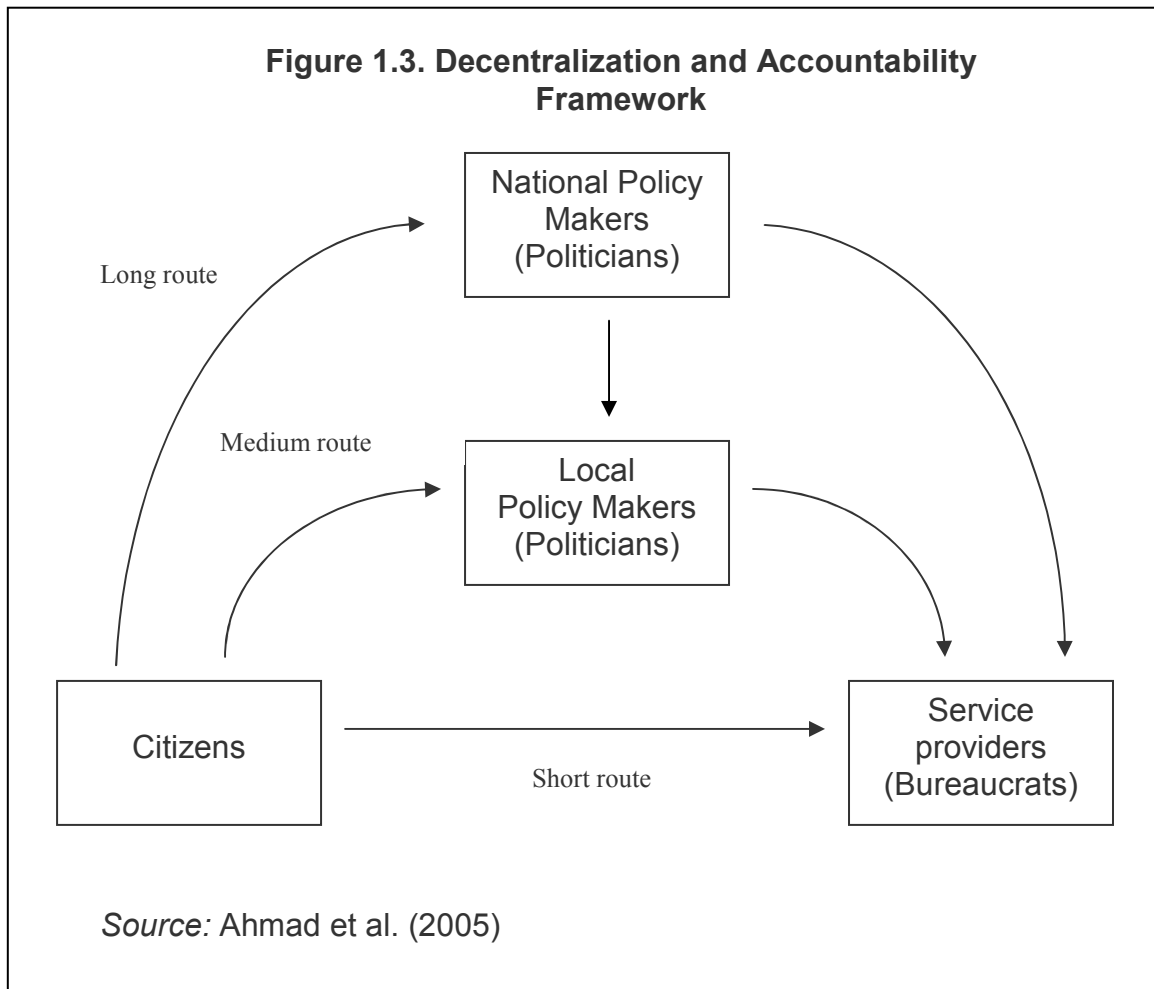
Decentralization is also said to result in a more innovative provision of public services. The granting of more autonomy to the local governments creates space for learning and innovation as well as experimentation. Indeed when these jurisdictions have full autonomy in their decisions concerning the provisions of public service, some of them will discover better way of providing the service. This in turn will lead other jurisdictions to come up with new innovations or to simply emulate the newly found

procedures. And the more jurisdictions there are the more simultaneous experiments of this type will take place. Referring to the case of China, Bardhan (2002) explained that in the early years of its market reform, decentralization has allowed some of the coastal areas to experiment with institutional reform, the success of which have showed the way for the rest of the country.

2. Critics and arguments against decentralization

The arguments for decentralization and its positive impact have been seriously challenged in the literature (see for example Boadway, Roberts and Shah, 1994; Prud'homme, 1994; Tanzi, 1996). These critics can be grouped into two categories: one that are based on the explicit and implicit assumption that underlies the decentralization model and the other that highlight the problems usually encountered by local governments which will undermine the benefits of decentralization.





2.1. Informational advantage of the subnational governments

The proponents of decentralization claimed that local governments have an informational advantage over central government. Tanzi (1996) however argued that this assumption can be challenged on the grounds that central governments can and do assign government officials to local offices. He cited the case of France and Italy where the representatives of the central governments (the *prefets*) closely follow local developments and assess the local needs. And apparently there is no compelling reason to believe that the information obtained by these representatives will be less accurate than the ones gathered by the local governments.

2.2. Local democracy

Another assumption that underlies the arguments of the advocates of decentralization is the fact that local democracies are in place and do work and the local population can and will express their preferences in their votes or their “feet”. Even if we assume that local governments have a better informational access to local needs, it is not sure however that these needs will be effectively taken into considerations when it comes to decide on the provision of public goods and services. The main question here according to Tanzi (1996) is not whether local governments are more or less capable than the central government to gauge the preferences of the population but whether the government (local or national) is interested or not in responding to these needs. According to him, decentralization will have a greater chance at succeeding “...*if the local governments are made up of democratically elected officials who necessarily have the public (though local) interest in mind.*” (Tanzi 1996, p.301).

It is argued that local populations may not have the power to actually influence the actions of the local officials and this may resulted in local goods being produced without taking into account the needs and preferences of the local populations. This is due to the fact that local democracy particularly in the developing countries is relatively weak and ineffective. Prud’homme (1995) also argued that local preferences are complex and manifold and it cannot be expressed into a single vote. Furthermore the author claimed that the outcomes of local elections generally depend on personal loyalties and/or political parties loyalties and rarely reflect the preferences of the local population in terms of the public goods or services promised by the candidates. This view is similar to the points raised by Keefer and Khemani (2005) who enumerated three factors why democratic government in developing countries where politicians presumably depend upon the support of the population fail to provide services according to needs of the population. These factors are:

- lack of information among voters about politician performance;
- social and ideological fragmentation among voters that leads to identity based voting and lower weight placed on the quality of public services
- lack of credibility of political promises to citizens.

According to them, informed voting is costly, and voters may have difficulty in coordinating information to reward (or punish) particular politicians or political parties for specific actions that improve (or worsen) the quality of public services. Similarly, socially and/or ideologically fragmented societies are less able to provide the incentives to their political agents to improve broad public services, because voting is more likely to occur along the dimension of narrowly-defined identities. And finally, even if voters are informed and coordinated in focusing on specific policies, if political competitors cannot make credible promises prior to elections, incumbents are more secure from challenge and have fewer incentives to be responsive to citizens. If politicians are credible only to a few voters, with whom they can maintain clientelist relations, then public resources are allocated to targeted benefits for these “clients”, instead of to broad public services.

The two critics above showed that the assumptions under which the proponents of decentralization are basing their arguments are quite fragile and can easily be proven to be wrong. However, even if these assumptions are fulfilled, the positive outcomes predicted by the advocates of decentralization may still not materialize owing to some practical problems to which decentralization is usually associated.

2.3. The lack of capacity of the subnational governments

Another major problem with decentralization that may undermine its benefits is the lack of capacity at sub-national levels of government to exercise responsibility for public services. The local governments are generally less efficient than the national government. There are essentially two major drawbacks in the production efficiency of the local governments as compared to that of the national government – the relatively low quality of their workforce and the lack of investment in new technology and innovation. According to Prud’homme (1995) the central government bureaucracies are likely to attract more qualified people because they offer better careers, with a greater diversity of tasks, more possibilities of promotion, less political intervention, and a longer view of issues. Consequently, it will be very difficult for the subnational governments to attract potential candidates to fill vacant positions and they will most probably end up being

staffed by less qualified and less talented personnel. And the problem will be more pronounced in countries where there is a limited pool of talented workforce and where the educational standards are quite low.

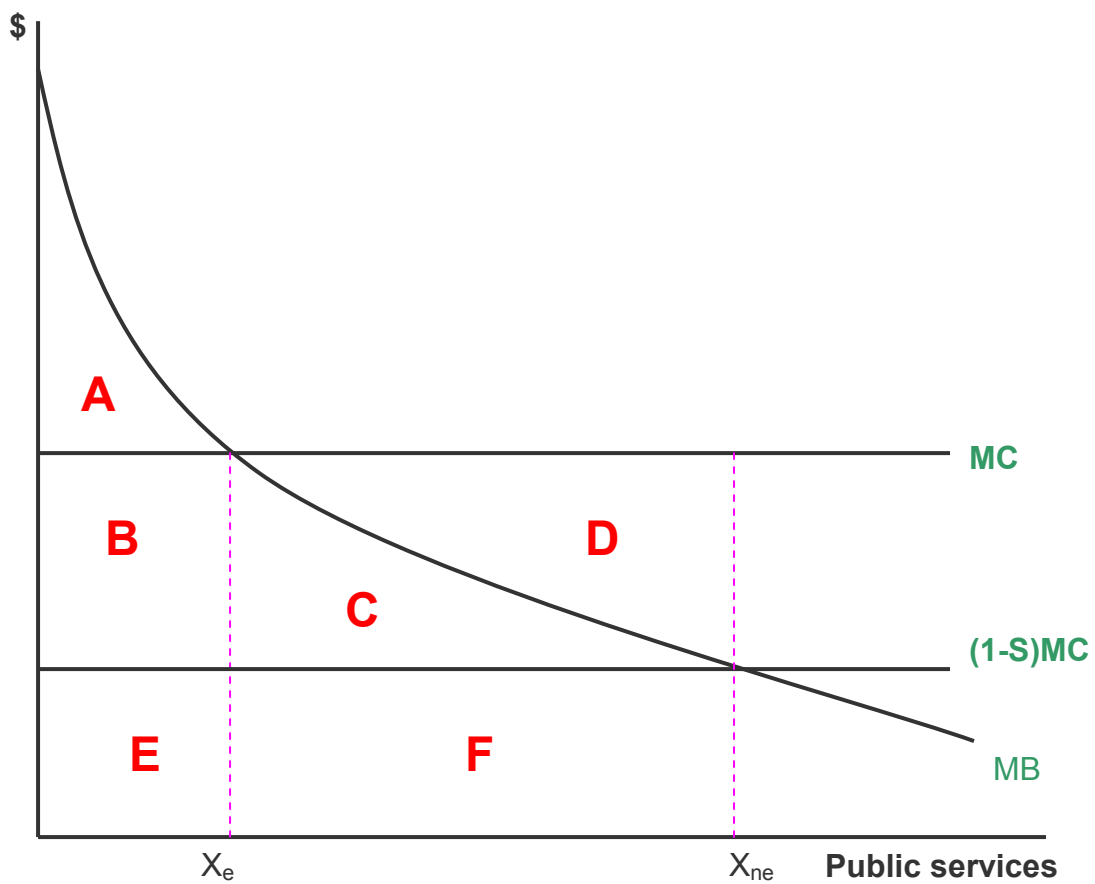
As to the problem of low investment in technology and innovation, this is due in particular to the limited capacity both financially and technically, of the local governments. Due to their limited capacity, subnational governments are most likely to have limited administrative capacity to report, prepare and manage a transparent public expenditure system and a modern treasury operation.

2. 4. Cost-shifting behavior

It is argued that efficient resource allocation by governments require that all benefits and costs of the public action should be internalized by public officials when making their policy choices. The failure to account for all social benefits of a public action will typically mean too little of that activity is provided. Conversely, the failure to account for all social costs will mean that too much of the activity is provided. And these failures which are usually referred to as called benefits or cost spillovers can be more significant in countries with mobile residents, workers and capital. However, in the case of decentralization, our concern is more with the problem of costs spillovers. Inman (2000) argued that one of the main causes that lead to this problem is the fact that subnational governments are capable of shifting the budgetary costs of their own expenditures onto nonresidents, current or futures. More precisely, the cost-shifting by local governments can occur in three ways

- Subnational governments may shift the production costs of local services onto nonresidents through federally funded transfers or by tax exporting through local taxes whose burdens fall primarily on nonresidents.
- Subnational governments may borrow money for current-period expenditures through deficit financing and then refuse to repay those debts. The costs of the expenditures will thus be shifted onto current-period lenders if the debt defaults or onto current-period national taxpayers if the debts are covered by a central government bailout.

Figure 1.4. Cost shifting strategies in local public services



Source: Inman (2000)

- Subnational governments may deficit-finance current-period expenditures by using deficit rollovers year after year until current taxpayers have left the local jurisdiction, leaving future residents to finance aggregate debt repayment through higher taxes.

Each of these strategies will subsidize the provision of current public services to current local residents with the subsidy paid by current nonresidents or by future residents and nonresidents. Figure 1.4 above describes the economic consequences of these cost-shifting strategies. The MB curves measures the marginal benefits to a typical local resident from another unit of the local public service consumed in the current period. It is assumed that the local services do not provide benefits outside the local jurisdiction. The MC curves measures the social marginal costs of producing each unit of the local service in the current period. The efficient level of local government allocation occur when $MB=MC$ (point X_e). Local taxpayers receive area $(A+B+E)$ in benefits and pay area $(B+E)$ in costs. Thus the net fiscal surplus for local taxpayers is equal to the area (A) . However, when cost-shifting occurs, the equality between MB and MC is broken through the introduction of a subsidy of $S \cdot MC$ between social marginal costs, MC and the marginal costs actually paid by local residents $(1-S) \cdot MC$. In case of tax-exporting, S is the fraction of social costs paid by taxing non-residents. In case of deficit spending, S equals the fraction of current social costs paid by borrowing, later financed by defaults or bailouts or through the taxation of future residents. In case of transfers, S is the fraction of social costs paid by the national government through monetary or in-kind grants. In each of these cases, local resident will now find it optimal to increase local spending until MB equals their after-subsidy local marginal costs: $MB= (1-S) \cdot MC$. The level of local services provided will now be X_{ne} . Local taxpayers will receive the area $(A+B+C+E+F)$ in benefits but pay only area $(E+F)$ in local taxes. Thereby, the net fiscal surplus area for local taxpayers is $(A+B+C)$. Clearly, local taxpayers prefer the subsidy. The cost of subsidy – area $(B+C+D)$ - will be bared by National taxpayers, bondholders or future taxpayers. For the economy as a whole, this is an inefficient outcome. Subtracting national taxpayers' costs from local taxpayers' net benefits yields a measure of the full economy's aggregate net benefits equal to area $(A-D)$ which is less than what economy as

whole had earned – area (A) – when the local government assumed the totality of the social costs of its expenditures. The resulting inefficiency of the cost-shifting strategy by the local governments is measured by the area (D).

2.5. The adverse impact of interjurisdictional competition

Cai and Treisman (2004a, 2004b) argued that the increase in interjurisdictional competition brought along by decentralization may be detrimental to the quality of governance. These authors have warned of a “race to the bottom”, in which competition drives local tax rates below the level necessary to fund the public goods that residents demand. In their studies, the authors showed that if competition for capital is intense, businesses are hard to attract with infrastructure. Furthermore due to decentralization, central bureaucracies are weak or have devolved enforcement powers downward and this will result in local officials competing by offering firms covert protection against central taxes and regulations. According to the authors, federalism in this case is “state-corroding” rather than “market-preserving.”

2.6. The problem of capture by local elites

It is also argued that while decentralization was in some cases intended to strengthen the political power of lower tiers of government vis-à-vis the center, it has also increased the possibility of political capture within these lower tiers. The view that local governments are more prone to capture by local elites have been expressed more than two centuries ago by James Madison:

“The smaller the society, the fewer probably will be the distinct parties and interests composing it; the fewer the distinct parties and interests, the more frequently will a majority be found of the same party; the smaller the number of individuals composing a majority, and the smaller the compass within which they are placed, the more easily will they convert and execute their plans of oppression. Extend the sphere and you take in a greater variety of parties and interests; you make it less probable that a majority of the whole will have a common motive to invade the rights of other citizens;

or if such a common motive exists, it will be more difficult for all who feel it to discover their own strength and to act in unison with each other”.

The same views have been expressed by more recent authors (see Lieten, 1996; Mathew and Nayak, 1996; Blanchard and Scheiffer, 2000; Bardhan and Mokherjee, 2000; Sonin, 2003). Blanchard and Shleifer (2000) for example, argue in the context of post-transition Russia that provincial governors have been highly susceptible to capture by old industrial firms, resulting in large transfers to these firms which also obtained protection from competition. At the same time, they argue that central governments are less likely to be captured by initial rent holders, being larger in size than local governments and less directly affected by the unemployment implications of closing any particular firm. Sonin (2003) provides a model that formalizes this view. The model assumed that regional governors receive campaign contributions from local firms and use these to purchase the votes of “unattached voters.” In exchange of these contributions, they provide the local firms with protection from responsibility to pay federal taxes, entry of new firms, and bankruptcy proceedings, as well as subsidies of various sorts. Sonin showed that in equilibrium, “capture” is increasing with the concentration and inefficiency of local industry, the lack of local political competition, the proportion of “unattached” voters (therefore, the extent of local unemployment), and p , a parameter that represents the cost to the regional governor of providing protection against the federal government. Subsequently, the federal government selects p at a certain cost to itself, in order to “punish” recalcitrant regional governors. If the federal government is weak, the costs of imposing sanctions on regional governors are high, and there can exist an overall equilibrium of the system in which provincial protectionism is rampant. There can also exist a cooperative equilibrium between the federal and local governments where the latter do not provide any protection. If the federal government is strong, the noncooperative equilibrium can be eliminated. Hence the model echoes the opinion expressed by Blanchard and Shleifer (2000) that economic decentralization must be accompanied by political centralization in order to succeed. For example, regional governors cooperate with the federal government, owing to sanctions that the latter could potentially impose on the former. Bardhan and Mookherjee (2000) adapt the model of

Baron (1994) and Grossman and Helpman (1996) of electoral competition subject to the influence of special interest group. They argue that the extent of relative capture of national and local governments by special interest groups is theoretically ambiguous, the result of numerous factors that run in opposite directions, whose relative importance is likely to be highly context-specific. The model is a more general version of that used in Sonin (2003): wealthy interest groups can contribute to the campaign finances of competing electoral candidates, which are used to mobilize the votes of “unaware” voters. Aware voters, in contrast, vote based on more accurate perceptions of how chosen policies would affect their interests. Both types of voters also vote partly on the basis of loyalties determined exogenously, partly by historical circumstances and other non-economic dimensions that differentiate competing parties. Using their model, the authors identify a range of possible determinants, some of which provide support to the presumption that local governments are more prone to local capture. Capture may be higher at local levels compared with the national government for reasons, such as greater media coverage of national issues, greater difficulty for special interest groups to overcome free-riding problems at the national level, or greater formal separation of powers at that level. At the national level, the members of a special interest group may be larger in number and more heterogenous. This will make it more difficult for the group to coordinate and motivate their members to contribute to their chosen lobbies. The effective cost of buying vote at the national is thus higher. Greater media attention during national elections will increase the awareness of the voters and reduce the number of uninformed voters population. As a result, the value placed by political parties on campaign fund will be lower. Alternatively a number of other factors may make the capture to be higher at the national level. These include the greater importance of campaign finance, more uneven political competition, or poorer information available to citizens to evaluate candidates on nationwide issues.

Empirically, Reinikka & Svensson (2004) provide one of the few detailed studies on this issue. The authors examine the leakage of educational funds from the central government to schools in Uganda. Their survey data reveal that during the period 1991-95, the primary schools on average received only 13% of the grants from the central

government. Most schools received nothing. The bulk of the school grant was captured by local officials and politicians, either for private gain or for use for purposes other than education. The data also reveals considerable variations in grants received across schools, suggesting that rather than being passive recipients of flows from the government, schools may use their bargaining power to secure greater shares of funding. Three variables were found to be important in explaining the variation in capture across schools: (a) school size; (b) income; and (c) the extent to which teachers are qualified. Moreover, well-performing schools seem to attract visitors from the centre, and were, accordingly, 'rewarded' by local officials by receiving more capitation grants.

2.7. The soft-budget constraint

Another potential problem usually associated with decentralization is the raiding of the fiscal commons by the subnational governments. The main source of this problem is the presence of soft-budget constraint. The term soft-budget constraint originated from Janos Kornai (1979, 1980) who analyzed the behavior of state-owned firms in socialist countries. According to Kornai, the fact the managers of these firms could count on the central government to bail them out of financial difficulties created an environment in which these managers could preside over chronic financial losses with little fear from authorities of higher level. This term has then been used in the literature to describe cases where the financial losses of an economic entity are underwritten by some form of supporting organization (Dewatripont and Maskin, 1995; Maskin, 1996; Kornai, Maskin, and Roland 2003)¹². In the case of a decentralized system, subnational governments may expect that their fiscal deficits will be covered by the central government. This in turn will undermine the incentives for the subnational governments to observe a responsible fiscal behavior. The structural sources of these perverse expectations have been analyzed by several authors. For example, Rodden et al. (2003) suggest that soft budget constraints typically have a multiplicity of sources that encompass existing fiscal institutions, the structure of the political system, the absence (or weakness) of certain key markets, and

¹² An appropriate definition of the term soft-budget constraint is proposed by Maskin (1996): "*A soft budget constraint arises whenever a funding source finds it impossible to keep an enterprise to a fixed budget, i.e., whenever the enterprise can extract ex post a bigger subsidy or loan that would have been considered efficient ex ante*" (Maskin 1996, p.125).

the specific history of intergovernmental fiscal relations in the country. Inman (2003) argues that history and precedents also count in promoting a system of hard budget constraint. Reviewing the U.S. history, he shows that the U.S. record which, since the founding of the Republic and the War of 1812, is essentially clean of any strategic bailouts, owes much to an important historical episode. In the 1840s, a wave of defaults occurred encompassing eight states and the Republic of Florida as a result of poorly conceived public investments in transportation and banking projects. The federal government explicitly rejected efforts by these states to obtain fiscal assistance. Congress said no—and this historically put an end to any real prospects for strategic fiscal bailouts. The point here is that a refusal to provide such assistance can build upon itself and create a setting where expectations of bailouts no longer have much foundation.

In summary, most of the critics that have been formulated against decentralization are not dismissing the idea of decentralization *per se*¹³. Rather they pointed out the needs of accompanying the decentralization process with certain types of institutions (e.g. a working local democracy, a performing education sector etc). According to them, only when these institutions are present will decentralization bear the fruits that are promised by its proponents. In the words of Shah et al., the outcomes of decentralization will largely depend on institutional arrangements that govern the design and implementation of decentralization.

3. Empirical findings

Given the unsettled theoretical debate on the impacts of decentralization, several scholars have turned to empirical studies. All the same the results obtained by these empirical studies also tend to be inconclusive and ambiguous.

It is noteworthy that there are essentially three types of impacts that have been examined by these studies.

- The impact on public service delivery.
- The impact on quality of governance.

¹³ For example, Prud'homme (1995) considered his paper not as "... *an attack on decentralization*" but rather as a discussion "...*on its misunderstanding and misapplications*".

- The impact on macroeconomic outcomes.

In what will follow, we will present the major findings of these studies.

3.1. Decentralization and public service delivery

It is in expectation of its supposedly positive impacts on public service delivery that decentralization has been promoted across the world for the past few decades. In the words of Shah et al (2005), “*even when it is not explicit, improving service delivery is an implicit motivation behind most of the decentralization efforts*”. Nevertheless, despite the strong arguments for the effect of decentralization on public service delivery, the experiences with decentralization have been rather mixed. While some studies have found a positive impact of decentralization on public services delivery, others showed that decentralization have not lived up to the expectations and failed to improve the public goods delivery.

Faguet and Sacher (2006) studied the impacts of decentralization on educational outcomes in Bolivia and Colombia. They found that in Bolivia, decentralization has led the public investment in education to become more responsive to real local needs, rising disproportionately in areas with the worst education indicators. In Colombia, they found that in districts where educational finance and policy making were freest of central influence, enrollment increased. In districts where educational finance was still based on centrally-controlled criteria, enrollment fell. Further evidence suggests that this was not the simple result of increasing financing levels, but due instead to the quality of investment that municipalities achieved – to how and where funds were spent. Faguet (2001) showed that in Bolivia, decentralization significantly changed national public investment patterns. Investment changed unambiguously in education, water and sanitation, water management, agriculture and urban development after the 1994 reform, and there is some evidence that it may have changed in health, transport, communication and industry and tourism as well. Furthermore, these changes are strongly and positively related to real local needs.

In panel regressions of data from Swiss cantons for the last 20 years, Barankay and Lockwood (2005) found that even after controlling for other input variables the degree of decentralization is positively related to educational attainment. Decentralization is found to be positively correlated with the fraction of school students that obtain the Maturité certificate that allows continuation to university. They also found that more local expenditure is associated with better education among men but that has not been to the detriment of education among women nor did it significantly affect the gender gap in education. Decentralization is also found to be significantly and positively associated with mathematics test scores in Argentine schools (Eslerland and Filmer 2002).

Wilder and Lankao (2006) assessed the outcomes of the two principal components of decentralization within Mexican water reform, namely, the “transfer” of irrigation districts to management by water users, and the decentralized management of urban water systems. They argued that, rather than resulting in a clear success or failure, decentralization in the Mexican water sector has been a context-specific process marked by limited benefits and multiple paradoxes. According to the authors, the decentralization experiences have not yet yielded either efficiency gains or environmental benefits as anticipated, although in some local contexts there have been limited improvements. Contrary to expectations, in both urban and rural cases water quality has not improved and indeed has worsened and infrastructure modernization necessary to stem water losses from urban and irrigation systems has not been implemented on a systematic basis. Environmental policy approaches such as watershed management tend to remain on paper without having any impact on the allocation of water, amounts and water quality for different purposes or water users.

In Uganda, not only does local tax revenue impose punitive burdens on monetized activity in rural areas, it is also almost wholly utilized on sitting allowances for councilors and other functionaries rather than providing locally specific services to rural citizens (Ellis & Bahigwa, 2003). The decentralization process in this country has resulted in the fall of spending on primary health care fell from 33 percent to 16 percent (Akin, Hutchinson, and Strump 2001). Azfar and Livingston (2002) did not find any positive impacts of decentralisation on efficiency and equity of local public service

provision in Uganda. They showed that there is a lack of any match between households' demands and district officials' decisions at the district level. No evidence was found of any correlation between household demands and either public officials' knowledge of these demands or resource allocation decisions at the district level.

Ravallion (2000) in his study of poverty alleviation program in Argentina found that subnational governments are often less effective at targeting poor areas within their jurisdictions than central governments are at targeting poor subnational governments. West and Wong (1995) found that in rural China, decentralization resulted in lower level of public services in poorer regions. Azfar et al. (2000) studied the impact of decentralization in Uganda and the Philippines and concluded that while local governments do appear to be aware of local preferences, their response is often inadequate as they are hamstrung by procedural, financing and governance constraints.

Khalegian (2003) using a cross-sectional time-series of data on low- and middle-income countries from 1980 to 1997, studied the effects of decentralization on coverage rates for two types of vaccines: measles vaccine and DTP3 vaccine. The results are somehow peculiar as he found that decentralization is associated with higher immunization coverage rates in low income countries, but lower coverage in middle-income countries. For example Benin, a decentralized low-income country with a GDP per capita of USD387 in 1997, reported coverage rates of 78 and 82 percent for the DTP3 and measles vaccines respectively; whereas its neighbor Togo, a centralized country with a slightly lower per capita GDP of USD345, reported coverage rates of 33 and 38 percent for these vaccines in the same year. Among middle-income countries, Venezuela, a decentralized country with a per capita GDP of USD3600, reported coverage rates of 60 and 68 percent for DTP3 and measles in 1997; whereas Costa Rica, a centralized country with a similar income level (GDP per capita USD3550) reported rates of over 90 percent for both.

3.2. Decentralization and quality of governance

The notion of governance is multidimensional and covers a wide range of area. And the results obtained in a particular study will generally depend on the type of indicator used in measuring governance. According to de Mello and Barenstein (2000),

“...indicators of governance should in principle provide information not only on the way governments are elected, monitored and replaced, as well as their capacity to formulate and implement sound policies effectively, but also on the attitude of citizenry/electorate, as well as of their representatives toward the institution that govern economic, political and social interactions.” (de Mello and Barenstein, 2000, p.8)¹⁴ .

It is interesting to note that a majority of the studies on the impact of decentralization on governance tend to focus on the problem of corruption. This is easily understandable given the rather difficult enterprise in constructing a comprehensive and accurate measure of governance¹⁵. This in turn explains why indicators of governance usually exist for a limited number of countries and a short time span. Thus given the widely-held belief of the close relationship between corruption and the quality of

¹⁴ Kaufman (2003) defined governance as “the set traditions and formal and informal institutions that determine how authority is exercised in a particular country for the common good, thus encompassing: (1) the process of selecting, monitoring, and replacing governments; (2) the capacity to formulate and implement sound policies and deliver public services; and (3) the respect of citizens and the state for the institutions that govern economic and social interactions among them.(p.5)”

¹⁵ One of such measures is provided by Kauffman, Kray and Zoido-Lobaton (1999) who using a total of 352 individual variables taken from 37 different sources produced by 31 different organization, organized governance data into six clusters:

1. *Voice and Accountability* – measuring political, civil and human rights
2. *Political Instability and Violence* – measuring the likelihood of violent threats to, or changes in, government, including terrorism.
3. *Government Effectiveness* – measuring the competence of the bureaucracy and the quality of public service delivery.
4. *Regulatory Burden* – measuring the incidence of market-unfriendly policies.
5. *Rule of Law* – measuring the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence.
6. *Control of Corruption* – measuring the exercise of public power for private gain, including both petty and grand corruption and state capture

The data is updated every year and can be obtained at www.worldbank.org/wbi/governance/govdata/.

government, scholars tend to consider the former as one of the indicators most suitable to represent governance¹⁶ (Kaufmann 2003).

The literature on the linkages between decentralization and governance/corruption remains nevertheless relatively small¹⁷ and the results found are far from being consensual. Fisman and Gatti (2002) examine the relation between the expenditure decentralization and measures of corruption based on subjective perceptions of businesspeople and investors (the International Country Risk Guide's (ICGR) corruption index). Their dataset covers 59 countries for the period 1980-1995. Their regression controls for an index of civil liberties, GDP, country size (population, government expenditure as a proportion of GDP), openness (import to GDP ratio), as well as indices of ethnic fractionalization, contract enforceability, the existence of a federal constitution, and regional and colonial dummies. The authors find a significant negative correlation between expenditure decentralization and corruption measures, which is robust with respect to the precise set of controls or corruption measures or subperiods. However, as with any cross-sectional regression, the authors acknowledge that their results may be subject to the potential problems of endogeneity of regressor. Fisman and Gatti attempt to overcome this problem by using legal origin as an instrument for decentralization (the authors however remain skeptics of the validity of this instrument). The legal origin variable is introduced by La Porta et al. (1998) and consists of five indicator variables that classify the legal origin of the Company Law or Commercial Code of each country. The authors found that although this will result in a larger coefficient estimates, the Hausman test cannot reject that the difference between the OLS and the IV estimates is not systematic. This would suggest that although there might be a priori good reasons to

¹⁶ Corruption also can be measured in different ways and the theoretical literature showed that the definitions used may affect the conclusions drawn from empirical studies (see for example Waller, Verdier and Gardner 2002; Bradhan and Mokherjee, 2006). It can be measured by total bribes or in relative terms (as a proportion to the number of potential bribe-takers, or bribe-givers or the level of economic activity in the sector in question). It can also be measured narrowly by including bribes only or broadly by including other practices such as the contributions of interest groups to politicians in order to receive preferential treatments or the efforts made by citizens to evade laws (Bradhan and Mokherjee, 2005).

¹⁷ According to Fjeldstad (2004), "... a search in Econlit...come up with only 20 references... for the period 1991-June 2003. ISI Web of Knowledge.... came up with 10 hits on 'decentralization and corruption' and 6 hits on 'decentralisation and corruption' for the period of 1955-2003....A search in the JOLIS Library Catalogue of the World Bank and the IMF identified 16 publications...ELDIS...came up with 10 hits on 'decentralization and corruption' and 7 hits on 'decentralisation and corruption'..." (Fjeldstad, 2004, p.2)

expect a potential endogeneity and/or mismeasurement problem, the resulting bias in the OLS coefficient is not significant.

The results found by Fisman and Gati are in total contrast to the ones obtained by Treisman (2002a). The latter examines correlations between eight different measures of decentralization with various measures of corruption and of social service delivery, while controlling for a larger range of variables. The same measure of expenditure decentralization turns out to not have a significant association with corruption measures, despite using a similar set of countries and time period in the sample. Treisman explains the discrepancy from the Fisman-Gatti results by his use of a wider range of controls and of measures of governance quality. In particular, the proportion of Protestants in the population, which was excluded by Fisman and Gatti, turns out to account for the correlation they observed between corruption and expenditure decentralization: countries with more Protestants tend to be both less corrupt and more decentralized. Expenditure decentralization tends also to be positively correlated with youth illiteracy and negatively with access to sanitation, though positively correlated with paved roads.

de Mello and Barenstein (2001) study the effects of decentralization on governance using the four indicators as proposed by Kaufmann, Kraay and Zoido-Lobatan (1999) as well as the ICRG corruption index. The authors find that the two measures of governance are statistically and negatively correlated with decentralization although the coefficients for the four indicators of governance are smaller in magnitude than the one associated with ICRG index. In order to control for reverse causality, they use the same method as Fisman and Gati (2002) and obtain consistent results. The fact that governance may be affected by how subnational expenditures are financed is also tested for in this paper. The regressions results show that governance is improved with an increase in the mobilization of non-tax revenues which is consistent with the theoretical literature (Humplick and Estache 1995). The results also showed that governance deteriorates when further subnational finance mobilization is pursued in countries where the subnational governments already account for more than 19% of total government spending. This can be explained by the facts that there is generally a lack of accountability as well as capacity at the subnational level. In other words, beyond the

19% level, any further expenditure decentralization should be financed with either non-tax revenues or intergovernmental transfers and grants. The authors also test for possibility of nonlinearities in the relationship between decentralization and governance. Their aim is to see whether there is a minimum level of decentralization that is needed in order for governance to improve. To this end, they constructed dummy variables that correspond to the separate quartile in the cross-country distribution of expenditure shares. Their results suggest that decentralization is associated with improved governance only for the highest quartile of expenditure decentralization.

More recently, Dreher (2006) studies the impact of decentralization on four measures of governance: the index of law and order from *law and order* from the International Country Risk Guide (ICRG) of the PRS Group, the *costs of opening a new business* constructed by the World Bank, the judicial independence index from Fraser Institute's Economic Freedom Index and the World Bank's *rule of law* index. The results show that decentralization does to some extent lead to an improvement in governance. The paper also distinguishes between the effects of administrative decentralization from those of fiscal decentralization. Administrative decentralization is proxied using the number of tiers of government in a country. The results show that the number of sub-national tiers becomes insignificant in all regressions, while the significance of the variables representing fiscal decentralization remains. The author takes these results as confirming the hypothesis that fiscal competition improves governance, while vertical administrative decentralization does not.

Enikolopov and Zhuravskaya (2006) test the Riker's predictions (1964) that the effects of decentralization will be partly determined by political institutions namely the strength of national political parties and administrative subordination. For indicators of governance, the authors used the Transparency International's corruption index as well as the governance index as constructed by Kaufman et al. (2002). They also study the impact of decentralization on growth and public goods. In order to test for the Riker's theory, the authors use the age of main parties and the fractionalization of governing parties (the probability that two members of parliament picked at random from governing

parties belong to different parties) as a proxy for party strength and the dummy variables indicating whether municipal and provincial executives are elected or appointed for administrative subordination. The results show that there is a positive and significant correlation between decentralization and governance. The data also provide strong evidence in favor of Riker's hypothesis that strong national political parties improve the results of fiscal decentralization. The authors' findings also confirm Riker's skepticism about administrative subordination as a mechanism of ensuring efficient political incentives for the local governments in decentralized states: they find that appointing state and municipal officials does not help the results of fiscal decentralization.

In addition to cross-country studies, some authors seek empirical evidences on a more disaggregated and localized set of contexts. Crook and Manor (1998) examined the process of political decentralization in India (Karnatka state), Bangladesh, Côte d'Ivoire and Ghana and found that decentralization led to enhanced transparency and reduced incidence of corruption. They conclude that decentralization reduces grand theft but increases petty corruption in the short run. However, the authors argued that in the long run, both theft and corruption may go down. Fiszbein (1997) reviews the political decentralization process in Colombia. He concludes that competition for political office opened the door for responsible and innovative leadership that in turn became the driving force behind capacity building, improved service delivery and reduced corruption at the local level. In his study of decentralization process in Indonesia, Kuncoro (2000) found that administrative decentralization is accompanied by lower corruption. This is due to the fact that firms choose to relocate to areas with lower bribes. Mana (1999) analyzes the impact of the decentralization reforms that were implemented in Papua New Guinea in 1995. According to the author, the decentralization process has resulted in increased discretion among NGOs, leading to enhanced pressure for petty corruption. Wade (1997) compares the performance of canal irrigation in India and Korea. He argued that over-centralized top-down management accompanied by weak communications and monitoring system contributed to corruption and poor delivery performance for canal irrigation in India. In contrast, stronger communication and monitoring mechanisms in Korea may explain the better delivery performance relative to India.

3.3. Decentralization and macroeconomic outcomes

There have been few empirical studies, which have directly examined the impact of fiscal decentralization on macroeconomic outcomes and most of them tend to focus on economic growth. And so far, these studies have yet to provide a conclusive answer to what the impact of fiscal decentralization on economic growth is. The results seem to be sensitive to the data set being used in the estimations, the variables representing fiscal decentralization, the set of control variables introduced in the regressions as well as the specific country being analyzed. These mixed results are due in part to the fact that there is a lack of understanding of how fiscal decentralization is linked directly or indirectly to economic growth. There has been little effort to actually define the theoretical relation between the immediate effects of decentralization such as economic efficiency or disparity in the distribution of public resources among subnational governments, on economic growth (Martinez-Vasquez and McNab 2001).

Xie et al. (1999) proposed a general analytical framework in order to examine the links between fiscal decentralization and growth and apply it to the case of the United States. They used the endogenous growth model of Barro (1990), where the production function has multiple inputs including private capital and public spending. The authors then split public spending into three levels of government and analyze different decentralization shares regarding their consistency with growth maximization. They worked with time-averaged data because they believed that the benefits of fiscal decentralization will not affect the year-to-year fluctuations of economic growth but rather the long-run growth. They found that there is a negative relation between fiscal decentralization and economic growth. The authors proposed several explanations for these results: First, the composition of government spending is not explicit in the measure of fiscal decentralization used as it does not distinguish between current and expenditure spending. Second, there may exist wrong revenue assignment among the different levels of governments. Third, local governments especially in the developing countries may be constrained by the central government in their revenue collection and spending decisions.

Fourth, the local governments may not be responsive to the needs and preferences of the local population.

Zhang and Zou (2001) augment the aforementioned approach and develop a model that links multiple sectors of public spending by multiple levels of government to economic growth. They then apply their model to the case of China (29 provinces for the period of 1987 to 1993) and India. (16 major states for the period of 1970 to 1994). They found that in China there is a negative relationship between fiscal decentralization and provincial economic growth. Meanwhile, in India, they found that fiscal decentralization especially decentralization in tax revenue collection is positively and significantly correlated with economic growth.

Lin and Liu (2000) and Thießen (2000 and 2003) choose a different approach. They follow Mankiw, Romer and Weil (1992) and adapt their augmented Solow model of economic growth introducing FD as explanatory variable. Lin and Liu reported that the marginal retention rate of national budget revenues collected at the provincial level had a positive and statistically significant impact on the growth of real per capita GDP in China following the fiscal decentralization of the 1980s. Thießen (2000 and 2003) tests the hypothesis of a hump-shaped relationship between fiscal decentralization and economic growth. If there is too much decentralization, interjurisdictional externalities cannot be internalized and economies of scale are not realized. As a consequence, there will be a negative impact on the economic growth. In case of a low level of decentralization, local preferences will not be taken into consideration which will lead to inefficiencies of public good provision. This in turn will inhibit economic growth. There is thus according to the author a theoretical trade-off between the two extreme levels of decentralization. The optimal level of decentralization lies somewhere in between an extremely high and an extremely low one. Thießen (2000) finds that the hump-shaped relationship is particularly pronounced in the countries with the highest per capita income while there is evidence that low per capita income countries grow linearly with higher decentralization level. In a subsequent paper, Thießen (2003) tests the convergence of the fiscal decentralization shares towards a medium degree by using three dummy variables which represent each a low, medium and high degree of decentralization. The results show that starting at a

relatively low level of fiscal decentralization and increasing it to a medium level of between 30-45%, capital stock growth could tend to be promoted while total factor productivity growth may tend to decrease. The estimated coefficients of the dummies in the panel economic growth equations would suggest that the former effect dominates the latter so that economic growth could be promoted. However If fiscal decentralisation would increase further, capital stock growth may, however, decline as could total factor productivity growth. The per capita economic growth rate could therefore tend to decrease. But the lower the income level would be, the less likely would be any negative effects of increasing decentralization on capital formation and total factor productivity growth.

These results are somehow in contrast to the ones found by Akai et al. (2004) who showed fiscal decentralization is conducive to growth regardless of the current degree of decentralization. Akai et al. (2004) refer to Nishimura (2001), who developed a model that considers differences in the quality as well as complementarities of public services. Their model shows that fiscal decentralization is more preferable than centralization for expected economic growth when the degree of complementarity is sufficiently low. They also show that decentralization will lead to a lower variance in GDP growth. They then verify empirically their theoretical results using state-level cross section data of the United States. They control among others for the annual rate of growth of the population, the initial level of education, the initial GINI coefficients and the initial percentage of exports. The results of their regressions confirmed their theoretical propositions – the fiscal decentralization variables are positively and significantly correlated with economic growth and negatively and significantly correlated with the variance of economic growth.

Conclusion

As in most studies in economics, economists have failed to come up with a consensus as to the veritable effects of decentralization. Our review of the empirical literature above shows that the evidence of the benefits of decentralization is rather mixed. This is hardly a surprise given the inconclusive debates on the theoretical grounds, on this subject. Several authors have tried to come up with explanations as to why do the empirical studies on the effects of fiscal decentralization tend to have been mixed results (Ebel and Yilmaz 2001; Stegarescu 2004; Thornton 2007)

For most of them the main problem resides in the fact that fiscal decentralization is too complex to be captured by a set of measures at the aggregate level. There are various dimensions in decentralization with different viewpoints. Most of the times, there are two variables that are used as a proxy for fiscal decentralization: the share of the subnational government expenditures (or revenues) in general government expenditures (or revenues) net of intergovernmental transfers. These data are obtained from the Government Finance Statistics (GFS) of the International Monetary Fund (IMF). Ebel and Yilmaz (2001) argued that there are three major problems that emerge when these variables are used in an empirical study on the impact of decentralization:

- they do not identify the degree of local autonomy,
- they do not distinguish between the sources of the revenue of the subnational governments
- they do not distinguish between the different types of intergovernmental grants.

Using the dataset from the OCDE's survey Fiscal Design Across Levels of Government (OECD, 2001), they reestimate the model as specified by Davoodi and Zhou (1998). The latter have found that fiscal decentralization is negatively correlated with economic growth. Ebel and Yilmaz (2001) however found that the subnational tax autonomy as well as the subnational non-tax autonomy are positively correlated with economic growth.

More recently, based upon the analytical framework elaborated by the OECD, Stegarescu (2004) proposed measures of both fiscal autonomy and revenue decentralization are constructed which consider tax-raising powers of sub-central governments¹⁸. His analysis shows that common measures usually employed tend to considerably overestimate the extent of fiscal decentralization. The author also provides some explanation as to the limitations of the traditional measures of decentralization. First, by using these measures, we will not be able to tell whether the degree of decentralization reflects the assignment of functions and resources to different levels of government, or, merely, the relative size of sub-central government activities. Secondly, budgetary data in general, and expenditure and revenue shares, in particular, are imperfect indicators of the share of public goods supplied by sub-central governments and the actual degree of decentralization of the public sector because they only report expenditure and revenue figures at the level of government which ultimately operates or receives them, irrespective of whether it has discretion upon them. Finally structures, expenditure and revenue shares also fail to capture the extent of legislative and regulatory activities and other aspects of decentralization which are not directly reflected in fiscal flows.

Thornton (2007) points to the importance of distinguishing between “administrative” and “substantive” decentralization. High subnational revenue and spending do not necessarily mean that the subnational governments have a high degree of autonomy. Some of the expenditures may in fact be mandated by the central governments and subnational governments may not have a total control on the rate and/or the base of the tax that are accrued to them. Thornton proposed using the database constructed by the OCDE which measure the degree of revenue autonomy of sub-national governments in

¹⁸ Apart from Ebel and Yilmaz (2001) and Stegarescu (2004), there are also several different non-quantitative measures of fiscal decentralization that have been used in the literature. For instance, Kaufman (1963) compiles a list of indicators measuring the degree of central government control over sub-national government, mentioning, among others, detailed directives, involvement in the selection of administrative staff, frequency of consultation, and the extent of supervision. Smith (1979) and Bahl (1999) provide comprehensive discussions of factors which together describe the extent of fiscal decentralization, ranging from elected local councils, locally appointed chief officers, institutional provisions, the size and number of sub-national authorities, organizational structures, to fiscal indicators of expenditure, tax-raising and borrowing powers. Treisman (2002b) employed as a non-fiscal indicator of decentralization the ratio of sub-central government employment to total government employment.

19 OECD member countries by calculating the amount of their revenue stemming from the tax rates and the tax base over which they had full discretion. The author found no correlation between fiscal decentralization and economic growth. Iimi (2005) proposed to complement the fiscal decentralization variable with a political devolution variable. According to the author, the impact of decentralization will depend on whether the citizens have sufficient channels to express their needs and preferences. However, their results show that the political freedom tend to have a negative impact of economic growth. Jin and Zhou (2005) argued that in analyzing the relationship between fiscal decentralization and economic growth, it is important to test simultaneously the effect of the level of both expenditure and revenue decentralization, and the effect of the fiscal pattern they hence reveal. According to them, consistent with the theoretical principle of fiscal federalism, growth can be promoted in regions where there is a convergence between these two sides of decentralization. However their empirical results show that this theoretical proposition does not seem to apply to China. Using a panel data set for China's 30 provinces for the time period from 1979 to 1993 and 1994 to 1999 separately, the results of this study suggest that in both periods, expenditure and revenue decentralization levels should further diverge to benefit provincial growth.

We will now turn our attention to another set of problems that we believe has been relatively scantily analyzed in the literature namely the effects of decentralization on macroeconomic stability.

**CHAPTER 2. THE EFFECTS OF DECENTRALIZATION ON
MACROECONOMIC STABILITY.**

Introduction

In this chapter, we will look at one issue about decentralization that we believe has been scantily analyzed in the literature namely the effects of decentralization on macroeconomic stability. Our main objective here is to try to shed more lights on the issue notably by looking at other dimensions of macroeconomic stability than what is usually used in precedent studies as well as by examining other factors that might accentuate or diminish the effects of decentralization on macroeconomic stability. Even though there is still a lot of room for analysis as far as the effects of decentralization on other aspects of the economy are concerned, we believe that it is in this area that a more thorough analysis is mostly called for.

It is also interesting to note that the question of macroeconomic stability itself has been exiguously analyzed in the literature. As it is put by Satyanath and Subramaniam (2004),

“ It is surprising that while so much of the recent literature has been devoted to, even obsessed with, explaining the cross-country variation in real variables—for example, in income..there has been much less of a concern with analyzing the cross-country variation in nominal or macroeconomic instability. This is despite the fact that the cross-country variation in nominal or macroeconomic instability is even more astounding than that in income” (Satyanath and Subramaniam (2004): p. 2).

Even though there is no precise definition of macroeconomic instability, the concept is usually understood as a situation of economic malaise, where the economy does not seem to have settled in a steady position, and where, eventually, something needs to be done for putting it back on track (Azam 2000). Roughly speaking, everything that is going wrong in a country’s macroeconomic condition such as high inflation, overvalued currency, unstable real exchange rate, balance of payment deficit, or fiscal deficit is often called macroeconomic instability. To put it differently, macroeconomic

instability refers to phenomena that make the domestic macroeconomic environment less predictable and it can take the form of volatility of key macroeconomic variables or of unsustainability in their behavior.

In the following section, we will argue that there is yet to be a consensus both at the theoretical and empirical level, among economists as far as the effects of decentralization on macroeconomic instability are concerned. The empirical strategy will be presented in the second section. We present the results of our estimation in the third section. Finally, section 4 concludes.

1. The relationship between macroeconomic stability and decentralization: a review of literature.

The theoretical arguments of the positive or negative impacts of decentralization on macroeconomic stability are in a way similar to the ones that we have discussed in the preceding section. It is nevertheless important to note that there is a slight tendency to associate decentralization with less macroeconomic stability owing notably to the fact that decentralization is usually accompanied by an increase of autonomy level of the local governments. Ahmad et al (2005) held that macroeconomic stability for a country or supranational economic union depends on the overall aggregate exposure to risk—and a critical element of the latter is the borrowing of all the component jurisdictions in the relevant country or economic union. Decentralization means that local governments will be granted more power in determining the level of their expenses as well as their revenues. This in turn means that central government will have less power to control the behavior of the subnational governments.

Adding to this is the coordination problem that will emerge among the subnational governments which usually have their own agendas to pursue. In a decentralized system, subnational governments respond to different constituencies. And herein lies the cause of policy divergence across level of governments (Riker 1987). According to Wibbels (2000) policy divergence is more likely to happen when it comes to economic reforms as voters usually hold the national and not subnational governments

responsible for macroeconomic performance. Besides, international pressures also tend to focus on the performances of national governments. And since subnational governments are in a way insulated from the country's macroeconomic situation, their adjustment policies are subject to collective action problem. From the point of view of provincial politicians, the gains achieved via state-level economic reform cannot be contained within state boundaries because state economies are open. Furthermore, the impact of any one state's reform efforts is likely to be marginal in terms of the overall success of economic adjustment. As a result, the free rider problem becomes operational. Economic adjustment takes on the quality of public good requiring the individual states to cooperate, but it is more rational for individual provincial politicians to avoid the political costs associated with austerity. Under these circumstances, the coordination of national fiscal and monetary policies as adjustment tools is complicated, posing a challenge to national economic stability (Prud'homme 1995). In turn, subnational fiscal fragilities in decentralized system can affect macroeconomic performance in three ways

- subnational governments fiscal policy can starve central government of revenue sources, encouraging fiscal imbalance at the federal level
- monetary policy can generate inflation if federal authorities cover subnational fiscal imbalances via seignorage
- federal indebtedness can increase if national government assume provincial debt to ensure the solvency of subnational governments.

In other words, economic adjustment policies within a decentralized system are more difficult to implement as it has an important subnational component. As compared to a unitary system, these threats to macroeconomic performance are largely moot as local governments are merely the bureaucrats extensions of central governments. Absent the divergent incentives and political autonomy generated by the decentralization process, subnational officials in centralized countries are responsible to their national government and therefore have few motives to resist economic reforms.

Increases in the monetary base caused by the central bank's bailout of failing state and non-state banks represent occasionally another important source of monetary instability and a significant obstacle to macro economic management. For example, in

Pakistan, both the central and provincial governments have, in the past, raided nationalized banks. And in Brazil, state banks in the past made loans to their own governments without due regard for their profitability and risks causing the so called \$100 billion state debt crisis in 1995.

On the other hand, under the logic of commitment problem, decentralization is associated with more price and macro stability. In the literature, high inflation is attributed to the inability of policymakers to commit credibly to monetary restraint which in turn is due to the fact that high inflation, regardless of its costs, is their dominant strategy (Barro and Gordon 1983, Kydland and Prescott 1977). These studies show that if markets expect low inflation, increasing the money supply will have positive real effects and if markets expect high inflation, it is still less costly in the short run to accommodate these expectations rather than to thwart them. From this point of view, fiscal decentralization can lead to more price stability by making it more difficult for policymakers to renege on their commitment for price stability. Indeed, within a decentralized system, the competition among lower levels of governments may reduce their incentives to renege on stable monetary policy (Qian and Rolland 1998).

The positive effect of fiscal decentralization on price stability can also take place through the effect that the former have on the independence of central bank. According to several authors, the credibility of the commitment to price stability can be established if the monetary authority adheres to a set of formal rules¹⁹ or if there is a guarantee that it is independent from any pressures from all levels of government (Barro 1996²⁰, Shah 1994). This statement was later confirmed by empirical studies that show that central bank independence is effectively correlated with lower inflation rates (Treisman 1999). For

¹⁹ For example, in 1991 Argentina adopted the Convertibility Law that established parity in the value of the peso in terms of the US dollar Argentina's central bank has also strengthened the credibility of its commitment to price stability by enduring a severe contraction in the monetary base during the period December 1994 to March 1995 as speculative reactions to the Mexican crisis resulted in a decline in its foreign exchange reserves. In 1994 Brazil adopted the Real Plan to help achieve a measure of this level of credibility.

²⁰ Barro is very preoccupied with price stability that he regards an ideal central banker as one who is not necessarily a good macro economist but one whose commitment to price stability is unshakable. According to the author, "*The ideal central banker should always appear somber in public, never tell any jokes, and complain continually about the dangers of inflation*" (Barro, 1996, p.58).

example over the period of 1955 to 1988, the three countries which are considered as having the most independent central banks (Switzerland with the National Bank of Switzerland, Germany with the Bundesbank and the United States with the Federal Reserve Board), had average inflation rates of 4.4 percent compared to 7.8 percent for the three least independent banks (New Zealand until 1989, Spain and Italy). The inflation rate in the former countries is also showed to be of lower volatility. Shah (2005) argued that with decentralization the central bank will be more independent since a decentralized system would require a more clarified rules and regulations under which a central bank operates as well as its functions and its relationships with different level of governments. Huther and Shah (1996) find a weak but positive association between fiscal decentralization and central bank independence. In Brazil, when the government introduced a decentralized federal constitution in 1988, the independence of the central bank is significantly enhanced (Bomfim and Shah 1994, Shah 1991). Lohman (1998) argued that Germany's low inflation in the postwar can be partly attributed to the independence of the Bundesbank which was enhanced by the way it was embedded into the country's federal institutions. According to the author, a majority of the bank's council members were appointed by the Lander governments. Central and Land elections were staggered and the parties dominating the two governments often differed. The Landers were also represented in the Buderast which could veto changes to central bank legislation. All these factors serve as checks and balances on the attempts by the central government to inflate the economy in order to gain popularity during elections.

Another theory suggests that decentralization will not directly affect inflation but will lock in relative inflation rates, whether high or low, by making it more difficult to change monetary or fiscal policies and institutions (Tsebelis 1995). Within a federal structure, the number of vetoes players whose agreement is needed for a change in the status quo will be increased. The subnational governments are sometimes provided with the right to veto the decisions made by the central government. This in turn should make current policy, whether it is inflationary or austere more, sticky. As a result, in decentralized economies, there is a relatively greater continuity in monetary and fiscal policies and in the relative inflation rates that these policies generate. The final

macroeconomic outcomes will depend on which policies which were initially in place. In countries where the inflation rate was relatively high, decentralization will tend to perpetuate the underlying system that cause the inflation and durable stabilization will be difficult to achieve. Meanwhile, in countries where inflation rates are low due to low fiscal pressures and depoliticized monetary policy depoliticized, decentralization will help to perpetuate the system. The empirical support for this continuity hypothesis is found by Treisman (2000). The author showed that although there was a general upward drift of inflation rate in the 1970s and 1980s, the rise was less in federal countries with low inflation in the previous period compared to similar unitary states, and the rise was greater in federations that started from high inflation compared to similar unitary states. The author found that the cutoff point to be situated around 7.5%. Federations with inflation higher than this rate five years earlier tended to have a faster rise than similar unitary states, and those with lower than 7.5% five years earlier tended to have a slower rise than similar unitary states.

On the empirical grounds, there have been very few studies that analyze the effects of decentralization on macroeconomic stability and almost all of them used the inflation rate as their indicator for macroeconomic instability.

King and Ma (2001) examined the effects of centralization on inflation using data that covered 42 countries over the period of 1973-1994. However, they only found a significant positive correlation between centralization and inflation when they omitted from their sample “high-inflation” countries defined here as those who have an average inflation of more than 20%. They also found that the inclusion of centralization in their regression gives central bank independence the right sign (negatively correlated with inflation rate). The paper was later reinvestigated by Neyapti (2003) who argued that decentralization and central bank independence reinforce each other in determining the inflation rate since decentralising revenue collection by itself need not be efficient as local authorities have much more limited tax bases available to them as well as limited capacity to issue debt. Moreover, the author argued that local autonomy in collecting local revenues may be constrained for political considerations. Hence, he hypothesized that revenue decentralization leads to lower inflation provided that monetary discipline

exists, and not necessarily otherwise. This is because, even if local accountability exists, the cost of inflationary monetary expansion resulting from individual actions of local governments is not fully internalised by local governments. He thus took both local accountability, as a fiscal disciplinary device and central bank independence, as a proxy for monetary discipline, into account to assess the relationship between RD and inflation. His empirical investigation demonstrates that, controlling for business cycles, openness and government size, revenue decentralization has significant negative effect on inflation only in low inflation countries. Moreover, the additional effect of the interaction between decentralization and central bank independence is significant in low inflation countries. These results are consistent with King and Ma's observation of the significant effect of central bank independence. Neyapti observed, however, that decentralization has a significant negative effect on inflation also in higher inflation countries when coupled with both central bank independence and local accountability. More recently, Vazquez and McNab (2005) found that decentralization appears to promote price stability. Their results are consistent both in the full and sub-sample of developed, developing and transitional countries. This suggests according to the authors that their results are not dependant on the level of development.

However, Treisman (2000) found that fiscal decentralization have no significant correlation with inflation. The author used three indicators of decentralization namely whether the country is classified as federal according to Elazar (1987), the share of subnational spending of the total government spending and the share of subnational revenue of the total government revenue. The author found that none of these three variables have a noticeable effect on inflation with coefficients close to zero. The results were confirmed by Rodden and Wibbels (2002). The authors found that although there is a positively correlation between fiscal decentralization and inflation, the relation does not achieve statistical significance. Thornton (2007) examines the issue of revenue decentralization and inflation focusing on the share of the revenues of sub-national governments over which they have full autonomy. Results from panel least squares regressions of 19 OECD member countries for which data on the degree of revenue autonomy in 1995 was available suggest that, when measured in this way, the impact of revenue decentralization on inflation is not statistically significant. According to

Thornton, these results suggest that countries that shift a large share of revenues to sub-national governments are able to pursue better policies at the national level and not a reflection of relatively more responsible fiscal policies at the level of sub-national governments. One possible explanation for this situation is that revenue sharing arrangements in such countries act to reduce competition for fiscal resources between sub-national governments.

Based on the literature review above, it is quite obvious to see that there is still much more that need and can be done in order to improve our understanding on the relation between decentralization and macroeconomic stability. For example, our literature review shows that the studies that have been done so far have failed to acknowledge other aspects of macroeconomic stability than price stability. Moreover, they seemed to ignore various other factors that could influence directly or indirectly the effects of decentralization on macroeconomic stability. One type of variables that we believe to be rather important but has been so far ignored is the ones that capture the existing institutional and political arrangements of the country in question such as the quality of the government, the level of democracy, the political stability or the level of corruption. As shown by our review of literature in the previous chapter these variables have been widely studied notably from the angle of the impact that decentralization may have on them. However there are yet any studies that take into account the role of these institutional and political variables when they analyzed the impact of decentralization on macroeconomic stability. The institutional and political variables may influence the impact of decentralization on macroeconomic stability in two different ways. First, it can be assumed that the effects of decentralization on macroeconomic stability may differ across countries once we control for the institutional and political variables within our estimation. In this case, the institutional and political variables were introduced into the equation as control variables. Intuitively, it can be understood that countries that have better institutional and political feature such as a well functioning and mature democracy or a good check and balance of those in power should have less macroeconomic instability. The effects of these variables on macroeconomic stability will be discussed in a more lengthy way in the next section.

Secondly, political and institutional variables may also have an impact on the impact of decentralization on macroeconomic stability. In other words, the impact of decentralization on macroeconomic stability is conditional on the political and institutional environment that prevails within the country in question. Indeed, it seems natural to argue for example that the impact of a decentralization process on macroeconomic stability will in a way depend on the position of the country in question in the governance index level. Besides, several authors point to the importance of accompanying decentralization process with certain type of institutional reform in order for the country to benefit from decentralization²¹. In order to test for this aspect of institutional and political effects, we will introduce into our estimations the interaction of these institutional and political variables with the variable representing decentralization. Such interactions may have been widely covered in other studies of decentralization but they are yet to be introduced into the regressions between decentralization and macroeconomic stability.

The originality of our study thus lies in its efforts of trying to introduce in our regressions several new control variables that we believe will directly or indirectly influence the effects of decentralization on macroeconomic stability. A particular attention will be given to institutional and political variables. We will also use other variables as a proxy for macroeconomic stability besides inflation rate. Price stability may be one of the main indicators of macroeconomic stability but it is far from being the only one given the wide spectrum which the term macroeconomic stability covers. It will thus be interesting to confront the results obtained by using several indicators of macroeconomic stability in order to see whether the same results will be found.

2. Econometric estimation

The hypothesis that we want to test here is whether decentralization will lead to more or less macroeconomic instability.

²¹ See for example Fiszbein (1997) or Bird (2000).

2.1. Data description

In this section we describe the data and the measures we use for our econometric analysis. Our data covers 51 countries comprising of 29 developing countries and 22 developed countries from the period of 1972 to 2001. The number of countries differs according to the dependant variable retained (49 for inflation and deficit level and 46 for de facto exchange rate). The list of the countries that constitute our sample as well as the definition and sources of all data are given in the appendix.

This data set is structured as a panel with observations for each country consisting of five-year averages. Each country has six observations: 1972-1976, 1977-1981, 1982-1986, 1986-1991, 1992-1996, 1997-2001. The panel is, however, not balanced because some observations are missing for a number of countries. Table 2.1 below summarizes the descriptive statistics of the variables.

2.1.1. Decentralization data

Data related to decentralization are mostly obtained from the Government Finance Statistics (GFS) which are collected and published by the International Monetary Fund. More precisely the following indicators will be used as our measure of decentralization

- the percentage of subnational governments expenditure of the total government expenditures
- the percentage of subnational governments revenues of the total government revenues.

The used of GFS data to measure the extent of decentralization have been widely criticized in the literature²². This has led to the use of other type of indicators as well as to the construction of new database by some authors. However compelling the use of these data may be, it will not serve our purpose here as they are only available for certain developed countries.

²² see for example Ebel and Yilmaz (2000).

Table 2.1. Descriptive Statistics

	Observations	Mean	Standard	Min	Max
Inflation	287	0.8568	0.2316	-0.5252	3.5660
Exchange rate	276	39.1493	181.3336	-45.4418	911.893
Variance of growth	276	11.33133	17.24521	.0715448	133.6689
Exp. Decentralization	261	26.2867	17.0294	1.4547	75.7473
Rev. Decentralization	252	19.0472	15.3016	0.6279	76.4074
GDP	287	9927.86	9234.279	137.5408	41559.24
M2	210	61.5306	212.347	1.5304	1852.052
Population	312	6.55e+07	1.85e+08	164949.6	1.25e+09
Openness	287	68.1632	42.4824	8.6815	258.4703
C. Bank Independence	131	0.4680	0.1930	0.17	0.89
Corruption	186	6.0889	2.4440	0.2	9.8099
Democracy	265	5.3524	7.6298	-52.8	10
Executive Constraints	265	4.2709	6.6405	-52.4	7
Polity	265	3.5426	9.4227	-56.8	10
Political Rights	303	2.6712	2.0270	-1.8	7
Government size	277	57353.82	123153.3	0	862603.4

Source: Author's calculation

2.1.2. Data of macroeconomic instability

In this study we will use three variables as a measure of macroeconomic instability

- the inflation rate
- the change in the de facto market exchange rate (Reinhart and Rogoff 2004).
- the variance of the growth rate (Ramey and Ramey, 1995)

The first two variables are measure of nominal instability while the third is a measure of real instability. Following Satyanath and Subramaniam (2004), there are mainly two reasons why we decided to include the de facto exchange rate as our indicator of macroeconomic stability. First, price level especially in the developing countries is not what can be considered as a clear market-based measure. This is because for long periods of time in the post-war period, prices have been controlled and/or fixed and as such they do not really respond to underlying macroeconomic conditions. In many developing countries, even with a turn toward liberalization since the mid-to late 1980s, prices of nontradables, especially utilities, remain regulated, and hence may not convey all the information about underlying macroeconomic disequilibria. Second, any measure of nominal instability should reflect problems stemming from debt accumulation, rescheduling or accumulation of arrears, and other external pathologies which also reflect macroeconomic disequilibria. From this perspective, the market or parallel exchange rates is better suited to capturing these pathologies than prices.

2.1.3. Control variables

Here we will discuss why we have decided to include the following control variables in our regressions: political and institutional variables, corruption and openness.

a. Political and Institutional variables

There are basically two streams in the literature that studies the effects of institutional setting on macroeconomic stability – one that focuses on the checks on the power of politicians and the other that emphasizes the role of accountability of politicians to the citizens.

❖ The checks on the power of politicians

According to Rodrik (1999), a country that has institutions that place constraints on “opportunistic grabs” for resources when faced with external shocks will be able to better adjust domestically where each groups in the society will have an acceptable share of the burden. If these adjustments could be handled well in terms of minimizing the distributional conflict that adjustment entailed, the long-run effect of the shocks could be

minimized. However, if prevailing institutional constraints are inadequate, the effects of the initial could be amplified by distributional conflicts thus affecting long-run growth performance. A similar argument is found in Acemoglu et. al. (2003). The authors however argue in terms of constraints on the executive that could help mitigate the variability of output growth. In sum, these two papers argue that where there are more checks on the power of the politicians, we should expect less by way of distributionally motivated efforts to manipulate nominal variables.

❖ *The accountability of politicians to citizens*

Political scientists have developed the concept of winning coalition which basically can be interpreted as the group whose support is essential for a chief executive to survive in office. Bueno de Mesquita et al (2003) have formally showed that as the ratio of the winning coalition to the group that selects the leader (the selectorate) increases it becomes increasingly inefficient for the chief executive to focus on diverting resources to the winning coalition to the exclusion of other members of society. The main assumption in the authors' argument is that politicians seek to maximize their probability of political survival. Politicians allocate their resources between goods that can exclusively be consumed by members of the winning coalition (private goods) and goods that serve the public at large (public goods) with the goal of maximizing this probability. As the winning coalition becomes larger, the amount of private goods received by each member of the winning coalition becomes smaller, rendering private goods a less and less efficient way of ensuring political survival. Consequently, as the ratio of the winning coalition to the selectorate increases, the chief executive focuses more on providing public goods while limiting attempts to corner private goods for political insiders. Since macroeconomic stability can be considered to be a public good we should expect greater stability in environments with a high winning coalition/selectorate ratio.

These two streams of literature are combined in Persson et al. (1997). The authors show that with appropriate checks and balances, separation of powers between executive and legislative bodies helps prevent the abuse of power by politicians. In effect, under these conditions the two branches discipline each other, and become more accountable to

citizens in their choice of policies. Since macroeconomic instability imposes costs on citizens, the Persson et. al. (1997) argument implies that measures of division of power should be associated with less instability in macroeconomic policies and outcomes. It is interesting to note that greater checks on politicians and greater accountability to citizens are both indicators by which we can distinguish democratic regimes from authoritarian regimes. Thus, any claim that greater checks and greater accountability should be associated with greater macroeconomic stability is also implicitly a claim that democracies are likely to be more macroeconomically stable. In sum, as Rodrik (1999) has pointed out, democracy imposes mechanisms of participation, consultation, and bargaining which enable policymakers to forge a consensus needed to undertake policy adjustments. In addition, democracy facilitates a smooth transfer of power from incumbents who have chosen policies that are costly to citizens, and this serves to constrain leaders to adopt policies that benefit society at large. It follows that we should expect greater macroeconomic stability in democratic than in authoritarian regimes.

An alternative view of political institutions, and democracy in particular, is that pluralism is detrimental to macroeconomic stability. In this view, pluralism gives rise to a competitive populism and demand for public goods, which together with coordination problems, lead to a spiral of spending and inflation (Satyanath and Subramaniam 2003). According to the authors, in Latin America, many of the episodes of unsustainable populism such as Peron in Argentina and Vargas in Brazil were associated with leaders acceding to power through electoral competition. But Kaufman and Stallings (1991) argue that the populism practiced by rulers in these nascent democracies was itself a consequence of a prior history of excluding their constituencies from political participation as in Argentina and Peru.

In order to elucidate which of these two views will prevail, we will introduce in our estimation the institutional and political setting of a country using the indicators provided by the Center for International Development and Conflict Management under their Polity IV project. The Polity IV data set contains coded annual information on regime and authority characteristics for all independent states in the global state system

and covers the years 1800-2004. We will also use the data published by the Freedom House. The latter has over the last 35 years conducted surveys in more than 193 countries and each country was assigned two numerical ratings, one for political rights and one for civil liberties. Each of this rating is based on a 1 to 7 scale. Until 2003, countries whose combined average ratings for Political Rights and for Civil Liberties fell between 1.0 and 2.5 were designated "Free"; between 3.0 and 5.5 "Partly Free," and between 5.5 and 7.0 "Not Free." Beginning with the ratings for 2003, countries whose combined average ratings fall between 3.0 and 5.0 are "Partly Free, and those between 5.5 and 7.0 are "Not Free."

b. The corruption level

According to Almarhubi (2000) there are various reasons why corruption can lead to an increase in inflation. First, according to the theory of optimal taxation, governments may have a motive for creating inflation, so as to generate seigniorage. Tax evasion and tax collection costs may make it optimal for the government to rely on the inflation tax as a source of government revenue. Clearly, tax evasion and tax collection costs are likely to be greater in countries that are more corrupt. Second, businesses are likely to respond to corruption by going underground, thereby increasing reliance on the inflation tax. Third, corruption may also lead to capital flight, which shrinks taxable assets and income of those most able to meet government revenue requirements. Finally, by reducing revenues and increasing public spending, corruption may also contribute to larger fiscal deficits, which may have inflationary consequences for countries with less developed financial markets.

As our measure of corruption, we use the Transparency International historical corruption index. This historical data on the degree to which business transactions involve corruption are reported by the Center of Corruption Research at the University of Groningen jointly with Transparency International. The index is calculated as averages of corruption rankings from Business International, Political Risk Services, World Competitiveness Report, and Political & Economic Risk Consultancy. The index ranges from 0 to 10 with 10 indicating least corruption.

c. Level of openness

Romer (1993) and Rogoff (2003) have argued that openness affects price levels as well as the rate of inflation. According to Romer (1993), the impact occurs via unanticipated changes in the exchange rate. An unanticipated monetary expansion leads to real exchange rate depreciation, which has a greater impact on prices in more open economies. In the absence of precommitment to monetary targets, openness acts as the disciplining device on the monetary authorities. Meanwhile Rogoff (2003) based his argument on modern new open economy models. According to the author, monopoly in the product and labor markets creates a wedge between optimal and monopoly levels of employment. This wedge creates a motivation for central banks to inflate in order to drive employment above its “natural” market determined rate. As it is put by Rogoff:

“As the wedge becomes smaller, there is less to gain from unanticipated inflation. Central bank anti-inflation credibility is enhanced, even without any institutional change. As a consequence, average inflation falls .”(Rogoff 2003; p. 19)

Openness also renders product markets more competitive. With greater price flexibility, the impact of monetary policy on the real economy becomes less potent. Thus, the lower gains from unanticipated inflation make the monetary authorities’ commitment to price stability more credible. There is also a large and growing body of literature that has examined the impact of financial and trade openness on real instability including the volatility in income and consumption (see Kose et. al., 2003, and the references cited therein). In our study, openness is measured as the percentage of total trade to GDP.

2.2. Econometric specification

Using the data described above, we estimate the following model

$$MS_{it} = \beta_1 FD_{it} + \beta_2 Pol_{it} + \delta'Z_{it} + u_{it} \quad (\text{eq. 1})$$

Where MS_{it} is the measure of macroeconomic stability represented here by the inflation rate, the evolution of the *de facto* exchange rate and the fiscal deficit. Following

Neyapti (2003), we use a linear transformation of the rate of inflation that scales it down to the range between zero and one. The formula used for the linear transformation is as follows:-

$$\text{Inf} = [\text{inflation rate}/1+\text{inflation rate}] \quad (\text{eq. 2})$$

The transformation will allow us to control for the large variance in inflation across countries and over time. FD_{it} is the measure of fiscal decentralization, Pol_{it} denotes a measure of political institutions which will be represented by four variables: the level of political rights, the democracy level, the polity and the constraint on executive. The Z_{it} matrix comprises of several control regressor (the index of central bank independence, the per capita GDP, the total population, the openness to international trade, the time effect and the level of corruption). And finally u_{it} is the error term.

We start by testing for the presence of endogeneity problem in our estimation. For that we use the Hausman test. Following Fisman and Gatti (2000), we instrument the decentralization variable with the dummy variables indicating the legal origin of a country introduced by La Porta et al. (1998). These are five indicator variables that classify the legal origin of the Company Law or Commercial Code of each country. We also instrument our decentralization measure with its lagged values. In the case of our main independent variables, the results show that we fail to reject the exogeneity of the fiscal decentralization with respect to all our dependant variables. We also test for the exogeneity of several of our control variables namely the GDP per capita and the openness variable with respect to all our dependant variables. In this case, we use the lagged values of these control variables as their instruments. The results of the test fail to reject the null hypothesis of exogeneity of our control variables.

We then examine whether a fixed or a random effect model is more appropriate for the estimation of equation 1²³. The results of the tests seem to differ according to our

²³ The null hypothesis of the Hausman (1978) test is that, assuming that both OLS and GLS are consistent, OLS is inefficient, the alternative being OLS is consistent but GLS is not. In other words, the Hausman statistic tests for the correlation between the individual effects and explanatory variables. Rejection of the

dependant variable. When the rate of inflation and the variance of economic growth are used as the dependant variable, the test is in favor of a random effect specification. Where else when we switch to the *de facto* exchange rate, the test is in favor of a fixed effect specification. Consequently, we use the random effect model in estimating our model when the dependant variable is the inflation rate and the variance of economic growth and the fixed effect model when the change in *de facto* exchange rate is used as the dependant variable.

3. Results

3.1. Baseline regressions

The results of our baseline estimations are presented in table 2.2 to table 2.7.

In table 2.2, the dependant variable is the inflation rate and fiscal decentralization is measured as the proportion of subnational expenditures to total expenditures. In column A (table 2.2), we estimate our regressions without controlling for corruption and political institutions. The results show that there is no significant relationship between inflation and decentralization. Inflation rate appears not to be influenced by decentralization.

In column B (table 2.2), we introduce in our regression a variable representing the level of corruption. It is quite striking to see that once we control for corruption, the rate of inflation becomes significantly correlated with the level of expenditure decentralization. The estimated coefficient for expenditure decentralization is found to be significant at the 1% level. The results suggest that in contrary to popular belief of a negative effect of decentralization on macroeconomic stability, an increase in expenditure decentralization, all else being equal, would lead to a decrease in the inflation rate. As for the level of corruption, it is also found to be highly correlated with the rate of inflation. An increase in the level of perceived corruption will lead to an increase in the level of inflation.

null hypothesis thus leads to the rejection of random effects model, in favor of fixed effects (see Hsiao, 1986 or Baltagi, 1995)

These results are suggestive to the importance of taking into account institutional and political settings in assessing the impact of decentralization. In order to further verify this, we include in our regressions several other variables that are supposed to capture the institutional and political context of a country. The results are reported in column C to F (table 2.2). However, as we can see from table 2.2, none of these four variables appear to have a significant relationship with the rate of inflation. Nevertheless, the inclusion of these political variables does not alter the correlation between decentralization and inflation. The latter remains negatively correlated with decentralization.

And once we control for political and institutional variables (column B to F, table 2.2), a negative and significant correlation is found between the rate of inflation and the GDP per capita. An increase in the level of GDP is thus associated with a decrease in the level of inflation. The results are similar to the one found in other studies (Neyapti 2003; Vazquez and McNab, 2005; Thornton, 2007).

In table 2.3, we replace our measure of fiscal decentralization with that of the proportion of subnational revenue of the total revenue. Our results are somehow similar to the ones found previously. However, in contrary to expenditure decentralization, revenue decentralization appears to be negatively correlated with the inflation rate even if we do not control for corruption or political institutions. Nevertheless the introduction of corruption and political institutions in our estimations improves the statistical significance of the coefficient for decentralization.

Table 2.2. Expenditure decentralization and inflation rate

	A	B	C	D	E	F
Decentralization	-0.0020 (0.0021)	-0.0057*** (0.0021)	-0.0070*** (0.0022)	-0.0063** (0.0031)	-0.0063** (0.0031)	-0.0064** (0.0031)
Central bank independence	-0.0352 (0.1356)	-0.1171 (0.1355)	-0.2026 (0.1432)	-0.0621 (0.1929)	-0.0510 (0.1945)	-0.0657 (0.1925)
GDP	-0.0089 (0.0270)	-0.1123*** (0.0397)	-0.1089*** (0.0382)	-0.1872*** (0.0554)	-0.1933*** (0.0562)	-0.1838*** (0.0550)
Openness	-0.0007 (0.0007)	-0.0004 (0.0008)	-0.0001 (0.0007)	-0.0000 (0.0010)	-0.0000 (0.0010)	-0.0000 (0.0010)
Population	-0.0020 (0.0198)	0.0197 (0.0206)	0.0303 (0.0214)	0.0342 (0.0305)	0.0352 (0.0311)	0.0333 (0.0303)
Corruption		-0.0777*** (0.0233)	-0.0675*** (0.0231)	-0.1312*** (0.0317)	-0.1352*** (0.0321)	-0.1291*** (0.0318)
Political Rights			-.035347 (0.0261)			
Democracy				0.0016 (0.0029)		
Polity					0.0014 (0.0025)	
Executive Constraints						0.0016 (0.0032)
Constant	0.8448* (0.4979)	1.0559** (0.5099)	1.0690** (0.4923)	1.0359 (0.7398)	1.0460 (0.7479)	1.0413 (0.7334)
R2	0.3801	0.5046	0.5942	0.3278	0.3269	0.3291
No of obs	294	294	294	294	294	294
No of countries	49	49	49	49	49	49

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 2.3. Revenue decentralization and inflation rate

	A	B	C	D	E	F
Decentralization (revenue)	-0.0045* (0.0026)	-0.0069*** (0.0026)	-0.0081*** (0.0025)	-0.0088** (0.0039)	-0.0089** (0.0039)	-0.0088** (0.0038)
Central bank independence	-0.0516 (0.1358)	-0.0749 (0.1380)	-0.1491 (0.1401)	-0.0741 (0.1926)	-0.0673 (0.1937)	-0.076 (0.1925)
GDP	0.0059 (0.0279)	-0.0924** (0.0426)	-0.0772* (0.0396)	-0.1631*** (0.0578)	-0.1688*** (0.0586)	-0.1594*** (0.0574)
Openness	-0.0008 (0.0007)	-0.0002 (0.0008)	0.0001 (0.0008)	0.0000 (0.0010)	0.0000 (0.0010)	0.0000 (0.0010)
Population	0.0058 (0.0198)	0.0262 (0.0224)	0.0342 (0.0222)	0.0452 (0.0317)	0.0464 (0.0321)	0.0438 (0.0314)
Corruption		-0.0725*** (0.0228)	-0.0551** (0.0228)	-0.1272*** (0.0301)	-0.1312*** (0.0305)	-0.1246*** (0.0300)
Political Rights			-0.0314 (0.0259)			
Democracy				0.0019 (0.0028)		
Polity					0.0016 (0.0024)	
Executive Constraints						0.0019 (0.0031)
Constant	0.6502 (0.5093)	0.7234 (0.5656)	0.6994 (0.5269)	0.6565 (0.7854)	0.6673 (0.7909)	0.6670 (0.7793)
R2 between	0.4031	0.4945	0.5833	0.3374	0.3404	0.3364
No of obs	294 49	294 49	294 49	294 49	294 49	294 49

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 2.4 and 2.5 summarize the results found when we use the change in de facto exchange rate as our dependant variable. In table 2.4, the level of decentralization is represented by the proportion of subnational expenditure to total expenditure where else in table 2.5, we use the proportion of subnational revenue to total revenue as our measure of decentralization.

As shown by table 2.4, we do not find any significant correlation between expenditure decentralization and the change in de facto exchange rate. But in contrary to the results found previously with inflation rate as the dependant variable, there appears to be a significant correlation between the change in exchange rate and the political variables. All four variables representing the political and institutional setting are found to be negatively correlated with the exchange rate. An increase in political rights, democracy or the constraint on the executive leads to a more stable exchange rate. We also found the corruption level to be positively correlated the change in the exchange rate which signifies that an increase in the perceived level of corruption will lead to an increase in macro instability.

The results change when we use the share of subnational' revenue as our measure of decentralization. As reported in table 2.4, the change in the exchange rate is found to be negatively influenced by the revenue decentralization. Note that again the correlation only become significant once we control for corruption and political variables (column B to F, table 2.5). As for the control variables, we found that all the political variables except for one (the political rights) to be significantly correlated with the change in the exchange rate. The results signify that a country that has a good governance track record will also have a stable exchange rate.

Table 2.4. Expenditure decentralization and the evolution of de facto exchange rate

	A	B	C	D	E	F
Decentralization	-4.3896 (8.7642)	-5.4639 (7.4580)	-4.5458 (7.3581)	-4.0866 (8.2396)	-4.0088 (8.3050)	-4.2114 (8.1695)
Central bank independence	-320.1278* (181.7464)	-82.4292 (155.4286)	-153.564 (158.6333)	-48.1482 (175.8041)	-68.2504 (175.9168)	-55.7596 (173.4557)
GDP	425.0333 (309.8086)	-73.5253 (273.5133)	51.58256 (279.1417)	147.6586 (307.0179)	137.0141 (309.3995)	151.496 (304.4822)
Openness	2.3885 (2.2989)	1.9571 (1.9611)	1.1111 (1.9937)	3.4489 (2.5511)	3.6040 (2.5636)	3.8155 (2.5049)
Population	-627.474*** (602.6703)	-720.3054 (522.493)	-871.9449* (521.8835)	-024.416*** (718.4538)	-002.233*** (724.0051)	-067.743*** (712.7683)
Corruption		107.2778** (41.5535)	94.4075** (41.5905)	119.1196*** (43.4249)	110.983** (43.8042)	120.5346*** (43.0789)
Political Rights			-59.3462* (35.175)			
Democracy				-8.3304** (3.2265)		
Polity					-6.4910** (2.6570)	
Executive Constraints						-9.7141*** (3.5631)
Constant	23666.11*** (8631.381)	12315.64 (7530.858)	13998.29** (7476.502)	32373.91*** (10702.26)	32120.06*** (10784.7)	33047.08*** (10618.11)
R2 between	0.1878	0.1799	0.2202	0.4276	0.4187	0.4371
No of obs	276	276	276	276	276	276
No of countries	46	46	46	46	46	46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 2.5. Revenue decentralization and the evolution of de facto exchange rate

	A	B	C	D	E	F
Decentralization	-9.7200 (13.0922)	-25.7843** (10.9762)	-24.0558** (10.8893)	-20.7653* (11.1413)	-21.4201* (11.1844)	-20.6911* (11.0463)
Central bank independence	-315.3133* (185.7305)	-6.4293 (151.7471)	-73.5152 (155.719)	37.6622 (172.1618)	23.7094 (172.2516)	29.3783 (169.8886)
GDP	414.8378 (315.5776)	-189.3043 (267.1283)	-70.8313 (274.1862)	38.3509 (300.7482)	23.6484 (302.2846)	43.0457 (298.2383)
Openness	2.3704 (2.3503)	2.1032 (1.8812)	1.3332 (1.9201)	2.9431 (2.4685)	3.0563 (2.4760)	3.2949 (2.4249)
Population	-625.703*** (595.0631)	-520.7443 (500.08)	-662.1788 (501.7002)	-1731.666** (692.9722)	-1695.556** (696.4932)	-1777.595** (687.6295)
Corruption		- 118.9088*** (39.7962)	- 107.0394*** (39.9967)	- 126.8186*** (40.8949)	- 119.5352*** (41.1541)	-127.962*** (40.5592)
Political Rights			-53.4037 (33.9079)			
Democracy				-7.9454** (3.1086)		
Polity					-6.2747** (2.5495)	
Executive Constraints						-9.2826*** (3.4329)
Constant	23880.72*** (8530.941)	10259.94 (7153.348)	11800.21 (7128.032)	28697.24*** (10250.72)	28254.98*** (10303.05)	29405.74*** (10171.87)
R2 between	0.1923	0.2463	0.2788	0.4711	0.4655	0.4800
No of obs	276	276	276	276	276	276
No of countries	46	46	46	46	46	46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

In order to test for the effect of decentralization on real macroeconomic stability, we use the variance of economic growth as our third measure of macroeconomic stability. The results as reported in table 2.6 and 2.7 show that there is no correlation between the variance of economic growth and decentralization. As for the control variables, none of them are found to be significantly correlated with the variance of economic growth. In column B to F, we control for political and institutional variables. Again, even after controlling for these variables, the real macroeconomic instability is still found not to be significantly correlated with decentralization. Since this is the first attempt (to our knowledge) to test empirically the relation between decentralization and real macroeconomic stability, we cannot compare our results with other studies.

Table 2.6. Expenditure decentralization and variance of growth

	A	B	C	D	E	F
Decentralization	-0.5539 (0.6611)	-0.7466 (0.8521)	0.6788 (0.7219)	-0.5515 (0.6684)	-0.4853 (0.5912)	-0.6224 (0.7376)
Openness	-0.0612 (0.1238)	-0.0544 (0.3210)	-0.0639 (0.464)	0.1326 (0.2054)	0.1546 (0.5271)	0.6377 (0.7444)
Population	-1.1894 (4.1608)	-2.0082 (4.0672)	-1.8892 (4.1113)	-2.0972 (5.2368)	-2.0516 (5.2387)	-2.1202 (5.9046)
Corruption		5.5021 (6.8573)	7.0778 (7.694)	4.4183 (4.478)	-7.1448 (7.6135)	3.6995 (4.768)
Political Rights			8.5985 (8.154)			
Democracy				-8.4391 (8.2871)		
Polity					5.8371 (5.6731)	
Executive Constraints						-6.3757 (6.6435)
Constant	3.6794 (3.5345)	1.6151 (2.0517)	1.3939 (2.0749)	2.9442 (2.9563)	2.2391 (2.3911)	2.30605 (2.8518)
R2 between	0.1553	0.2435	0.2480	0.1240	0.1266	0.1291
No of obs	276	276	276	276	276	26
No of countries	46	46	46	46	46	46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 2.7. Revenue decentralization and variance of growth

	A	B	C	D	E	F
Decentralization	-0.3795 (1.7678)	-0.4344 (1.9944)	-0.6184 (0.6733)	-0.7051 (1.284)	-0.5725 (1.2985)	-0.1293 (1.6007)
Openness	-0.6787 (0.6167)	-0.7042 (0.7441)	-0.4211 (0.4776)	0.8634 (0.8186)	0.2704 (0.2689)	-0.8144 (0.7783)
Population	-7.3518* (6.4596)	-6.3228 (8.1265)	-6.2325 (5.2313)	-4.2446 (4.3463)	-7.6557 (6.35 37)	-6.9399 (5.7867)
Corruption		4.2133 (3.9869)	5.3556 (5.4096)	3.5793 (5.2059)	3.8363 (3.808)	3.1089 (3.1281)
Political Rights			2.5821 (2.218)			
Democracy				1.7443 (1.9599)		
Polity					3.4994 (5.2619)	
Executive Constraints						-8.7543 (7.1183)
Constant	6.4799 (7.6388)	7.1222 (6.8851)	9.1374 (8.7824)	9.7243 (9.4783)	9.0185 (8.4038)	7.0597 (6.4001)
R2	0.2113	0.2537	0.2583	0.1331	0.1364	0.1371
No of obs	276	276	276	276	276	276
No of countries	46	46	46	46	46	46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

3.2. The conditional effects of corruption and political institutions

In previous section we have shown that our measure of macroeconomic stability can be influenced by the level of perceived corruption or by political institutions. It is thus interesting to see if in addition to these direct effects, these same variables will also have an impact on the effect of decentralization on macroeconomic stability. We have argued earlier that a positive effect of decentralization on macroeconomic stability will somehow be attenuated if the country is plagued with a serious problem of corruption. In contrary, a country which is free from corruption will be able to fully benefit from the effects of decentralization on macroeconomic stability. It can also be argued that a more stable political environment may accentuate the impact of decentralization on macroeconomic stability and vice versa.

In order to test for the assumptions of an indirect effect of corruption and political institutions on macroeconomic stability, we introduce in our equation the interaction term between these variables with our measure of decentralization. If the results show that the estimated parameters of the interaction term are positive then they may suggest that the effect of decentralization on macroeconomic stability are conditional on the political and institutional environment of the country in question.

We present the results for each indicator of macroeconomic stability in table 2.8. In column A (table 2.8), the dependant variable is the inflation rate while decentralization is measured by the proportion of subnational governments' expenditure to total government, expenditure. The results of the estimation show that decentralization has a negative impact on the level of inflation. But none of the coefficients estimates of the interaction term are statistically significant which signifies that the impact of expenditure decentralization on inflation is not conditional on the corruption level and political institutions. It is noteworthy that the level of perceived corruption continues to have a direct positive impact on the level of inflation.

In column B (table 2.8), we use revenue decentralization as our measure of decentralization. We note that the impact of revenue decentralization on level of inflation

appears to be attenuated by the level of perceived corruption. The parameter estimates for the interaction term between decentralization and corruption is statistically significant. Note that the level of corruption no longer has a direct impact on inflation. The coefficient for corruption is no longer statistically significant. As for political institution, our results show that they do not have neither direct nor indirect effect on the level of inflation.

Column C and D (table 2.8) report the estimation results when the change in de facto of exchange rate is used as the dependant variable. The results show that the change in exchange rate is influenced by both expenditure and revenue decentralization. But the level of significance is higher in the case of revenue decentralization. In both cases, the impact of decentralization appears to be attenuated by the level of perceived corruption. Again the level of significance is higher in the case of revenue decentralization.

In column E and F (table 2.8), we use the variation of the economic growth as our dependant variable. Similar to the results found previously, the variation of the economic growth is not influenced by decentralization. And the level of corruption as well as political institutions does not have any impact (directly or indirectly) on the variation of the economic growth.

Table 2.8. Conditional effects of corruption and political institutions

	Inflation		Exchange Rate		Growth Variance	
	A	B	C	D	E	F
Decentralization (Expenditure)	-0.0143** (0.0067)		-28.1047* (16.3055)		-0.0657 (0.3191)	
Decentralization (Revenue)		-0.0243*** (0.0087)		-71.6409*** (16.4708)		-0.9142 (1.2185)
Central bank independence	-0.0352 (0.1980)	-0.1276 (0.1946)	15.0023 (179.4495)	53.1091 (150.7807)		
GDP	-0.2104*** (0.0578)	-0.1629*** (0.0581)	52.8490 (310.2108)	134.0658 (263.8617)		
Openness	-0.0001 (0.0010)	-0.0002 (0.0010)	1.5416 (2.7584)	1.0767 (2.1968)	-1.4974 (1.2849)	-0.6873 (0.4362)
Population	0.0324 (0.0320)	0.0372 (0.0323)	-1330.076 (819.1426)	-1223.538* (619.8374)	-0.1742 (1.0689)	-0.1501 (0.5313)
Corruption	-0.0889* (0.0465)	-0.0581 (0.0475)	-13.007 (88.3527)	-67.2743 (61.9366)	-1.8501 (1.5163)	-3.8841 (2.484)
Democracy	0.0019 (0.0068)		-10.0423 (8.2475)	-7.7416 (5.8179)	-1.5947 (369.4532)	7.5146 (5.9974)
Corruption*Dec	-0.0014 (0.0009)	-0.0025** (0.0012)	-4.5369* (2.6540)	-9.0087*** (2.3411)	1.0136 (3.0174)	4.8798 (3.8542)
Demo*Dec	-0.0000 (0.0001)	-0.0000 (0.0001)	0.0578 (0.2014)	0.0497 (0.1761)	3.1053 (9.1577)	-5.6113 (7.7528)
Constant	1.4690* (0.8220)	1.2440 (0.8373)	22156.94* (12155.74)	20311.32** (9208.011)	1.1116 (2.5297)	1.2328 (1.6413)
R2 between	0.3490	0.3948	0.4696	0.6223	0.8045	0.4550
No of obs	294	294	276	276	276	276
	49	49	46	46	46	46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

3.3. The effects of level of decentralization

In this section, we test for the possibilities of non-linearities in the relationship between decentralization and macroeconomic stability. To this end, we broke down our decentralization variable into quartiles and construct a dummy variable to identify each separate quartile. The hypothesis to be tested is that a minimum level of decentralization is needed for the latter to have an impact on macroeconomic stability. The results are presented in table 2.9.

In column A (table 2.9), the results show that in the case of inflation, none of the coefficients of the quartiles of the expenditure decentralization appears to be statistically significantly. The results suggest that the impact of expenditure decentralization on inflation and deficit does not depend on the extent to which decentralization has been undertaken.

When we switch to revenue decentralization, the results indicate that inflation is significantly correlated with the second and the third quartile of revenue decentralization. These results suggest that revenue decentralization needs to have a magnitude between 25 and 75 %, for it to have an impact on inflation. As for the change in de facto exchange rate, we do not find any significant correlation between the quartiles of the expenditure decentralization and the exchange rate (column C table 2.9). Nonetheless, we found the third quartile of the revenue decentralization to be significantly correlated with the change in de facto exchange rate (column D table 2.9). The results signify that decentralization is associated with more stability in the exchange rate if the share of subnational' revenue of the total governments' revenue is between 25 to 50%.

Finally, in the case of our third measure of macroeconomic stability, we found that expenditure decentralization do not have any impact on the variance of economic growth regardless the share of subnational expenditure (column E table 2.9). As for the revenue decentralization, again none of the quartiles is found to be not correlated with decentralization (column F table 2.9).

3.4. The structure of subnational governments' revenues

It can be argued that the impact of decentralization on macroeconomic stability may be dependant on the way subnational governments' expenditures are financed. In particular, we expect that a greater dependence on revenue transfers from the center will foster excessive spending at the subnational level and successively to less macroeconomic stability. The argument is based on the fiscal illusion literature according to which intergovernmental grants create the appearance that local public expenditures are funded by nonresidents. And when the link between taxes and benefits is distorted, voters are less likely to sanction overspending politicians. By a similar logic, it can be argued that when provincial governments are funded primarily by taxes they raise and collect themselves, the center can commit more easily to a policy that it will never assume provincial obligations, thus giving creditors and voters stronger incentives to punish subnational officials for excessive spending and borrowing.

In order to control for the impact of the subnational governments revenue structure, we include in our estimations two indicators of revenue mobilization; (1) the share of tax revenues in total subnational revenues and (2) the share of grants in total governments' expenditures. All these variables are included in our estimation both as an interaction term with our measure of decentralization and as a separate regressor. In order to avoid multicollinearity problems, we only control for revenue mobilization indicators when we use expenditure decentralization as our measure of decentralization. The results are reported in table 2.10.

Table 2.9. The nonlinearities in the effect of decentralization

	Inflation		Exchange Rate		Growth Variance	
	A Exp	B Rev	C Exp	D Rev	E Exp	F Rev
Q2*dec	-0.0029 (0.0053)	- 0.0176*** (0.0065)	-6.0226 (6.5071)	177.3754 (138.4502)	0.6883 (4.5674)	0.8946 (3.1913)
Q3*dec	-0.0024 (0.0046)	- 0.0162*** (0.0063)	-2.8051 (5.3854)	-69.1795*** (7.5794)	0.5079 (14.9882)	0.8424 (7.6283)
Q4*dec	0.0018 (0.0069)	-0.0021 (0.0081)	-2.9297 (7.8680)	-5.2074 (4.1291)	0.3955 (7.6571)	0.5903 (5.9349)
Central bank independence	0.0423 (0.2183)	0.0477 (0.1991)	-50.8123 (203.9911)	-97.7354 (62.315)		
M2	0.1173*** (0.0258)	0.1081*** (0.0224)				
GDP	- 0.2158*** (0.0704)	- 0.1899*** (0.0619)	151.1169 (351.3772)	131.5795 (277.0377)		
Openness	0.0002 (0.0011)	-0.0002 (0.0011)	3.1191 (2.7250)	1.0003 (2.3219)	-1.4324 (41.2402)	-3.7788 (30.0768)
Population	0.0236 (0.0363)	0.0933** (0.0402)	-2081.878** (800.0052)	-1098.198 (659.1532)	-0.9868 (4.912)	-0.1426 (1.1216)
Corruption	- 0.1307*** (0.0483)	-0.1156** (0.0461)	-83.2458 (76.4438)	-48.6316 (58.0173)	5.6205 (72.255)	-6.4808 (48.129)
Democracy	0.0052 (0.0073)	0.0005 (0.0067)	-8.0600 (8.6065)9	-2.9436 (7.4309)	0.5695 (37.6386)	6.0315 (32.6162)
Constant	1.1589 (0.9339)	-0.1207 (0.9544)	33305.61*** (11727.05)	17453.26*** (9830.287)	2.6369 (65.3385)	3.7518 (10.3303)
R2 between	0.1941	0.3880	0.4439	0.6179	0.3764	0.4052
No of obs	294 49	294 49	276 46	276 46	276 46	276 46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Our estimations show that when we control for the revenue structure of the subnational governments, decentralization is no longer found to be correlated with inflation rate (column A table 2.10). And among the two revenue mobilization indicators, only tax revenue share is found to be statistically correlated with inflation. An increase in tax revenue mobilization appears to have a negative impact on the level of inflation. We also found the interaction term between decentralization and the share of tax revenues to be highly significant. Decentralization is thus associated with a decrease in inflation when the tax revenue mobilization is high. However, contrary to our expectations, we do not find dependency on grants to attenuate the impact of decentralization on inflation. The parameter estimates of the interaction term between decentralization and grants share does not achieve statistical significance.

The same results were found when the change in de facto exchange rate is used as the dependant variable (column B table 2.10). The impact of decentralization on the change in the de facto exchange rate is found to be conditional on the share of tax revenue in the subnational total revenue. Higher level of decentralization is associated with lower volatility in the de facto exchange rate when the tax revenue mobilization is high. The results also show that the extent to which expenditure is financed by grants has no impact on the change in the de facto exchange rate.

In the case of the variance of economic growth (column C table 2.10), introducing the revenue mobilization indicators does not seem to modify the results found previously. The parameter estimates show that decentralization as well as all the indicators of revenue mobilization are not correlated with the variance of economic growth.

Table 2.10. The impact of revenue mobilization

	Inflation	Exchange rate	Growth Variance
Decentralization	0.0062	-30.4891	-0.5303
(Expenditure)	(0.0131)	(29.9449)	(4.7534)
Central bank	-0.0611	-102.1659	
independence	(0.1793)	(168.1216)	
GDP	-0.1017*	221.2005	
	(0.0541)	(284.8385)	
Openness	-0.0003	2.8888	0.6568
	(0.0010)	(2.4010)	(5.9686)
Population	0.0190	-1604.997**	-0.1755
	(0.0294)	(678.12)	(9.8663)
Tax revenue	-0.0078**	-8.5483*	-0.8690
	(0.0034)	(4.7592)	(41.5465)
Grants	-0.0165	3.6739	-0.0564
	(0.0140)	(21.7935)	(9.9871)
Corruption	0.0095	89.8170	8.3319
	(0.0470)	(64.3491)	(97.9533)
Democracy	0.0053	-2.7416	3.2951
	(0.0053)	(6.1611)	(49.905)
Tax revenue*Dec	-0.0005***	-0.7371**	-4.2332
	(0.0001)	(0.3501)	(28.1719)
Grants* Dec	0.0021	-0.3867	6.6044
	(0.0015)	(2.3556)	(27.7861)
Corruption*Dec	-0.0033***	-8.3699***	6.3786
	(0.0012)	(2.4617)	(8.7405)
Demo*Dec	-0.0001	-0.0806	-4.7818
	(0.0001)	(0.1884)	(8.0361)
Constant	0.8073	25858.59**	1.5321
	(0.7659)	(9893.632)	(5.4016)
R2 between	0.6800	0.3224	0.5364
No of obs	294	276	276
	49	46	46

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

3.5. Other sensitivity analysis

In order to further test the robustness of our results, we have proceeded to several sensitivity analyses²⁴.

To check the sensitivity of the results with respect to influential observations, we estimated the same model but by excluding several countries - Bolivia, Peru, Argentina and Brazil (in the case of inflation and exchange rate) and Thailand and Costa Rica (in the case of deficit). The results of the regressions, in most cases, are the same as those of the baseline regressions.

We have also repeated our estimations by changing our dependant variables. Instead of using the CPI index, we have used the GDP deflator to measure the inflation rate. And in the case of the de facto exchange rate, we used its standard deviation as our measure of instability. The results show that revenue decentralization continues to have a negative impact on inflation and the de facto exchange rate. However, we note that the magnitude of the coefficient is somehow smaller in the case of the GDP deflator.

The estimations are also found to be robust to the inclusions of the federation dummy, regional dummies (Central and Eastern Europe, former Soviet Union, Asia, Africa, Middle East, Latin America) and colonial dummies (British, Spanish, French, and other colonies).

²⁴ The results are not reported here but are available upon request.

Conclusion

The main objective of this chapter is to shed more lights on the relationship between decentralization and macroeconomic stability. Even though there is a huge literature both theoretically and empirically on the impact of decentralization, not many of them seem to be interested on the question of the link between decentralization and macroeconomic stability. It is thus our hope to fill this gap in the literature.

Based on our literature review, it is quite obvious to see that there are still lots to be done as far as the links between decentralization and macroeconomic stability are concerned. It is also noteworthy that so far, the studies that have been done in this area seemed to ignore various other factors that could influence directly or indirectly the effects of decentralization on macroeconomic stability. One type of variables that we believe to be rather important is the ones that capture the existing institutional and political setting of the country in question. These variables have been widely studied notably from the angle of the impact that decentralization may have on them. However there are yet any studies that try to examine the impact that these variables may have on the impact of decentralization on macroeconomic stability. We have thus included in our study several indicators of political institutions as well as a variable representing the corruption level.

We have also used in our study other variables as a proxy for macroeconomic stability besides inflation rate. Price stability may be one of the main indicators of macroeconomic stability but it is far from being the only one given the wide spectrum which the term macroeconomic stability covers.

The empirical results provided in this study despite data inadequacies and methodological shortcoming point to the fact that there is a negative relationship between certain variable of macroeconomic stability and decentralization. In our baseline estimations, we found that decentralization appears to lead to a decrease in inflation rate and in the change of de facto exchange rate. However, we do not find any correlation between decentralization with the variance of economic growth. The results suggest that

decentralization does not deteriorate nor ameliorate the real macroeconomic stability of a country. Our results seem to run counter to a rapidly growing popular belief that decentralization is disastrous to macroeconomic stability. As far as our results are concerned, fiscal decentralization is manifestly not a recipe for disaster.

Our results also show that the impact of decentralization is conditional on the level of perceived corruption and political institutions. It is found that the impact of decentralization on macroeconomic stability can be attenuated if corruption is high and the democracy is not being fully implemented. The results also point to the fact that the extent to which subnational is capable in generating their own revenues does matters in evaluating the impact of decentralization on macroeconomic stability. We found that the impact of decentralization on macroeconomic stability tend to be higher when the share of tax revenues in the subnational government total revenue is high.

In term of the effect of decentralization on subnational governments' behavior, the fact that fiscal decentralization is not found to have any negative impact on macroeconomic stability can be interpreted in two different ways; (1) that decentralization does not lead the subnational governments to behave in ways that may compromise the stability of the economy as a whole or (2) that decentralization does lead the state governments to behave in irresponsible manner but the effects of these behaviors are not substantial enough to be of any impact on the macroeconomic stability of the whole economy. Therefore, the question that ensues is: which of these two scenarios are more likely to represent the reality? Does decentralization make subnational governments act in normal responsible manner? Or in contrary, does it make them become more irresponsible? If it turns out that decentralization does lead to irresponsible behavior by the subnational governments, then it is very likely that sooner or later we will observe a negative impact of decentralization on macroeconomic instability²⁵.

²⁵ There are at least four possible scenarios that can be imagined from these two interpretations. Firstly, under the first explanation, if subnational governments continue to behave responsibly then we should expect decentralization to have the same effect on macroeconomic stability in the future. However, the same effect will not be observed, if subnational governments for one reason or another start to act in a irresponsible manner. Under the second explanation, if subnational governments continue to behave in the same negative way then macroeconomic stability may be jeopardized as the impact of this behavior may

One possible way of answering these questions is by examining the incentives that are faced by the subnational governments. This is because subnational governments' behavior (whether they will act in responsible manner or not) will ultimately be determined by the incentives that are implicitly or explicitly presented to them by the various institutions in which they evolve. It is thus important to first understand these institutions as well as their characteristics in order to subsequently determine the incentives that they underlie.

The following chapters of this thesis will explore different types of institutions that govern intergovernmental relations in Malaysia and determine their effects on the behavior of the state governments in this country.

become significant with time. In contrary, if the subnational governments change their behavior then the present scenario will continue to prevail.

Appendix 2.1. Countries included in the sample

Argentina	Ireland	Switzerland
Australia	Israel	Thailand
Austria	Italy	United Kingdom
Bahrain	Lithuania	United States
Belgium	Luxembourg	Uruguay
Bolivia	Malaysia	Zimbabwe
Brazil	Mauritius	
Bulgaria	Mexico	
Canada	Netherlands	
Chile	Netherlands Antilles	
China	New Zealand	
Costa Rica	Norway	
Czech Republic	Panama	
Denmark	Paraguay	
Dominican Republic	Peru	
Finland	Poland	
France	Portugal	
Germany	Romania	
Hungary	Russian Federation	
Iceland	Senegal	
India	South Africa	
Indonesia	Spain	
Iran	Sweden	

Appendix 2.2. Description of the variables

Variable	Definition	Source
Expenditure decentralization	Share of expenditures of all subnational governments in total expenditures of consolidated central budget measured in percents.	<i>Government Finance Statistics, IMF</i>
Revenue decentralization	Share of revenues of all subnational governments in total revenues of consolidated central budget measured in percents.	<i>Government Finance Statistics, IMF</i>
Inflation rate	CPI index.	<i>World Development Indicators, World Bank</i>
Exchange rate	The change in the nominal parallel market exchanger	<i>Reinhart and Rogoff (2004)</i>
Deficit	Total governments expenditure minus total government revenue.	<i>Government Finance Statistics, IMF</i>
GDP per capita	Gross domestic product percapita (USD 2000)	<i>World Development Indicators, World Bank</i>
Population Total	population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship-except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin	<i>World Development Indicators, World Bank</i>
M2	M2 as a percentage of GDP	<i>World Development Indicators, World Bank</i>
Government Size	Total government expenditure as a percentage of GDP.	<i>Government Finance Statistics, IMF and World Development Indicators, World Bank</i>
Openess	Sum of trade (imports and exports) as a percentage of GDP.	<i>World Development Indicators, World Bank</i>
Corruption indices	Scale from 0 to 10, with higher values corresponding to better governance outcomes	<i>Transparency International</i>
Democracy	The general openness of political institutions. The 11-point Democracy scale is constructed additively. Scale from 0 to 10 (0 = low; 10 = high)	<i>Polity IV data det</i>
Polity	Combined Polity Score, computed by subtracting AUTOC from DEMOC. Scale form -10 to 10 (-10 = high autocracy; 10 = high democracy)	<i>Polity IV data det</i>
Constraint on Executive	Operational (de facto) independence of chief executive. Scale 0 to 10.	<i>Polity IV data det</i>
Political Rights	Political rights is defined as the rights that enable people to participate freely in the political process, including the right to vote freely for distinct alternatives in	<i>Freedom House</i>

	legitimate elections, compete for public office, join political parties and organizations, and elect representatives who have a decisive impact on public policies and are accountable to the electorate. Scale 1 to 7 (1 = highest degree of freedom and 7= the least amount of freedom).	
Central Bank independence	The index assesses the fulfillment of 16 criteria of political and economic independence using a continuous scale from zero to one, with higher values also indicating higher CBI. The overall index is based on a weighted average of the individual criteria.	<i>Cukierman et al. (1992)</i>

**CHAPITRE 3. UNE INTRODUCTION SUR LE CAS
MALAISIE**

Introduction.

La Malaisie est un pays fédéral situé au sud-est de l'Asie, comprenant deux régions distinctes séparées par la mer de Chine: d'une part, la péninsule de Malaisie, qui prolonge la Thaïlande, d'autre part, la Malaisie de l'Est située dans le nord de l'île de Bornéo, comprenant deux États de la fédération, le Sabah et le Sarawak, ainsi que le territoire fédéral de Labuan (voir la carte). La Malaisie a une superficie totale de 329 758 km², soit l'équivalent du Vietnam ou de la Norvège. La partie insulaire, d'une superficie de 198 069 km² (États de Sarawak, 124 449 km² et de Sabah, 73 620 km²), est bordée au nord et à l'ouest par la mer de Chine méridionale, à l'est par la mer de Sulu et la mer de Célèbes, et au sud par l'Indonésie (province de Kalimantan). Le sultanat indépendant de Brunei forme une enclave côtière au nord du Sarawak.

La fédération de Malaisie regroupe 13 États: les 11 États de la péninsule de Malaisie (dont neuf sultanats), Perlis, Kedah, Penang, Perak, Kelantan, Terengganu, Pahang, Selangor, Negeri Sembilan, Melaka, Johor, et les deux États de Sarawak et de Sabah, sur l'île de Bornéo. Tous ces États, à l'exception de Melaka, Penang, Sabah et Sarawak, sont gouvernés par des souverains héréditaires. Ceux-ci sont des sultans, sauf les souverains de Perlis (un raja) et le Negeri Sembilan (un Yang di-Pertuan Besar). Kuala Lumpur (le capital officiel du pays), Putrajaya (le capital administratif) et l'île de Labuan (rattachée au Sabah jusqu'en 1984) forment chacune un territoire fédéral.

Economiquement, le pays s'est transformé d'une économie axée sur la production des matières premières en une économie multisectorielle devenue un géant de l'électronique. La Malaisie figure depuis les trente dernières années parmi les pays à revenu intermédiaire de la tranche supérieure. Son PIB est passé de 4200 millions USD en 1970 à 148,9 Milliards USD en 2006 soit un taux de croissance moyen sur la période de 7 % avec des taux dépassant 10 % certaines années. Le revenu par habitant était de 320 USD en 1970 et s'élève en 2006 à 5591 USD (soit environ 11,342 USD en parité de pouvoir d'achat). Les principaux indicateurs économiques du pays en 2006 sont résumés dans le tableau 3.1.

Figure 1. La Carte de la Malaisie



Les états

- | | | | | |
|-------------|---------------------------------------|-----------|------------------|----------------|
| 1. Johor | 4. Kuala Lumpur (Territoire fédérale) | 7. Pahang | 10. Pulau Pinang | 13. Selangor |
| 2. Kedah | 5. Melaka | 8. Perak | 11. Sabah | 14. Trengganu. |
| 3. Kelantan | 6. Negeri Sembilan | 9. Perlis | 12. Sarawak | |

Tableau 3.1. Les indicateurs économiques de la Malaisie (2006).

Population (million)	26,64
PIB (milliards USD) (courant)	148,9
Taux de croissance du PIB (prix constants, %) ⁽¹⁾	5,9
PIB par habitant (USD) (prix constant 1980)	5591
Taux d'inflation (prix à la consommation, %) ⁽¹⁾	3,6
Taux de chômage (%) ⁽²⁾	3,3
Taux de pauvreté (%) (2004)	5,7
Dette extérieure (milliards USD) ⁽³⁾	52,786
Taux de change annuel moyen pour 1 USD ⁽³⁾	3,6
Balance commerciale (milliard USD)	32,039
PIB par branche d'activité	
Agriculture et pêche (%)	8,3
Industrie et mines (%)	48,1
Services (%)	43,6

Source. Bank Negara Malaysia et Statistics Department, Malaysia

Dans la section qui suit nous analysons le cadre historique qui a mené à l'adoption d'un système fédéral par le pays. Ceci va nous permettre de comprendre les problèmes que rencontrent certains états notamment sur le plan financier que nous présentons dans la deuxième section.

1. L'histoire du fédéralisme en Malaisie.

Le fédéralisme comme un système de gouvernement a été adopté pour la première fois en Malaisie en 1895 avec la signature d'un Traité par quatre des douze Etats composant la Malaisie coloniale²⁶. L'une des conséquences majeures de cette signature a été la division du pays en trois unités politiques distinctes : les « Federated

²⁶ Le traité a été signé au 1^{er} juillet 1895 mais n'a été mis en application qu'un an après (1^{er} juillet 1896).

Malays States » (les Etats malais fédérés) composés des quatre signataires du Traité à savoir Perak, Selangor, Negeri Sembilan et Pahang, les « Unfederated Malay States » (les Etats malais non fédérés) composés de Johor, Kedah, Perlis, Kelantan et Trengganu et finalement les « Straits Settlements » (les Etats côtiers de détroit de Malacca) composés de Penang, Melaka et Singapour²⁷. Avec la mise en application du Traité, les Etats signataires furent soumis à l'administration des britanniques et plus particulièrement à celle du « Resident-General » qui est le représentant suprême de l'empire britannique en Malaisie Coloniale.

Toutefois, il était clair depuis le début que la fédération instaurée par les Britanniques n'est pas exactement ce qu'on pourrait appeler une fédération au sens où il y a un partage et une division de pouvoir entre un gouvernement fédéral avec plusieurs gouvernements locaux²⁸. En effet, la majorité des pouvoirs restaient concentrées dans la main du « Resident-General ». Les chefs des Etats ne pouvaient prendre des décisions que sur les affaires religieuses et sur des usages et coutumes malaises. Watts (1966) dans ses études sur six pays fédéraux fondés après la deuxième guerre mondiale, a conclu concernant la traite de 1895 que

«...the term Federation was a misnomer. The treaty neither established a central government nor attempted a division of powers....the treaty preserved all the former powers of the rulers in their states, but in practice substantial power became concentrated in the federal secretariat under the Resident-General» (Watts 1996, p.24).

Pour résumer, l'introduction d'un système fédéral en Malaisie Coloniale n'a été qu'une stratégie de la part des britanniques dans le but d'étendre encore plus leurs

²⁷ Même si la division entre Etats fédérés et Etats non-fédérés a aujourd'hui disparu, elle a laissé des traces assez importantes dans l'appareil administrative des Etats notamment en ce qui concerne l'intervention du gouvernement fédéral. En effet, la présence des fonctionnaires fédéraux sont plus forte dans les Etats fédérés alors que dans les Etats non-fédérés, leur présence est plus limitée.

²⁸ Par contre, il n'est pas surprenant que cette fédération ne fût qu'une façade qui est vide de sens puisque à ce moment là la Malaisie n'était qu'une colonie de l'empire Britannique. Comme a fait remarquer d'ailleurs Tilman (1967), "A colony may have had a decentralized structure, but so long as it remains a colony – that is, so long as the meaningful political decisions are made by the colonial power – can it be a "federation" in the generally accepted sense of the term?".

influences sur le pays²⁹. Les quatre Etats signataires ont été amenés à croire qu'avec le nouveau système ils allaient pouvoir bénéficier des avantages tels qu'un meilleur système d'administration qui serait plus efficient et plus cohérent ou des aides économiques inter-états versés aux plus pauvres d'entre eux. Par contre, pour les britanniques le système fédéral était vu plutôt comme un moyen pour mieux administrer les quatre Etats signataires afin de tirer au maximum les profits qu'ils pouvaient obtenir des industries de l'étain et du caoutchouc qui se trouvaient en abondance dans ces Etats. Le fait que peu d'efforts ont été fait par la suite pour inciter les Etats non-signataires à se joindre au système montrait bien le désintérêt que portaient les britanniques envers le bien être de la population locale. D'ailleurs ce n'était pas une coïncidence que les Etats non-signataires étaient aussi ceux qui se trouvaient en marge des activités économiques du pays. L'invasion du pays par les Japonais en 1941 et le déclenchement de la Seconde Guerre Mondiale a mis fin le traité de 1895.

Au lendemain de la fin de la deuxième guerre mondiale, le pays se trouvait dans état chaotique tant au niveau politique qu'économique. Pour les britanniques, il était hors de question de continuer avec le système d'administration de l'avant guerre qu'ils considéraient comme inapproprié pour faire face aux nouveaux problèmes que devait affronter le pays. L'un de ces problèmes a été causé par les politiques de la migration pratiqué par les britanniques qui ont pris une telle proportion que la population locale (les malais) est devenu minoritaire dans leur propre pays par rapport à la population migrante venant de la Chine et de l'Inde. Afin d'éviter des futurs conflits parmi les différentes ethnies, les britanniques ont alors pensé qu'il était urgent de créer parmi la population locale et migrante un sentiment d'appartenance à une identité nationale commune. Pour ce faire, un puissant gouvernement central était vu comme absolument nécessaire. Ainsi, un nouveau système d'administration appelé le « Malayan Union » a été instauré le 1^{ère} février 1946. Le « Malayan Union » a été une cassure totale par rapport au système fédéral du 1875 puisque il y avait de la part des britanniques une forte volonté de

²⁹ Selon Riker (1964) « *In Malaysia the British used the technique of indirect rule almost exclusively... Since indirect rule involves the retention of local institutions with puppet rulers, it amounts to an imperial version of federalism and indeed, when it was a colony, the British called this agglomeration of territory the Federated Malay State.* » (Riker 1964, p. 6)

promouvoir la centralisation du système d'administration du pays. Entre autres, il s'agissait de réunir les Etats fédérés et les Etats non-fédérés de l'ancien système ainsi que deux des trois Etats du « Straits Settlements » (le Singapour étant non-inclus) dans un système administrative commun. Les pouvoirs des chefs de ces Etats allaient être réduits et les frontières entre les Etats allaient être effacés. Malgré leurs bonnes intentions, les britanniques n'avaient pas pu obtenir le soutien de la population locale pour ce nouveau système. L'une des causes majeures de cette opposition se trouvait dans le fait qu'aux yeux des malais, le système allait mettre fin aux situations privilégiées qu'ils jouissaient jusque-là à travers les institutions royales. En effet, les malais considèrent les familles royales comme étant le symbole de leur position « spéciale » par rapport aux autres populations issues de la migration. Face à ces oppositions, le Malayan Union avait du être supprimé pour laisser la place à un autre système d'administration en 1948, fédéral cette fois mais qui restait néanmoins très centralisé.

Ce nouveau système a été mis en application avec la ratification d'un traité en 1948. Ce traité prévoyait la création d'un état fédéral qui regroupait les onze états de la Malaisie Coloniale (excluant le Singapour). Par rapport au Malayan Union, il apportait plus de soutien à la population malaise et à ses institutions. Il y avait aussi une plus claire division de pouvoirs entre le gouvernement central et les Etats membres. Malgré cela, les pouvoirs décisionnaires restent très centralisés dans la main des britanniques. En effet, le système n'est fédéral que dans le mesure où les Etats continuaient d'exister ainsi que les institutions royales qui les accompagnaient.

En 1957, le pays a obtenu son indépendance des britanniques. Le traité de 1948 a été révisé par un comité spécialement conçu pour l'occasion pour donner naissance à une nouvelle Constitution. Et le pays est dès lors connu sous le nom de la Fédération de Malaya. Encore une fois, malgré son appellation, le pays est très centralisé. Ceci venant du fait que la nouvelle Constitution n'a été qu'une modification du traité de 1948. A part des amendements qui venaient refléter la fin du colonialisme ainsi que quelques changements pratiques, la Constitution de l'Indépendance de 1957 était pratiquement identique au Traité de 1948 (Tilman 1967).

En 1963, quelques dispositions dans la Constitution ont été amendées afin de pouvoir accueillir trois nouveaux membres dans la Fédération à savoir le Singapour et les deux Etats de Bornéo, Sabah et Sarawak. Le pays a aussi changé du nom pour devenir la Fédération de Malaisie. Toutefois, deux ans après, suite aux conflits intérieurs entre les dirigeants politiques du pays, le Singapour s'est retiré de la Fédération. Finalement, à partir de 1965, la Malaisie est constitué de onze Etats situés au Péninsule de la Malaisie et de deux Etats de Bornéo.

A partir de ce bref récit historique, il est clair que le choix d'un système fédéral, même s'il a été d'une certaine manière imposé par les britanniques, est inévitable pour ce pays. En effet, la loyauté dont font preuve la population locale envers leurs chefs traditionnels a rendu impossible tout autre système d'administration que le fédéralisme. Ce point a été remarqué par Carnell (1963) selon lequel;

«In Malaya, federalism... was the outcome of the British system of ruling through the sultan of protected Malay States, and a response to the problems posed by the survival of nine Malay monarchies. In 1946 the mystique of monarchy was so strong among local British officials and Malay nationalist as to rule out any possibility of the formal apparatus of a unitary state» (Carnell 1963, p.58).

Et à ce point s'ajoute le fait que la politique de migrations très laxiste pratiquée par les britanniques conduisant à l'explosion du nombre de population migrante dans le pays, avait fait naître parmi la population locale un sentiment d'insécurité. Ceci ne faisait que renforcer leur loyauté envers les institutions royales qui sont devenues à leurs yeux le dernier symbole de leur position privilégiée par rapport aux autres groupes ethniques. Il était donc hors de question pour la population locale de supprimer les Etats car ceci revient à la suppression des institutions royales qui les accompagnent et donc de leurs privilèges. Il est clair également que ces Etats ne peuvent rester indépendants les uns des autres tant pour des raisons stratégiques qu'économiques. Le fédéralisme devenait donc le seul système d'administration capable de concilier ces deux impératifs à la fois.

Quant à la forte concentration des pouvoirs dans la main du gouvernement central, cela peut s'expliquer par le fait qu'au lendemain de l'indépendance, les Etats n'étaient pas sur le même pied d'égalité en terme de développement à cause notamment des politiques de « separate and conquer » des britanniques. Certains états notamment ceux qui étaient signataires du traité de 1895 se sont développés plus rapidement grâce à la concentration de presque la totalité des industries du pays dans leur territoire ainsi qu'aux infrastructures construites par les britanniques, alors que d'autres qui se trouvaient à la marge des activités industrielles du pays, restaient très pauvres et largement dépendants des activités agricoles³⁰. De toute évidence, une politique de décentralisation trop poussée ne pourrait qu'aggraver ces problèmes d'inégalités. De plus, les états les plus pauvres ne seront pas capables d'assumer des responsabilités trop grandes en matière d'administration parce qu'ils n'avaient tout simplement pas le moyen financier et humain pour le faire. Et l'appareil étatique de l'époque n'était pas assez évolué pour procéder à des politiques de redistribution interétatique. Il était donc nécessaire qu'un pouvoir central assume ces responsabilités à la place des états.

Ainsi, on pourrait dire que du fait de ses structures sociales et économiques au moment de son Indépendance, le choix d'un système fédéral fortement centralisé s'est imposé lui-même en Malaisie; tout autre système administratif ne serait tout simplement pas convenable pour le pays. En revanche, il reste à expliquer pourquoi ce système continue d'être adopté jusqu'aujourd'hui. Il existe plusieurs cas dans le monde où un pays fédéral qui au commencement était assez voire très centralisé est devenu au fils du temps beaucoup plus décentralisé. C'était le cas notamment du Canada par exemple. Il y a aussi le cas extrême de la Tchécoslovaquie ou de la Yougoslavie dont la décentralisation a pris une telle ampleur qu'elle a fini par faire éclater la fédération. Idem pour la Malaisie; le pays aurait pu évoluer vers un système plus décentralisé. Même si les inégalités entre les Etats continuent d'exister, elles ont tendance à s'amoindrir dans le temps et la forte croissance économique qu'a connue le pays a fait que les Etats les plus pauvres n'étaient plus aussi pauvres qu'auparavant. Ils seraient donc capable d'assumer plus de responsabilités que ce qu'ils ont jusqu'à la. D'ailleurs afin de venir en aide aux

³⁰ Pour une analyse plus développée sur ce sujet voir par exemple Asan Ali (2004).

Etats les plus pauvres sur le plan financier, un système d'entraide entre les Etats aurait pu être conçu.

Il y a lieu maintenant d'examiner de façon plus détaillée la répartition actuelle des champs de compétences entre les différents niveaux de gouvernements ainsi que la structure de leurs revenus.

2. La répartition des pouvoirs législatifs et des sources de revenus.

2.1. La répartition des pouvoirs législatifs

Dans un système avec plusieurs niveaux de gouvernement, il est important que la répartition des pouvoirs entre les gouvernements, soit claire, bien définie et stable. Ceci dans le but d'accroître le sens de responsabilités ainsi que d'éviter des inefficacités dues au chevauchement des fonctions ou au duplication des autorités (Litvak et al. 1998). Des études ont aussi démontré que dans des pays comme le Brésil, l'Ukraine ou l'Inde, le fait d'avoir des responsabilités partagées et mal définie entre les différents gouvernements a encouragé des comportements opportunistes de la part des gouvernements locaux (Roddick 2005).

De ce point de vue, il est intéressant de noter que la répartition des pouvoirs ou champs de compétences législatives respectifs du gouvernement fédéral et des provinces est définie de manière claire et exhaustive par la Liste 9 de la Constitution (voir tableau 3.2). Ce partage des pouvoirs entre le fédéral et les Etats délimite l'étendue du pouvoir du Parlement de la Malaisie et les pouvoirs de chaque législature au niveau des Etats. Ainsi chaque législature peut faire des lois en fonction des compétences qui lui sont assignées. Grâce à ces répartitions, il ne risque donc pas d'avoir des confusions quant aux responsabilités de chaque gouvernement.

Tableau 3.2. La répartition des pouvoirs législatifs.

Le gouvernement fédéral	Les Etats
Affaires étrangères	Droits islamiques et coutumiers
Défense	Propriété foncière
Sécurité interne	Agriculture et sylviculture
Droits civils et criminels et l'administration de la justice	Gouvernements locaux
Nationalité et la naturalisation	Services publics locaux
Machineries et Institutions fédérales	Travaux publics locaux et Eau
Finance	Machineries et Institutions des Etats
Echange, Commerce et Industrie	Enquêtes pour le compte des Etats
Navigation, navires et pêche	Création des offenses et des indemnités en relation
Communication et transport	aux affaires des Etats
Travaux publics et énergies	Tortues et pêche fluviale
Recensement, enquêtes et recherche	
Education	
Médecine et santé	<i>Sabah et Sarawak</i>
Travail et sécurité sociale	Droits indigènes et Coutumes indigènes
Bien être des aborigènes	Incorporation des autorités des Etats et d'autres
Licence d'exercice professionnelle	Organisations
Jours fériés fédéraux	Ports autres que ceux déclarés comme fédéraux
Organisations non incorporées	Plan cadastral
Contrôle des insectes nuisibles pour l'agriculture	Chemin de Fer de Sabah (pour Sabah)
Publication	
Censure	
Théâtres et cinémas	
Organisations coopératives	
Prévention contre et extinctions des incendies	
Les compétences partagées	
Sécurité sociale et providence	
Bourses	
Protection des animaux sauvages et des oiseaux ; parcs nationaux	
Elevage d'animaux	
Urbanisme	
Vagabondage et marchands ambulants	
Santé publique	
Drainage et irrigation	
Réhabilitation des terres minières et des terres sujettes à des érosions	
Mesures de sécurité contre les incendies	
Culture et sport, logement	
<i>Sabah et Sarawak</i>	
Les droits individuels	
Frelatage des denrées et d'autres biens	
Navigation en dessous de quinze tonnes	
Energie hydraulique	
Recherche agricole et forestière	
Charité et institutions caritatives	
Théâtres, cinémas et lieu de divertissement	
Sabah et Sarawak	

Source: La Constitution de la Malaisie

Un rapide survol de cette répartition démontre le vaste étendu des pouvoirs législatifs du gouvernement fédéral par rapport à ceux des Etats³¹. En effet, presque la totalité des pouvoirs notamment ceux qui sont les plus importants comme la défense, les relations internationales, la santé publique ou l'éducation, sont attribués au gouvernement fédéral. Les Etats quant à eux ne gardent que les compétences les moins importantes comme celles concernant les lois islamiques et les usages et coutumes malais. On remarque également que par rapport aux autres Etats, les deux Etats de Bornéo à savoir Sabah et Sarawak du fait de leur position assez spéciale ont davantage de pouvoirs législatifs. Finalement, il existe quelques champs de compétences concurrentes qui sont sur la responsabilité des deux gouvernements. Or même dans ce cas, l'Article 75 de la Constitution prévoit qu'en cas de conflit entre les deux gouvernements, les lois adoptées par le Parlement prévaudront³².

Il est aussi important de noter que cette répartition des pouvoirs colle assez bien avec ce que préconise Musgrave (1959) dans sa théorie sur les fonctions de l'état dans un système décentralisé. En effet, dans le cas malaisien, les fonctions de redistribution et de stabilisation sont assumées par le gouvernement central alors que la fourniture des services publics est assumée par les Etats notamment par le biais des gouvernements locaux qui sont sous leur responsabilité. Il existe néanmoins quelques services qui théoriquement doivent être assumés par les Etats, mais qui sont effectivement pris en main par le gouvernement central ; activités culturelles, éducation ou santé publique.

La primauté des pouvoirs du gouvernement fédéral par rapport aux gouvernements des Etats se traduit par la très forte différence des dépenses contractées par les deux gouvernements. Par exemple en 2004, les dépenses du gouvernement fédéral représentent plus de 80% des dépenses totales des administrations publiques malaisiennes.

³¹ Pour une discussion plus élaborée sur le sujet voir par exemple M. Agus (2003)

³² Article 75 stipule que « If any State law is inconsistent with a federal law, the federal law shall prevail and the State law shall, to the extent of the inconsistency, be void ».

2.2. La répartition des pouvoirs fiscaux

La répartition des sources de revenus et des pouvoirs fiscaux est prévue par les Articles 96 jusqu'à 112 de la Constitution. Les revenus du gouvernement fédéral ainsi que ceux des Etats se composent de trois ensembles distincts dont les détails sont présentés dans le tableau 3.3:

- Les revenus fiscaux (*tax revenue*)
- Les revenus non-fiscaux (*non-tax revenue*)
- Les transferts (*non-revenue receipt*)

Etant donné ses lourdes responsabilités, il est naturel que les sources de revenus les plus importantes soient accordées au gouvernement central par la Constitution. Effectivement, en examinant cette répartition, on remarque que la majorité des pouvoirs fiscaux sont dans la main du gouvernement central. Presque tous les impôts directs et indirects comme les impôts sur les revenus des particuliers et des sociétés ou les droits de douanes sont collectés par le gouvernement fédéral. Ce dernier possède également des sources de revenus non fiscaux très larges et variées. Le tableau 3.4 nous montre la ventilation des revenus du gouvernement fédéral selon le type et son évolution dans le temps. On note qu'il y a une forte progression des revenus du gouvernement central qui sont passés de RM 21 millions en 1985 à environ RM 100 million en 2004. On note également une prédominance des revenus fiscaux qui constituent environ 80% des revenus totaux.

Les Etats quant à eux n'ont qu'une ressource financière très restreinte qui se limite aux impôts prélevés sur les ressources naturelles comme la forêt, les minéraux ou les propriétés foncières. Il faut remarquer que cette limitation au niveau des ressources correspond très bien avec les peu de responsabilités qu'ont les Etats. La composition des revenus des Etats selon leur type en 2004 est résumée en tableau 3.5. Contrairement au gouvernement fédéral, les Etats sont en moyenne beaucoup plus dépendants des revenus non-fiscaux que des revenus fiscaux. Aussi, on remarque l'importance des transferts fédéraux pour certains Etats qui en moyenne constituent 18% de leurs revenus totaux.

Tableau 3.3. La répartition des sources de revenus et des pouvoirs de taxation.

Le gouvernement fédéral	Les Etats
<i>Les revenus fiscaux</i>	<i>Les revenus fiscaux</i>
Les impôts directs	- Les impôts et les accises sur les produits pétroliers,
- impôt sur le revenu	- Les taxes sur les exportations des bois précieux pour Sabah et Sarawak
o des particuliers	- Les accises sur le toddy
o des sociétés	- Les forêts
o des coopératives	- Les propriétés foncières et les mines
o taxes pétrolières	- Les taxes sur les divertissements
o taxes sur le développement	
- impôt fonciers et sur les plus-values	
o taxes sur les biens immobiliers	
o droits de successions	
Les impôts indirects	<i>Les revenus non-fiscaux et les recettes non-revenues</i>
- taxes sur le commerce international	- Les licences et les permis
o export : pétrole, huile de palme	- Les royalties
o import : tabac, cigare et cigarette, pétrole, véhicule motorisée, surtaxe sur les importations	- Les honoraires
- taxes sur la production et la consommation	- Les projets commerciaux, l'eau, le gaz et les ports
o accises,	- Les recettes des ventes de propriétés foncières
o taxe de vente	- Les loyers
o taxe sur les services	- Les zakat, fitrah, baitulmal et autres revenus islamiques
- Autres	- Les dividendes et les intérêts
o droit de timbre	- Les transferts et les remboursements du gouvernement fédéral.
o taxes sur les jeux	
o loteries et paris	
o casino	
<i>Les revenus non-fiscaux et les recettes non-revenues</i>	
- Les vignettes	
- Les permis	
- Les honoraires des services rendus	
- Les amendes et les confiscations	
- Contributions des gouvernements étrangers et des institutions internationales	
- Remboursements des dépenses	
- Les transferts des autres gouvernements	
- Les royalties	
-	

Source : La Constitution de la Malaisie

**Tableau 3.4. La composition des revenus du gouvernement fédéral
(1985-2004)**

	Rev. Fiscaux (RM million)	% du total	Rev.Non fiscaux (RM million)	% du total	Recettes non rev. (RM million)	% du total	Total (RM million)
1985	17932.676	84.93%	2742.373	12.99%	439.347	2.08%	21114.4
1986	15845.283	81.18%	3192.471	16.36%	480.502	2.46%	19518.26
1987	13524.654	74.55%	4082.914	22.50%	535.192	2.95%	18142.76
1988	14707.876	66.96%	6623.046	30.15%	635.808	2.89%	21966.73
1989	16674.62	65.98%	7496.671	29.66%	1102.42	4.36%	25273.71
1990	21244.185	71.96%	6946.379	23.53%	1330.695	4.51%	29521.26
1991	25830.295	75.85%	7455.499	21.89%	766.93	2.25%	34052.72
1992	28771.709	73.30%	9602.956	24.47%	875.145	2.23%	39249.81
1993	31899.456	76.51%	9274.129	22.25%	517.135	1.24%	41690.72
1994	37486.643	75.81%	11338.55	22.93%	621.314	1.26%	49446.51
1995	41669.894	81.78%	8468.456	16.62%	814.876	1.60%	50953.23
1996	47271.882	81.11%	10329.75	17.72%	678.38	1.16%	58280.01
1997	53627.311	81.58%	11421.04	17.37%	687.664	1.05%	65736.01
1998	45335.665	79.94%	10883.19	19.19%	490.76	0.87%	56709.62
1999	45345.407	77.28%	12673.99	21.60%	655.289	1.12%	58674.69
2000	47173.273	76.25%	14092.51	22.78%	598.503	0.97%	61864.28
2001	61491.722	77.28%	17303.81	21.75%	771.529	0.97%	79567.06
2002	66860.082	80.06%	15759.23	18.87%	895.906	1.07%	83515.21
2003	64890.97	70.07%	23130.99	24.98%	4585.84	4.95%	92607.8
2004	72050.12	72.49%	26511.09	26.67%	835.562	0.84%	99396.77

Source : Economic Report, Treasury (plusieurs éditions)

Tableau 3.5. La composition des revenus des Etats 2004.

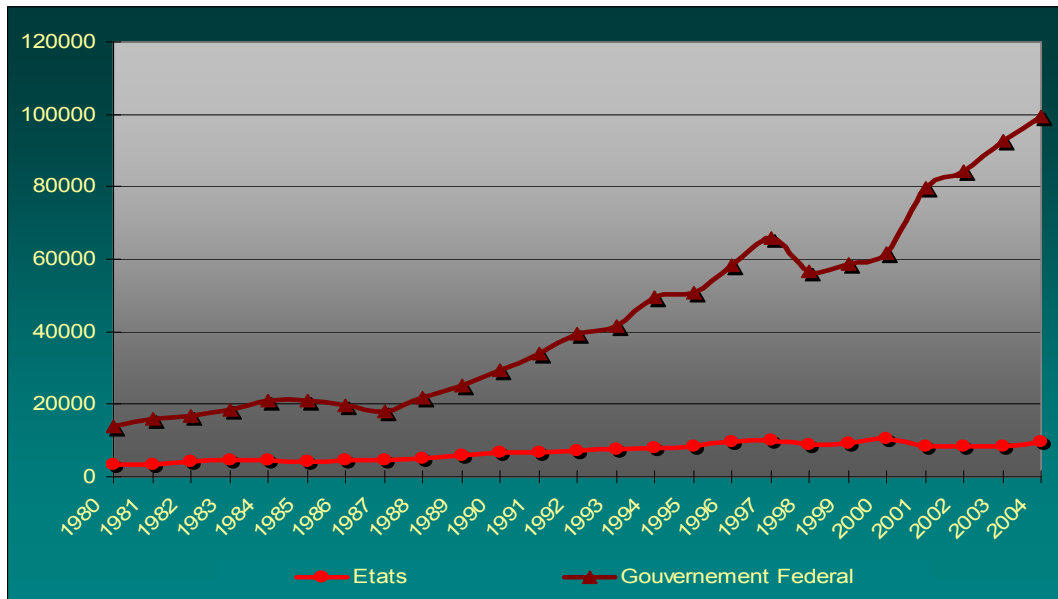
	Revenus Fiscaux (RM million)		Revenus Non-fiscaux (RM million)		Recettes non-revenus (RM million)		Total (RM million)
		% du total		% du total		% du total	
Johor	156.58	20.22%	393.89	50.85%	224.09	28.93%	774.56
Kedah	116.31	40.36%	53.44	18.54%	13.72	4.76%	288.18
Kelantan	42.39	17.13%	76.5	30.91%	128.61	51.96%	247.5
Melaka ¹	47.38	17.79%	113.36	42.57%	105.53	39.63%	266.27
N9	73.9	31.60%	84.74	36.24%	47.11	20.15%	233.853
Pahang	98.63	20.29%	297.29	61.17%	90.12	18.54%	486.04
Perak	171.92	36.82%	181.33	38.82%	113.82	24.37%	467.07
Perlis	10.19	12.54%	32.1	39.50%	38.97	47.96%	81.26
P. Pinang	90.81	35.27%	101.01	39.24%	65.62	25.49%	257.44
Sabah	1204.02	67.42%	355.71	19.92%	226.06	12.66%	1785.79
Sarawak	891.85	30.41%	1894.38	64.60%	146.41	4.99%	2932.64
Selangor	342.66	33.11%	511.42	49.42%	180.8	17.47%	1034.88
Trengganu	38.17	9.35%	65.91	16.14%	304.26	74.51%	408.34
Total	3284.83	35.51%	4161.15	44.98%	1672.58	18.08%	9251.373

Source: Les bilan financiers des Etats (plusieurs éditions)

Le graphique 3.1 contraste la croissance des revenus du gouvernement fédéral avec celle des Etats. On voit que l'écart entre les revenus du gouvernement central et celui des Etats a tendance à s'accroître dans le temps notamment à partir de l'année 1987. Si en 1980, les revenus du gouvernement fédéral étaient 4 fois ceux des Etats mais en 2004, le ratio entre les deux revenus est passé à 10.

La question qui se pose ensuite est celle sur des conséquences de ces arrangements institutionnels. C'est donc à cette interrogation que la section suivante sera consacrée.

Graphique 3.1. La croissance des revenus (prix courant) du gouvernement central et des Etats (1980-2004).



Source: Economic Report, Treasury (plusieurs éditions)

3. Les conséquences du fédéralisme budgétaire en Malaisie.

3.1. Une hausse des déficits et des dettes des Etats.

En comparant les pouvoirs législatifs des Etats et leurs sources de revenus, on pourrait être amené à conclure qu'il y a là une certaine cohérence entre les deux postes et que les Etats doivent pouvoir assumer financièrement leurs dépenses sans rencontrer trop de problème. Or en réalité en examinant de manière plus détaillé les comptes de ces Etats, on s'aperçoit que les ressources financières des Etats sont loin d'être suffisantes pour financer leurs dépenses et qu'ils sont dans la plupart de temps obligés de se tourner vers le gouvernement central pour les aider à équilibrer leurs comptes. Le tableau 3.6 qui résume les situations financières des Etats en 2004 montre que les revenus de ces derniers sont suffisants uniquement pour financer leurs dépenses courantes. Mais, une fois les dépenses de développement prises en compte, presque la totalité des Etats, même les plus riches se trouvent en déficit. En 2004, seuls les Etats de Pahang et de Sarawak ont généré assez de ressources pour financer leurs dépenses courantes et de développement. Cette

situation ne se limite pas en 2004 car elle a aussi été observée pour les périodes 1958-1975 par Shafrudin (1987) ainsi qu'en 1992 par Wilson (1996).

Tableau 3.6. L'état des finances des Etats en 2004 (en % du PIB).

	Revenu	Dépenses Courantes	Solde du compte courant	Dépenses de Développement	Solde du compte total
Johor	2.28	1.83	0.45	0.50	-0.04
Kedah	2.21	2.14	0.07	1.16	-1.09
Kelantan	3.54	4.83	-1.29	2.17	-3.46
Melaka	3.05	3.01	0.03	2.34	-2.31
N9	2.15	2.65	-0.50	1.27	-1.76
Pahang	4.08	3.28	0.80	0.70	0.11
Perak	1.92	1.91	0.00	0.52	-0.51
Perlis	4.19	3.47	0.72	2.23	-1.51
Pulau Pinang	1.03	0.92	0.11	0.40	-0.28
Sabah	8.44	7.37	1.08	2.30	-1.22
Sarawak	12.60	4.95	7.65	5.63	2.02
Selangor	1.60	1.68	-0.08	0.82	-0.90
Trengganu	2.28	3.19	-0.91	0.24	-1.16
Moyenne	3.80	3.17	0.63	1.56	-0.93

Source: Les bilan financiers des Etats (plusieurs éditions)

L'une des conséquences majeures de l'incapacité des Etats à faire face à leurs dépenses est la hausse des montants de leurs dettes vis-à-vis du gouvernement central³³. Dans la pratique, afin de financer leurs déficits, les Etats vont dans la plupart de cas contracter des emprunts auprès du gouvernement central³⁴. Et comme ces problèmes de déficits sont loin d'être exceptionnels et ont plutôt tendance à se répéter année après année, les dettes des Etats ont fini par s'accumuler pour atteindre une somme astronomique. Ainsi, en 2004 ces dettes s'élevaient à plus de RM 77 milliard (USD 23 milliard) - elles étaient de RM 12 milliard en 1980 (USD 3.6 milliard). Cette accumulation des dettes s'explique également par le fait que les Etats ont souvent failli à honorer leurs dettes dans le temps. Par exemple en 2004, le montant des arriérés dans le

³³ L'article 111(2) Constitution limite l'accès des Etats aux crédits en les obligeant à obtenir l'accord du gouvernement central avant de faire des emprunts.

³⁴ Une autre partie de ces déficits est financé par la liquidation de l'actif des états.

paiement des services de dettes s'élevait à plus de million. De plus, ces dettes vont peser encore plus sur les dépenses des Etats, les dépenses que ces derniers ont déjà du mal à assumer financièrement.

Il faut toutefois remarquer que la répartition des pouvoirs fiscaux n'explique pas à elle seule l'insuffisance des revenus des Etats. En effet, il y a raisons de croire que les Etats n'ont pas utilisé pleinement leur base de taxation afin de générer plus de ressources financières. Il suffit par exemple de voir le montant des taxes dues mais non collectées par les Etats qui continuent d'augmenter d'une année sur l'autre.

3.2. Une inégalité des revenus entre les Etats (« *horizontal gap* »).

Sur le plan théorique, la littérature normative sur la répartition des pouvoirs de taxation entre les gouvernements de différents niveaux préconise que les gouvernements locaux se soient accordés des sources de revenus qui sont basés sur des ressources immobilières comme la terre ou le forêt³⁵. Cette littérature préconise également que la majorité de pouvoir de taxation soit du ressort du contrôle du gouvernement central afin d'éviter des effets pervers qu'engendrent des problèmes tels la concurrence fiscale ou l'équité entre les Etats/régions. De ce point de vue, le cas de la Malaisie semble être en cohérence avec ce que recommande la théorie sur le sujet car la principale source des revenus des Etats malaisiens est effectivement constitué des taxes basées sur des ressources immobilières. Par exemple, les taxes sur les propriétés foncières ou les taxes sur les produits forestières sont dans les champs de compétences des Etats.

Cependant, il faut souligner qu'une décentralisation des pouvoirs de taxation dont les bases sont des ressources immobilières n'est bénéfique que dans le cas où ces ressources sont uniformément réparties sur toute la territoire, ce qui est loin d'être le cas en Malaisie. Dans ce pays, certains Etats sont dotés de plus de ressources naturelles que les autres. En conséquence, les Etats dont le sous-sol est très riches en minéraux (i.e. Sarawak, Sabah ou Trengganu) ou les Etats avec une large superficie (i.e. Pahang, Sarawak ou Sabah) vont se trouver financièrement avantagés par rapport aux Etats

³⁵ Voir par exemple Bird et Vaillancourt (1997) ou Litvak et al. (1998).

comme Perlis ou Melaka qui sont très petits et/ou possèdent très peu de ressources naturelles. Les différences de revenus tirés de ces sources sont loin d'être négligeables. Par exemple, en 2005, les revenus collectés à partir des ressources forestières s'élèvent à presque RM 100 million (USD 30 million) pour l'état de Pahang. En revanche, les mêmes sources de revenus ne rapportent que RM 0,17 million (USD 0.05 million) pour l'état de Penang soit 100 fois moins que ce qu'obtient l'Etat de Pahang.

On pourrait s'attendre à ce que cet écart des revenus soit comblé par une politique de redistribution menée par le gouvernement central notamment par le biais des transferts intergouvernementaux. Malheureusement dans le cas de la Malaisie, les transferts ne sont pas conçus pour jouer ce rôle, ce qui fait qu'il y a peu de différence dans la disparité des revenus des Etats après et avant la prise en compte des transferts³⁶.

3.3. Une inégalité des conditions économiques et sociales des Etats.

Le fédéralisme tel qu'il est pratiqué en Malaisie a aussi des répercussions sur le processus de développement économique que le pays a connu. Même s'il reste à démontrer le lien entre croissance et fédéralisme, il est cependant clair que le choix que le pays a fait en matière de politique de développement a été largement déterminé par le type de fédéralisme qu'il a pratiqué. En effet, dans les premières années qui suivent son indépendance, le pays peut choisir entre deux types de politique de développement ; l'une qui garantit un développement équitable à travers le pays et l'autre qui se concentre sur quelques Etats qui possèdent déjà des infrastructures nécessaires grâce aux investissements entrepris par des britanniques avant l'indépendance. Puisque la priorité à ce moment était de se développer économiquement et cela le plus rapidement possible, c'est la deuxième option qui s'est imposée d'elle-même. Or, ce choix ne sera possible que dans le cas où le gouvernement central est assez puissant afin d'ignorer les demandes des Etats, ce qui est le cas de la Malaisie. Dans le cas contraire où le gouvernement fédéral n'est qu'une faible entité sans de réels pouvoirs, une politique qui ne bénéficie qu'à une partie des Etats ne pourra il pas émerger.

³⁶ Le rôle des transferts intergouvernementaux sera examiné de façon plus détaillée dans le chapitre 4.

En choisissant de poursuivre avec l'héritage britannique à savoir en concentrant les efforts de développement dans les Etats où il existait déjà des industries et des infrastructures comme le chemin de fer ou les ports, le gouvernement fédéral a contribué de façon volontaire à l'aggravation du fossé en matière de développement entre les Etats. Les Etats qui à l'époque des britanniques bénéficiaient déjà d'un certain niveau de développement ont continué à se développer encore plus par rapport aux Etats déjà marginalisés. Ainsi, en 1965 le PIB par tête moyen des Etats les plus riches étaient de RM 1085 (USD 328) alors que pour les Etats les moins riches, leur PIB par tête était en moyenne de RM 459 (USD 139) (Lim 1973, p.139).

A cette dimension spatiale et géographique d'inégalité, s'ajoute une dimension ethnique. Ceci est du au fait que dans les Etats où il y avait plus de développement, la population était majoritairement chinoise alors que dans les Etats les moins développés, les malais restaient majoritaires. Donc, c'étaient surtout des chinois qui ont bénéficié le plus des fruits de la croissance pendant les premières périodes de développement du pays contribuant ainsi au creusement de l'écart en terme de richesse entre eux et les malais. Effectivement, si on regarde la distribution du revenu mensuel moyen des ménages entre les groupes ethniques pendant la période 1957 à 1970, on s'aperçoit que le ratio de disparité entre les chinois et les malais est passé de 2.16 à 2.25 (Asan Ali 2006, p.61). De plus, pendant les mêmes périodes le problème de pauvreté touchait plus gravement la population malaise que les chinois (le taux de pauvreté de la population malaise s'élevait à plus de 65% comparé à celui de la population chinoise qui était de 26%).

De toute évidence, une telle disparité n'était pas tenable surtout dans le contexte où c'est la population « locale » majoritaire qui s'est trouvé mise à l'écart. Cette disparité est en partie à l'origine des émeutes raciales qui ont éclatées dans la plupart des grandes villes du pays le 13 mai 1969³⁷. Suite à ces émeutes, le gouvernement a mis en place son premier plan de développement économique pour la période de 1971-1990 qui avait pour

³⁷ Plus exactement, ces émeutes se sont déclenchées suite à l'annonce des résultats des élections de 1969 qui ont vu une nette diminution des voix gagné par les partis jusqu'à là en pouvoir au profit des partis politiques représentant des intérêts de la population chinoise. Les statistiques officielles (très contestées) ont fait état de 196 morts, 9143 arrestations et 753 bâtiments endommagés ou détruits. Ces émeutes vont à jamais marquer la gestion interethnique ainsi que la gestion politique et économique du pays.

objectif principal d'accroître l'intégration et l'unité du pays en éliminant le problème de pauvreté et en restructurant la société. Entre autres, le gouvernement a mis en place un programme de dispersion industrielle en créant des nouvelles zones industrielles dans les Etats les moins avancés afin de diversifier les activités économiques de ces Etats. Des avantages fiscaux ont aussi été accordés aux entreprises qui ont choisi de s'établir et d'investir dans ces Etats³⁸.

Malheureusement, malgré toutes les démarches entreprises par le gouvernement central, les disparités entre les Etats continuent d'exister jusqu'aujourd'hui. Et dans certain cas, elles se sont même aggravées³⁹. Le tableau 3.7 résume les principaux indicateurs socioéconomiques des Etats. Ainsi on peut voir que le revenu moyen mensuel des ménages varie de RM 1820 (USD 552) pour l'état de Kelantan à plus de RM 5000 (USD 1515) pour l'état de Selangor. Le PIB par tête de l'état quant à lui est plus de 3 fois supérieur dans l'état de Trengganu que dans l'état de Kelantan. Les infrastructures sont aussi beaucoup plus développées dans les Etats les plus riches comme le témoigne le nombre de médecins par habitant ou le taux d'urbanisation. Enfin, les activités industrielles sont également concentrées dans les Etats les plus développés. En moyenne, ces derniers produisent 5 fois plus de produits manufacturés et reçoivent trois fois plus d'investissements que les Etats les moins développés.

Il est intéressant de noter que dans le cas de l'état de Trengganu malgré le fait que son PIB par tête soit le plus élevé du pays, son taux de pauvreté est parmi le plus élevé du pays (15.4% par rapport à la moyenne du pays qui est de 5.7%). Ce paradoxe illustre bien comment le système fédéralisme en Malaisie a empêché certains Etats de profiter pleinement des revenus qu'engendrent leurs ressources naturelles. En effet, l'état de Trengganu avec plus de 64% de réserve de pétrole du pays situé dans ses côtes, est le

³⁸ Selon Ali (2004), depuis l'indépendance, quatre principales politiques de développement régional ont été mises en application dans le pays

- Le développement des nouvelles terres et ressources qui consiste à utiliser des terres
- Le développement in-situ du milieu rural
- L'urbanisation et la création de nouveaux centres de croissance
- La dispersion des activités industrielles.

³⁹ Selon Bakar (2006), le problème de disparités interethnique et « inter-Etats » s'est beaucoup amélioré entre les années 1970 et 1990. Mais à partir de 1990, on constate qu'il y a un renversement de situation et le problème de disparité semblait augmenter à nouveau.

principal producteur de pétrole du pays (les autres Etats producteurs de pétrole sont Sabah et Sarawak). Le niveau élevé de son PIB s'explique donc par la présence d'une industrie pétrolière dans son territoire. Le taux élevé de pauvreté quant à lui reflète le fait que les revenus que génèrent ces industries ne bénéficient qu'à une petite partie de la population. D'ailleurs, c'est surtout de la main d'œuvre qualifiée qui est employée par ces industries limitant ainsi les effets que peuvent avoir ces industries sur le niveau total de l'emploi. Autrement dit, à part les employés de ces compagnies pétrolières ainsi que les quelques commerçants qui se trouvent dans les villes à proximité des complexes industrielles, la majorité de la population locale n'est pas directement concernée par ces industries. Cependant on pourrait s'attendre à ce que les revenus générés seraient redistribués à toute la population par le gouvernement à travers les taxes qu'ils prélèvent auprès de ces compagnies pétrolières. Or dans le cas de la Malaisie, ce ne sont pas les Etats producteurs de pétrole mais plutôt le gouvernement fédéral qui bénéficie le plus de ces ressources naturelles. Non seulement il a droit au 5% de royalties de la valeur de la production totale, il obtient aussi des dividendes qui lui est accordé par le Petronas (la compagnie pétrolière nationale qui est une entreprise publique à 100%) ainsi que des taxes qu'il prélève sur les profits des compagnies pétrolières producteurs et du Petronas⁴⁰ (en mars 2007, le gouvernement fédéral a reçu plus de RM 48 milliard (USD 15 milliard) de Petronas sous formes de royalties, taxes et dividendes). Les Etats n'obtiennent que 5 % de la valeur de ces productions sous forme de royalties ce qui se traduit par environ RM 800 million (USD 242 million) pour Trengganu, RM 200 million (USD 61 million) pour Sabah et Sarawak. Ces revenus sont loin d'être suffisants pour financer des investissements ou des projets de développement afin de relever le niveau de vie de la

⁴⁰ La distribution de la valeur de la production pétrolière est prévue par le Petroleum Development Act 1974 qui est la suivante :

Les états	5% - royauté sur la valeur brute de la production total
Le gouvernement fédéral	5% - royauté sur la valeur brute de la production total
La compagnie-producteur	20% - pour le recouvrement des coûts
Total	30%
La compagnie producteurs	21% - (30% du 70% restant)
Petronas	49% - (70% du 70% restant)
Total	100%

Même cette règle peut être modifié par le gouvernement fédéral. Par exemple, lorsque le Trengganu a basculé sous la main de l'opposition à la suite de l'élection de 1999, le gouvernement fédéral a décidé de suspendre le versement de royauté vers l'état.

population. En conséquence, ces Etats et plus particulièrement Trengganu et Sabah, malgré la richesse de leur sous-sol, restent ceux où le niveau de développement est le plus bas. Selon l'index de développement composite (Development Composite Index) publié par le Bureau de Planification Economique du pays (Economic Planning Unit), le Trengganu se trouve avec un index de 96,2 et Sabah 90.0 les plaçant ainsi au 12^{ème} et 14ème rang respectivement.

Tableau 3.7. Les indicateurs socioéconomiques des Etats (2005).

	Revenu moyen des ménages par mois (RM)	PIB par tête (RM)	Taux de pauvreté (%)	Taux d'urbanisation (%)	Nombre d'habitants par médecin	Montant total d'investissement (RM million) ¹	Production manufacturière (RM million) ¹	Index de développement composite
Les Etats les moins développés								
Kedah	2126	12132	7.0	39.8	1872	3.969	24.144	97.8
Kelantan	1829	8638	10.6	33.4	1596	106	2.040	93.1
Pahang	2410	14549	4.0	43.5	1786	994	17.663	97.6
Perlis	2046	15166	6.3	35.1	1655	0,5	974	99.9
Sabah	2487	11323	23.0	49.8	2719	338	21.002	90.0
Sarawak	2725	16861	7.5	49.5	2078	5.900	37.678	96.6
Trengganu	1984	29516	15.4	49.8	2145	138	22.887	96.2
<i>Moyenne</i>	<i>2229</i>	<i>15455</i>	<i>10.5</i>	<i>42.9</i>	<i>1978</i>	<i>11.446</i>	<i>126.388</i>	<i>95.8</i>
Les Etats les plus développés								
Johor	3076	18733	2.0	66.5	1794	5.241	104.196	100.5
Melaka	2792	21410	1.8	70.6	1051	1.197	43.272	104.2
N. Sembilan	2886	17555	1.4	56.3	1191	1.054	33.624	102.3
Perak	2207	18616	4.9	59.3	1509	1.316	19.445	100.4
P.Pinang	3531	28581	0.3	79.8	963	2.030	100.038	105.7
Selangor	5175	21286	1.0	88.4	1512	6.035	158.159	103.2
<i>Moyenne</i>	<i>2809</i>	<i>18025</i>	<i>1.6</i>	<i>60.1</i>	<i>1145</i>	<i>16.873</i>	<i>458.734</i>	<i>102.7</i>
Malaisie	3249	19189	5.7	63.0	1 :1387	28.741	601.798	100.0

Nota : ¹. 2004

Source : Le 8ème et 9ème Plan de la Malaisie

Conclusion

Ce chapitre a pour but principal de mettre en lumière les principales caractéristiques du système fédéralisme malaisien et ses conséquences. Ainsi, on a vu que malgré le fait que ce soit un pays fédéral, la Malaisie reste dans les faits très centralisé. Les Etats fédérés n'ont que des responsabilités très limitées et presque la totalité des pouvoirs sont concentrés dans le gouvernement central. On a vu également que la répartition des pouvoirs législatifs et fiscaux est clairement défini par la Constitution ce qui évite tout problème de chevauchement d'autorité.

La façon dont ces répartitions de pouvoirs sont mises en application va ensuite avoir d'importantes répercussions non seulement sur les situations financières des Etats mais également sur le processus de développement qu'a connu le pays. Notre discussion a montré que ces distributions de pouvoirs se sont traduites par une large disparité dans les capacités financières des Etats. Elles ont aussi contribué aux problèmes que rencontrent certains Etats pour financer leurs dépenses qui à son tour a conduit à une accumulation des dettes que ces derniers contractent auprès du gouvernement central. Il apparaît également que ces arrangements institutionnels ont permis la mise en application d'une politique de développement qui privilégiait certains Etats par rapport aux autres. Cette politique a ensuite contribué au creusement du niveau de développement entre les Etats déjà existant pendant la colonisation britannique. Et même si dans les années qui suivaient, des stratégies de développement plus équitable sont adoptées, elles n'ont pas réussi à combler les inégalités socioéconomiques entre les Etats.

Ce chapitre a ainsi permis de mettre en perspective quelques problèmes inhérents aux relations intergouvernementales en Malaisie. Il est désormais temps de passer aux analyses plus détaillées des comportements des Etats malaisiens en commençant par examiner les effets des institutions politiques.

**CHAPTER 4. THE POLITICAL ECONOMICS OF SUBNATIONAL
GOVERNMENTS' FISCAL BEHAVIOR.**

Introduction

The relationship between political systems and economic performance has been attracting growing interest in recent years, both from economists and political scientists. However, for obvious reasons (a longer experience of democracy and ample data availability) most theoretical and empirical studies have focused on developed countries. The vast literature dealing with this topic was in fact launched more than two decades ago with the publication of articles by Nordhaus (1975)⁴¹ and by Hibbs (1977)⁴². Nordhaus (1975) created a model to show how the desire for reelection might lead incumbents to stimulate the economy just before elections, with adverse effects to be experienced subsequently. Hibbs (1977) presented an econometric demonstration that unemployment is lower and economic growth is higher under Democrats than Republicans, and an estimate of how much.

⁴¹ According to William D. Nordhaus (1975) who is considered as one of the pioneer of the electoralist political business cycle, politicians are “opportunistic” survival maximizers. That is, they care only about being elected and can control macroeconomic policy outcomes in a manner that maximizes the probability of reelection. Voters are assumed to be “retrospective” and “pocketbook”; that is, they assess candidates’ performance on the basis of economic outcomes they produce without regard to the future consequences of these policies. These assumptions imply that incumbents will lower the rate of unemployment prior to elections and raise it “to some relatively high level in order to combat inflation” in the period just after the election (Nordhaus 1975, 184). However Nordhaus’s model is regarded by some scholars as controversial on both theoretical and empirical grounds. His own results were weak: he found partial evidence for the existence of political business cycle in only four of the nine countries he examined. Edward R. Tufte (1978) also predicts unemployment cycles tied to the electoral calendar, but his evidence based on U.S. presidential elections is less than robust. Similarly, Michael S. Lewis-Beck’s test (1988) of key implications of the Nordhaus model shows no systematic relationship between the timing of elections and changes in unemployment, growth, or inflation in Britain, France, West Germany, Italy, or the United States. Studies that pool observations across countries of the OECD also fail to provide substantial evidence that unemployment or output fluctuates with the electoral calendar (Alesina and Roubini 1992; Alesina, Cohen, and Roubini 1992).

⁴² Hibbs (1977) proposed the partisan approach of political business cycle by identifying a ‘partisan’ cycle in which different parties, when in office, implement different policies. Partisan cycles result from ideological differences in the preferences for inflation and unemployment between political parties. Left-wing parties assign greater value to low unemployment, while right-wing parties value low inflation more highly. As a result, the partisan model predicts that right-wing governments consistently generate lower inflation and higher unemployment than do leftist governments. The evidence in support of the partisan hypothesis has been more consistent than that for its electoralist alternative. In early studies, Hibbs (1977) found support for the partisan hypothesis in the United States and Great Britain, and Alt (1985) found a link between decreasing unemployment and left government control in a sample of twelve OECD countries. Using a sample of eighteen OECD countries for the period 1960–87, however, Alesina and Roubini (1992) find no evidence of permanent partisan differences in output and unemployment.

In this chapter we study the links between politics and the fiscal behavior of state governments in Malaysia. Our main objective here is to examine whether state governments' fiscal behavior can partly be explained by the political attributes and the institutional characteristics of the government and of the legislature. In particular, we will try to analyze whether the incentives for the state governments to observe a prudent spending behavior have not been undermined due to the fact that they have been able to influence relevant central government decisions regarding their finance.

There are basically two hypotheses that we attempt to test in this chapter: Do states with the most votes (or the strongest representation) in the Parliament or in the government relatively have a higher spending and run a larger deficit? And do states that share the same ideological leaning as the central government relatively have a higher spending and run a larger deficit? The reason being a highly influential state in the sense that they are highly represented in the government or share (or does not) the same political ideology as the central government, face weaker incentives to be fiscally responsible as it has a higher probability of obtaining extra allocations from the central government and in case of a crisis, is more likely to be rescued.

The chapter will be organized as follows. In the second section, we will provide a more detailed discussion on the links between political factors and economics as well as fiscal outcomes at the subnational level by reviewing the works that have been done both by economists and political scientist in this area. An analysis of some key characteristics of the system of government in Malaysia will be provided in the third section. Section 4 discusses the econometric approach that will be adopted. The results of our estimations will be presented and discussed in section 5. Finally section six concludes.

1. A review of literature

The first generation of economic theories of fiscal federalism generated much optimism about decentralization in the form of better improvements in efficiency, accountability and governance. However, these theories seemed to be increasingly anachronistic in the face of subnational debt accumulation and bailouts as well as evidence of corruption and inefficiency associated with decentralization. For some

authors such as Lockwood (2004) or Rodden (2005), the failure of the prevailing literature to describe the reality of decentralization is due notably to the absence of political dimension in its analysis. As a result a new wave of scholarship where political variables are given center stage has emerged.

A major assumption underlying the new political economy is that politicians are primarily interested in maintaining and enhancing their political careers. Most importantly, in these models, government decisions are viewed as bargains struck among self-interested politicians attempting to form winning coalitions rather than reflections on the optimal provision of collective goods or the internalization of externalities. As a result, the central government is no longer autonomously able to alter subnational policies as it will have to bargain with subnational governments in order to gain support from all or at least some minimum fraction of them.

1.1. The political representation of subnational units

In many countries (and in particular federal countries), the structure of the central government includes representation of the subnational units. And theoretical as well as empirical studies point to the fact that central government' decisions especially those that concern the interests of subnational units will be subject to the influences of this representation both at the legislative and executive level. Nevertheless, researchers tend to privilege the former as the main arena where self-interested politicians struck bargains among themselves. This focus on the legislature has given rise to the term "legislative bargaining" which is usually used in complements to other terms such as "logrolling" or "pork-barrel"⁴³. Indeed, representatives of the states or regions at the legislature will engage in a bargaining process among themselves which will usually end up with some of them logrolling their votes in order to achieve passage of pork-barrel projects.

⁴³ According to William Safire (1978, p.553) the phrase pork barrel "*probably derived from the pre-Civil War practice of periodically distributing salt pork to the slaves from huge barrels*". He notes that in a 1919 issue of the National Civic Review, C.C. Maxey wrote "*Oftentimes the eagerness of the slaves would result in a rush upon the pork barrel, in which each would strive to grab as much as possible for himself. Members of Congress in the stampede to get their local appropriation items into the Omnibus River and harbor bills behaved so much like Negro slaves rushing to the pork barrel that these bills were facetiously styled "pork barrel" bills and the system which originated them has thus become known as the pork barrel system.*"

1.1.1. The process of legislative bargaining

The decisions-making process at the legislature has been widely covered in the literature. Researchers following Arrow (1963) have established that except in special cases, no voting equilibrium exists in the legislative setting where “...a collection of members choosing among a set of alternatives according to some voting rule” (Baron and Ferejohn 1987). Riker (1982) argued that the outcomes of legislative voting processes are entirely unpredictable and that, as a result, nothing can be said about the likely outcomes except to remark on their arbitrariness. Therefore, in order to generate a unique prediction about the outcome of the voting processes, some rules of agenda formation and voting must be imposed.

In a seminal work, Baron and Ferejohn (1986) show that any distribution of benefits among members of the legislature can be supported as a majority voting equilibrium if the sequential nature of the policymaking process is explicitly considered and only if “punishment strategies” are allowed. The authors show that at the proposal stage, each representative selects a minimum winning coalition of representatives to support the proposal she makes. The proposal provides benefits only to the districts associated with representatives belonging to the minimum winning coalition. The benefit levels chosen by the agenda setter is such that each representative in the minimum winning coalition (with the exception of the proposer) is provided with just enough utility to induce her to support the proposal. If a member recognized by the proposal to be in the minimum winning coalition fails to vote for the proposal, that member runs the risk that in the next session a proposal could be passed allocating no benefits to her district; therefore: “*this provides an incentive for the member to vote for the proposal on the floor if it provides an allocation to the member’s district at least as great as can be expected from future legislative sessions*” (p.1185).

Borrowing from Baron and Ferejohn political model, Persson(1998) proposed a model in which cycles in majority voting are avoided by imposing an “agenda structure” on the legislature via a “budget process”. One of the representatives is randomly chosen as the agenda setter and makes a policy proposal on the amount of local public goods to

be provided, financed out of a uniform national tax. To be implemented, such a policy proposal has to win the majority support inside the legislature, otherwise the default outcome of zero public good provision prevails. If the latter occurs, the “budget process” starts again and a new agenda setter is randomly chosen. Under this setting, Persson shows that the agenda setter always formulates his policy proposal in order to obtain a majority. In other words, in the bargaining model described in Persson’s model, the agenda setter plays a non-cooperative game with other regions selecting the policy proposal that maximizes her utility under the incentive compatibility constraint holding for a majority of regions. A key result is that the agenda setter always obtains “rent” from other members in the legislature and majority voting within a legislature leads to an asymmetric distribution of benefits and costs from local public goods provision among districts. Furthermore, the minimum winning coalition is always composed of representatives with the highest preference for the local public goods since they are the cheapest to buy off for the agenda setter.

1.1.2. Distributive politics decision making as a consequence of legislative bargaining

Decision-making concerning distributive policies⁴⁴ constitute a good example of legislative bargaining at work. By definition, distributive politics is a political decision that concentrates benefits in a specific geographic district or region and finances expenditure through generalized taxation⁴⁵. The distributive nature of these policies implies that with majority rule, there will be no voting equilibrium and Condorcet cycles will unavoidably emerge. There are mainly two views regarding the legislative passing of redistributive policies – the minimum winning coalitions and the universal and oversized coalitions.

⁴⁴ Lowi (1964) classified domestic policy as either “distributive”, “redistributive” or “regulatory”.

⁴⁵ Weingast, Shepsle and Johnsen (1981) write that “*While it is clear that all policies have a geographic incidence of benefits and costs, what distinguishes a distributive policy is that benefits are geographically targeted...geography is the hallmark of distributive politics: programs and projects are geographically targeted, geographically fashioned, and may be independly varied. Importantly, geography is also the basis for political organization and representation*”.

The minimum-winning coalition thesis is based on the “size” principle which is one of the theoretical results in rational choice (Riker (1962), Riker and Ordeshook (1973), Buchanan and Tullock (1962)). The theorem says that a political coalition tends to be as small as possible, as long as it is winning (Riker, 1962). To be "winning" here essentially means to be "able to dictate the outcome". If, for instance, we are dealing with a voting assembly, and if the simple majority rule is used, than any decisive constellation, i.e. any constellation with more than 50 % of the votes, is winning. According to this principle, on decisions concerning distributive politics, minimum-winning coalitions rather than nonminimum winning coalitions would form. These results were later extended by Fiorina(1981) who demonstrated that it is a minimum-winning coalition composed of members proposing the cheapest projects that will be in equilibrium.

In contrast, the universalism thesis predicts that on matters of distributive policy, a coalition-of-the-whole would form. Empirical studies⁴⁶ showed that distributive politics are usually adopted in the legislature not through a minimum-winning coalition votes but through a universalistic coalition of the whole assembly. In fact, the practice of universalism together with that of reciprocity permitted distributive projects to obtain support even from those without a stake from the projects.

The explanation for universalism was first proposed by Weingast(1979) who departing from the conditions that yielded the minimum-coalition result, showed that the set of (partially overlapping) minimum-winning coalitions constituted the core solution in distributive policy and that any coalition not in the set was dominated by all coalitions in the set. This result implied that there was no a priori way to determine which of the many possible minimum-winning coalitions would form on any given vote. Accordingly, as the vote drew near, all legislators seeking to maximize the net benefits accruing to their districts would prefer to form a minimum-winning coalition, but no legislator could be sure that he or she would be in the one that actually formed. Thus the uncertainty over inclusion in the winning coalition led, according to Weingast, to the appearance of universalistic coalitions on distributive policy.

⁴⁶ These studies include Mass(1951), Ferejohn(1974), Manley(1970), Plott(1968), Schattschneider (1935), Froman(1967), Rundquist(1973), Mayhew(1974)

The universalism norm has been extensively enriched by subsequent works especially in response to the question as to why would legislator vote for distributive projects which are typically inefficient and economically unjustifiable. Shepsle and Wiengast(1981) and Weingast, Shepsle and Johnsen(1981) argued that the preference for universalism to legislations that could not be economically justified can be explained by the facts that legislators are capable of making a distinction between the political and the economic definition of benefits and costs. Funds for a project spent in the district in which the project was located which traditionally were treated as costs, were reinterpreted by legislators as benefits. Thus the political benefits flowing to districts included not only the economic benefits produced by the project but also by the component of economic costs that legislators were able to represent to their constituencies as benefits. Niou and Ordeshook (1985) showed that legislators would not necessarily prefer a universalistic solution over a minimum-winning coalition even when benefits exceeded the costs. Rather, both results were contingent on the specification of the bargaining process under which the legislature operated. The authors showed that given the preference of constituencies for legislator whose efforts made constituents better off in a world where all legislators proposed district-specific programs (as opposed to legislators who proposed and supported only efficient programs), legislators rationally opted for universalism whether benefits exceeded costs or costs exceeded benefits. In a different but closely related study, Lockwood (1998) shows that there is an interaction between project externalities and the legislative rules. According to the author, the degree of universalism will depend on the strength of the spillover. When the project has a strong and positive spillover, outcome of legislative is closer to uniformity than it is when spillovers are small or negative.

Another strand in the literature of distributive politics consists in testing the “Law of $1/n$ ” proposed by Weingast, Shepsle and Johnsen (1981) according to whom the level of distributive spending is positively linked with the number of legislators. The mechanism at work according to the authors is the common pool problem: Since each group fully benefits from its specific spending program but the burden of taxation is

diffused, the cost of public expenditures is not fully internalized by the political decision-makers and thus could lead to greater-than-optimal public expenditures.

For instance, in the case of the allocation of intergovernmental transfers, normative theories of fiscal federalism postulate that it should be determined on the base of equity and efficiency considerations in order to provide differentiated public goods to heterogeneous populations, while ensuring an even distribution of basic services across all regions (Musgrave (1959, 1983), Oates (1972), Gramlich (1977)). In fact, according to the traditional theory, there are three basic rationales for the introduction of a system of intergovernmental grants: (i) internalization of spillover effects, (ii) mitigation of interregional income differences, and (iii) absorbing economic shocks and offering interregional insurance by a redistributive transfer scheme. As such, we should observe states that provide benefits to other states, that are economically weaker, and that suffer adverse economic shocks to receive higher transfers, *ceteris paribus*. This welfare theory, however, does not fare well in empirical studies. Most studies find more evidence for politically motivated transfers. These studies show that although central governments are transferring funds to local governments, it appears they are doing so for reasons other than they “should”.

The empirical evidence in favor of this so-called “Law of $1/n$ ” is however mixed. Empirically, Wright (1974) provided some of the first indications that political factors were significant in determining the allocation of New Deal expenditures across states in the United States. In particular, he found that his political variables did a much better job of explaining the patterns of expenditure across states than his economic variables. In particular, he found a strong positive correlation between New Deal spending per capita and electoral votes per capita across states. Baqir (1999) shows that the Law generally holds true in American city councils. He also finds that the effect is weaker in city councils containing at-large members (from proportional representation districts), suggesting that single member districts are crucial for the operation of the law. Dixit and Londregan (1998) provided another rationale for intergovernmental transfers. According to them, transfers are made to politically powerful groups (or regions) containing swing voters. Inman (1988) finds little evidence that intergovernmental grants are used to

alleviate externalities. Rather, he finds the growing decentralization of decision procedures in the US Congress explains the increase in the use of grants. Peterson (1995) finds that representational arguments can explain the level of grants received by states: more money goes to rural and sparsely populated states that are overrepresented in Congress, and to states that have legislators on key Congressional committees. Crain and Bradbury (2001) found that government consumption is directly related to the size of the legislature. Nevertheless, when an upper chamber exists, they find that the effect of the Law is mitigated by the number of seats in that chamber. Based on cross-national time-series data, Diaz-Cayeros et al (2002) found that government capital expenditures (which are their measure of particularistic “pork”) are higher when local revenue collection is centralized, but expenditure is decentralized. They also examined the institutional features of government that mitigate or enhance the political incentives to overspend and found that when legislators do not directly compete with each other in elections – for example, elections are held in single-member districts – there are fewer inhibitions to log-roll spending, and as a result, capital expenditures are higher. Institutions such as bicameralism and presidentialism increase capital expenditures, since they add to the number of independently elected politicians that must assuage their constituents through particularistic projects.

Studies have also been conducted in other national settings than the United States. Pitlik et al (2005) analyze the distribution of fiscal transfers in Germany’s intergovernmental transfer system over the period 1970-2002. They found that malapportionment in the upper house of the German legislature leads to disproportional state shares of per capita transfers. In an empirical analysis of each manifestation of the EC or EU from 1977 to 1999, Rodden (2002) shows that there is a strong linear relationship between votes and transfers per capita during each period. Other things equal, the study shows that small member states with more votes and relative voting power per capita are favored in the distribution of transfers. This relation is found to be true for both agricultural and regional development transfers as well as total net transfers.

More importantly, these studies have brought attention to the importance of institutional details in determining the outcomes of legislative bargaining. For example, the literature associates presidentialism with greater distributive spending, but less transfer spending, while parliamentarism is supposed to lead to less pork spending but higher universal transfer spending. Theoretical studies suggest that presidentialism should have a positive effect on pork only to the extent that it increases the number of political actors who seek to take advantage of a mismatch in the benefit principle in taxation. If a president's party has unified control of the legislature, however, she might actually exercise fiscal discipline, by internalizing the costs of expenditure. In a model of presidential veto, McCarty (2000) addresses how the particularistic preferences of the president over specific electoral subunits might affect distributive spending. He contends that the presence of the executive veto reduces inefficient spending. Moreover, it may have larger effects on an efficient distribution of spending when the president chooses to favor small coalitions.

1.2. The role of political parties and co-partisanship

The legislature is not the sole channel through which subnational units can exert its influences on the central government's decisions making. In Canada for instance, regions do not have any formal legislative representation. However, it does not prevent some regions from obtaining special treatment from the federal government. For example, in 2004, Ontario was awarded a grant of 5.75 billion in response to Premier McGuinty's cry that Ontario was paying more than its fair share into the federation. Nevertheless, no such deal has been struck, or even discussed, with Alberta, where the per capita fiscal transfer was higher than in Ontario.

In the literature, such cases are explained by the fact that central government decisions are sometimes influenced by ideological and political consideration. Consistent with the assumption that politicians are primarily interested in maintaining and enhancing their political careers, these studies suggest that each region is viewed differently by the central government according to its ideological and political partisanship.

Cox and McCubbins (1986) presented a model where electoral candidates compete by promising direct redistribution of welfare among the various groups in their constituency. The central insight of the model is that the type of coalition the candidates attempt to build (thus the nature of their distributive politics) will depend on their attitudes toward risk. They showed that risk-averse incumbents tend to invest most heavily in their closest supporters while risk-loving candidates pursue "swing" districts more aggressively, that is, districts where voters are more likely to evaluate the candidate in terms of actual performance in office. In a closely related paper on campaign spending, Snyder (1989) obtains a similar result - a party that seeks to maximize the probability of winning a majority will spend more on "safe" districts, that is, where it has an overall advantage because these are more likely to be pivotal in obtaining a majority. In contrast, Dixit and Londregan (1996) viewed voters as willing to compromise their party affinities in exchange for particularistic benefits. And they showed that candidates will aggressively court the swing voters (through this particularistic spending) but under the condition that candidates do not have developed skills in catering to the need of specific communities. Lindbeck and Weibull (1987) contrast between two type of electoral objectives - maximizing the total number of seats in the legislature as opposed to maximizing the probability of winning a majority of seats - and they obtain the result that with the former objective more funds should be allocated to districts where electoral races are tight, whereas with the latter more weight should be given to "pivotal" districts or core supporters without whom it would be particularly difficult to win a majority.

Empirical studies usually attribute to the first model if they found "core supporters" benefits disproportionately and to the second if swing voters are privileged by candidates. Given the theoretical controversy in the existing literature, it is perhaps not surprising that the relevant empirical literature has generated a confusing array of findings. Some US studies support the Lindbeck-Weibull/Dixit-Londregan thesis that material benefits are disproportionately directed to "swing" voters (Wright 1974; Stein and Bickers 1994; Bickers and Stein 1996; Herron and Theodos 2004). Some research in other national settings also finds that legislators direct resources to electorally pivotal or marginal areas (Bruhn 1996; Denmark 2000; Case 2001; Dahlberg and Johansson 2002).

The Cox-McCubbins hypothesis that expenditures are instead concentrated in majority party strongholds, thereby benefiting core voters, has received empirical support in some US studies (Ansolabehere and Snyder 2003; Levitt and Snyder 1995; Balla, Lawrence, Maltzman, and Sigelman 2002), as well as a number of those conducted elsewhere (Diaz-Cayeros, Magaloni, and Weingast 2000; Horiuchi and Lee 2004; Crisp and Ingall 2002)

McGillivray (2004) try to reconcile these two competing models by proposing a theory in which two variables are used to capture the incentives facing politicians deciding the allocation of distributive goods: the type of electoral system and the cohesiveness or strength of national political parties. The electoral rule generates expectations about the types of votes those seeking national public office will cultivate. In a majoritarian electoral system, winning a legislative seat requires a plurality of votes in an electoral district, so votes in contested districts matter more to politicians than votes in safe districts. If parties are strong, they will therefore target marginal districts with local public goods, confirming the logic of the Lindbeck-Weibull/Dixit-Londregan model. In a proportional representation system, all votes matter equally regardless of district location, because every vote contributes to the allocation of legislative seats among parties. Therefore, nationally disciplined parties staffed by risk-averse legislators will target their strongholds in order to hold core voters and prevent the emergence of new parties, corroborating Cox-McCubbins. All else equal, the theory generates the expectation that politicians will target resources to marginal districts under majoritarian system and to party strongholds under the proportional representation system. The author also shows that in weak-party majoritarian system, redistributive policies will be targeted into safe districts. The author however does not extend his theory to the case of weak-party proportional representation system.

The two models discussed above have in common the fact that the winner has full control of the budget and the recipient districts have no say at all. Dasgupta, Dhillon and Dutta (2001) departed from this proposition and presented a model where recipient districts are a semi-autonomous and separately-elected entity with some discretion over how resources from the central government are spent. They showed that the central government has strong incentives to avoid transfers to states where the opposition party

controls the government and hence can move the resources to its core supporters or claim credit among swing voters. Khemani (2002) provides evidence that in India, political affiliation between the center and the states affects the distribution of intergovernmental transfers and the fiscal deficits of the latter. According to the author, the empirical results indicate that when national political agents have decision making authority over the distribution of resources across states, then the distribution of intergovernmental transfers across states over time is influenced by political considerations. Furthermore, the pattern of evidence is consistent with a particular political objective that of obtaining the maximum number of seats in the national legislature, as opposed to maximizing the probability of winning a majority. National political parties target greater resources to those states where they have more seats to gain in the national legislature, rather than to states that are their core support bases, and hence pivotal for winning a majority. Rodden (2005) however argued that central government decisions are usually subject to the approval of members of legislature and therefore cannot easily use transfers according to his tactical needs.

Studies have also shown that there's a link between subnational government finance and the political partisanship of the government at the central and subnational level. Rodden (2005) argued that under the right conditions, an integrated national system of political parties linking the national executive and legislature with subnational governments can alter the incentives of the bailout game in a way that limits its macroeconomic damage. Jones, Sanguinetti and Tomassi (2000) found empirical evidence that in Argentina, provinces where the governor is from the same party as the President will have lower spending.

The argument that sharing the same party label will lead to fiscal discipline is based on the hypothesis that the central chief executive (the President or the Prime Minister) constitutes a focal point for electors in assessing the performance of all the politicians sharing the same party label. The chances for subnational politicians of getting reelected will thus depend on the performance of their homologue at the central level. As a result, they will eschew from taking actions that will undermine the performance of their co-partisans at the center such as pushing for bailouts due to their undisciplined

fiscal behavior. To put it differently, subnational politicians face incentives to cooperate with the center because their electoral fates are partly determined by the fates of their co-partisans at the federal level.

Rodden (2005) differentiated between two kinds of bailouts – negative-sum bailouts which imply collective costs for the country as a whole and zero sum bailouts which do not have collective consequences. He argued that subnational politicians will only avoid from asking for bailouts in the event when the bailouts will create collective macroeconomic costs that damage the party label. Otherwise, if the bailouts will only create only redistributive effects, we should observe the opposite empirical prediction such as the one found by Khemani (2003) who showed that in 15 major states of India over the period 1972- 1995, states in fact have substantially higher spending and deficits (higher by about 10 percent of the sample average) when their government belongs to the same party as that governing at the center.

Rodden (2005) also stressed the importance of the role played by the internal organization of political parties notably in preventing co-partisans from playing burden-shifting strategy. Indeed, it is not clear why individual politicians would always place the value of party label above the value of a bailout as they can always hope to free ride on the good behavior of the other. They can convince themselves that their province is especially deserving of a bailout while their co-partisans should adjust alone. One way of tackling this problem is for national leaders to use available tools (such as control over nominations, party lists, committee assignments, endorsements or allocation of campaign funds) in order to extract compliance from subnational politicians.

1.3 The impact on subnational governments' budgetary behavior

Based on our literature review above we may say that there are essentially two mechanisms through which subnational governments' behavior may be linked to political institutions

- through state representative at the central level (legislative bargaining model)

- through political and ideological partisanship (political partisanship model)

The legislative bargaining model is based on the assumption that state governments which are overrepresented in the legislature face weaker incentives to be fiscally responsible as they may expect to obtain a bigger share of the public resources allocation. Besides, due to their bigger representation, it is very likely for them to be rescued by the federal government in case of a financial crisis. We are thus expecting to find a positive correlation between overrepresentation in the legislative and the state governments' level of expenditures.

The effect of political and ideological partisanship on state governments' fiscal behavior is however mixed. State governments which share the same ideology as the central government may be allocated more resources by the latter as a show of its appreciation. At the same time, central government may also allocate more resources to states governments which are under the opposition in order to win back the support of the electors. Furthermore, state governments which belong to the same political party as the central government may have more incentives to be fiscally responsible as they are more likely to internalize the effects of fiscal profligacy due notably to internal party discipline. In other words, the effect of political partisanship on the state governments' fiscal behavior is ultimately an empirical question.

2. The political environment of Malaysia

Before we can make any assumptions about the relations between political institutions and fiscal outcomes of the state governments, it is important for us to first understand the general political and institutional environment of the country. In this section, we will discuss some of the basic characteristics of the system of government in Malaysia in order for us to see how well the theories, as discussed in our precedent section, can be adopted to this country.

2.1. The system of government

Malaysia is a constitutional monarchy, nominally headed by the Yang di-Pertuan Agong ("paramount ruler"), customarily referred to as the king. Kings are elected for 5-year terms from among the nine sultans of the peninsular Malaysian states. The king is also the leader of the Islamic faith in Malaysia.

Executive power is vested in the cabinet led by the prime minister; the Malaysian constitution stipulates that the prime minister must be a member of the lower house of parliament who, in the opinion of the Yang di-Pertuan Agong, commands a majority in parliament. The cabinet is chosen from among members of both houses of parliament and is responsible to that body. The king may dissolve parliament at any time and usually does so upon the advice of the Prime Minister. General elections must be held within three months of the dissolution of parliament. In practice this means that elections are held every 3-5 years depending on the current political situation.

The bicameral parliament consists of an indirectly elected upper house (the Senate or Dewan Negara) and a lower house (Dewan Rakyat) elected by universal suffrage for a five year term on a simple majority basis.

The Senate⁴⁷ is supposed to act as the protector of states' interests as well as a restraint upon the central legislative power of amendment. However, it has now been reduced to a body of limited significance within the Parliament which is due largely to its composition and the method of selecting its member. Under the original term of the 1957 Constitution, each state was to elect two states senators, whilst the King was empowered to appoint sixteen other members. As there were eleven states at that moment, the state senators outnumbered the appointed senators by twenty-two to sixteen. This proportion in

⁴⁷ The purpose of Dewan Negara was described by Nik Abdul Rashid (1979) as "...First...as a forum to which seasoned and experienced politicians and public men might get an easy access without undergoing the din and bustle of a general election which is inevitable for finding a seat in the Dewan Ra'ayat...Secondly the Dewan Negara serves as a debating chamber to hold dignified debate and it acts as a revising chamber over the Dewan Ra'ayat which, being a popular chamber, might at times be swayed to act hastily under pressure of public opinion or in the heat of passion of the moment...Lastly, the Dewan Negara is designed to serve as a chamber where the States of the Federation are, to some extent, represented as States in keeping with the federal principle and, therefore, the House has been given some federal functions to discharge on the theory, and, in its character, of a House representing the States rather than the people" Nik Abdul Rashid (1979, p.138-139).

favor of the state senators was however altered with the formation of Malaysia in 1963 to a balance of twenty-eight elected state senators to twenty-two appointed senators. The number of appointed senators was further increased in 1964, resulting for the first time in the appointed senators outnumbering the state senators by thirty-two to twenty-eight. To date there are only 26 senators who are elected by the 13 state assemblies as compared to 43 senators who are appointed by the King.

Senators are in any case not obliged to vote as instructed by their respective state legislatures, as no constitutional provisions requires them to do so. Moreover, since state representatives also represent the various parties that control the state governments, it would be difficult for them to block constitutional amendments that were considered damaging to the interests of their own states where the dictates of party discipline might prevent them from mobilizing support from the senators of other states (Shafruddin, 1987, p. 13). As such, the states have on the whole a very negligible voice in the amendment process.

At the state level, governmental structure roughly parallels that at the centre. There is an executive council corresponding to the cabinet at national level, and a state legislature consisting of one house only. The ruler or governor of each state acts on the advice of the state executive council which is headed by a “Menteri Besar” or a chief minister. The state governments are responsible for all their actions to the state legislative assemblies, which for all practical purposes follow the same procedures as the federal parliament. The importance of these bodies is limited due to the small number of functions allocated to the states as well as to their limited resources.

As discussed in the literature review, one particular concern regarding political representation that is usually raised by political scientists is the extent to which some states are over-represented as compared to others. And there is almost a consensus among researchers that malproportionment of political representations can under certain circumstances lead to a situation where some states being privileged especially in term of the allocation of public funds received.

Using the Loosemore-Hanby index of electoral disproportionality, we calculate the extent to which the two chambers in the Parliament are malapportioned. The formula as proposed by Samuels and Snyder (2001) is as follows

$$\text{MAL} = \frac{1}{2} \sum_i |s_i - v_i|,$$

Where s_i is the percentage of all seats allocated to district i , and v_i is the percentage of the overall population residing in district i . The authors have calculated this index for other federations and this allows us to put the Malaysian case in a comparative perspective.

Table 4.1 shows that, as in other countries, the upper chamber in Malaysia (0.299) is more malapportioned than the lower chamber (0.088). This is easily understandable given the method used in the composition of the upper chamber. We also note that the Malaysian upper house is still relatively less malapportioned especially in comparison to Argentina or Brazil. However, the lower chamber of Malaysia can be considered as among the most malapportioned ones in the world.

Figure 4.1 displays the extent to which certain states are relatively overrepresented in the Malaysian Parliament. The figure is divided into two sections, the left representing the more developed states and the right the less developed ones. As can be seen, all of the more developed states except one (Perak) are underrepresented in the Parliament while most of the less developed ones are overrepresented (except Pahang). It is also worthy to note that the two states (WP is a federal territory) which are the most underrepresented namely Selangor and Johor are also the two richest in the country.

Table 4.1. Malaysian legislative malapportionment in comparative perspective

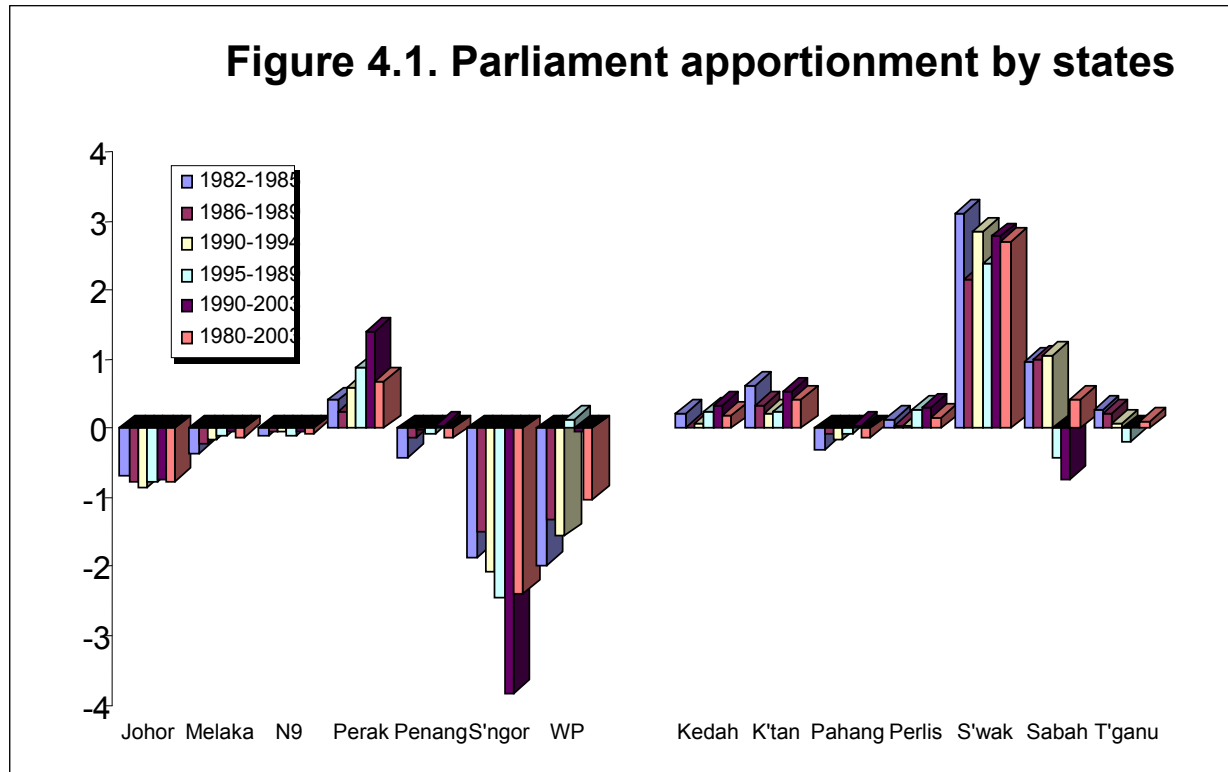
	Lower chamber	Upper chamber	Two-chamber average
Malaysia	0.088	0.239	0.164
Argentina	0.141	0.485	0.313
Australia	0.024	0.296	0.160
Austria	0.064	0.030	0.047
Brazil	0.091	0.485	0.248
Canada	0.076	n.a.	0.076
Germany	0.034	0.244	0.139
India	0.062	0.075	0.068
Mexico	0.064	0.230	0.147
Russia	0.038	0.335	0.186
South Africa	0.034	0.244	0.139
Spain	0.096	0.285	0.191
Switzerland	0.019	0.345	0.182
USA	0.014	0.364	0.189
Venezuela	0.072	0.327	0.199
Average federations	0.066	0.290	0.178
Average, 80 countries	0.076	0.217	0.146

Sources: Samuels and Snyder (1999) and author's calculations.

The overrepresentation of the poor and largely-rural states is due to a deliberate decision made by the governments at the onset of the country's independence with an objective to give more voice to the rural folks by the application of rural weightage⁴⁸. As

⁴⁸ Section 2(c) of the Thirteenth Schedule of the Federal Constitution states that "the number of electors within each constituency in a state ought to be approximately equal except that, having regard to the greater difficulty of reaching electors in the country districts and the other disadvantages facing rural constituencies, a measure of weightage for area ought to be given to such constituencies. However, the Election Commission has been widely criticized for its liberal application of this rural weightage which

for the overrepresentation of the states of Sabah and Sarawak, it was part of the terms of entry of the two states into the Federation in 1963.



Source: Various Election Commission Reports and author's calculation.

2.2. Legislative procedure

The legislative procedure is described in Chapter 5, Part IV of the Constitution. Basically, a proposed act of law begins its life when a particular government minister or ministry prepares a first draft with the assistance of the Attorney-General's Department. The draft, known as a bill, is then discussed by the Cabinet. If it is agreed to be submitted to Parliament, the bill is distributed to all MPs. It then goes through three readings before the Dewan Rakyat. The first reading is where the minister or his deputy submits it to Parliament. At the second reading, the bill is discussed and debated by MPs. At the third reading, the minister or his deputy formally submit it to a vote for approval. A 2/3rds

according to some, has led to wider disparities among constituencies to the extent of nullifying the “one man, one vote” principle (Lim Hong Hai (2006), 266).

majority is usually required to pass the bill, but in certain cases, a simple majority suffices. Should the bill pass, it is sent to the Dewan Negara, where the three readings are carried out again. The Dewan Negara may choose not to pass the bill, but this only delays its passage by a month, or in some cases, a year; once this period expires, the bill is considered to have been passed by the house.

If the bill passes, it is presented to the King (Yang di-Pertuan Agong), who has 30 days to consider the bill. Should he disagree with it, he returns it to Parliament with a list of suggested amendments. Parliament must then reconsider the bill and its proposed amendments and return it to the King within 30 days if they pass it again. The King then has another 30 days to give the royal assent; otherwise, it passes into law. The law does not take effect until it is published in the Government Gazette.

Although a process for Private Member's Bills do exist, as in most other legislatures following the Westminster System, few members of Parliament actually introduce bills. It is also possible for members of the Dewan Negara (Senate) to initiate bills; however, subject to Article 67 of the Constitution only cabinet ministers are permitted to move finance-related bills (the money bill)⁴⁹, which must be tabled in the Dewan Rakyat.

2.3. The power division between legislative and executive

Unlike the system in the USA where the President and the Congress are totally separated, in Malaysia the Cabinet is part of Parliament. In theory, based on the Constitution of Malaysia, the executive branch of the government is held in check by the legislative and judiciary branches. However, there has been substantial controversy over the independence of the Malaysian Parliament, with many viewing it simply as a rubber stamp, approving the executive branch's decisions. Though the Standing Orders permit Private Members bills, in practice all Acts of Parliament are government-sponsored. The

⁴⁹ A definition for "Money Bill" was given in Article 68 (6) of the Constitution which states that "...*money Bill*" means a Bill which, containing in the opinion of the Speaker of the House of Representatives only provision dealing with all or any of the following matters, that is to say -

- (a) the matters mentioned in Article 67 (1) or the regulation of any tax;
- (b) the reduction of any such amount as is mentioned in paragraph (d) of Article 67 (1); and
- (c) any matter incidental to those matters or any of them, is certified by him as a money Bill."

policy behind them is determined by the Cabinet which uses its majority in parliament to push a legislative proposal through. Legislative powers are thus delegated by Parliament to members of the executive. More laws today are a product of delegated legislation than of parliamentary legislation. And there are no limits on the amount or nature of power that Parliament can delegate to the executive. The American doctrine against excessive delegation does not apparently apply in Malaysia.

Under Article 43(3) of the Constitution the political executive is collectively responsible to Parliament. During question time, debates, and motions, Ministers are answerable, accountable and responsible to the representatives of the people. Parliament can also exert control on the government through Select Committees that are formed to look into a particular issue. However, there have been only six Select Committees formed since 1970, when Parliament reconvened after the May 13 Incident. Of these, three were formed between 2002 and 2005.

A Cabinet that conducts itself totally against the wishes of Parliament may be defeated and removed from office by a vote of no-confidence in the Dewan Rakyat. In actual practice, however, cabinet answerability to Parliament is more notional than real. Although question time exists for Parliament to check the power of the executive, it has been argued that the question time allotted for MPs to question the government on its policies is insufficient or ineffective. A study by a constitutional scholar Shad Saleem Faruqi has showed that 80% of all bills the government introduced from 1991 to 1995 were passed without a single amendment. According to him, another 15% were withdrawn due to pressure from non-governmental organizations (NGOs) or other countries, while only 5% were amended or otherwise altered by Parliament.

2.4. The role of political parties

Malaysia's predominant political party, the United Malays National Organization (UMNO), has held power in coalition with other parties since Malaysia's independence in 1957. In 1973, an alliance of communally based parties was replaced with a broader coalition--the Barisan Nasional--composed of 14 parties. Today the Barisan Nasional alliance has three prominent members - the UMNO, MCA (Malaysian Chinese

Association) and MIC (Malaysian Indian Congress). The Prime Minister of Malaysia has always been a member from the Malay party (UMNO) of Barisan National alliance. During the latest election in 2003, the coalition managed to secure more than two third of the seats in the Parliament.

There are three main opposition political parties in Malaysia which are represented in the Parliament namely the Democratic Action Party (DAP), the Islamic Party of Malaysia (PAS) and the People's Justice Party (PKR).

2.5. How relevant are the theories to the Malaysian context?

In what follows, we will analyze the appropriateness of the two theories as discussed in our literature review in explaining the state governments' behavior in Malaysia based on our preceding discussion on the political and institutional environment of the country.

2.5.1. The Legislative Bargaining model

There are essentially two particularities of the Malaysian political environment that we believe will determine the influence of political factors on the fiscal behavior of the state governments. First, it is the prominent role of the executive branch in the law making procedure to the detriment of the backbenchers (both at the upper and lower house) and secondly, the stronghold of the country by one (coalition) political party.

It is important to emphasize that in the legislative bargaining model, the presupposed links between political representation and state governments' fiscal behavior are based on two underlying assumptions. Firstly, it is assumed that the state representatives care about the fate of their constituencies and face strong incentives to reward them by bringing in public sponsored projects. Secondly, it is also assumed that the state representatives have the capacity to actually influence central government's decisions especially in matters related to the allocation of public projects. If a state representative, for some reasons, does not feel obligated to reward his/her electorates, there will be no reason for him to tilt the decisions of the central government to the benefits of the state that he represents even if he has the ability to do so. And if the state

representatives want to reward its constituencies, he will not be able to do so if he has no power in influencing the central government decision making. It is thus important for us to examine whether the two assumptions are fulfilled or not before we can make any assumption about the link between political representation and subnational governments' behavior.

In the literature, it is argued that the legislature provides an avenue for state representatives to bring the interest of their constituencies to light and to defend it. However, in the Malaysian case, the political reality has it that not only that a legislative bill is almost exclusively originated from the executive but it is also very unlikely for the bill to be rejected by the legislative. In other words, the members of the Parliament especially the backbenchers have a very limited role in the law making process. Consequently, one may conclude that legislative bargaining theory have little relevance in explaining state governments spending behavior since state representatives at the legislature have practically no power in swaying the central government policies to the benefits of their constituencies. However we believe that, notwithstanding the fact that directly MPs have little voice in the legislature process of the country, there are other ways for the MPs to exercise their influences on the decisions made by the central government.

For example, it is plausible to assume the existence of some sort of lobbying activities taking place at the formulation stage of the policies before they are tabled in the Parliament. The backbenchers may influence the relevant ministers in order for the latter to propose a bill that will be beneficial for their constituencies. The lobbying activities will particularly prove to be fruitful if there is a common factor which both of them can relate to such as the adherence to the same political ideology or their state of origin.

Furthermore, since members of the Cabinet are selected from the members of Parliament and assuming that every MP has an equal chance of getting appointed to the Cabinet, the stronger the representation of a state, the higher the chance for it to be represented in the Cabinet and the more influence it will have on the central government decision.

The Malaysian model can thus be viewed as the one where the agenda setter is no longer any particular MP but the one who is elected to the cabinet. A strand of literatures that seem to fit well with the Malaysian situation are the congressional theories which emphasize the role of representative holding special post such as being a member of a committee within the Parliament, in swaying central governments decisions in favor of their constituencies (Fenno (1973), Kiewiet and McCubbins (1988), Shepsle and Weingast (1987), Krehbiel, (1991)). However, in contrast to the original model, the agenda setter no longer has to worry about the probability of his/her agenda being passed by the Parliament as there is a relatively high odd for it to be adopted. The only unknown here will be the type of agenda that will be proposed by the agenda setter. And it is the lobbying activities of the MPs upon the cabinet member that will in part determine the type of policies that will be tabled and passed in the Parliament.

Another particularity of the political system in Malaysia which can also have several implications on the presupposed links between politics and the state governments' fiscal behavior is the strong withhold of the country by a single political party. As we can see from table 4.2, the Alliance and subsequently the Barisan Nasional has managed to control (with the exception in 1969) not less than 70% of the total seats and this despite the fact that it secured not more than 60% of the popular votes. In certain years, the ruling party hardly obtained more than half of the voice (in 1969 it even obtained less than 50% of the popular votes) but this does not stop it from controlling 2/3 of the seats.

Several explanations have been put forward in order to explain this phenomenon ahead of what is the fact that the elections have not been conducted in a free and fair manner because of practices such as the periodic redelineation of constituency boundaries, the maintaining of up-to-date and accurate electoral rolls and the administration of the mechanisms for the nomination of candidates and polling procedures.

Table 4.2. Percentage of popular votes and percentage of seats in Parliament by political party

Election years	Alliance / Barisan Nasional			All opposition parties			Total no. of seats contested
	% of popular votes	No. of seats	% of seats	% of popular votes	No. of seats	% of seats	
1959	51.7	74	71	48.3	30	29	104
1964	58.5	89	86	41.5	15	14	104
1969	49.3	92	64	50.7	51	36	143
1974	60.7	135	88	39.3	19	12	154
1978	57.2	130	84	42.8	24	16	154
1982	60.5	132	86	39.5	22	14	154
1986	55.8	148	84	41.5	29	16	177
1990	53.4	127	71	46.6	53	29	180
1995	65.2	162	84	34.8	30	16	192
1999	56.5	148	77	43.5	45	23	193
2003	63.9	198	90	36.1	21	10	219

Source: Various Election Commission Reports

Nevertheless it cannot be denied that the continuous domination of the Parliament by a single party merely reflects the mentality of a majority of the population who in a way feel obligated to be grateful to the current government for the relative prosperity and stability that the country has been (and still is) experiencing for the last few decades. For most of them who knew no other government than the current one, the term government itself has become synonymous to Barisan Nasional (the ruling party) which itself has become synonymous to prosperity. Indeed many fear that if a new political party were to be elected into office, it will bring this prosperity to a stop. Despite all the problems

associated with the present government, the majority of the population continues to support it since for them the perceived risk, albeit unfounded, of a regime change far outweighed its expected benefits. During election times, the population will not put much emphasis on the background or the performance of the candidates and tend to concentrate more on the latter's party label.

It should also be noted that given the multiethnic nature of the country, any political party (or coalition of political parties) that aspires to make an inroad into the political scene needs to have an agenda that will cater to the needs and aspirations of each of the major ethnic groups. While this is smartly achieved by BN by having under its umbrella at least one party for one ethnic group, the opposition is yet to find a common ground that will eventually unite all the different groups of the population. Consequently, the only constituencies where the opposition parties can hope to put up a good fight against the ruling coalition and eventually win them are those where one racial group constitutes a big majority of their population (in Malay-dominated constituencies for PAS and in Chinese-dominated constituencies for DAP). In other words, the population chose to continuously vote for BN because of the limited choices that are in offer for them. Puthucaray and Othman (2005) in their studies of the political system in Malaysia remark that

“The single-symbol strategy of the BN limits electoral choice...this ultimate absence of choice, actual and perceived, is the logical consequence and end-point of the passionate insistence, over the last half century that communalism is so explosive that only the ruling party can be trusted and allowed to manage it” (pp 9-10.).

Since Malaysian voters mostly vote according to the ideological belonging of the electoral candidates rather than their performance, it is plausible to assume that in most cases, what matter the most for the candidates in order to get reelected (or elected) is no longer the votes that they will get from their constituents but the nomination that they will obtain from the party⁵⁰. However, as those who get to be nominated are usually those

⁵⁰ The internal functioning of political parties in selecting and motivating politicians has received little attention from economists so far. Carrillo and Mariotti (2001) study a party incentive to replace incumbent politicians. They show that

who hold posts at the party's divisional level, the performance of these potential candidates will still be subject to public scrutiny. Moreover, after decades of rapid economic development, massive urbanization, upward social mobility across ethnic groups, and expanding multiracial middle classes, there has been greater valorization of the virtues of democracy and human rights among the multiracial and multi-religious Malaysian public. This may be perceived as a sign by the MPs to be more responsive to the needs of the population.

It can also be argued that state representatives may have a motivation to reward their constituencies by bringing in development projects when they themselves can benefit directly or indirectly from these projects. This is essentially the case when the MP is also a prominent businessman with huge business interest in his constituency. Thus the more the MP can bring projects to his constituencies, the higher the gain he can expect to make from these projects, thus the higher the motivation for he/she to sway central government's decisions to his/her constituency's profit.

To summarize, at first glance, the two underlying assumptions required in order for the framework proposed by the legislative bargaining model to hold do not seem to be satisfied within the Malaysian context. Indeed we can see that the political leverage that the state governments have on central government's decision making is quite limited due in particular to the way executive and legislative powers are distributed in the country. And given the fact that Malaysian voters vote overwhelmingly along party line, there is little motivation for the MPs to be responsive to the needs of their constituents. Having said that, we have also showed that the MPs still have the possibilities albeit indirectly of swaying central government decision to the benefits of their constituencies and given the current economic and social development, they are more and more inclined to do so. In

voters prefer to replace incumbents more often than the two competing parties. Lundell (2004) classifies for a large number of parties the degree of centralization of the candidate selection process. Persson and Tabellini (2003, p. 21) state that "...if lists are drawn up by party leaders (as is commonly the case), the ranking is likely to reflect criteria unrelated to competence in providing benefits to voters, such as party loyalty or effort within the party". Beniers (2005) examines the incentives for a party leader in office and for a parties' rank-and-file to replace a sitting member of parliament.

other words, our analysis above points to the conclusion that the central hypothesis of the legislative bargaining model according to which state governments which are overrepresented in the Parliament tend to benefit more from central government decisions is relatively consistent with the political reality of the country. And consequently, the model may be used in our studies of state governments' fiscal behavior in Malaysia.

2.5.2. The partisanship model

According to this model, ideological leaning of the subnational governments may partly explain the amount of allocation that they will receive from the central government and this in turn will determine their level of expenditures.

It is obvious to see that the model assumes that there is a certain level of competition taking place between at least two political parties. In the case of Malaysia, even though one political party has been able to take control of the central government as well as all (except one) the state governments, the competition that it has to face during elections varies widely across states and time. The proportion of votes obtained by the ruling party during state elections as shown by table 4.3 is one good indicator of how close a fight has been during a particular election. The table shows that in certain states such as Sabah and the mainly Malay-populated states of Kelantan and Trengganu, the ruling party has had a hard time in getting popular supports as it was faced with a fierce competition from the opposition. For example, during the 1999 10th election, in these three states the opposition party has managed to secure no less than 60% of the popular votes. Moreover, the opposition had also in several occasions defeated the ruling party and taken over the control of certain states (see table 4.4).

Table 4.3. Percentage of popular votes obtained by the ruling and opposition party by state

	1982		1986		1990		1995		1999	
	BN	Opp	BN	Opp	BN	Opp	BN	Opp	BN	Opp
Johor	70,99	20,66	67,99	26,54	58,89	36,85	75,10	21,99	69,81	26,94
Kedah	62,29	37,46	60,63	39,34	59,23	37,15	61,38	36,13	54,36	43,13
Kelantan	51,06	47,00	53,44	46,55	32,38	64,89	43,54	54,00	37,46	60,46
Melaka	69,77	29,41	62,79	35,99	60,78	36,10	67,78	29,92	56,63	41,10
N9	63,33	31,04	62,59	32,48	60,25	37,57	70,23	26,61	57,73	39,46
Pahang	62,16	32,57	64,92	34,18	59,32	36,08	66,45	31,86	52,83	44,22
Perak	60,35	37,77	54,17	44,28	52,48	41,52	67,56	30,61	54,04	43,29
Perlis	62,30	36,44	65,16	33,33	62,58	33,93	63,48	33,90	55,69	43,23
Penang	59,34	33,55	51,02	45,42	49,98	43,52	64,47	33,51	54,70	43,05
Sabah	61,90	38,10	30,81	69,19	46,08	53,92	46,31	53,69	46,50	53,50
Sarawak	56,57	43,43	55,06	44,94	53,79	46,21	62,42	37,58	65,42	34,58
Selangor	68,46	28,22	62,44	34,36	58,76	40,35	72,25	25,07	54,45	43,36
Trengganu	56,67	40,89	60,08	36,11	54,16	43,04	55,40	44,56	40,74	57,02

Source: Various Election Commission Report.

On the other hand, certain states like Johor, Negeri Sembilan or Sarawak are well known for being the traditional bastion of the ruling party. In these states, the ruling party has managed to win almost all of the seats in the state legislatures and obtained more than 60% of the popular votes. In Johor for example, the popular votes obtained by the opposition has never surpassed the 30% level (except in 1995). In 1999, where the opposition has managed to make an inroad into most of the states as witnessed by the increase of popular votes obtained by it (from 30% to 43% in Perak or 25% to 44% in

Selangor), the popular support for the ruling in Johor and to a lesser extent in Negeri Sembilan seems to be unperturbed – only 27% and 39% of the popular votes went to the opposition party in these two states respectively.

Given this rough classification of states according to their perceived allegiance to the ruling party, there is ground for us to expect some of the predictions of the partisanship model to hold in the Malaysian case. Besides, since the ruling party firmly holds the control of the central government, it has all the powers and resources that it needs in order to punish or reward certain states. And as we shall show below, it is undeniable that certain states have indeed been punished solely because their population has massively voted for the opposition.

For example, when the states of Kelantan and Sabah fell into the hands of the opposition in 1991 (PAS in Kelantan and Parti Bersatu Sabah(PBS) in Sabah, their development allocations under the 6th Malaysia Plan (1991-1995) were redirected away from the state governments towards the BN-controlled Federal Development Department. Development allocations for these two states were also cut in the Mid-Term Review of the 6th Malaysia Plan, ostensibly because of constraints in the implementation capacity in these states. In addition, the chief ministers of these two states were no longer automatically invited to meetings on development matters involving executives of the state governments. In the case of Sabah, its earnings were severely affected particularly when the federal government imposed a ban on the export of timber logs in 1991 apparently in order to promote the development of local wood-based industries. Sabah which derived almost 50 percent of its revenue from forestry earnings saw its revenue fall from RM884 million in 1992 to RM620 in 1993.

The federal government has also discouraged private firms from investing in the opposition controlled states. For example, in 1991, not long after the election, two Japanese multinationals, Sony and Matsushita had diverted their planned investment in Kelantan to other states. And according to a report by the Malaysian Industrial and Development Authority (MIDA), between 1991 and 1993, the central government approved only twelve investments licences worth RM102 million for Kelantan as

compared to 214 and 156 projects for the states of Selangor and Johor respectively in the 1992 period alone.

Table 4.4. States under the opposition party

States	Period
Kelantan	1959-1978,1990-present
Trengganu	1959-1961,1999-2003
Sabah	1985-1995
Penang	1969-1972

Source: R.O. Tilman (1963) and Y. M. Agus (2006)

There are obviously other examples of federal policies⁵¹ that are intended to punish opposition-controlled states, but the ones presented above are more than sufficient in order to prove the role of partisanship in the allocation of public across states in this country.

3. Data Specification and Empirical Strategy

3.1. Data specification

Our study covers the period of 1982-2002 divided into four periods of one year (1982-1985, 1986-1989, 1995-1998, 1999-2002) and one period of five years (1990-1994). The division of the period was made concordantly with the term of the member of the parliament. Indeed, the election at the national level was held every five years and the cabinet was formed once the election result was announced. In Malaysia, during the five-year period, the members of the parliament as well as the member of the cabinet hardly change⁵².

⁵¹ See R.O.Tilman (1963), H. Shafruddin (1987) and Y. M.Agus (2006) for a lengthy discussion on this issue.

⁵² There were of course some by elections that were held due to the demise of the incumbent member of the Parliament or of the State Assembly. However, their occurrences were relatively rare.

The data on state governments' expenditures and revenues are obtained from the Yearly Financial Statement of the state governments which are published and made public every year by the State Finance/Treasury Office. We combined the data with political, sociodemographic as well as economic data from other sources. The political data are mainly obtained from the Election Report prepared by the Election Commission. The data on election results are also obtained from the major newspaper of the country. State demographic and economic characteristics are mainly obtained from the State and District Report published by the Statistics Department.

3.2. Empirical strategy

The two hypotheses that we want to test may be summarized as follows

H1: States with the most votes (or the strongest representation) in the Parliament or in the government have relatively a higher spending (the legislative bargaining model).

H2: States that share the same ideological leaning as the central government have relatively a higher spending (the partisanship model).

Our empirical specification will thus be as follows

$$Spending_{i,t} = \alpha.Politics_{it} + \beta X_{it} + e_{it} \quad (\text{eq. 1})$$

where $Spending_{it}$ are log of real per capita expenditure. Our variable of interest is $Politics_{it}$ which represents various political institutions susceptible of influencing the state government's spending. The vector X_{it} represents various control variables which we believe are determinant in explaining the fiscal behavior of state governments in Malaysia.. e_{it} represents the disturbance terms of our model.

3.2.1. The variables of interest

In order to test for our first hypothesis, we will use the following variables:-

- the number of seats allocated to each states in the parliament per capita
- the number of members a particular state has in the cabinet per capita.

The number of seats that are allocated to each state in the Parliament will represent the level of leverage that a particular state has in the Parliament as the more seats a state have the more influence it will have in the legislative process. The same argument holds for the number of members a state has in the cabinet. State that is overrepresented in the cabinet will have more influence on the decisions made at the executive level.

For our second hypothesis, we will the following variables:-

- the number of seats (for each state) in the parliament won by the ruling party per capita,
- the percentage of state assembly seats won by the ruling party
- the number of votes obtained by the ruling party

The three variables are used because the extent of partisanship of a state with the ruling party can in a way be measured by the number of seats and votes obtained by the ruling party both at the national and state level elections.

3.2.2. The control variables

The control variables are introduced mainly based on previous studies on the determinant of public expenditures (Ram, 1987; Heller and Diamond, 1990, Guillaumont and Hua 2000).

The control variables include lagged value of the dependant variable, log of real per capita revenue (for equation 1), dummy variable representing year before election was held, gdp per capita, a dummy variable for states with petrol revenues, proportion of forest area, proportion of “bumiputera” of the total population, urbanization rate, and proportion of population with tertiary education.

The income variable is a proxy for Wagner’s Law according to which an increase in income will lead to an increase in spending. The possible inertia and dynamic process underlying the dependant variables is taken into consideration by including their lagged values. Besides lagged expenditures/deficits may be correlated both with current

expenditures/deficits and the political outcomes – the level of current expenditures/deficits may partly be the result of last period electoral and fiscal outcomes - and hence can be used to test the robustness of the political effect.

In order to control for the needs and the expectations of the population in terms of provision of local public goods, we include in our estimation the urbanization rate as well as the proportion of population with tertiary education. The more educated and/or urbanized the higher their needs and expectations and the higher will the state governments' expenditures will be. Therefore, these two variables should have a positive effect on the level of expenditures and eventually on the deficit level. Another implication of a higher urbanization rate however is the economies of scale that can be gained in the provision of public goods (Mueller 2003). The more urbanized the state government, the cheaper it is to provide public goods. In this case, urbanization rate should have a negative impact on the level of state governments' expenditures (and eventually on the deficit level). There is thus no consensus as to the correct sign of the relation between urbanization rate and fiscal outcomes.

The proportion of “bumiputera” (the malays and the natives of the country) is included as the muslim and native laws and customs fall under the responsibilities of the state government. Besides the proportion of bumiputera of the total population varies across states (from more than 95% in states like Kelantan and Trengganu to less than 50% in states such as Penang). States with a higher proportion of bumiputera in their population will thus incur a higher amount of spending than those with a lower proportion of bumiputera.

We also control for the size and the population of the state. It is expected that bigger and more populated state are more expensive to run thus will lead to a higher expenses by the state governments.

Finally, in order to control for specific temporal effect we also include in our estimation 3 time dummies. The first dummy is not included as we have already included in our estimation the lagged value of our dependent variable.

3.2.3. Estimation methods

As discussed above, we include in our model the lagged values of our dependant variables. Consequently, we can no longer use the usual fixed-effect model since the estimators will not be convergent as the lagged value is correlated with the error term. The potential bias is function of $1/T$ and the intra-individual estimator is convergent only in the case where T is big. Given the weak temporal dimension of our sample, the bias is potentially big. Besides, past spending decisions may influence the current political variables as well as having some influence on current spending decisions, if spending patterns are trending through time. Consequently, we will apply the generalized method of moments (GMM) as developed by Arellano and Bond (1991). This method will not only help solve the problem of serially correlated error term but also those of endogeneity. The method suggests that if the error term is serially uncorrelated, lagged values of spending and revenue, dated $t-2$ and back, can be used as valid instruments.

There are two types of GMM estimators: (1) the difference estimator and (2) the system estimator. A problem with the original Arellano-Bond estimator is that lagged levels are often poor instruments for first differences. Arellano and Bover (1995) described how, if the original equations are added to the differenced system, additional moment conditions can be brought to bear to increase efficiency. In these equations, predetermined and endogenous variables in levels are instrumented with suitable lags of their own first differences.

3.2.4. Descriptive statistics

Table 4.5 reports the statistics for the variables of interest. The first rows displays the fiscal variables; the spending per resident of the state government averages RM 214.36 overall. The average revenue per resident of the state governments is RM 215.13. The next rows report means of the political variables. The average number of cabinet member per capita is 3.83 with some states having none and some as much as 11. The parliaments' seats per capita averages 10.06 and the seats held by the ruling party 8.36. The final rows report statistics for certain economic and demographic control variables.

The average population is 1.36 million, 67% of them are bumiputera. 8.97% have a tertiary education and 40.57% live in urban area.

Table 4.5. Descriptive statistics of the variables (2003)

Variable	Mean	Std. Dev.	Min	Max
Real per cap expenditures	214.33	216.82	48.45	1421.72
Real per cap revenue	215.13	215.00	7.72	1457.90
parliament seats pc	10.06	2.44	3.78	18.33
ruling party parliament seats pc	8.36	3.57	0	17.57
cabinet member	3.83	2.44	0	11.00
GDP per capita	109.3617	59.50473	23.29815	371.1
proportion of bumiputera	67.05	19.03	32.70	98.80
tertiary education	8.97	4.22	2.00	28.30
urban rate	40.57	14.30	14.40	101.45
size	14911.39	24252.63	66.08	94333.10
population	1366.335	741.8032	217.9	3776.125

Source: Author's calculation

4. Empirical results

4.1. Effect on state governments' expenditures

We began by testing our first hypothesis by estimating the effect of overrepresentation at the parliament on the state governments' expenditure level. For that we used the number of seats allocated to each state in the Parliament per capita. Table 4.6 summarizes the results of our estimations. The table is divided into two segments – one

reporting the results when GMM difference is used (column A to C) and the other when GMM system is employed (column D to F).

As we can see from the table, when we choose the number of seats in the Parliament as our primary independent variable, the impact of overrepresentation at the parliament level on the expenditure level is not statistically significant (column A). The result suggests that a higher number of representatives per capita at the legislature will not translate into a higher spending by the state governments. We obtain the same result when the GMM system estimator is used instead (column D).

In column B and D, we use the number of members in the cabinet per capita as our primary independent variable. As we have shown in our discussion of the political environment in Malaysia, backbenchers do not have much power in the legislature as most if not all bills are initiated by the members of the executive. Furthermore, any bills that are tabled in the Parliament will necessarily be adopted and promulgated by the Parliament. As a result, states have much more to gain from federal policies when they are well or overrepresented in the executives. Besides, ministers also have the power of directing porks to their constituents without necessarily having to pass through to the Parliament. Our expectation seems to be validated by our estimation result as it shows that the coefficient for cabinet member per capita is highly significant in both the GMM system and GMM difference estimator. These estimates indicate that a higher representation in the executive leads to a higher spending by state governments.

In column C and F, we introduce both the number of members in the cabinet per capita and the number of seats in the Parliament simultaneously in our estimations. While the former continues to be positively associated with the dependant variable, the latter remains statistically non-significant. We take these results as suggestive of the fact that there are relatively few powers that are in the hand of backbenchers. Consequently, the state governments will not be getting any significant benefits if they are overrepresented at the Parliament.

As far as the control variables are concerned, only the revenue variable is found to be statistically significant across the estimations. As for the lagged value of the dependent variable, it is found to be significant only when GMM system is used.

Several tests provide evidence for the validity of the model specification. The Hansen test indicates that we cannot reject the null hypothesis of the validity of our instruments. Also, tests performed on the differenced residuals indicate the presence of first-order serial correlation but the absence of second-order serial correlation.

In order to test for the effects of ideological leaning on state governments spending behavior, we introduce in our estimations the following variables (first separately and then simultaneously): the number of seats (for each state) in the parliament won by the ruling party per capita, the percentage of state assembly seats won by the ruling party and the number of votes obtained by the ruling party. The results are reported in table 4.7. Again, we will use both the GMM difference (column A to C) and GMM system estimator (column D to F).

Regardless of the type of the estimator retained, none of these three variables are found to be statistically significant. The variables are also found to be non significant when they are introduced in the regression simultaneously. These results imply that ideological leaning does not seem to have any impact on the state governments' fiscal behavior. One possible explanation for this is the fact that the same political party has been in power in the country since independence and it has also managed to control more than 2/3rd of the seats in the Parliament and in most of the state Assembly. As a result, being in the same party as the one at the central government, does not seem to be valued that much by the latter. However based on these results, it remains unanswerable whether some states are punished or rewarded in function of the population voting pattern as the federal government has in its possession other means of affecting the state governments and their population without this being translated into the state governments' financial statements.

Table 3.6. The effects of overrepresentation in the legislative and in the executive on state governments' expenditures.

	GMM difference			GMM system		
	A	B	C	D	E	F
Political vrbls						
Seats in Parl. Pc	0.0025 (0.0432)		-0.0041 (0.0325)	0.0123 (0.0081)		-0.0022 (0.0065)
Member of cabinet pc		16.4259*** (4.7758)	16.5420*** (4.7595)		9.7423*** (2.1120)	10.5827*** (3.5703)
Economic vrbls						
Revenue	0.5516*** (0.1044)	0.5232*** (0.1259)	0.5799*** (0.1245)	0.7857*** (0.1319)	0.7072*** (0.1326)	0.7028*** (0.1151)
Lagged exp	-0.0308 (0.1284)	-0.0416 (0.1219)	-0.0479 (0.1427)	0.2362*** (0.0725)	0.2393*** (0.0686)	0.2451*** (0.0684)
GDP per capita	0.0001* (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000* (0.0000)
Sociodemo vrbls						
Malay prop	-0.0667 (0.0462)	-0.0487 (0.0472)	-0.0465 (0.04215)	0.0026 (0.0019)	0.0017** (0.0009)	0.0016 (0.0009)
Urban rate	0.0045 (0.0073)	0.0124** (0.0055)	0.0063 (0.0051)	0.0033 (0.0023)	0.0011 (0.0022)	0.0008 (0.0020)
Tertiary education	0.0213 (0.0256)	0.0041 (0.0157)	0.0208 (0.0173)	-0.0062 (0.0109)	0.0005 (0.0087)	-0.0007 (0.0105)
Size	(0.8786) (0.6939)	0.6279 (0.5477)	0.6204 (0.5512)	0.0161 (0.0234)	-0.0018 (0.0215)	-0.0057 (0.0235)
Population	-0.1098 (0.5978)	-0.6822 (0.5822)	-0.6742 (0.5824)	-0.1409 (0.0858)	0.0915 (0.0446)	0.1257 (0.0982)
Constant				0.2341 (0.3376)	0.1997 (0.1535)	0.2509 (0.2663)
Hansen p- value	0.306	0.267	0.275	0.862	0.573	0.719
1 st order AC (prob)	-2.67 (0.008)	-2.99 (0.003)	-2.74 (0.006)	-2.78 (0.0050)	-2.51 (0.012)	-2.43 (0.015)
2 nd order AC (prob)	1.12 (0.261)	-1.40 (0.163)	-1.41 (0.159)	1.12 (0.261)	-0.81 (0.415)	-0.89 (0.371)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 4.7. The effects of ideological leanings on state governments' expenditures

	GMM diff				GMM System			
	A	B	C	D	E	F	G	H
Political vrbls								
seats cntrl by BN pc	-13.6982 (21.6193)			7.6167 (11.6810)	2.7178 (8.9447)			-1.6429 (10.4436)
Votes obt by BN		-0.0041 (0.0088)		-0.0009 (0.0059)		-0.0004 (0.0029)		0.0017 (0.0028)
States seats BN			0.0237 (0.0286)	0.0303* (0.0147)			0.0009 (0.0066)	-0.0033 (0.0058)
Economic vrbls								
Revenue	0.5593*** (0.1685)	0.5215*** (0.1533)	0.4473** (0.1800)	0.4449** (0.1650)	0.7929*** (0.1023)	0.8323*** (0.1252)	0.7372*** (0.0849)	0.7653*** (0.1261)
Lagged exp	-0.0694 (0.1469)	-0.1079 (0.2095)	0.0116 (0.1104)	-0.0858 (0.1934)	0.2369*** (0.0589)	0.2533*** (0.0679)	0.2129** (0.0742)	0.2038** (0.0841)
GDP per capita	0.0001 (0.0000)	0.0002*** (0.00003)	0.0013*** (0.00003)	0.0001*** (0.00003)	0.00003 (0.00002)	0.00004* (0.00002)	0.00003 (0.00002)	0.00003 (0.00002)
Sociodemo vrbls								
Malay prop	-0.0608 (0.0424)	-0.0743 (0.0469)	- - .0761834** .0332936	-0.0898* (0.0472)	0.0026** (0.0019)	0.0035** (0.0012)	0.0023** (0.0007)	0.0026*** (0.0006)
Urban rate	0.0123 (0.0081)	0.0095* (0.0044)	0.0088* (0.0048)	0.0061 (0.0071)	0.0033 (0.0025)	0.0047 (0.0031)	0.0033* (0.0017)	0.0027 (0.0030)
Tertiary education	-0.0008 (0.0219)	0.0074 (0.0167)	0.0025 (0.0169)	0.0085 (0.0187)	-0.0062 (0.0109)	-0.0104 (0.0096)	-0.0059 (0.0074)	-.0062 (0.0126)
Forest Area	0.7859 (0.8188)	0.8489 (0.6985)	1.3501 (0.8504)	1.0335 (0.7314)	0.0067 (0.0273)	-0.0047 (0.0164)	0.0070 (0.0129)	0.0144 (0.0234)
Constant	0.3166 (0.9833)	-0.1306 (0.7870)	0.4030 (0.7724)	0.2507 (0.7194)	-0.0257 (0.0309)	-0.0119 (0.0314)	-0.0977 (0.0770)	-0.0756 (0.0741)
					0.2471 (0.2445)	0.3823 (0.4078)	0.1869 (0.4122)	0.2754 (0.5793)
Hansen p- value	0.434	0.128	0.266	0.982	0.672	0.551	0.991	1.000
1 st order AC (prob)	-2.76 (0.006)	-2.66 (0.008)	-2.28 (0.022)	-2.52 (0.012)	-2.81 (0.005)	-2.61 (0.009)	-2.29 (0.022)	-2.28 (0.022)
2 nd order AC (prob)	0.08 (0.938)	0.64 (0.520)	0.76 (0.445)	-0.09 (0.927)	-0.14 (0.889)	0.11 (0.910)	-0.21 (0.837)	-0.58 (0.560)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

4.2. Effects on state governments' deficits

We will now turn our attention on the effects of political variables on the deficit level of the state governments. Our regression will be as follows

$$Deficit_{it} = \lambda.Politics_{it} + \delta.X_{it} + n_{it}$$

where $Deficit_{it}$ are the deficit level of the state governments. Our variable of interest is $Politics_{it}$ which represents various political institutions susceptible of influencing the state government's spending. The vector X_{it} represents various control variables which we believe are determinant in explaining the fiscal behavior of state governments in Malaysia.. e_{it} and n_{it} represent the disturbance terms of our model. We retain the same variables as the one in the expenditure model except for the revenue variable which we replace with expenditure. This is due to the fact that to a certain extent it is the decisions made on the expenditure post that will determine the level of deficit.

Table 4.8 summarizes the estimation results when we use as our dependant variable the deficit level of the state government instead of the expenditure level. We did the same number of estimations as we did before and we found practically the same results as in our previous estimation. Again, the results indicate that overrepresentation at the executive is positively correlated with the state governments' deficit level. States that are highly represented in the cabinet will have higher deficits. Our results also show that there is no significant correlation between the number of representative at the Parliament per capita with the state governments' deficit level.

As to the question whether states governments have more deficit when they share the same ideological belongings as the federal governments, we test for this by including in our estimations the variable representing the percentage of votes obtained by the ruling coalition and the one representing the percentage of Parliament and State Assembly seats won by the opposition. The results are reported in table 4.9. In all estimations, the results show that there is no statistically significant relation between these variables and the level of deficit of the state governments This signifies that state government fiscal outcomes

are not dependant on whether their population voted heavily for the ruling coalition or not.

The results of our estimations exercise point to the conclusion that what matters the most for the states in order to obtain extra resources from the federal government is to be well represented at the executive level of the government. Being overrepresented at the legislative does not seem to be of any importance given the non-significant impact that it has on the state governments' fiscal outcomes. This can be explained by the minimal roles actually played by the Member of Parliament in the country's decision-making process.

On the other hand, it remains to be answered as to how do these extra expenditures and deficits of the state governments which are overrepresented in the executive are financed? The analysis above only tells us that overrepresentation at the executive level has changed the incentives facing the state governments in making their spending decisions. Thus, it will be interesting to examine whether the increase in the state governments' expenditures have been financed by a real increase in their resources or simply by a change in their perception of the probability⁵³ of being bailout by the federal governments. It turns out that for obvious reasons we cannot examine all the channels indirect or direct through which resources can be transferred from the central to subnational level. We will thus limit ourselves to the ones that we believe as relatively important especially in terms of the amount of money involved namely

- federal grants and transfers
- federal loans
- federal sponsored development projects⁵⁴

⁵³ It is plausible to conceive a situation where no extra resources at all have been channeled to the state governments. This is notably the case when a minister from a particular state has stood up with success for the cause of his constituent when the latter is in a conflictual situation with the rest of the country. This will then give the impression to the state government that its cause is well defended at the federal level. And this will in some cases lead the state government to be less fiscally responsible as they believe that in case of a problem, the central government will not hesitate to help.

⁵⁴ The link between an increase of development allocation received by states to an increase in their expenditures and eventually their level of deficits may not seem as obvious as the one between federal transfers and loans and the state governments' fiscal outcomes. We can argue however that by having more federal sponsored development projects, state government will be able to decrease its own development expenditures and using this extra money on other posts of expenditures that may otherwise be

Before proceeding to empirical estimations, we will first analyze to what extent are these three variables subject to political manipulation by examining the way decisions are made concerning their allocation across states.

4.3. The financing of the extra resources

4.3.1. Distribution of federal development projects

The Constitution stated that the decision concerning the distribution of federal development projects will be made after a recommendation from an expert committee and after consultation with the National Finance Council, The National Land Council⁵⁵ and the Government of any State concerned. It is generally accepted that the main aims of these development projects is to ensure a more equitable development across the country and to reduce inter-regional welfare differences between states. Besides, given the limited financial capacity of the state governments, it seems natural for the federal government to assume the financing of the majority of development projects. To date, Malaysia have had nine five-year development plans since 1966 (the latest plan was introduced on March 2006).

If we look at the allocation of the 3 latest plans (the 7th, 8th and 9th plans), we can see that there has been a steady increase in the share of funds allocated to the less developed states (LDS) from 25.8% of the total fund during the 7th Plan to 30.5% during the 9th Plan. At the same time, there has also been a steady increase in the share of funds to the most developed states (MDS) from 33.4% of the total fund during the 7th plan to 40% for the 9th plan. The increase of the share going to the LDS and MDS is due to the decrease of allocations for multi-states developments projects.

cancelled due to lack of funds. It can also be argued that some development projects may require some financial participation by the state governments, expenditures that may have not existed if there have been no projects. Besides, since development projects' main objective is to develop the states, we can expect that in the future some financial benefits can be reaped by the state governments notably in the form of higher taxes. And it is in expectation of this future increase of incomes that state governments increase their current expenditures.

⁵⁵ The National Finance Council is chaired by the Prime Minister (or other Ministers as designated by the Prime Minister) and comprises of one representative from each of the States, appointed by the Ruler or Yang di- Pertua Negeri. The National Land Council consists of a Minister as chairman, one representative from each of the States, who shall be appointed by the Ruler of Yang di- Pertua Negeri, and representatives of the Federal Government that shall not exceed 10.

Table 4.8. The effects of overrepresentation in the legislative and in the executive on state governments' deficit level

	GMM difference			GMM system		
	A	B	C	D	E	F
Political vrbis						
Seats in Parl. Pc	37.4858 (37.9239)		25.7361 (12.2457)	-6.3037 (11.7372)		6.3977 (8.1211)
Member of cabinet pc		6.9878*** (.7442)	5.9182*** (.6721)		5.1972** (1.5605)	5.0429*** (1.9038)
Economic vrbis						
	0.4329 (0.3127)	0.0213 (0.1791)		0.1735 (0.1337)	0.1648 (0.1207)	0.1502 (0.1160)
Expenditure	0.1363 (0.0614)	0.1212 (0.0493)	0.0081 (0.0599)	-0.0201 (0.0491)	0.0291 (0.0596)	-0.0311 (0.0510)
GDP per capita	-0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)
Sociodemo vrbis						
Malay prop	-0.0104 (0.0176)	-0.0079 (0.0148)	-0.0131 (0.0116)	0.0009 (0.0006)	-0.0003 (0.0007)	0.0009 (0.0007)
Urban rate	-0.0061 (0.0048)	-0.0041 (0.0035)	-0.0064 (0.0035)	0.0024 (0.0023)	0.0001 (0.0031)	0.0014 (0.0023)
Tertiary education	0.0300 (0.0198)	0.0213 (0.0104)	0.0262 (0.0174)	-0.0083 (0.0118)	0.0074 (0.0145)	-0.0076 (0.0117)
Forest Area	0.2794 (0.6721)	0.0071 (0.0149)	0.2583 (0.5008)	0.0222 (0.0180)	0.0071 (0.0149)	-0.0062 (0.0149)
Constant	0.9434 (0.6678)	0.0589 (0.0448)	-0.0140 (0.2521)	-0.0012 (0.0093)	0.0589 (0.0448)	0.0826 (0.0632)
				0.1275 (0.2715)	-0.0535 (0.2079)	0.2694 (0.2711)
Hansen p-value	0.830	0.716	0.978	0.971	0.998	1.000
1 st order AC (prob)	-0.26 (0.792)	-0.45 (0.650)	-0.59 (0.558)	-1.34 (0.181)	-0.80 (0.424)	-0.73 (0.468)
2 nd order AC (prob)	-0.85 (0.394)	-0.98 (0.328)	-1.13 (0.260)	-0.79 (0.430)	-1.13 (0.257)	-1.10 (0.271)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 4.9. The effects of ideological leanings on state governments' deficit level

	GMM difference				GMM System			
	A	B	C	D	E	F	G	H
Political vrbls								
Seats cntrl by BN pc	-15.4048 (10.6279)			-2.8662 (14.4705)	6.4201 (6.7070)			1.2323 (6.6363)
Votes obt by BN		-0.0192 (0.0256)		0.0028 (0.0047)		0.0019 (0.0021)		0.0009 (0.0016)
States seats BN			0.0158 (0.0362)	0.0191 (0.0149)			-0.0061* (0.0032)	-0.0029 (0.0036)
Socio-economic vrbls								
Lag def	-0.0579 (0.1300)	0.1549 (0.1570)	0.1669 (0.1596)	0.0651 (0.1800)	0.2728 (0.1003)	0.2498 (0.0806)	1.9199 (3.1201)	0.1927 (0.1888)
Expenditure	0.1096 (0.0568)	0.2232 (0.1137)	-0.0131 (0.0794)	0.0062 (0.0590)	-0.0041 (0.0531)	-0.0075 (0.0486)	-0.0423 (0.0584)	-0.0287 (0.0511)
GDP per capita	-0.0000 (0.0000)	-0.0001 (0.0001)	0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Malay prop	0.0261 (0.0248)	0.0643 (0.0664)	-0.0445 (0.0474)	-0.0065 (0.0271)	0.0006 (0.0005)	0.0010 (0.0008)	0.0007 (0.0008)	0.0009 (0.0009)
Urban rate	0.0013 (0.0042)	0.0033 (0.0125)	-0.0039 (0.0056)	-0.0019 (0.0045)	0.0015 (0.0027)	0.0016 (0.0023)	0.0014 (0.0032)	0.0014 (0.0029)
Tertiary education	0.0116 (0.0176)	0.0169 (0.0324)	0.0031 (0.0174)	0.0190 (0.0152)	-0.0009 (0.0127)	-0.0027 (0.0107)	-0.0059 (0.0143)	-0.0034 (0.0134)
Size	0.7578 (0.5357)	0.8741 (0.5600)	0.8776 (0.6406)	0.8450 (0.7602)	0.0412 (0.0310)	0.0361 (0.0286)	0.0240 (0.0165)	0.0378 (0.0278)
Population	-0.1304 (0.3388)	-0.1749 (0.2675)	-0.1066 (0.3003)	-0.2266 (0.6019)	-0.0315 (0.0552)	-0.0324 (0.0540)	0.0306 (0.0946)	0.0306 (0.1210)
Constant					-0.0306 (0.1933)	0.4764 (0.5315)	0.3273 (0.2058)	0.1129 (0.2476)
Hansen p-value	0.145	0.176	0.625	0.466	0.465	0.919	0.764	1.000
1 st order AC (prob)	-1.25 (0.212)	-0.86 (0.388)	-1.05 (0.294)	-1.20 (0.230)	-1.00 (0.318)	-0.94 (0.349)	-1.06 (0.291)	-1.06 (0.289)
2 nd order AC (prob)	-0.54 (0.587)	-0.09 (0.926)	-0.50 (0.618)	-0.84 (0.402)	-0.84 (0.402)	-0.78 (0.437)	-1.01 (0.312)	-0.98 (0.326)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

It is also worth notifying that the MDS continue to see more funds both relatively and absolutely allocated to them. This trend somehow betrays the main aims of the development projects. Nevertheless it can be understood given the strategic roles played by the most developed states in attracting foreign investments which are essential for the economic growth of the country as a whole. Indeed, most of the industrial estates are located within these states and the development projects were mostly destined to further enhance the existing infrastructure in these two countries such as transports related construction or commercial and industrial development projects in order to attract more foreign investors to the country. Besides, most of the development projects under these plans are economic in nature rather than social which partly explain why the MDS continued to benefit a large part of it. The country may have no choice but to tolerate some imbalances between the states in order to bring more growth to the economy. The government may believe that by enhancing the existing capacities and infrastructures in certain states to the detriment of other states, the country as a whole will benefit from a higher growth including the states which have been to a certain extent “left out”.

As to the question whether any political influences may come into play when it comes to decide on the regional distribution of these projects, anecdotal evidences show that certain states have benefited from special treatment as far as federal development projects are concerned, due mainly to the fact that a representative of the states in question is holding a key position in the government.

For instance, during Mahathir Mohamed tenure as the Prime Minister of the country, several development projects have been brought into his state of origin, Kedah. A 1061 hectare university campus costing more than RM 500 million was constructed in the northern part of the State. Several industrial estates were opened, notably the Kulim Hi-Tech Park which is the first high technology of the country. Some key heavy industries such as the national motorcycle manufacturer (MODENAS), the national oil company (PETRONAS) and the steel company (PERWAJA STEEL) have located one of their plants in the state industrial estates. Various projects have been launched in order to turn Langkawi Island as a primary tourist destination of the country. Indeed, one might argue that these projects have been brought into the state which is one of the least

developed states as part of the central government policy in reducing imbalances between states. However, it is hard to justify the concentrations of these projects within a single state to the detriment of other states which are of the same (or lower) level of development.

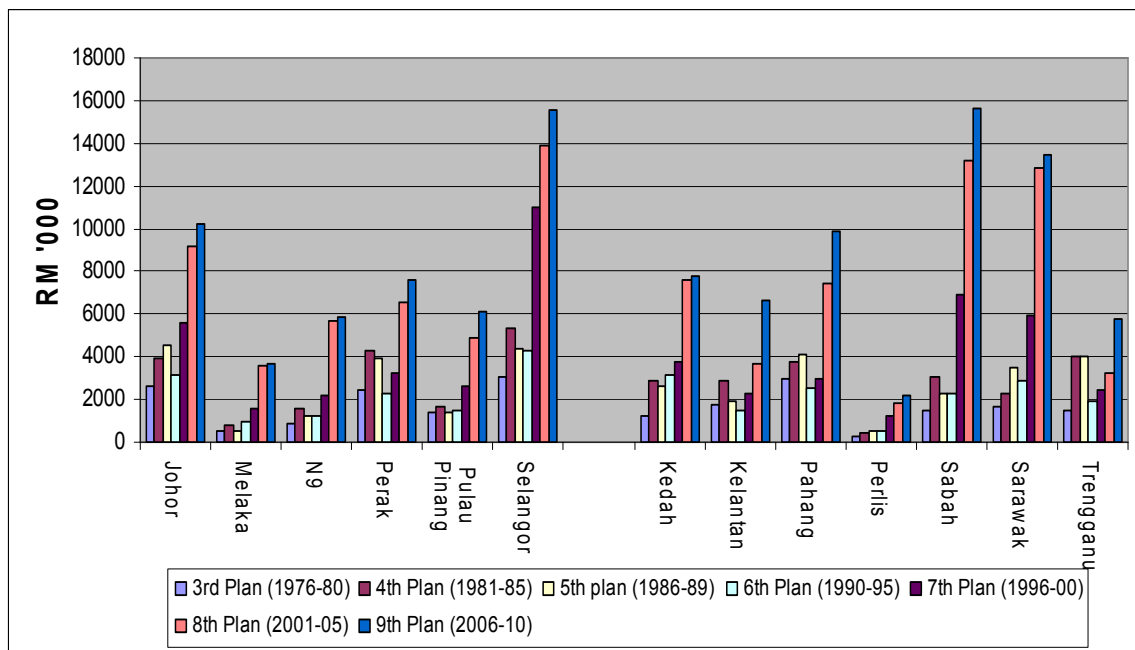
Other anecdotal evidences of the links between political representation and distribution of federal projects includes the proposition of a construction of second bridge linking the Penang Island to the mainland as well as a system of light rail transport in the state of Penang several months after the appointment of one of its MP as the new Prime Minister and the implantation of an important automobile industry in the district of Pekan, Pahang whose MP is the son of a former Prime Minister and a prominent member of the cabinet.

In addition to the apparent influences of state representatives, the distribution of federal development projects has also been used as a political tool by the federal government in marginalizing states controlled by the opposition. M. Agus (2006) analyzes the implications of the state's political relations with the federal government for development performance of the latter. According to the author, the federal government tends to reward its supporters and punish its challengers at state level by intervening in state politics through the creation of pro-federal political groups. Although these are government bodies such as the NFS and other expert commissions that are supposed to play an active role in determining the financial allocations to the states, in the end it is clear that it is the politicians who have the final say.

The case of Kelantan which at present is the sole state under the control of an opposition party provides an excellent example of how political partisanship may determine the amount of funds that a state will receive. During the period 1978-1990, when Kelantan was under the rule of BN, a large amount of money was allocated for the development of the state. Under the 4th Malaysia Plan, a sum of RM2847.75 million was allocated for the state which is an increase of 180 percent over the amount allocated during the previous plan. However, when the opposition returned to power in 1990, the allocation that the state received for the 6th Malaysia Plan was only RM2064 million

which is an increase of only 6.8% over the allocation of RM1933 million of the 5th Malaysia Plan – the second lowest increase among the states. Figures 4.2 and 4.3 further support our claims. As we can see from these two figures, the state of Kelantan has always been the one who received the least allocations from the federal government. It is only during the 9th plan that the state has seen its share augmented. This is due in particular to the success of the government in recapturing several states and federal seats during the 2003 election⁵⁶. The increase in the federal development funds during the 9th plan can thus be seen as a way for the government to reward the voters with a hope of recapturing the state as a whole by the next election.

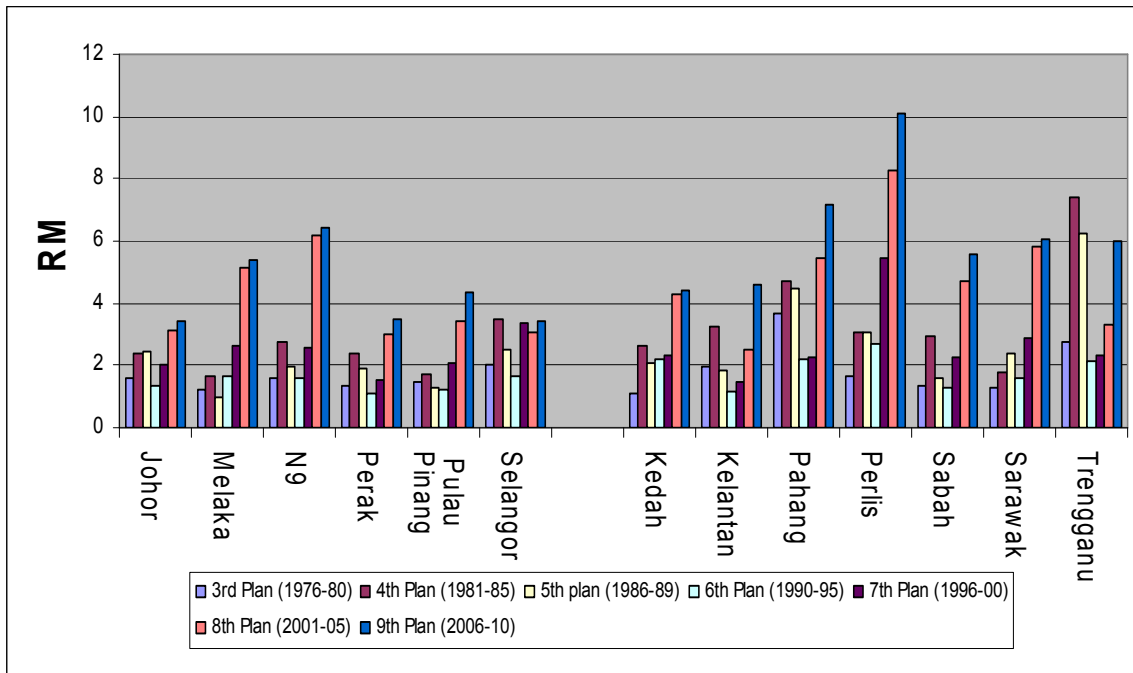
Figure 4.2. Malaysia Development Plan allocations by states



Source: Various Malaysian Plan documents, Economic Planning Unit

⁵⁶ The opposition now controls only 22 out of 43 seats at the state legislative assembly.

Figure 4.3. Malaysia Development Plan allocations per capita by states



Source: Various Malaysian Plan documents, Economic Planning Unit

In short, we can see that political considerations are not totally absent in the determination of federal development projects allocation across states in Malaysia. Having a good representative at the central level and sharing the same ideology as the central government do matter for the states in order for them to have a fair share of the development projects. However, it remains to be proven whether such a practice will persist in the future notably as the economy becomes more developed and as the government becomes more transparent in its activities thus more accountable to the population.

4.3.2. Allocation of federal grants

The allocation of grants to state governments is also ruled by the Constitution which provided an enumeration of the types of federal grants that state governments are entitled to. There are actually three general forms of federal grants in Malaysia

1. tax sharing grants

2. general purpose grants which comprise of
 - capitation grants
 - revenue growth grants
 - special grants
 - state reserve fund grants
 - yearly grants to local government
3. specific purpose grants which comprise of
 - state road grants
 - development grants
 - service charge grants
 - cost reimbursement grants
 - grants to religious schools and institutions

As the grants are specified in the Constitution, one might think that there will be little room for manipulation by the member of cabinet. The allocations of the grants should thus be based on objectives considerations that have been agreed upon during its formulation in the Constitution.

However, it is important to note that for most of these grants, the Constitution has not specified the amount or the formula that will be used to calculate the amount that will be accorded to each state. And even in the case where it is specified, the Parliament still has the power to vary the rate from time to time. The Parliament thus has a high level of discretion in the determination of the amount of federal grants to state governments.

Again anecdotal evidences support the view that intergovernmental grants have been widely used by the federal government for political purposes. For example, in 1999, when the oil rich state of Trengganu fell into the hands of the opposition, it has seen its oils royalty being stopped by the federal government⁵⁷. And the share of grants accorded

⁵⁷ Petronas (the national oil company) has been directed by the Federal government to stop paying petroleum royalties to the Terengganu State Government. The Federal Government has diverted the oil royalties to a discretionary fund for expenditure in the State under Federal Government and federal ruling coalition control.²³ The Federal Government took RM521,863,062 as special payment from Petronas for

to the state of Kelantan is far from attaining the amount that it should theoretically receive given its level of development. The federal government has also delayed the payment of constitutional and other discretionary grants to Kelantan. For example, by the end of 1994, the central government had yet to pay the state the constitutionally stipulated grants of RM93.85 million for the financial year 1993.

Table 4.10. Federal governments grants by state – 1964-1990 (RM Million)

State	1964- 70	1971- 80	1981- 90	1991- 96
Johor	80.77	182.37	350.04	423.46
Kedah	75.79	157.74	439.38	353.56
Kelantan	50.48	110.86	256.60	227.07
Melaka	34.36	72.31	128.45	85.23
N.Sembilan	42.38	99.21	199.87	101.13
Pahang	52.54	136.50	539.69	189.93
Perak	137.24	282.72	221.38	265.66
Perlis	8.31	20.12	40.24	59.55
Penang	42.86	44.84	67.26	134.52
Sabah	267.20	421.11	885.78	585.23
Sarawak	312.00	525	1098.31	746.79
Selangor	11,753,216.00	840.42	3005.25	3305.78
Trengganu	11,643,013.00	106.82	246.65	214.01

Sources: Various State Governments' Financial Statements

However it is interesting to note that as compared to federal development projects, state representatives seem to be less interested in trying to bring in more grants

the people of Terengganu, which was credited into the trustee account of the special fund under Section 9 of the Financial Procedures Act 1957.

to their states of origin. This may be due to the fact that most of the grants are formula-based and even though they have the possibility to change it, they will need a very strong reason to do so. Besides as these grants go directly to the states coffer and do not benefit the population directly, there is little motivation for them to manipulate them. It also explains why it is mainly used by the federal government as a tool of dissuasion against the opposition and indirectly those who vote for them as it can have quite a huge impact on the finance of state governments in particular those who are highly dependant on them.

4.3.3. Access to federal loans

The borrowing activities of the state governments are heavily regulated by Article 111(2) of the Constitution which stipulated that all borrowing by the state governments requires the approval of the Federal government. This has mainly resulted in Federal government being the major if not the only source of financing for the state governments.

Nevertheless, there is yet any study that examine whether federal loans have been used by the executive as a mean of channeling resources to their constituents. Nevertheless, we believe that state governments are not equal in terms of their access to federal loans especially the ones who are under the control of the opposition. Again the case of Kelantan provides us with a good example of how Federal loans have been used by the central government for political purposes.

In 1969, in an attempt to discredit the PAS government, the central government used the issue of the Kelantan government's plan to mortgage timber land to a Chinese company and charged that the state government had acted unconstitutionally in borrowing money without its approval. The state was brought to court but the Lord President rejected the federal government's claim. In 1978, when the PAS lost to BN, the state's debt stood at RM74 million. But, in December 1990, after twelve years of rule, the state government's debts have increased to RM711.67 millions, including RM10 million in annual interest payments alone. In 1995, the federal government froze a loan of RM2.7 million to construct low-cost housing which was badly needed in the state.

However it remains to be answered whether the members of cabinet play any significant role in the approval and allocations of federal loans.

4.3.4. Estimation results

Our empirical specification will be as follows

$$\begin{aligned}
 DA_{i,t} &= \alpha_1.Cabinet_{it} + \beta_1 X_{it} + e_{it} \\
 Debt_{i,t} &= \alpha_2.Cabinet_{it} + \beta_2 X_{it} + e_{it} \\
 Grant_{i,t} &= \alpha_3.Cabinet_{it} + \beta_3 X_{it} + e_{it}
 \end{aligned}
 \tag{eq. 2}$$

Where DA_{it} represents the development allocation received by each state government from the federal government, $Debt_{it}$ the amount of loans disbursed by the federal government to the state governments and $Grant_{it}$ the amount of grants received by the state government per capita. $Cabinet$ represents the number of state representative per capita at the executive levele.

X_{it} is the control variables. For our first equation, we control for the GDP since wealthier state should receive less development allocation, the unemployment rate as development allocation should be channeled to state with poverty and unemployment problems and urbanization rate as federal government may want to develop states which are less urbanized.

For our second equation, we control for GDP as wealthier state should be less dependant on federal loans, development expenditures and real deficit since states governments usually use federal loans to finance development expenditures as well as their deficits, outstanding debt as the amount of loans accorded may depend on the amount of loans already contracted by the state governments and loans repayment as the federal government may look at the loans repayment history of the state government before disbursing the loans.

Finally for our third equation, we will control for the total population as the capitation grant which is one of the biggest grants is based on the number of population,

the deficit level as state governments may obtain special grants when they are faced with financial problems,

In deciding between the fixed effect and random effect models, we used the Hausman test. The latter points to different results according to the dependent variable retained. In the case of the development allocation and the federal loans, the test seems to point to the superiority of the random effect models. On the other hand, the test appears to privilege the use of fixed effect model when the federal grant is used as the dependent variable. We will thus use the random effect method in modeling the development allocation and the federal loans while the fixed effect model will be employed in estimating the effect of political variables on the federal grants allocation.

Table 4.11 summarizes the results of our estimation. The estimated parameters show that overrepresentation at the executive level does not appear to have an effect on our dependent variables. The development allocation, the federal transfers and the federal loans do not seem to be distributed according the level of representation of each state in the executive. The results imply that as far as these three variables are concerned, the state governments which have relatively more representatives in the cabinet do not receive any special treatment from the federal government. Nevertheless, since we do not take into account other types of federal-state fund transfers due particularly to data availability, we cannot totally preclude the possibility of overrepresented state receiving extra resources from the federal government. For instance, more private investments projects may be allocated to these states thus creating more jobs to the local population which eventually will lead to more revenues to the states. The resource transfer can also take place through extra-budgetary transactions notably through the state-owned companies. It is possible that the state governments have been able to extract greater resources from the federal fund that transited through these companies by using their representatives in the cabinet.

Also, as argued earlier, even though the state governments do not receive any extra resource from the federal government, their perception of the possibility of being bailout by the latter may change due to the fact that they are overrepresented at the

cabinet. This in turn will lead them to be less prudent in their spending behavior that will eventually lead to higher deficit.

Table 4.11. The financing of the extra spending

	Development Allocation	Federal transfers	Federal loans
Member of cabinet pc	-1.2261 (13.5174)	0.5573 (0.9461)	3.2600 (2.1241)
GDP per capita	-0.0003*** (0.0001)	0.0000 (0.0000)	0.0000 (0.0000)
Urban rate	0.0589** (0.0171)		
Unemployment	-0.0776* (0.0899)		
Population		-0.0838** (0.0194)	
Deficit		0.0064 (0.0370)	-0.0568 (0.1302)
Current debt			0.0009*** (0.0003)
Loan payment			-0.0008** (0.0003)
Expenditure			0.168 (0.0225)
Constant	1.4535 (0.9391)	0.6353** (0.1337)	0.1631 (0.1080)
No of observ	65	65	65
No of states	13	13	13
R2	0.3280	0.2998	0.3016

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Conclusion

Our main objective in this chapter is to examine whether state governments' fiscal behavior in Malaysia can be explained by political and institutional factors. More precisely, we try to analyze whether states governments that are highly represented at the legislative and the executive are more likely to have higher expenditures. We also try to analyze the effects of partisanship on the state governments' expenditures.

Our estimations results show that states that are overrepresented at the executive level tend to have higher spending and deficits. However, we don't find any correlation between overrepresentation at the Parliament and states governments' fiscal outcomes. This can be explained by the fact that in Malaysia as is frequently the case in developing nations, the legislature is peripheral to the executive in terms of decision making power. Indeed, not only that the cabinet members initiated all of the bills tabled in the Parliament, they usually have no problem in pushing through their proposals.

Our results also show that ideological belonging does not have any impact on the state governments' level of expenditures and deficits. We do not find any significant correlation between the level of support won by the ruling party in state elections and the level of the state governments' expenditures and deficits. However, these results cannot be interpreted as a proof that no states have been victimized because of their support for the opposition since anecdotal evidences clearly show to the contrary. Rather, we believe that since in our period of study the practice of discrimination have been limited to at most two states at a time, it may not be significant enough to be captured by our empirical analysis.

Our study also looks into the questions of the mechanisms which are used by the state governments in order to finance their extra expenditures and deficits. For that we examine the correlation between three types of federal-state transfers and overrepresentation at the executive level. These three variables are chosen due in particular to the fact that they constitute the major mechanisms through which funds may be transferred from the federal to the state levels. Our results however found that the

amount of federal development allocations, federal grants and federal loans are not significantly correlated with the number of cabinet member per capita by states. This signifies that the higher expenditures and deficits of the state governments that are overrepresented in the executive are not financed by these three variables. Nevertheless, since there may exist other types of transfers, we cannot totally preclude the possibility of the overrepresented states being given special treatment by the federal government. Furthermore, it is possible to conceive a situation where a change in the perception of these states has taken place that may lead them to spend more and eventually have more deficits.

The policy implication of this study is that any formal rules that may be introduced by the government in order to regulate fiscal relations in federations will not have a substantial impact on subnational governments' fiscal outcomes if political incentives allow and encourage circumventing these rules. One potential avenue of future investigation is to further explore the role of political institutions and electoral rules. This may provide insight into whether these institutions can be changed to provide better incentives for fiscal prudence, or how other institutional rules can be designed to be impervious to political manipulations.

**CHAPTER 5. INTERGOVERNMENTAL TRANSFERS AND THE
FISCAL BEHAVIOR OF MALAYSIAN STATE GOVERNMENTS.**

Introduction

Intergovernmental transfers are an essential part of any decentralization process. However, the latter may also have some detrimental effects on the behavior of subnational governments. For example, the incentives of subnational governments to manage or to improve their fiscal performance may be affected by the amount of transfers that they receive from the federal government.

Lately, some of the state governments in Malaysia have been identified as having serious difficulty in meeting their financial needs to the extent of being qualified as at the verge of bankruptcy. In this chapter we will try to relate the financial difficulties currently faced by the state governments to their behavior in respect with the intergovernmental grants that they receive from the federal governments. More precisely, there are two hypotheses that we attempt to test here. Firstly, federal transfers may stimulate more spending by state governments leading them to increase their spending beyond their means. Secondly, the financial problem may be the consequence of the state governments' incapacity of using their tax capacity to the fullest which in turn, may be explained by the disincentives effects that are embedded – whether intended or not – within the transfer system. It is thus the aim of this chapter to examine the structure of the intergovernmental transfer in Malaysia in order to gauge its impact on the fiscal behavior of the state governments.

Even though the level of dependency of the state governments in Malaysia on federal transfers can be considered relatively low as it stood at less than 30% of their total revenue, this cannot be interpreted as a sign that the country is free from problems usually associated with countries which are highly dependant on federal transfers (see for example Rodden 2005). According to Bird (1998), it doesn't matter whether the transfer constitute 90 or 10% of the subnational governments' revenue but what is important is whether the transfer system is properly designed in the sense that it makes the subnational governments accountable of their actions both to the citizens and to the federal governments. In our case, we are concerned with the issue of whether the transfer system

in Malaysia is designed in such a way that it renders the state governments to be less efficient in their fiscal behavior.

To our knowledge, our work is the first attempt in analyzing the impact of federal transfers on fiscal behavior within the Malaysian context. Not only that studies on federal transfers in Malaysia have been relatively scant, they were mainly channeled towards examining the pattern of their distribution across states⁵⁸. There were also a number of studies that analyzed the importance of political factors in the determination of the amounts of federal transfers obtained by each state government⁵⁹.

The chapter is organized as follows. In the first section, we will briefly review the typology of federal transfers as well as the economic justification behind them. Studies on the impact of intergovernmental on subnational governments will be reviewed in the second section. In the third section we will examine the Malaysian intergovernmental transfer system. Our empirical methodology will be presented in section four and the results will be analyzed in section five. Finally, section six concludes.

1. Typology of federal grants

Intergovernmental grants can take on many forms but in general they can be grouped into 3 different categories.

1. general revenue grants. In this case, the higher level of government transfers a fixed amount of money to a lower level of government without any effective restrictions. The transfers supplement the revenue of the subnational government without committing them to any specific expenditure.
2. specific purpose non-matching grants. The higher level of government transfers a limited amount of money to be used for a specific program.

⁵⁸ See Noh (1999), Wilson (1996).

⁵⁹ See Jomo and Wee (2002), Agus (2006).

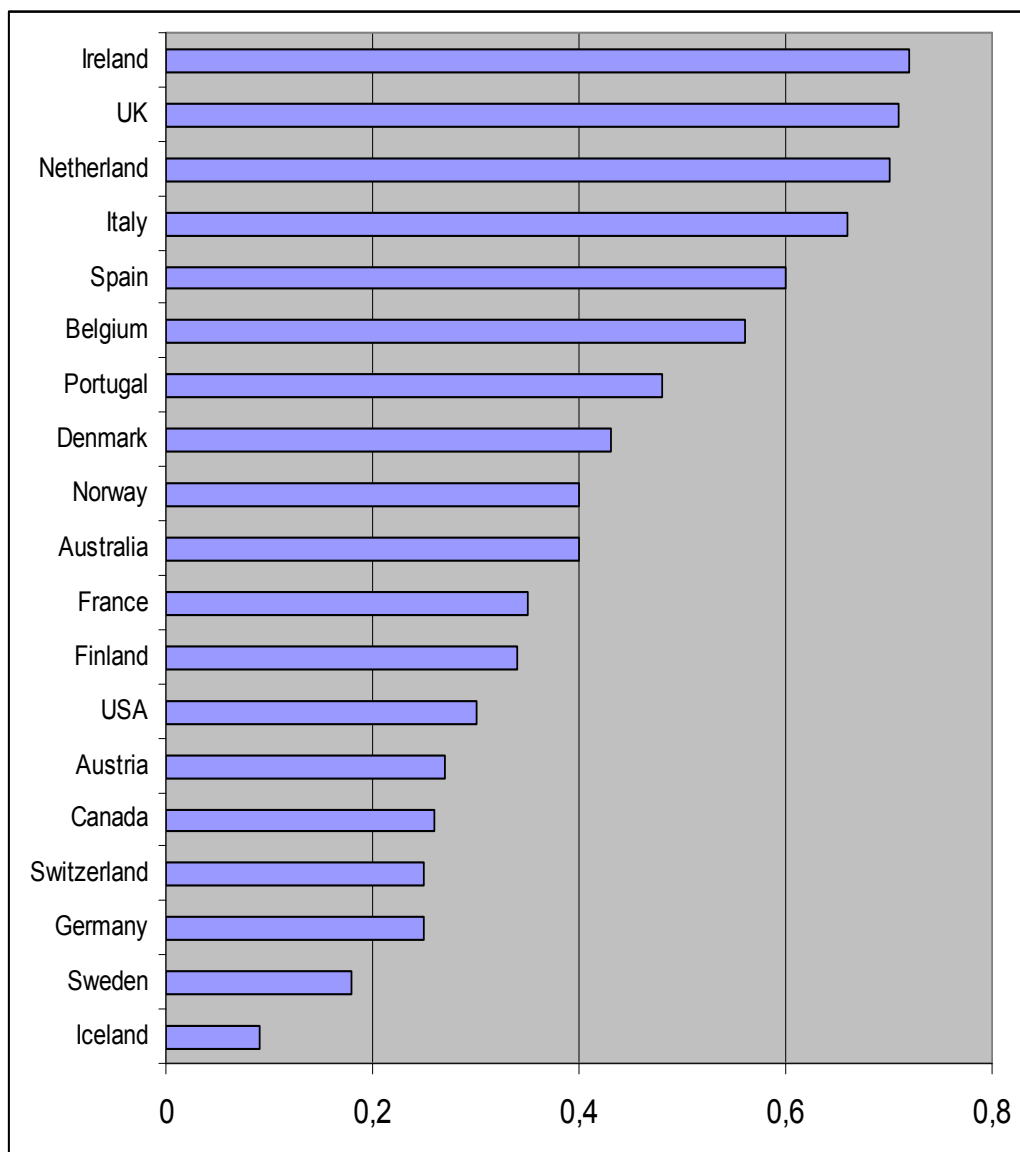
3. matching grants. The higher level of government pays some portion of the cost of certain subnational government expenditures.

Figure 5.1 and 5.2 below summarize the importance of intergovernmental transfers on the subnational government finance for the developed and developing countries respectively. The two figures show the proportion of intergovernmental transfers in the total revenue of subnational governments throughout the 1990s. A quick glance at the two figures shows that there is no direct relation between the level of development of a country and its level of dependency on intergovernmental grants. Both groups have their fair share of countries who are either heavily dependant on or relatively independent of federal transfers. Whether this may mean that economic growth is not dependent on the dependence on federal transfers is however another question.

In Figure 5.1, we can see that intergovernmental grants constitute on average more than 60% of the total subnational government revenue in Ireland, the United Kingdom, the Netherlands and Italy. Meanwhile, the ratio is less than 20% for Sweden and Iceland which are the two countries among the developed countries who are the least dependent on federal transfers. We could also see that most of the countries in this group are situated in the 20 to 40 % level of dependency.

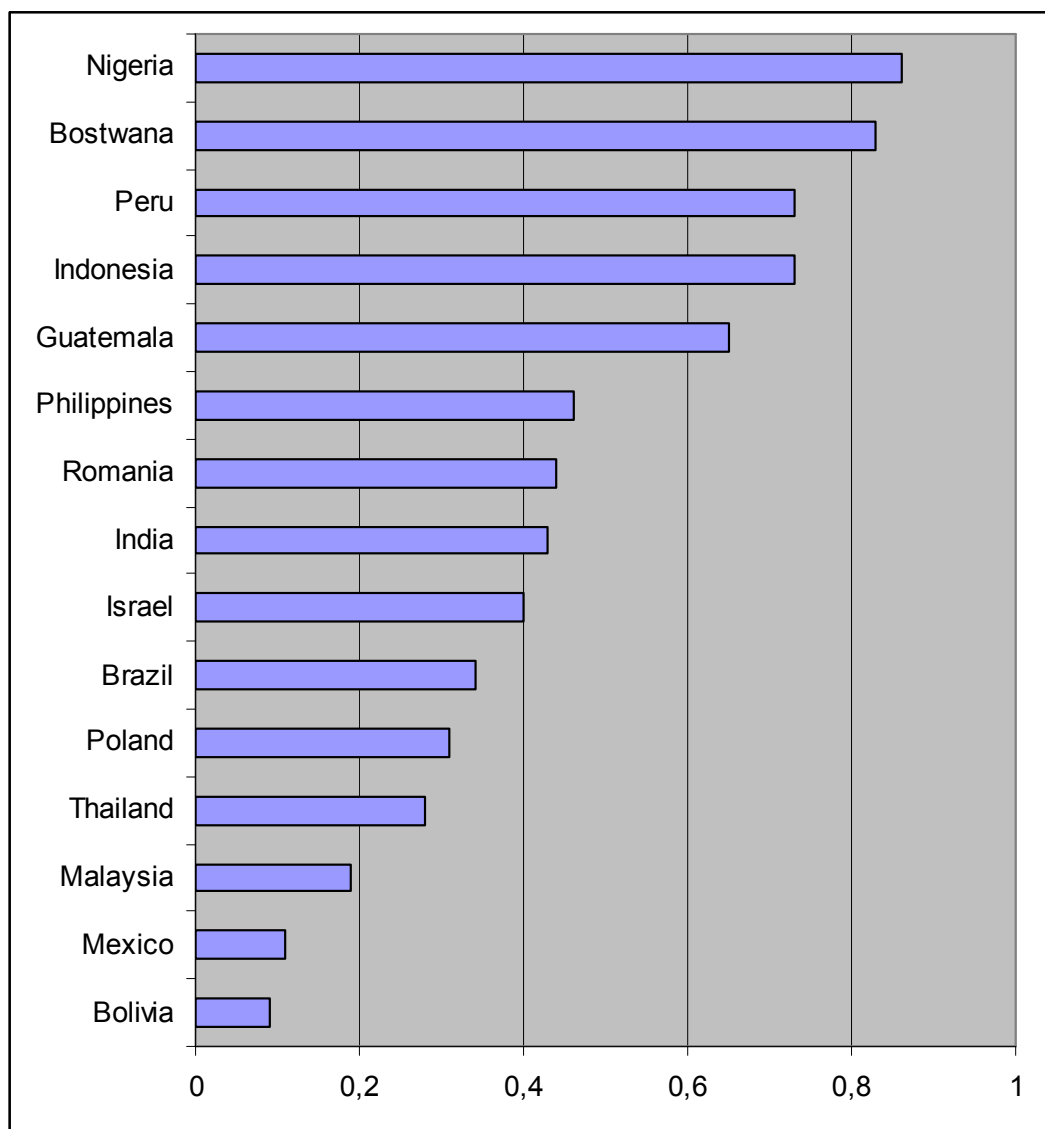
In the developing world, Nigeria and Bostwana are the two countries where the subnational governments are highly dependent on the transfers from the higher level government (figure 5.2). In these countries, intergovernmental grants constitute on average more than 80% of the subnational governments' total revenue. Whereas the subnational governments of Malaysia, Mexico and Bolivia are the countries which are the least dependent on federal transfers which constitute on average less than 20% of their total revenue.

Figure 5.1. Intergovernmental transfers as a percentage of subnational governments' total revenue in the developed world (averages over 1990s)



Source: Government Finance Statistics, IMF

Figure 5.2. Intergovernmental transfers as a percentage of subnational governments' total revenue in the developing world (averages over 1990s)



Source: Government Finance Statistics, IMF

2. The economic justification of intergovernmental transfers

The literature of fiscal federalism has identified four main rationales behind intergovernmental transfers.

2.1. To equalize vertically (improve revenue adequacy)

One of the rationales for transfers from federal governments to lower level governments comes from the existence of a vertical fiscal gap, defined as insufficient fiscal capacity to meet expenditure requirements (Bird and Smart 2004). Indeed, both central and local governments are generally expected to provide public services, but it is common to find that the own-source revenue-raising powers of subnational governments are not sufficient to meet the costs of providing the services they have been assigned. A fiscal gap may be the result of a mismatch in the constitutional division of expenditure functions and taxing powers, or because economies of scale in tax collection gives the central government a disproportionate share of tax room relative to expenditure requirements. The gap can be filled by vertical equalization that is either by increasing local revenue-raising powers or by transferring resource from higher levels. But increasing local own-source revenues can often be difficult. Allowing subnational governments to have substantial revenue raising powers reduces central control over the total size of the public sector and raises concerns about macroeconomic stabilization. In addition, appropriate local revenue bases are commonly weak or too administratively complex for subnational governments to handle. Given these realities, transfer mechanisms are often the most suitable way to achieve vertical equalization.

2.2. To equalize horizontally (interjurisdictional redistribution)

A federal transfer can also be motivated on the basis of fiscal or horizontal equity (Hartwick 1980, Boadway and Flatters 1982a, and Boadway and Hobson 1993). Government policy is said to be horizontally equitable if, individuals who are similarly well-off in the absence of fiscal policy, remain alike in the presence of fiscal policy. However, there are generally wide differences in the ability of subnational governments to mobilize resources independently and this will result in substantial interjurisdictional differences in the quantity and quality of public services.

The idea of horizontal equity can be illustrated using the Boadway and Flatters model. Assume individuals share equally in the federation's rents and that regional endowments of land differ. In the absence of government, individuals locate until the

marginal product of labour is equal across regions. In equilibrium, all individuals earn the same wage, receive the same rental income and have the same utility level. Now define net fiscal benefits (NFB) as the benefits received from the regional public good minus an individual's tax contribution. With the introduction of regional governments, public goods and head taxes, net fiscal benefits are created in each region. In equilibrium, unless regions are completely symmetric, there are regional differences in net fiscal benefits and comprehensive incomes (wages plus rental income plus net fiscal benefits), so horizontal equity is violated. Fiscal equity can be achieved, however, by eliminating the NFB differentials using appropriate transfers from a higher level government.

2.3. To correct for interjurisdictional spillovers (externalities)

A third rationale for transfers is that some seemingly local government services generate interjurisdictional spillovers, which are benefits (or costs) that extend beyond the borders of the locality (Musgrave and Musgrave, 1973). For example, health services provided in one jurisdiction may improve the overall health situation in neighboring communities. Local governments may be unwilling to provide an efficient level of certain services if they believe that people who reside outside of the locality will enjoy many of the resulting benefits. To ensure that the locality provides a greater amount of those services, the central government may transfer resources to local governments with the condition that such resources be spent on services that generate spillovers. Doing so frees up other subnational resources that may or may not be used on the service in question.

2.4. To correct for major administrative weaknesses and streamline bureaucracy

Finally, administrative efficiency can often be improved by centralizing the management of certain taxes. A few taxes such as property taxes, as well as many types of fees, can be adequately collected locally. Local governments can also levy some taxes generally reserved by central governments—e.g., personal income taxes and most business taxes—and some do. However, such taxes are likely to be managed more efficiently through a central tax administration system than by a fragmented local system. Thus, such taxes are often collected nationally with the revenues (or some portion thereof) redistributed to local governments through a transfer system.

3. The effects of intergovernmental transfers on local government behavior

3.1. The flypaper effect

Wilde (1971) was among the first to propose an analysis of the effects of grants on local government behavior using the conventional budget-constraint/indifference-curve framework. This model is summarized in figure 5.3. On the axes, we have private and public consumption. The analysis assumes that there is a community who is maximizing some notion of utility, subject to a budget constraint (represented here by lines Y and $Y+G$). Every community is considered to act as a single individual (agent) and the indifference curves (U_1, U_2, U_3) could be either those of the crucial (median) voter or that of the community as a whole.

When the central government provides a local government with the grant G , the budget constraint of the community shifts outwards (from Y to $Y+G$). Since local public goods are normal goods (Borcherding and Deacon, 1972), a lump-sum grant should lead to a transition from point E_0 to E_1 . This can be explained by the fact that with the lump-sum grants, fiscal pressure on local tax base should decrease by ΔT while the total expenditures by local government grow. One could expect that intergovernmental aid would lead to a reduction of tax burden on local citizens since the local government no longer need not raise taxes in order to finance the provision of public goods. This kind of analysis however suggests that local governments should be indifferent between tax cuts and grants from an upper tier government.

On the contrary, this is not what is observed in reality. Instead of the E_1 post-grant equilibrium, it is rather E_2 that are found by researchers. The point is characterized by growth in both taxation ($+\Delta T$) and expenditure by local government. In other words, intergovernmental grants stimulate the growth of local governments' expenditures but they do not substitute for tax revenues collected by local authorities. It is noteworthy that E_2 is also sub-optimal relative to E_1 given the fact that $U_2 < U_1$. It is this phenomenon that lays grounds for the 'flypaper effect' concept which as defined by Hamilton (1983) is "... *the empirical observation that unrestricted grants to localities from higher levels of*

government stick where they land.” To put it differently, the flypaper effect identifies the fact that grants induce excessive spending by local governments⁶⁰.

The earliest theory of the flypaper effect was developed on the grounds of Niskanen’s (1968) model. According to this so-called bureaucratic model, the flypaper effect is the result of budget maximising behaviour by bureaucrats (or local politicians), who more easily spend a grant than ask for a tax increase. McGuire (1973) called this a greedy politicians model. Under this model, goods are provided to the point where the average cost of providing a public good is equal to its price. Apparently, marginal cost exceeds price; hence, public goods are oversupplied. Grants reduce the price of public goods and induce bureaucrats to spend even more than before to maximize their budget (power). Apart for the justification of the flypaper effect, one of the implications of the Niskanen model is that fiscal decentralization may lead to the growth of the public sector as local government has in its possession more information than can be used to discriminate among its citizens and, consequently, to extract more resources from the economy.

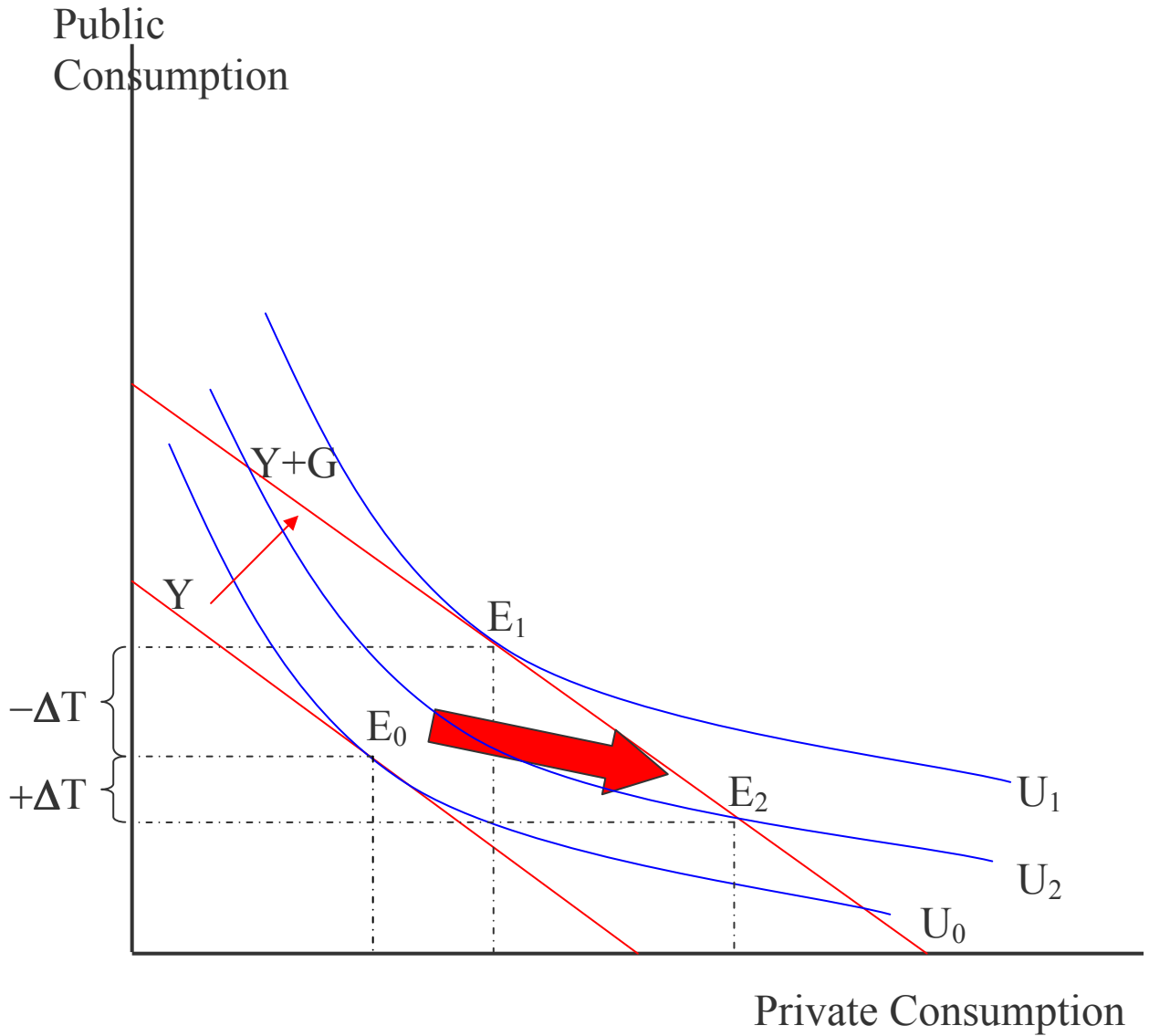
Another theory that tries to elucidate the mystery of the flypaper effect is the fiscal illusion theory according to which the effect is a result of voter-taxpayer ignorance of fiscal illusion. Fiscal illusion is defined by Schwallie (1986) as something that “.... *has to do with misperception about either the financing or spending aspects of the fisc and the fiscal decisions resulting from such misperception.*” (pp.75). The author also summarized the essence of fiscal illusion explanations of the flypaper effect as follows:

“In the fiscal illusion models of grant effects, government actually produces the output demanded by the (median) voters, but the voters’ demand for public goods is based on misperceptions about how the public goods are financed and their own share of costs. Voters are not assumed to

⁶⁰ There are actually two definitions of the flypaper effect. The strong one is that the flypaper effect leads to excessive taxation and expenditure growth by the local government. The weak one is that the expenditure elasticity with respect to grants is much higher than the expenditure elasticity with respect to local income.

misperceive the actual output of public goods or the benefits derived there from” (Schwallie, 1986: pp. 75-76).

Figure 5.3. Effects of intergovernmental grants



Source: Gorodnichenko (2001)

According to Oates (1979), intergovernmental grants reduce the average costs in the provision of public goods and not its marginal cost. However, given the sheer magnitude and complexity of the public sector budgetary process, voters may confuse the average cost reduction for marginal cost reduction. And if the demand for a public good is inelastic and some other conditions hold, intergovernmental grants will result in higher taxation for local citizens.

Logan (1986) further develops Oates' hypothesis of fiscal illusion by showing how misperception could be sustained in the long run. Turnbull (1998) provides another explanation of the persistence of the misperception. The uncertainty with regard to tax price of public goods and services generates risk. This risk, in turn, generates overspending even in the long run. In sum, Turnbull (1998) interprets fiscal illusion as imperfect information⁶¹. The common feature of all these theories is that they explicitly or implicitly use the concept of the Leviathan state (Quigley and Rubinfeld, 1986). In brief, this approach assumes that the state has considerable market and political power controlling essential spheres of community life, e.g. control over entry, budgets and information to citizens.

Another interesting explanation of the flypaper effect can be found in Hamilton (1983). He suggests that local income could be a technological input used in providing public goods. For instance, Hamilton (1983, p. 348) states that a one percent increase in household's income reduces the crime rate by half a percent, while a one percent increase in spending on police departments diminishes the crime rate by roughly one percent. Grants that raise local income, therefore, substitute for local government expenditures on, for instance, police. As a result, more resources are available for other government spending programs. Thus, local income is a '...surrogate for certain unobserved factors in the production of local goods.' (Wyckoff, 1989, p. 316). Hamilton contends that grants could be an input in providing public goods, explaining in this way the flypaper effect. The omitting of such important variable from the analysis leads to the flypaper effect.

⁶¹ The explanations of the fiscal illusion theory however are not empirically supported. Oates (1988: 78) states that: 'there is no real evidence that I know supporting the illusion explanation of the flypaper effect. It is one of the possibilities, but it needs empirical support'.

Applying simple utility maximization framework for a typical household, Hamilton finds an analytical solution that justifies the flypaper effect.

In the framework of the above outlined theories, many empirical studies have been conducted. Despite the voluminous studies, there is no general agreement about the existence, source and magnitude of the flypaper effect. The classical work by Gramlich and Galper (1973) provides a general framework for policy analysis. Apart from theoretical considerations, Gramlich and Galper (1973) provide econometric estimates (time series and pooled estimation) of grants effects on budgetary behavior on the basis of U.S. data. To be precise, they consider the effects of closed-end matching grants and lump-sum grants. Gramlich and Galper (1973) also consider effects of grants that combine price and income effects. The significance of the flypaper effect is among their major empirical findings. A dollar increase in grants results in a 40 to 100 cents growth of subnational authority spending while a dollar increase in income leads only to a 10 cents growth.

Another study of the responsiveness of local governments to intergovernmental aid is conducted by Stine (1985) who explicitly recognizes the effect of aid on fiscal behavior of subnational governments. Stine tests an explicit relationship between local revenues (or more generally tax effort) and volume of grants-in-aid. Using panel data on 57 New York county governments, he estimates the elasticities of a local revenue response to aid. Like Gramlich and Galper (1973), Stine finds a strong flypaper effect.

Further developing theoretical grounds and empirical techniques, Barnett, Levaggi and Smith (1991) test different models (conventional and flypaper) of fiscal behavior of English local governments. Although the results are mixed, the flypaper model seems to be more appropriate for analysis and prediction of the local government response to grants than the conventional microeconomic model. In addition to statistical estimates of marginal effects and elasticities, Barnett, Levaggi and Smith (1991) provide an interesting analytical framework for adequate capturing of structural changes in local government revenues.

English local governments were also studied by Cuthbertson, Foreman-Peck and Gripiaios (1981). They assume that the majority party maximizes the utility of a typical individual, given a trade-off between consumption of private and (local) public goods. Their model has an analytical solution that predicts a sizeable flypaper effect. Testing the model on pooled data of London boroughs, they estimate that every £1 in grants (decrease in need) raises local taxation by 40 pence. Mangan and Ledward (1987) provide a more recent investigation of the flypaper effect in England. However, their results appear to contain mixed evidence with respect to the existence of the flypaper anomaly. Evidence in favor of the flypaper effect also comes from Italy (Levaggi and Zanola, 1998). According to the above studies, the flypaper effect tends to expand the size of the public sector.

On the other hand, some authors find little or no flypaper effect. For instance, Slack (1980), applying welfare maximization of a politician with respect to endogenous tax rates and grants, finds that for a panel of Ontario municipalities unconditional grants raise expenditures by less than the amount of grants. On the other hand, the expenditure response to conditional grants is *less* elastic than the expenditure response to local income. Thus, there is no flypaper effect. However, the results, especially for conditional grants, are not robust to the functional form of a politician's utility function. Similar results are provided by Zampelli (1986). Moffitt (1984) assesses effects of closed-end grants on welfare of communities by applying piecewise-linear budget constraints of local governments. Using a panel data estimator, he shows that the flypaper effect disappears due to non-linearity in budget constraints. Therefore, the magnitude of the flypaper effect appears to be very sensitive to the chosen functional form.

Ahmad (1997) surveys actual grant schemes in OECD and developing countries. Many of them result in endogeneity of grants with respect to local governments. In other words, subnational governments have incentives to pursue policies that increase the probability of obtaining 'cheap' resources from the central authorities. This hypothesis is tested by Islam and Choundhury (1989) on a panel of upper-tier municipalities of Ontario, Canada. In this pioneering work, they apply formal statistical tests of grant's

exogeneity in traditional flypaper models. Islam and Choudhury (1989) find that ‘weak’, ‘strong’ and ‘super’ exogeneity tests fail to reject the hypothesis that grants are determined simultaneously. They also show that grants do not stimulate the growth of own revenues but substitute for them. Put it differently, no flypaper effect is observed. Knight (2000) also shows how presumably exogenous, formula determined grants can be endogenous.

An empirical literature has also developed on the premise that “fiscal illusion may be simply an econometric illusion resulting from several biases introduced through model misspecification” (Becker 1996: p. 86). Various possibilities have been identified: failure to distinguish matching grants from unconditional aid (Inman, 1979); failure to consider the simultaneous determination of grants and local spending (Islam and Choudhury, 1990); omission of relevant independent variables (Hamilton, 1983); and inappropriate use of piece-wise linear budget constraints (Moffitt, 1986). Whilst increasingly sophisticated empirical work on the flypaper effect has recognized the need to distinguish categorical (or matching) grants from general (or unconditional) grants and the importance of including relevant independent variables, two main areas of concern remain unresolved. Firstly, the perceived sensitivity of the flypaper effect to the specification of subjurisdictional expenditure requires investigation (Zampelli, 1986; Becker, 1996). And secondly, the apparent failure to correct for potential endogeneity in the state/local government grants nexus needs further attention (Becker, 1996). Although the problem of model specification may be diminished by careful econometric analysis, the question of grant endogeneity deserves more attention. A surfeit of evidence exists, largely with a North American institutional focus, which supports “.... *the simultaneity of local spending and federal grant-making decisions*” (Becker, 1996:p. 91). More specifically, according to the author since some empirical work⁶² establishes that sub-jurisdictional federal aid depends on a localities’ own tax effort and expenditure levels, we may hypothesise that failure to control for the endogeneity of grants yields an overestimate of the marginal expenditure effect of grants. Even more importantly, where studies have either utilised strictly exogenous receipts (Marshall, 1991) or have taken

⁶² see, for instance Islam and Choudhury (1990)

account of the presumed simultaneity of federal grants and local government fiscal behaviour (Becker, 1996), empirical support for the flypaper effect has not been forthcoming. Moreover, Becker (1996) has argued that some researchers continue to assert that grants are exogenous⁶³ and their results are subject to the criticism that the estimated effect of federal aid on local spending is in part capturing the federal government's own reaction to local spending. Furthermore, according to the author:

“...while the results of this investigation are not a direct refutation of every previous study reporting a flypaper effect they were powerful enough to cast a shadow of suspicion on the results of studies that fail to explicitly justify their chosen functional form or that ignore the endogeneity of local spending and federal grant-making” (Becker, 1996: p.97).

3.2. The effects on fiscal effort

Another strand of the literature on intergovernmental grants albeit relatively less developed, focused on the issue of their effects on the fiscal efforts of the subnational governments.

If it is a common place in fiscal decentralization literature to consider the existence of a relationship between transfers and fiscal effort, there is still no consensus regarding its direction or magnitude. The available empirical evidence is not conclusive and in some cases, it is contradictory (Litvack, Ahmad et al. 1998). Most of analyses of the effect of transfers on fiscal effort are based on descriptive statistics like comparing evolution of tax collection and intergovernmental transfer (Cabrero and Orihuela 2000). On the other hand, the use of econometric models has been limited by data availability and has been concentrated in developed countries such as United States, Canada and Germany (Gramlich 1987a; Bird 1994).

In the case of Latin American countries, Bird (1994) finds evidence of a strong correlation between transfers and local expenditures reduction in Colombian transfers

⁶³ see, for instance, Wyckoff (1991)

programs. He concludes that receptor communities reduced their fiscal effort due to transfers. This result is consistent with Correa and Steiner (1999) who find evidence of “fiscal apathy” at sub-national level in Colombia. Their estimates suggest that 96% of transfers are used to reduce local taxes and only 4% is allocated to increase local expenditures. Nevertheless, these results are not robust to changes of the time span of analysis. For instance, Garzón (1997) examines the period before and after the increase of transfer (1986 and 1996). He does not find evidence of reduction in general tax collection among Colombian municipalities. Chaparro et al (2004) examine fiscal data for a large number of Colombian municipalities for the 1985-99 period with an objective to describe the effects of the transfer system on horizontal balance among municipalities. According to the authors, the correlation between aggregate taxes and transfers cannot be construed as evidence of a causal relationship between the two, nor can it indicate how local revenues would respond if transfers were reduced in the future. This is due to the fact that local revenues may have increased because of other decentralization reforms that were contemporaneous with, but otherwise unrelated to, the increase in transfers. Consequently, they used an approach that allows for the possibility that per capita tax revenues vary from year to year in all municipalities, and consistently differ among municipalities, in ways that are unrelated to the effects of the transfers. In effect, their estimate of β , the effect of transfers on revenues, measures the impact of changes in the transfers received by one municipality, relative to the others at a point in time, on the municipality’s relative tax revenues. The authors conclude that there is some evidence that transfer growth has discouraged tax effort by the municipalities, even in the case of formula-driven *Participaciones Municipales* (PM) which should not in itself create a soft budget constraint problem. The current system of decentralization in Colombia according to the authors may be acting as an impediment to the mobilization of local fiscal resources. More recently, Aragon and Gayoso (2005) examine the relationship between intergovernmental transfers and local fiscal effort using an empirical model with data from Peruvian local governments. The paper exploits a quasi experiment and panel data to address the identification problems due to non-random transfer allocation and the presence of omitted variables. Indeed in 2001, an additional transfer (“*asignación adicional*”) was conferred to Peruvian local governments receiving a minimum level of

Foncomun (“*Fondo de Compensación Municipal*” or Municipal Compensation Fund) regardless of local tax collection or total expenditure. Participation in this program can be used as an instrumental variable since it explains increases on transfers but it is not correlated to local tax collection. Their results confirm the existence of a negative relationship between transfers and local fiscal effort in Peru. They also found that the effect of transfers on local effort decreases with the level of per capita expenditure of the local government. The reduction of fiscal effort is higher among local governments with lower levels of expenditure. As long as expenditure level increases, the effect tends to disappear.

Jha et al. (2000) in their studies on the tax efficiency of 15 major states in India argued that in the country, historically tax efficiency has played a relatively minor role in resource transfers from the central to state governments and much of this transfer is made on the basis of need and backwardness characteristics of the recipient states. However, their empirical results show that that intergovernmental grants to be negatively correlated with tax efficiency. The higher the central grants as a proportion of total state expenditure, the lower the tax efficiency. They also found that this effect works both directly through the variable “central grants as a proportion of total state expenditure” and indirectly through the interaction of this variable with other variables (namely the state domestic product and the proportion of agricultural income to state domestic product). Rajamaram and Vashista (2000) examines the impact of state-local grants on tax effort of rural local governments (panchayats) for Kerala state using data for 1993-94. Their results show that a greater and more uniform negative impact on tax effort of lump sum ‘untied’ grants (which was a lump sum amount of around Rs 2 lakh annually, designed to add to panchayat resources for any purpose of their choosing) that are predictable and unvarying than for a more widely defined grants total that includes components with year-to-year variability. The results show that an increase in the untied grant to panchayats by one rupee reduces own tax revenues in 12 out of 14 districts by more than one rupee, and in eight of these by more than two rupees. Reverse causality is ruled out with the single exception of Malapuram district. The authors conclude that the

reduction in own tax revenue observed in the Kerala panchayat is mainly the result of a selective slackening of tax effort.

It is noteworthy that there is strong interest on this issue in the Latin American world which consequently has led to the publication of a number of studies in the Spanish Language. A summary of these studies can be found in Aragon and Gayoso (2005).

4. The fiscal arrangement in Malaysia

There are essentially 3 forms of intergovernmental grants in Malaysia.

4.1. Tax sharing grants

The grants are established under the Article 110(3) of the Federal Constitution, the Assignment of Revenue (Export Duty on Iron Ore) Act 1962 & the Assignment of Export Duty (mineral Ores) Act 1964. According to the Article, 10% of the revenues collected by the Federal government from export duties on tin, iron and minerals ores need to be allocated to the producing states. However, state governments have no control over the structure and rate determination. This tax-sharing grant was created at the same time that State royalty rights to minerals were prohibited unless provided for by federal law. If export duties are abolished in line with World Trade Organization (WTO) proposals, State Government revenue from such tax-sharing grants will be reduced.

4.2. General Purpose grants

4.2.1. Capitation grant

The grant is established under the Article 109(1)a of the Federal Constitution with an objective of assisting state government in meeting financial requirements. The grants are not subject to any spending restrictions or tax effort requirements. The amount given is based on the population determined by the population census if the last census was taken one year before the beginning the financial year or on the annual population projection calculated as of the population census. Below is the rate as of today:

Table 5.1. Capitation grant

Population	Rate (RM)
First 50,000	60.00
Next 500,000	8.50
Next 500,000	9.00
After 1,050,000	9.50

The rate is introduced in 1992 to replace the old one which has been used since 1973. One of the rationales behind the introduction of this new rate is to achieve fairer distribution for the poorer states assuming that the less populous states are relatively poor states.

4.2.2. Revenue Growth Grant

The grant is established under the Revenue Growth Grant Act 1977 & Revenue Growth Grant Act (Amended) 1980. The grant was based on the premise that state governments should also benefit from the growth of federal government revenue. The grants are payable to the state governments if the total revenue of the Federal government after deducting tin duties and taxes raised under the Road Traffic Ordinance 1958 increases by more than 10% in a particular year over the previous year. The grants are however subject to a maximum of RM150 million (originally 100 million). The distribution formula of the RM 150 million is as follows

- 1st 25 millions apportioned equally among the 13 states.
- next 25 millions distributed according to population
 - 2 shares per person for the 1st 500,000.
 - 1 share per person for the next 500,000
 - ½ share per person for the remainder
- 100 million for states whose per capita GDP fall below national average (subject to loose spending restrictions).

In order to encourage the state governments to give greater emphasis on socioeconomic development as well as on achieving higher rate of economic growth, the grants are to be used only for the following purposes

- water supply
- public housing
- industrial estate development
- minor works
- such other development projects as may be determined from time to time by the National Finance Council

4.2.3. Special grants

Under the article 112c(1)(a) of the Federal Constitution, special grants are allocated to the states of Sabah and Sarawak. The objective of these grants is to equalize the standard of services of the two states to that of the other states in Peninsular Malaysia.

In the case of Sarawak initially, there was an annual balancing grant which is fixed at a level of RM 5.8 million a year in 1963. There was also an annual escalating grant for Sarawak which was supposed to increase every year and was to be fixed on a periodic basis every five years. In 1968, after the first review, the annual balancing grant was abolished but Sarawak continues to receive the annual escalating grant.

As for Sabah, it was provided with a grant known as the revenue growth grant with a value equal to $\frac{2}{5}$ of the amount by which the net revenue derived by the Federal government from Sabah exceeds the net revenue collected in 1963. In accordance with article 112 D of the Constitution, these special grants were to be reviewed at least every five years. After the first review, these grants have ceased to exist and Sabah has received another unconditional grant which is determined every fiscal year.

Special grants are also allocated to Selangor which amount to RM 18 305 637.66 millions in lieu of revenues losses due to the acquisition of Kuala Lumpur (this is based on the revenue collected in 1974) and to Kedah with an amount of RM10,000 per annum according to 1869 agreement for the lands handed over to Penang.

4.2.4. State Reserve Fund grants

The grants are established under the Article 109(6) of the Federal Constitution. The grants are sourced from the State Reserve Fund on an ad hoc basis. The main purpose of the fund when it was established in 1958 was to supplement the general revenue of state government facing current account deficits. Since 1983, the fund also provides grants based on the level of economic development, infrastructure and wellbeing of the respective states. The objective was to assist state governments particularly those states which are less developed to implement their development projects so as to achieve a balanced development throughout the country. These grants are accounted for separately in 2 trusts accounts set-up under the Fund. The balance of the State Reserve Fund as of at 31/12/2002 was RM 113.305 millions. The Finance National Council has set the maximum amount of disbursement to RM 170 million and the maximum amount of entitlement for each state government is given in table 5.2.

Table 5.2. State Reserve Fund Grants

State	Eligible amount (RM)
Johor	10 610 000.00
Kedah	22 020 000.00
Kelantan	25 980 000.00
Melaka	9 820 000.00
N9	7 030 000.00
Pahang	9 560 000.00
Perak	13 810 000.00
Perlis	16 270 000.00
Penang	8 720 000.00
Selangor	6 110 000.00
Trengganu	9 270 000.00
Sabah	13 220 000.00
Sarawak	17 580 000.00
TOTAL	170 000 000.00

4.2.5. Contingencies fund grant

The grant was intended to provide advances in order to meet urgent and unforeseen operating expenditures for which no other provisions exist, pending Parliament approval on the required allocation. Established under Article 103 of the Federal Constitution, the Fund allows allocation in the form of advances to meet urgent and unforeseen supply expenditure for which no other allocation was provided for in accordance with Financial Procedure Act 1957. Advance must be replaced via supplementary budget approved by Parliament. In 1992, the Fund was increased to RM 1000 million from RM850 millions.

4.2.6. State Advance Fund grant

The grants were created to provide cash advance to state governments facing cash flow problems. The fund was established in 1981. It renders immediate assistance to state governments, particularly those with limited financial resources in the form of cash advances. Prior to the establishment of the fund, such cash advances could only be provided from the Contingencies Fund Grants which involved a number of administrative procedures. Advances from the Fund are paid back either by adjusting the total of statutory grants disbursed to the state governments or by converting these advances into loans.

4.3. Specific Purpose grants

4.3.1. State Road grant

The grant is established under the Article 109(1)(b) of the Tenth Schedule, Part two of the Federal Constitution. The objective of the grant is to assist State governments in maintaining state roads, municipal roads, roads to low cost housing areas and back lanes. Prior to 1981 the amount is based on national average road maintenance. According to Md Zyadi (1995), the payments that were made in 1971 were RM4500 per mile. The amount was then revised to RM 5000(1974) and RM 6000(1977). Beginning from 1981, the amount allocated to each state is determined according to the state

average maintenance cost per mile multiplied by the mileage of the state roads. The rates of maintenance costs per mile is as follows

Table 5.3. Road grants

State	Standard roads (RM/mile)	Substandard roads (RM/mile)
Johor	10,845	7527
Kedah	10,564	7450
Kelantan	10,353	7379
Melaka	10,549	7380
N.Sem	9,850	7390
Pahang	9,969	7498
Penang	12,146	6730
Perak	11,379	7409
Perlis	11,144	-
Selangor	9,470	6837
Sabah	11,853	8530
Sarawak	13,768	9670
Trengganu	10,995	7,471

4.3.2. Economic Development grants

RM 100 millions are allocated annually by the federal government for

- economic development
- development of infrastructure
- improvement of quality of living

The objective of the grants is to allocate more funds to less developed states to reduce economic and social disparities as well as to promote state development in line with the National Economic Plan. The share of each state is determined by the Federal government with the cooperation of states EPU based on socio-economic indicators. However, there's a significant constraints on state flexibility in decision making on expenditures. Projects for which the funds can be used are

- construction, upgrading and maintenance of state and rural roads and bridges excluding projects which are financed by the National and Rural Development Ministry or financed by federal loans or grants.
- water supply and electricity projects excluding those which are financed by any Federal Ministry or by Federal loans.
- all agricultural projects that would directly benefit the farmers (not the ones that are financed by other Federal government agencies or financed by way of federal reimbursement) such as the construction of agricultural centers, drainage and irrigation projects.
- construction of mosques and religious schools
- construction of local government projects other than those financed by the Housing and Local Government Ministry.

4.3.3. Service Charge grant

It is established under the Article 80(5) of the Federal Constitution and the National Finance Council in 1978 that concerning investments projects of the state governments,

- 5% of the project cost is payable to the State if its involvement (staff) in the implementation of federal projects in the state is 50% or above
- 2.5% of the project cost if involvement less than 50%.

4.3.4. Cost Reimbursement grant

The grant is in support of specific programs in areas of joint responsibility between the federal and state governments. The reimbursement is 100% of the development expenditure for federally approved agriculture, veterinary, works and drainage projects. Meanwhile, for the operating expenditure of the state drainage, veterinary and welfare department the reimbursement rate is only 50% of the expenditure.

4.3.5. Grant to religious schools and institutions

Since 1956 a special grant was created under the purview of the Ministry of Education to assist any registered religious school (with student equal or more than 35) not maintained by the Ministry of Education under the Education Act of 1961 or by the State government. The rates which are determined by the Ministry of Education are as follow:

Table 5.4. Grant to religious schools and institutions

Type of school	Amount of grants
Primary school	RM30 / student
Secondary school	RM45 / student
Upper Sec. school	RM60 / student

4.4. Discussions

4.4.1. How consistent is the system with the theoretical framework?

As discussed above, there are basically three main rationales behind the introduction of an intergovernmental transfer within a multi-tiers government system. However, based on our review of the current system of intergovernmental in Malaysia, we can see that less direct attention have been given in addressing the problem of per capita revenue equity across states. Of all the grants that exist in the country, only the capitation grant is aimed at reducing the horizontal gap between the states. And given the magnitude of the problem, it is without surprise that this grant alone has not been able to totally resolve it.

Table 5.5 below shows the extent to which intergovernmental transfer in Malaysia manages to equalize the fiscal gaps across states. As we can see, the own-source revenue per capita of the state governments differs widely across states. In the period of 1981-1990, the range of own-source revenues is from 19% of the average for Kedah to 334% for Sabah. Even if we exclude Sabah and Sarawak which have extra expenditure

responsibilities, there is still a huge gap between Kedah and Trengganu which has own source revenues per capita of 202% of the national average. When federal transfers are taken into account, the range has narrowed slightly. Total revenue per capita varies from 39% of the national average to 273%. However, the remaining huge gap suggests that federal transfers are far from fully equalizing. Also, it is interesting to note that the gap continues to exist because some of the richer states actually receive more grants than the poorer ones. This is notably the case of Sabah and Sarawak which under the Constitution are entitled to special grants from the federal government.

Nevertheless, across time, the gap between the richest and the poorest states appears to decrease slightly both before and after transfers. This can be explained by the fact that even though there is a general increase in revenues across states, the revenues of some of the poorer states seem to grow at a higher rate than those of the richer states. For example, Melaka in the period of 1981-1990 has an own source revenue of 33% of the national average. In 1991-2000, its own source revenue is more than 133% of the national average. However, the gap between the rich and poor is still there and federal transfers have managed to equalize only a small part of the differences. For instance, omitting Sabah and Sarawak, Trengganu has total revenues per capita of more than four times the amount available for Kedah and Kelantan.

4.4.2. Issues related to the construct of the grants

It is noteworthy that most of the intergovernmental grants in Malaysia are established under various articles of the Law or of the Constitution which in a way make these grants more predictable especially in the eyes of the state governments. Indeed, it is important for the grants to be predictable as it will enable the recipient governments to better plan their budget. It is desirable for the state governments to have a general idea of how much money they are likely to receive from their various sources of revenue as they begin the planning and the budgeting process for the next fiscal year. This provides a solid basis on which to make future plans and minimizes the probability of large swings in resource availability, a situation that can compromise service delivery and frustrate subnational governments' constituents.

Table 5.5. Equalization effect of federal transfers (1981-1990 and 1991-2000)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Population	Total revenue	% own-source	Own-source revenue	Own-source per cap	Total rev per cap	(5) to total	(6) to total
1981-1990								
Johor	2107.00	202.08	75.78	153.15	72.68	95.91	0.40	0.40
Kedah	1412.00	133.82	35.43	47.42	33.58	94.77	0.19	0.39
Kelantan	1222.00	142.52	39.00	55.58	45.49	116.63	0.25	0.48
Melaka	583.00	59.25	58.70	34.78	59.66	101.63	0.33	0.42
N.S	724.00	103.14	74.29	76.62	105.83	142.45	0.59	0.59
Pahang	1056.00	200.40	78.76	157.84	149.47	189.77	0.83	0.79
Perak	2222.00	224.88	60.36	135.73	61.09	101.20	0.34	0.42
Perlis	188.00	39.02	27.34	10.67	56.74	207.56	0.32	0.86
Penang	1141.00	95.09	62.20	59.14	51.84	83.34	0.29	0.35
Sabah	1787.64	1175.37	91.50	1075.42	601.59	657.50	3.34	2.73
Sarawak	1687.80	890.81	91.19	812.35	481.31	527.80	2.68	2.19
Selangor	1981.00	485.27	29.32	142.28	71.82	244.96	0.40	1.02
Trengganu	752.00	311.08	87.76	273.01	363.05	413.68	2.02	1.72
TOTAL	16863.44	4062.73	74.68	3034.00	179.92	240.92	1.00	1.00
1991-2000								
Johor	2731.50	460.56	76.44	352.06	128.89	168.61	0.72	0.70
Kedah	1605.20	271.87	51.33	139.56	86.94	169.37	0.48	0.70
Kelantan	1561.50	233.06	55.14	128.52	82.30	149.26	0.46	0.62
Melaka	598.90	161.63	80.37	129.90	216.90	269.88	1.21	1.12
N.S	849.80	232.12	80.13	186.00	218.88	273.14	1.22	1.13
Pahang	1319.10	454.46	87.09	395.80	300.05	344.53	1.67	1.43
Perak	2130.10	430.43	75.37	324.42	152.30	202.07	0.85	0.84
Perlis	230.70	98.39	41.56	40.89	177.24	426.48	0.99	1.77
Penang	1259.40	240.56	64.15	154.31	122.53	191.01	0.68	0.79
Sabah	3058.60	1280.04	88.59	1134.04	370.77	418.50	2.06	1.74
Sarawak	2064.90	2307.18	94.15	2172.23	1051.98	1117.33	5.85	4.64
Selangor	3287.80	1129.57	66.12	746.86	227.16	343.56	1.26	1.43
Trengganu	1064.00	647.36	93.05	602.37	566.14	608.42	3.15	2.53
TOTAL	21761.50	7947.23	81.88	6506.97	299.01	365.20	1.66	1.52

Source: State governments' Financial Statements, various issues

However, most of the time, the rules of law have not been very explicit as to the amount of as well as the conditions under which the grants will be disbursed. And even if the formula is clearly stated as in the case of the capitation grant or the state road grants, the central government may still change the formula from time to time as stated in Article of the Federal Constitution. As for other grants, the amount that will ultimately be obtained by the State Government will very much depend on the discretion of the Federal Government. The only way for the state government to have a say in the distribution of the Federal Grants is through the National Finance Council whose members comprises of a representative from each of the states. Nevertheless, the recommendations made by the National Finance Council are non-binding and purely advisory and as a result may be ignored by the Federal Government if it wants to⁶⁴.

Another important remark concerning federal transfers in Malaysia is the fact that grants that are formula driven are usually based on simple and explicit formula. It is well understood in the literature of fiscal federalism that transparency in the determination of grants distribution is very important as it will enable the recipient governments to understand how their share of a particular grant is determined. And such an understanding is facilitated by relatively simple but explicit formulas, which also reduce the possibilities for political manipulations of transfer allocation. In Malaysia, the state road grants and the capitation grants which are the two most important grants in the country in term of their absolute amount, are based on relatively simple formula which are clearly defined within the Constitution. However, some grants such as the revenue growth grants even though it is based on a simple formula are not paid on a regular basis. And given the fact that the amount of the grant is relatively consequential, the unpredictable nature of this grant may be quite disruptive for the budgetary process of the state governments.

⁶⁴ The fact that the recommendations of the National Finance Council are purely advisory augurs well for the country as the NFC may be used as platform by the state governments to negotiate special grants or bailouts in case of self-inflicted financial woes. Another solution to avoid this kind of problems is by having the NFC composed of independent members who are insulated from any political pressures.

On the other hand, even if the rules governing grants are clearly defined and adequately enforced, the rules themselves might undermine hard budget constraint and pose a danger on the stability of the economy. This is the case for example in Germany where the constitutionally mandated equalization system, though predictable and formulaic, has sent a message to the smallest poorest states that fiscal indiscipline can ultimately be rewarded with increased transfers. More generally, the intergovernmental fiscal system has provides the states with weak incentives for fiscal effort. A related problem was described for the Indian system of intergovernmental transfers. While the process employed by the Finance Commission does include some clearly defined rules perhaps its greatest weakness lies in the basic rules and procedure themselves. The Indian system has also featured a gap-filling approach that discourages fiscal discipline.

In Malaysia, some of the grants are established in such a way that it may create incentives for the state governments to be less prudent in their expenditure decisions or even to slack in their tax efforts. This is notably the case of the State Reserve Fund Grants where the state governments are entitled to a special grant when they are faced with a deficit in their current account. The fund is somewhat similar to rainy day funds in the US though the one in the US is constituted by contributions from and managed by the state governments themselves without any intervention whatsoever from the federal government. As such contrary to the State Reserve Funds grants, the rainy funds as it is known in the US are not really what can be considered as grants but rather a kind of a voluntary savings even though both of them serve the same purposes.

Despite the fact that the payments made from the State Reserve Fund are subject to review by a special committee of the National Finance Council and there is a maximum amount to which each state is eligible, the existence of the grant suffice to entice expectations from the state governments of a future bailout by the federal government in case of a crisis. Furthermore, if the federal government could not afford to not lend a helping hand to the state governments in the event of small problem such as a current account deficit, it is plausible to assume that the federal government will not hesitate to come to the rescue when the state governments are faced with a bigger problem. Another problem with the state reserve fund grants that is worth emphasizing

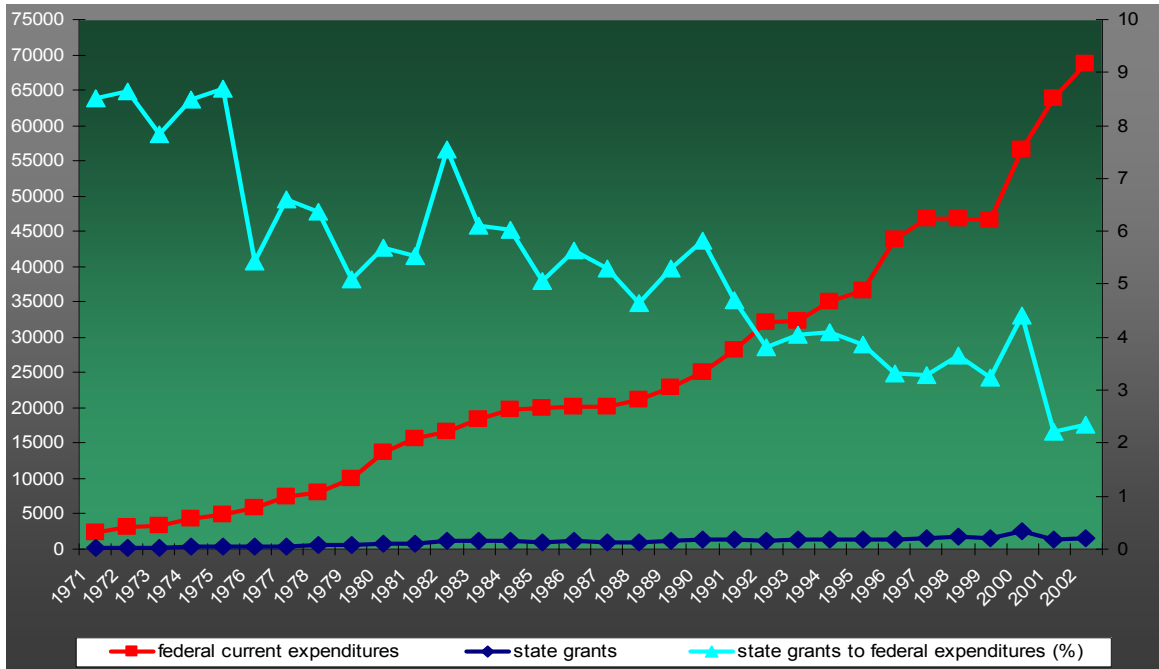
here is the fact that there seems to be no conditions related to the causes of the deficit that are attached to the disbursement of the grant. It is important that the grants are disbursed only in case of deficits that are due to external or internal factors over which state governments have little control such as fluctuations in inflation rates. The grants should not in any case be used to reward states who face current deficit due to their undisciplined spending behavior.

Other than the State Reserve Fund grants which may lead to a build up of undesired expectations by the state governments, the decision made by the Federal Government in 1981 to create a new fund called the State Advance Fund in order to replace the Contingencies Fund Grants can also be seen as contrary to a move of establishing a hard budget constraint for the state governments. The objective of the Fund was to cut back on administrative procedures that are involved in granting money to state governments facing a cash flow problem. There are several problems with these grants. First, by looking at the amount of money that has been disbursed under these funds, one may have the impression that it is more than a cash flow problem that the state governments are facing. For example, in 1987, a total amount of RM 153 millions has been disbursed to the states of Johor (RM 50 millions), Kedah (RM 42 millions), Kelantan (RM 51 millions) and Negeri Sembilan (RM 10 millions). The amounts constituted almost half of the total revenue of the state of Kedah and a fourth of the total revenue of the state of Johor during that year. Secondly, by making it easier for the state governments to obtain money from the Federal government, the latter may leave the impression of a very paternalistic principal which care very much for the financial well-being of its agents which in the end will lead to a build up of undesired expectations by the agents especially in term of future bailouts during a crisis. Thirdly, there seems to be no string attached to the grants and the main cause that bring the state governments to a situation of a cash-flow problem does not seem to be of any importance for the disbursement of the grants. Finally, it is stated that the grants will be paid back to the Federal Government through a cut in the statutory grants or by converting them into loans. However given the performance of the state governments in term of loans repayments, it will take a certain time for the funds to be reimbursed.

4.4.3. The evolution of the amounts and the type of the grants

It is noteworthy that there is clear downward trend of the amount of grants disbursed by the federal government to the state governments in proportion of the former total current expenditures as shown in figure 5.4. In 1972, the total amount of grants disbursed by the federal government constituted up to 9% of its total expenditures. The proportion has decreased steadily to reach a little more than 2% in 2002. The trend is due not to a decrease in the total amount of grants disbursed which has stayed more or less at the same level especially from the beginning of the 1980s till 2002 but more to the tremendous increase in the federal government expenditures. Indeed, the total federal expenditures which were only RM 2398 millions in 1971 have increased more than 30 times to reach RM 68698 millions in 2002.

Figure 5.4. The evolution of state grants and federal government' total expenditures (1971-2003)



Source: Economic Report, Treasury Malaysia various issues

4.4.4. How dependent are the state governments on federal transfers?

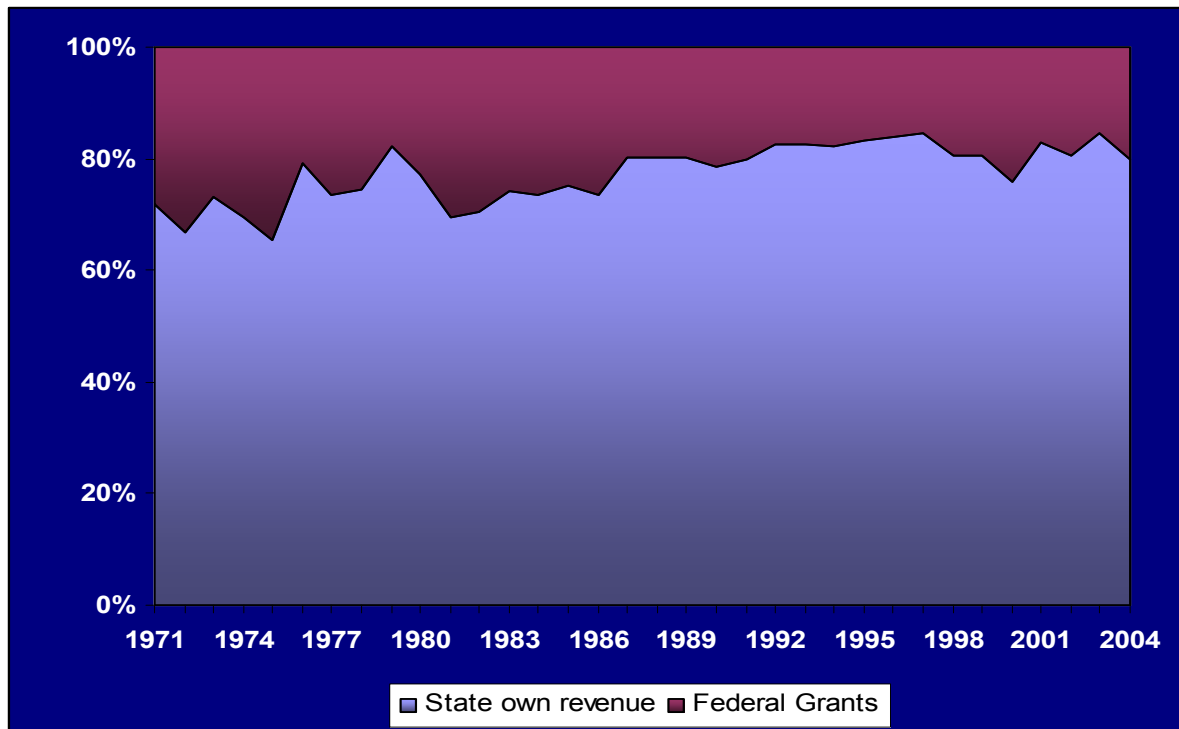
It is well developed in the literature on the danger for the state governments to be too dependant on federal transfers. Such governments have little flexibility to raise additional revenue when faced with adverse shocks and if the situation escalates into a fiscal crisis in which the subnational government is unable to pay workers or may default on loans, it can claim with some justification that it is not responsible for its fiscal woes. Then pressure from voters, employees and creditors will likely be directed at the central government, which can resolve the current crisis. Knowing this, transfer-dependent governments face weak incentives to be fiscally responsible, since it is more rewarding to position themselves for a bailout.

One way of measuring the level of dependency of subnational government on federal transfers is by looking at the ratio of federal transfer to own revenue in the state government total revenue as shown by the figure below. As we can see from figure 5.5, across states, the level of dependency of the Malaysian state governments on federal grants are relatively low and have never surpassed the 40% level. Besides, as it shown by the figure, there is a clear trend towards less and less dependency on federal grants by the state governments. For example in the 1970s and up to the middle of the 1980s, more than 30% of the state governments' revenues are derived from the federal transfers. Beginning from 1986, the federal transfers constituted less than 20% of the state governments' revenues.

When we look at a more disaggregated level the trend is however less clear. The ratio of intergovernmental transfers and own revenue in the states governments' total revenue for each state is shown in figure 5.6. We can see that there are states which manage to secure a major part of their revenue from their own sources. These states include the petroleum-rich states (Sabah, Sarawak and Trengganu) as well as Pahang whose revenues are derived essentially from its huge forest area. There are also states such as Kedah, Kelantan and Perlis which are very dependant on federal grants which constitute more than half of their total revenue. For example, in 2003, Perlis received RM 32 millions in grants from the federal government which constituted almost half of its

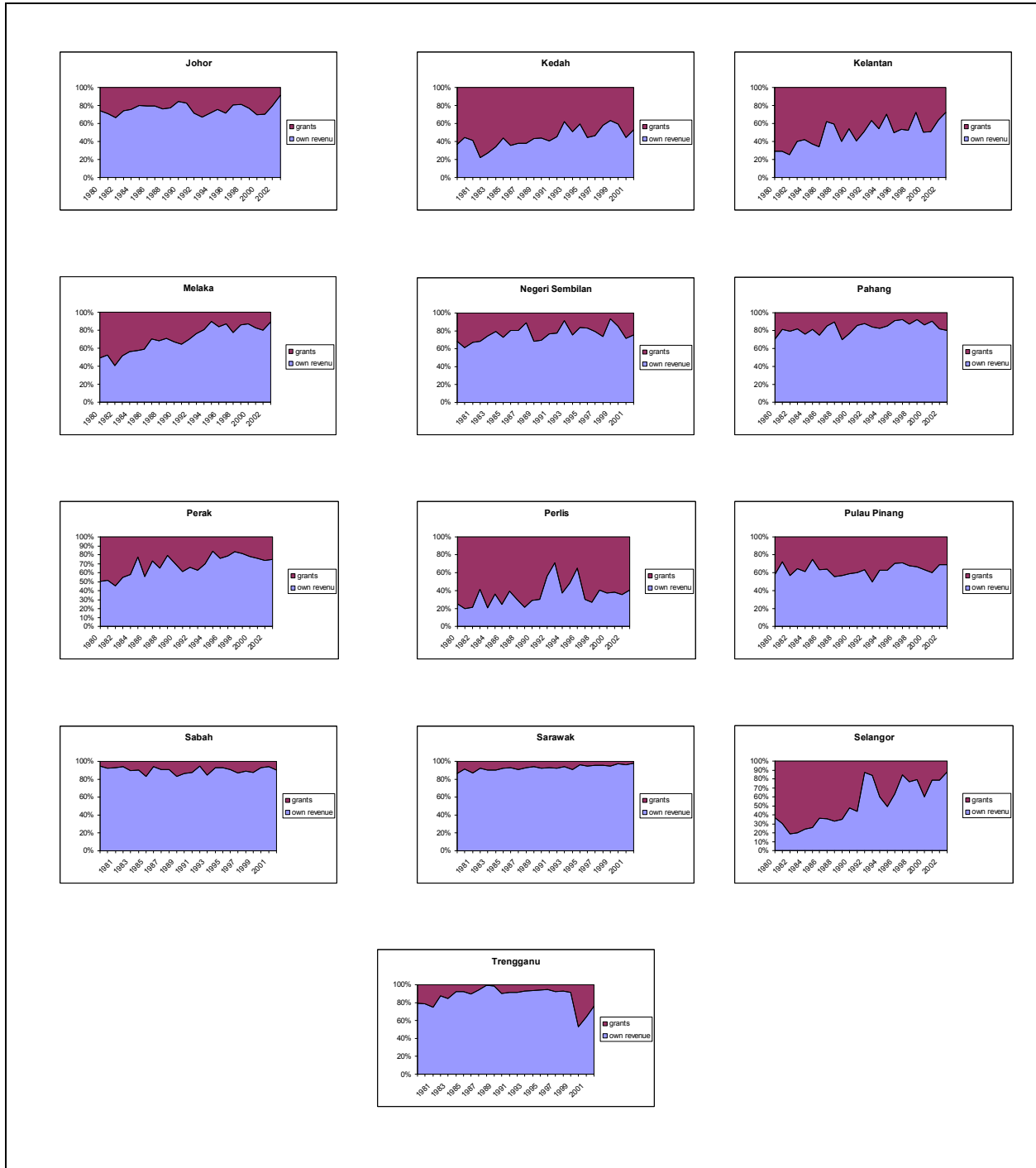
RM66 million current revenue. The high level of dependency of states like Kedah, Kelantan or Perlis on federal transfers is easily understood given the level of development of these states which are relatively low as compared to other states in the country. As for other states, their level of dependency on federal transfers is similar to the one observed for the country as a whole (up to 30%).

Figure 5.5. Level of transfer dependency across states (1970-2004)



Source: Economic Report, Treasury Malaysia various issues

Figure 5.6. Level of transfer dependency by states (1980-2003)

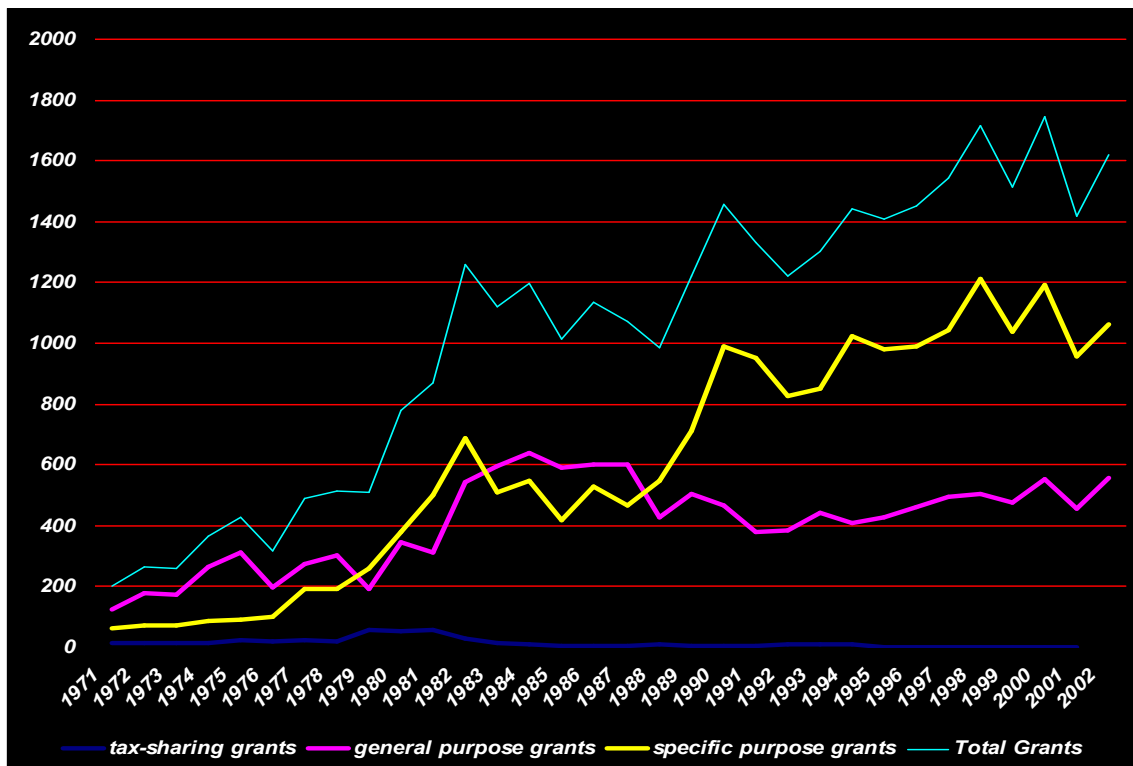


Source: State Governments' Financial Statement, various issues

Another issue that is worth examining is the type of transfers that are made by the federal government and their evolution across time. As stated before, there are three types of grants made to the state governments in Malaysia. The evolution over time of these three types of grants is shown in Figure 5.7.

Up to the end of the 1970s, the vast quantum of grants made to the Malaysian state governments come in the form of general purpose grants. For example, in 1971, the general purpose grants stood at RM 124.1 million as compared to RM 63.6 millions which are given in the form the specific purpose grants. However, beginning from the end of 1970s, the amount of specific purpose grants have increased tremendously owing in particular to the increase in the road grants as well as the cost reimbursement grants and the development grants. As of today, the specific purpose grants constitute more than two third of the total amount of grants made by the federal government.

Figure 5.7. The evolution of the composition of state grants (1971-2003)



Source: State Governments' Financial Statement, various issues

The shift in the type of grants made by the federal government to state governments can be explained by the fact that in the 1970s, Malaysia started to experience a rapid growth in its economy. In order to sustain these growths and as the federal government are flushed with more incomes, the country started to invest in the development and modernization of its physical infrastructure. And since most if not all of the specific purpose grants are aimed at financing development projects at the state level, it comes to no surprise that their amount has increased tremendously during that period of time. For example, the cost reimbursement grants and the development grants have increased from only RM 15.2 millions in 1971 to more than RM 600 million in 1990. Afterward, these two grants have more or less stabilized within the range of RM 300 to RM400 millions per year. As for the state road grants its rapid growth (from RM44.5 millions in 1971 to RM 884 millions in 2002) merely reflects the continuous effort made by the government in connecting various part of the country through the construction of new networks of roads and highways.

4.5. Tax efforts of the state governments in Malaysia

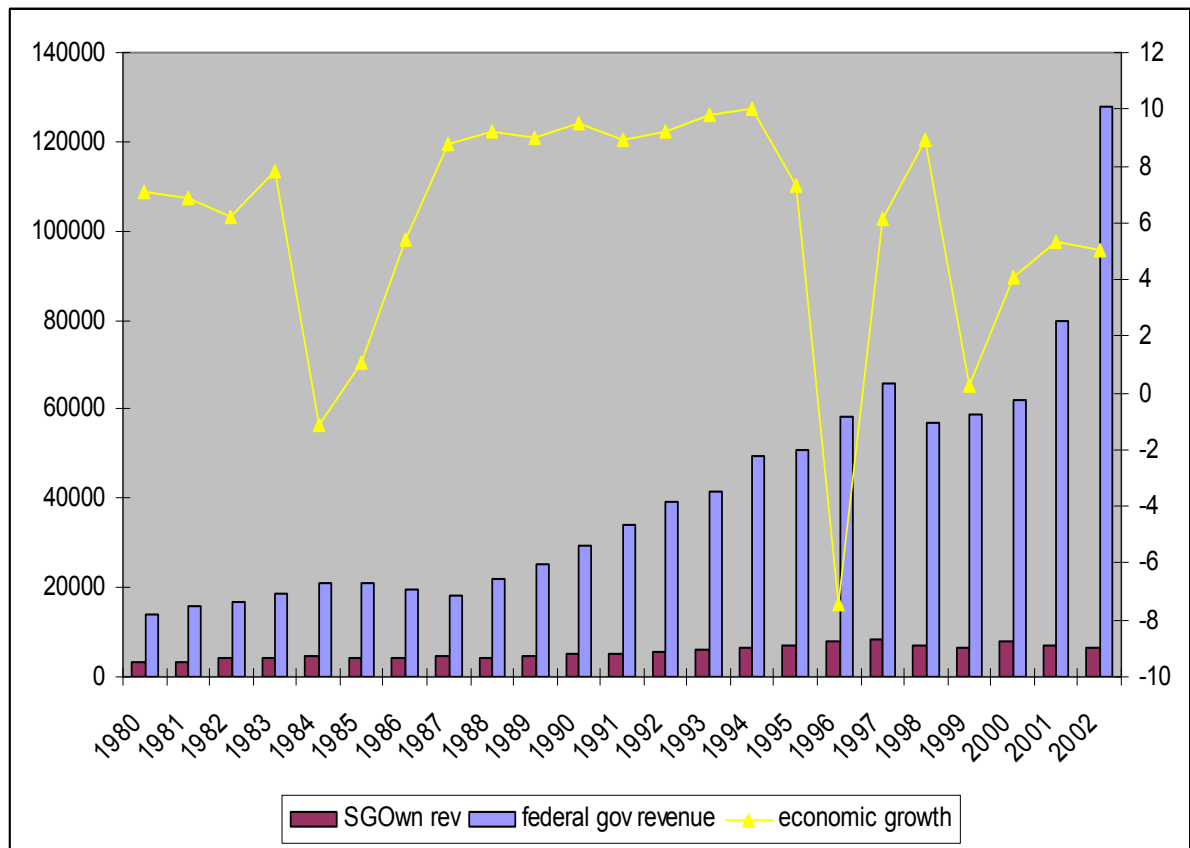
Before we proceed with our empirical analysis, it will be interesting to have a general idea of the level of the tax efforts of the state governments in Malaysia. It is noteworthy that to date, there is yet any study that tries to evaluate the tax efforts of the Malaysian state governments⁶⁵.

Figure 5.8 illustrates the evolution of state governments' tax revenues during the period of 1980 to 2002. The figure shows that during the period, the state governments' tax revenues have indeed increased but its rate of growth has been relatively modest. In 1980, the aggregate tax revenues of the state governments stood at around RM 340.52 million. In 2002, the amount stood at only RM 6692 millions not even the double of the amount in 1980. And compare this to the evolution of the federal government' tax revenues. Indeed if at the beginning of the 1980s, the ratio of the revenues of the federal

⁶⁵ Noh (1992) did mention in her study that states governments do not use their tax bases very efficiently and that if they were administered better more revenue would be collected and there would be less of a gap between their revenues and the costs of meeting their obligations. However, these are mere assumptions as the author did not provide any figures in support of her claims.

governments to those of the state governments stood at around 4 to 1, in 2002 the ratio has increased to around 20 to 1. The federal governments' revenue in 1980 was RM 13,926 millions and in 2002, the amount has increased almost 10 fold to reach RM127,753 millions.

Figure 5.8. The evolution of state and federal government' tax revenues and the economic growth rate (1980-2002)



Source: Economic Report, Treasury Malaysia various issues

Given the episodes of high growth that have been experienced by the country during a major part of this period, it may come as a surprise to see that the state governments' tax revenues have not increased concordantly. As evidenced by figure 5.8, if there seems to be to a certain extent some degree of correlation that can be observed between the economic growth and the federal governments' revenue, the state

governments' tax revenue seems to be almost totally independent of the movement in the economic activity of the country. Could this apparent lack of growth in the taxes revenues despite the favorable environment be interpreted as a sign of laxism on the part of the state governments in collecting their taxes?

Some may argue that given the way taxation powers are divided in the Federal Constitution between the different levels of governments in Malaysia, tax efficiency alone cannot explain the difference in the evolution of tax revenues between the state governments and the federal government. Indeed, tax bases that are devolved to the state governments are relatively small compared to the ones that are retained by the federal governments. Furthermore, for most of these taxes, their bases are not directly dependant on the economic activity. As a consequence, there should be little or no correlation at all between economic growth and the amount of tax actually collected by state governments. Or to put it differently, the buoyancy of the tax revenues of the state governments is lower than that of the federal government.

Nevertheless, it can be argued that even if the tax revenues collected by the state governments are not directly dependant on the level of economic activity, it is not farfetched to assume that indirectly they may still be some correlation between them. For example, taxes derived from the forestry resources which constituted the main source of revenues for most state governments may increase with economic growth as demand for forests products for construction activities or for furniture may increase when there is a higher economic growth. In case of taxes on land and property such as the quit rent or the assessment tax, it is fairly reasonable to expect some increase in their proceeds when there is a higher economic activities as the value of land and properties upon which these taxes are usually based will also increased due in particular to more demand either from the population or from the business communities. And the same argument goes for entertainment taxes which may also increase in tandem with economic activity as people will spend more on entertainment as their income increases.

The main point here is that, to a certain extent, it is mainly up to the state governments to make sure that the economic growth that is experienced by the country

will also translate into more revenues for them by investing more efforts in their tax collection system. And the fact that that have been relatively little or nor correlation at all between the tax revenues of the state governments and the economic growth of the country could partly be due to the lack of fiscal efforts exerted by the state governments. Indeed, the simplest way for them to get a better deal out of the improved situation of the economy is for them to increase their tax rates proportionately to the increase in economic activity. But some state government may not see this approach as feasible as they might be afraid of the backlash from the local population especially during election time⁶⁶. Yet again such fear could easily be dealt with if the hikes in rates are to be accompanied by an improvement in the provision of goods and services to the local population.

Another way of gauging the tax efficiency of the state governments is by examining the amount of tax arrears that are yet to be collected by the state governments which are shown in Table 5.6. As we can see from this table, every year the state governments have failed to collect a huge amounts of tax revenues. For instance, in 2004 the amount of tax arrears for the state of Johor is RM 132 millions which is almost 18% of its total revenue during that year. And for some states, such as Kelantan or Kedah, the amount of tax arrears constitutes up to 50% of their total revenues.

The problem of uncollected tax arrears can be due to the technical and financial constraints face by the state governments in managing their tax collection system and may have little or nothing to do at all with their tax efficiency. The state governments may not have enough financial resources to hire more personnel in order to collect these arrears or to pursue those who fail to pay their taxes. Nevertheless, if this is truly the case and given the fact that the problem has been around for quite a certain period of times, there should be a downward trend in the amount of uncollected tax arrears as state

⁶⁶ Anecdotal evidences show that local population is more vocal in opposing increases in local taxes rates as compared to the increase in taxes under the purview of the federal government. For example, in Sarawak in 2002, the state government has had to postpone its proposal to raise assessment rate after public outcries over the increased rate. In 2007, in Kedah, the decision by the state government to increase the land tax has also been subject to complaint by various part of the population

governments may have introduced and implemented adequate measures and steps that can compensate for their lack of technical and financial resources.

This is however not the case. As shown in table 5.6, the amount of tax arrears has either remained stable or increased for most of the states. For example, in Kedah the amount of tax arrears has increased from RM 68.60 millions in 2001 to RM 106.24 in 2004. And even in Selangor which is the most developed state in the country and where technical and financial constraints should be less of a problem, the amount of tax arrears has more than double during the same period (from RM 197.44 millions in 2001 to RM 471.57 millions in 2004). Either the measures that have been taken in order to deal with these problems have failed in which case other steps should be introduced or the state governments simply don't put enough effort in improving their tax collection system. In other words, given the evolution of tax arrears across time, it is fairly plausible to assume that the state governments are being rather inefficient in administering the tax collection system.

Our discussions on the performance of tax revenues collected by the state governments as well as the problem of tax arrears have given us some general idea on the tax efficiency of the state governments in Malaysia. Based on the discussion, it seems that the state governments are not using their total potential in collecting their taxes which resulted in lower amount of revenues. Nevertheless, it remains to be answered whether this inefficiency can partly be explained by the intergovernmental grants system currently in place in the country.

Whether subnational governments' tax efficiency will be affected by federal transfers that they receive depend very much on the way the grants are perceived by the state governments. It can be argued that if the grants are easily made available to the state governments and the amount of the grants received are easily manipulated by them, there is little incentives for the state governments to invest in the improvement of their tax collection. But if the grants are obtained only on specific circumstances and for specific purposes and their disbursement is based on formulas that are immune to any

manipulation, the state governments have little to gain and probably much to loose by slackening in their fiscal efforts. In other words, the effects of intergovernmental grants on tax efficiency will to a certain extent depend on the share of conditional lump sum grants in the total grants and more importantly on the way this category of grants is disbursed by the federal government.

Table 5.6. Arrears of revenues due to the state governments

	2001	2002	2003	2004
Johor	149.04	164.84	124.06	132.55
Kedah	68.60	70.69	93.21	106.24
Kelantan	95.05	123.48	94.08	89.34
Melaka	41.76	43.48	49.07	47.98
N.Sembilan	43.82	53.62	60.38	62.16
Pahang	61.04	52.27	58.83	67.31
Perak	144.45	149.50	188.42	185.03
Perlis	20.29	19.57	19.75	20.91
P. Pinang	36.86	38.15	46.82	54.41
Sabah	493.82	512.52	446.99	461.40
Sarawak	120.03	309.58	188.92	153.63
Selangor	197.44	113.60	356.26	471.57
Trengganu	86.26	88.90	22.63	9.34

Source: Auditor General' Report, various issues

In the case of Malaysia, we have shown previously that a major part of the intergovernmental grants is constituted by the specific purpose grants. There is thus little basis for us to worry of any negative effect of federal grants on the fiscal behavior of the state governments. On the other hand, even though general purpose grants are relatively small compared to specific purpose grants, they still constitute a huge sum of money for the state governments. Consider the capitation grants for example. In 2002, the amount of money disbursed by the federal government under the capitation grants is RM 327.86 millions. The amount was only second to the state road grants which by far are the largest

federal grant. And if we combine this with the RM150 million from the revenue growth grants, the state governments have in their hand a fairly huge sum of money that they can spend at their own guise.

The question that ensues is how easy are these grants obtained by the state governments? All of the major federal grants be it for specific purpose or non-conditional are provided for by the Constitution which signifies that they are subject to certain regulations clearly etched in the Constitution. View from this angle, it seems plausible to argue that federal grants in Malaysia are not easily obtained by the state government as their disbursements are based on certain formulas. Furthermore, the fact that these formulas are clearly explained either in the Constitution or in other Articles of the law, there is little room for the state governments to manipulate the amounts of grants that they will receive. Nonetheless, there have been some moves undertaken by the federal government that may suggest that it is trying to ease the obtention of certain grants. For example, the revenue growth grant when it was first conceptualized, was disbursed only if there is an increase of 10% in the total federal government revenue. However, the rule has been amended in 1980 and now the grant will be disbursed in the event of any increase in the federal government revenues, no matter how much the magnitude of the increase is. The change may be interpreted by some as an acknowledgement by the federal government of the need to be more predictable in its distribution of grants which in itself is a laudable initiative. But it may also be interpreted as a sign that the federal government is trying to make available to the state governments more grants which in turn may lead to a slackening in the latter's fiscal effort.

The impact of federal grants on tax efficiency can also be assessed by examining whether fiscal effort is taken into account in the formulation of the grants. It can be argued that if fiscal effort is indeed primordial in the determination of federal grants, state governments will be encouraged not to slack in their efforts in order to receive more grants. Yet in the case of Malaysia, due particularly to the difficulty in coming up with a good measure of fiscal effort, none of the grants are attached to the level of fiscal efforts exerted by the state governments. In contrary, if we assume that there is a correlation between state governments' fiscal efforts and level of deficit, the federal grants seem to

reward state governments that lack fiscal efforts notably through the state reserve fund grants or the contingency fund grants.

In summary, the arguments above provide us with some general idea about the relation between federal grants and fiscal efficiency in Malaysia. Indeed, there are some indications that federal grants might not be without effect on fiscal efficiency. Nevertheless, the true nature of this relation is still not clear and deserves further clarification.

5. Econometric Estimations

5.1. The choice of methodology

In order to determine the effects of federal grants on the fiscal efforts exerted by the Malaysian state governments, we will use the stochastic frontier analysis. More specifically we will use the Battese and Coelli (1995) model. It should be noted however that, by choosing this method, we will provide evidence as to the impact of intergovernmental grants on tax efficiency instead of on fiscal effort⁶⁷. Still, the two notions are very closely related to each others and to a certain extent, can be used interchangeably. Indeed, a stylized interpretation of inefficiency is that it captures the “inability” or the “laziness” of managers (Syrjänen et al. 2006). In our case, inefficiency will thus be interpreted as the lack of effort of the state governments in collecting their taxes.

5.2. The stochastic frontier production

The stochastic frontier production function was independently proposed by Aigner, Lovell and Schmidt (1977) and Meeusen and van de Broeck (1977). The original specification involved a production function specified for cross-sectional data which had

⁶⁷ In the literature, tax effort is usually associated with the amount of tax collected. For example Sjoquist (1996) in his measure of tax effort index in Georgia, compares the actual revenue that a government collects with the potential revenue or tax capacity. The same method is used by Bird and Wallich (1992) who measures tax effort using actual tax revenues or the difference between tax revenues and the predicted value coming from a regression explaining tax capacity.

an error term which had two components, one to account for random effects and another to account for technical inefficiency. This model can be expressed in the following form

$$Y_i = X_i\beta + (v_i - u_i), \quad (\text{eq. 1})$$

$$i = 1, \dots, N$$

Where Y_i is the production (or the logarithm of the production) of the i -th firm X_i is a $k \times 1$ vector of (transformation of the) input quantities of the i -th firm. β is a vector of unknown parameters. The v_i are random variables which are assumed to be iid $N(0, \sigma_v^2)$ and independent of the u_i which are non-negative random variables which are assumed to account for technical inefficiency in production and are often assumed to be iid $N(m_{it}, \sigma_u^2)$.

This original specification has been used in a vast number of empirical applications over the past two decades. The specification has also been altered and extended in a number of ways.

Battese and Coelli (1992) propose a stochastic frontier production function for panel data which has firm effects which are assumed to be distributed as truncated normal random variables, which are also permitted to vary systematically with time. The model may be expressed as

$$Y_{it} = X_{it}\beta + (v_{it} - u_{it}), \quad (\text{eq. 2})$$

$$i = 1, \dots, N, t = 1, \dots, T.$$

where Y_{it} is the logarithm of the production of the i -th firm in the t -th period X_{it} is a $k \times 1$ vector of (transformation of the) input quantities of the i -th firm in the t -th time period. β is as defined earlier. The v_{it} are random variables which are assumed to be iid and independent of

$$u_{it} = u_i e^{-n(t-T)} \quad (\text{eq. 3})$$

Where the u_i are non-negative random variables which are assumed to account for technical efficiency in production and are assumed to be iid. as truncation at zero of the $N(\mu, \sigma_u^2)$ distribution ; n is a parameter to be estimated.

A number of empirical studies have estimated stochastic frontiers and predicted firm-level efficiencies using the estimated functions and then regressed the predicted efficiencies upon firm-specific variables (such as managerial experience, ownership characteristics, etc) in an attempt to identify some of the reasons for differences in predicted efficiencies between firms in an industry. This has long been recognized as a useful exercise, but the two-stage estimation procedure has also been recognized as one which is inconsistent in its assumptions regarding the independence of the inefficiency effects in the two estimation stages. The two-stage estimation procedure is unlikely to provide estimates as efficient as those that could be obtained using a single-state estimation procedure.

The issue was addressed by Kumbhakar, Ghosh and McGukin (1991) and Reifschneider and Stevenson (1991) who propose stochastic frontier models in which the inefficiency effects (u_i) are expressed as an explicit function of a vector of firm-specific variables and a random error. Battese and Coelli (1995) propose a model which is equivalent to the Kumbhakar, Ghosh and McGukin (1991) specification, with the exceptions that allocative efficiency is imposed, the first-order profit maximizing conditions removed, and panel data is permitted. The Battese and Coelli (1995) model specification may be expressed as

$$Y_{it} = X_{it}\beta + (v_{it} - u_{it}), \quad (\text{eq. 4})$$

$$i = 1, \dots, N, t = 1, \dots, T.$$

where Y_{it} , X_{it} and β are as defined earlier. The v_{it} are random variables which are assumed to be iid $N(0, \sigma_v^2)$ and independent of the u_{it} which are non-negative random variables which are assumed to account for technical inefficiency in production

and are assumed to be independently distributed as truncations at zero of the $N(m_{it}, \sigma_u^2)$.distribution where

$$M_{it} = Z_{it} \alpha \quad (\text{eq. 5})$$

Where Z_{it} is a $p \times 1$ vector of variables which may influence the efficiency of a firm and α is an $1 \times p$ vector of parameters to be estimated.

5.3. Data specification

The data used in this chapter are mainly sourced from the State governments' financial statement which is published and made public by the state government on a yearly basis. Our data covers the period of 1980 to 2003 which means that we have a total of 312 observations.

Our measure of tax efforts will be proxied by the amount of tax actually collected by the state governments⁶⁸. Our choice is made mainly based on data availability.

5.3.1. The determinants of the frontier

Although it is highly desirable to have a measure of tax rate included in our estimation of tax efficiency, we could not do so due in particular to technical and data constraints. The two main fiscal resources of the state governments are from land as well as forestry resources. In case of the taxes on land, the rates not only varied across states they also vary across type of land, the use of lands and the location of lands. As for the forest-based taxes, the rates vary according to the type of tree, the circumference of the tree and the age of tree. It will thus be very difficult to come up with a single rate that can summarize all the rates that are being used. As such we decide not to include tax rate in our estimation and replace it with the following three variables: the proportion of forest

⁶⁸ According to Besfamille and Sanguinetti (2004), although tax revenue is an accurate and observable variable, still one can hardly say that it is a good estimate of tax effort. The reason is for a given region in a given time period tax revenue is affected by a myriad of potential variables outside the control of local governments (like idiosyncratic shocks to some specific tax bases) which are seldom well controlled for in estimates of tax capacity.

area in order to represent the revenues derived from the forestry resources, the rate of urbanization and the rate of agricultural activities in order to represent the land-based revenues. We also include the state gross domestic product to represent the level of economic activity in each state. Total population is also included as populous states may have an upper hand in term of the amount of taxes collected. Finally, the time trends are introduced using the variables time and time square.

5.3.2. The determinants of the efficiency level

The inefficiencies are modeled as functions of other exogenous variables. These variables are observed factors that may explain differences in technical efficiency across state governments in Malaysia.

The efficiency level of state governments in their tax collection will in part be determined by the quality of the state apparatus. State governments that are equipped with state-of-the-art machinery and qualified personnel are more likely to be able to monitor their tax collection more efficiently and make due diligence in case of fraud. However we don't have any data that reflects the quality of state apparatus. Nevertheless, we believe that the latter is in part determined by the level of development of the state. Assuming that there is a minimum level of wastage and corruption, richer states should be able to invest more in modern and state-of-the-art equipments in order to upgrade and improve the state machinery. Furthermore, since richer states have better amenities and facilities they are more likely to attract qualified professionals to work for them. We will thus retain the level of GDP to control for the effects of the quality of state apparatus on tax efficiency.

It can also be argued that state with smaller land superfcy will be able to administer and collect tax more efficiently than state with a more vast superfcy. On the other hand, land superfcy will not pose any problem in term of tax collection if the state government is staffed with qualified personnel and equipped with machinery of the latest technology. To control for these two effects, we will include in our estimation the size of the state as well as its interaction with the GDP.

Finally in order for us to test for the effect of intergovernmental grants on tax efficiency, we include in our regression the share of grants in the state governments total expenditures.

Table 5.7 provides the descriptive statistics of the variables described above.

Table 5.7. Statistics Descriptive

	Mean	Standard Errors	Min	Max
Own Revenues (RM'000)	549.63	358.31	24.64	1790.63
Forest area (km2)	14911.39	24252.63	66.08	86368.30
Urbanization rate (%)	40.57	14.30	32.04	80.00
Agricultural activities (km2)	218654.38	188207.19	31937.00	1070349.00
GDP (RM '000)	10.936	5.950	3.219	37.110
Population ('000)	1355.86	754.88	209.10	4498.10
Grant share (%)	0.31	0.20	0.02	0.81
Size (km2)	25374.07	34341.67	795.00	124450.00

Source: Author's calculation

5.4. Empirical specification

Following Battesse and Coelli (1995), the frontier is defined by

$$TA_{it} = \exp(X_{it}\beta + (v_{it} - u_{it})) \quad (\text{eq. 6})$$

Where TA_{it} denotes real total own tax revenues of state i in year t , X_{it} represents a $(1 \times K)$ vector of values, which are functions of tax capacity factors, including time for the i -th state in the t -th year, the v_{it} are assumed to be independently and identically distributed random error terms which have normal distribution with zero mean and standard deviation σ_v , the u_{it} are non-negative unobservable random variables (with

standard deviation σ_u) associated with the inefficiency of tax collection, such that, given the X_{it} , the observed level of tax collection falls short of potential.

Concurrently with the stochastic frontier, then, we estimate

$$U_{it} = Z_{it}\delta + Z_{it}^*X_{it}\delta' + W_{it} \quad (\text{eq. 7})$$

where Z_{it} is a (1 x M) vector of explanatory variables, including time, associated with the technical efficiency effects, δ is a (M x 1) vector of unknown parameters to be estimated, δ' is a vector of parameters associated with the interaction terms .

$Z_{it}^*X_{it}$ and W_{it} are unobservable random variables assumed to be independently distributed, obtained by truncation of the normal distribution with mean zero and variance, σ^2 , such that the U_{it} is nonnegative.

Given the specification of the model, the hypothesis that the technical inefficiency effects are not random is expressed by $H_0: \gamma = 0$, where $\gamma = \sigma_u^2 / \sigma^2$ and $\sigma^2 = \sigma_u^2 + \sigma_v^2$. Further, the hypothesis that the technical inefficiency effects are not influenced by the level of explanatory variables in equation (2) is examined by testing the significance of δ and δ' . The estimation used Maximum Likelihood methods with the Frontier 4.1 software.

5.5. Results

5.5.1. Baseline regressions

Relative efficiency can be measured by applying stochastic frontier techniques to the individual annual samples, and to the total sample as a panel, but in many cases efficiency differences are a function of inadequate models and data, even when the frontier is stochastic. These two potential difficulties are directly addressed here. First, in many cases, model error is likely, because the functional form fitted is usually the Cobb Douglas, which is highly restrictive. Thus, the adequacy of the Cobb Douglas should be tested against a flexible functional form, such as the translog. Second, data error is

inevitable where a model essentially representing economic production employs accounting data. However, apart from measurement error embodied in the available variables, failure to adjust for variable omission and inappropriate aggregation is the norm rather than the exception. In addition, a third problem has been highlighted by Smith (1997) who has shown that inefficiency levels, or choice of frontier over the average production function, depend on both the functional form and the level of aggregation, even if there are no missing variables. For all these reasons, inefficiencies need to be treated with a degree of caution and appropriate tests are required to select the correct model. This problem has been addressed by Battese and Coelli (1995). Their inefficiency model, in which the efficiency differences are simultaneously estimated from the stochastic frontier and explained by further variables, incorporates tests that choose between functional forms and between frontier and average models. The method of maximum likelihood is used to estimate the unknown parameters, with the stochastic frontier and the inefficiency effects estimated simultaneously. A number of related models can be tested, following the estimation.

The first test is the selection of the functional form, where the null hypothesis is that the Cobb-Douglas is an adequate representation of the data. The functional form of the stochastic frontier was determined by testing the adequacy of the log-linear model relative to the less simplistic translog, which includes cross products and square terms to allow for interactions and non-linearities in the data. The results of our test point to the rejection of the null hypothesis. We will thus adopt the translog specification.

The next test was to determine whether this is indeed a frontier model and not simply a mean response function (MRF) or OLS. A weak criterion is a t-test on the estimated parameter, $\gamma = \sigma_u^2/\sigma^2$, which is bounded by zero and one. If $\gamma = 0$, technical inefficiency is not present; hence, the null hypothesis is that $\gamma = 0$, indicating that the mean response function (OLS) is an adequate representation of the data. The closer this is to unity, the more likely it is that the frontier model is appropriate. The results of LR tests of the hypothesis show that the technical efficiency effects are not simply random errors.

The power of the LR test is increased by testing the dual null hypothesis that both the frontier parameter and all the inefficiency effects are jointly zero $\gamma = \delta_i = 0$, for all i , meaning that neither the constant term nor the inefficiency effects are present in the model. Since γ takes values between 0 and 1, any LR test involving a null hypothesis which includes the restriction that $\gamma = 0$ has been shown to have a mixed χ^2 distribution, with appropriate critical values (Kodde and Palm, 1986). The results points to the rejection of the null-hypothesis and suggest that the traditional production function is not an adequate representation of the data.

Finally, before embarking on the econometric estimation of our equation, it is important given the relatively long time dimension of our dataset, to test weather our series are stationary or not. In fact, the presence of unit roots could seriously undermine the reliability of standard regression analysis, by implying the acceptance, based on biased significance statistics, of spurious relationships. To this matter, we implement the Levin, Lin and Chin (2002) test, where the null hypothesis is that all variables are non stationary; based on an augmented Dickey-Fuller regression, the procedure imposes homogeneity on the autoregressive coefficients, which indicate the presence or absence of a unit root, while the intercept and the trend can vary across individual series.

The results of our frontier estimation are summarized in table 5.8. In column A, the distribution is assumed to be half normal while in column B, a truncated normal distribution is assumed. These maximum likelihood estimators of the translog coefficients are not very informative. Rather, the elasticities for each of the four inputs, calculated from these results, at the variable means, are of interest. These elasticities with respect the inputs, x_j , for the translog is

$$\xi_j = \frac{\partial \ln(y_i)}{\partial \ln(x_{ji})} = \beta_j + \sum_{j=1}^4 \beta_{jh} \ln(x_j) \quad (\text{eq. 8})$$

These estimates can be expressed as

$$\xi_j = \lambda_j \hat{\theta} \quad (\text{eq. 9})$$

where $\hat{\theta}$ is the full vector of the maximum likelihood estimators of the parameters and λ_j is a row vector of the same dimension, which has zero entries everywhere, except when corresponding to the elements of θ involving β_j and β_{jh} . The reported standard errors of the elasticities are

$$\hat{V}(\lambda_j \hat{\theta}) = \lambda_j \hat{V}(\hat{\theta}) \lambda_j' \quad (\text{eq. 10})$$

where $\hat{V}(\hat{\theta})$ is the estimated covariance matrix for $\hat{\theta}$. The elasticities are reported in table 5.9.

The parameter of our frontier models indicates that for the first model, only the elasticity of GDP is found to be significant. As for our second model, none of the elasticities are found to be significant.

The results of estimates of variables on the efficiency level are presented in table 5.10. We are particularly interested in the effects of federal grants on state governments' tax efficiency. The results show that the share of grants in the state governments' total expenditure has a positive impact on the level of inefficiency. In other words, the higher the share of federal grants of total state expenditure, the lower the tax efficiency. The result is robust to the change in distribution. As for the interaction term between grants and GDP, the estimates are significant only in the case of a truncated normal distribution. Also, the magnitude of the coefficient is rather small. The results imply that the intergovernmental grants system in Malaysia is not without consequence on the fiscal behavior of the state governments. Even though at first sight the system may not seem to have any bearing on the fiscal behavior of the state governments, our results show that somehow its implementation has resulted in the state governments being less efficient in their tax collection.

As for other variables, we found that in model A, size is associated with less inefficiency. This may be due to the fact that states with vast superficies usually have a vast forest area and since forest based taxes are relatively easier to administer as compared to

other taxes (especially land taxes), these states are found to be more efficient than smaller states. In Model B, we found that GDP is positively associated with tax inefficiency which contrary to our expectations, implies that richer states tend to be less efficient. It is also found that the effect of GDP on inefficiency level is attenuated by the size of the state.

Table 5.8. Frontier estimation results (full sample)

	Model A		Model B	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Forest	-1.1026	0.8118	-0.5671	0.8275
Forest ²	0.0141	0.0222	0.0073	0.0276
Urbanization	-2.7961	1.8465	-3.6273***	0.9644
Urbanization ²	0.2775	0.3694	0.3017	0.3283
Agriculture	0.8303	0.6189	1.2362*	0.6795
Agriculture ²	-0.0398**	0.0175	-0.0522***	0.0233
GDP	-4.7509***	1.4956	-3.9290***	0.9526
GDP ²	-0.6597*	0.3759	-0.7948	0.5186
Population	5.3438***	0.9265	4.1761***	0.8887
Population ²	-0.4719	0.2918	-0.4031	0.3683
Time	-0.0423	0.0954	-0.0268	0.1413
Time ²	-0.0009	0.0008	-0.0004	0.0017
Forest*Urbanization	0.2098	0.1459	0.1524	0.1788
Forest *Agriculture	0.0125	0.0305	0.0166	0.0363
Forest *GDP	-0.0573	0.1283	-0.1108	0.1679
Forest *Population	0.0484	0.1479	0.0389	0.1713
Forest *Time	-0.0115*	0.0064	-0.0088	0.0084
Urbanization*Agriculture	0.0462	0.1154	0.0695	0.1361
Urbanization*GDP	1.6035***	0.5644	1.7365***	0.6021
Urbanization*Population	-1.1773**	0.5099	-1.1475**	0.5711
Urbanization*Time	-0.0364	0.0284	-0.0438	0.0345
Agriculture*GDP	-0.0881	0.0973	-0.1236	0.1084
Agriculture*Population	0.0108	0.0981	-0.0098	0.0010
Agriculture*Time	0.0139**	0.0057	0.0181**	0.0079
GDP*Population	0.9724**	0.4394	1.1052*	0.6572
GDP*Time	-0.0332**	0.0173	-0.0288	0.0189
Population*Time	0.0461***	0.0156	0.0336	0.0217
Constant	4.4791**	1.9915	3.4261***	0.1005
Sigma squared	0.3014	0.0268	0.3332	0.0313
gamma	0.9999	0.0000	0.9999	0.000

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 5.9. Elasticities of input (full sample)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Forest	-0.1390	0.9927	-0.0949	0.5680
Urban	-0.9827	9.3210	-1.1912	6.7162
Agric	0.4766	0.5087	0.6001	0.8397
GDP	2.2829***	6.6691	3.8366	6.4014
Pop	3.2443	6.3141	2.7876	6.2499

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 5.10. Efficiency estimates (full sample)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Grants	1.4156***	0.1522	1.5735***	0.1609
GDP	-0.4389	0.3011	1.5253***	0.1046
Time	0.0013	0.0105	0.0036	0.0124
Size	-0.7130***	0.1367	0.0983	0.0977
Size*GDP	0.0368	0.0302	-0.1391***	0.0191
GDP*Grants	-0.0000	0.0000	-0.0000	0.0000
Constant	8.8389***	1.2667		

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

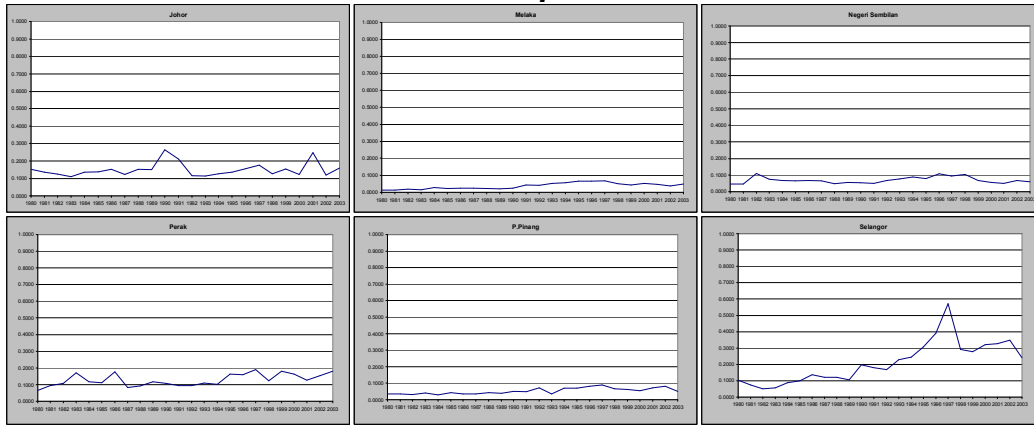
The estimates of efficiency level for each state for the period under study are presented in figure 5.9. The results show that except for two states, the level of tax efficiency of the state governments in Malaysia is rather low. During the whole period under study, their level of efficiency has never surpassed the 20% level. The facts that there is a low level of efficiency is nevertheless not really that surprising especially given the huge amounts of tax arrears that are yet to be collected by the state governments.

The estimates also show that there is stark contrast between the performance of the states situated in the Peninsular Malaysia and the two Borneo states, Sabah and Sarawak. Indeed, the two states are found to have a relatively higher level of efficiency as compared to the rest of the country. It is also noteworthy that the efficiency levels of these two states are found to be more volatile. In comparison, the efficiency level of the rest of the states fluctuated only within the 0 to 20% band throughout the whole period.

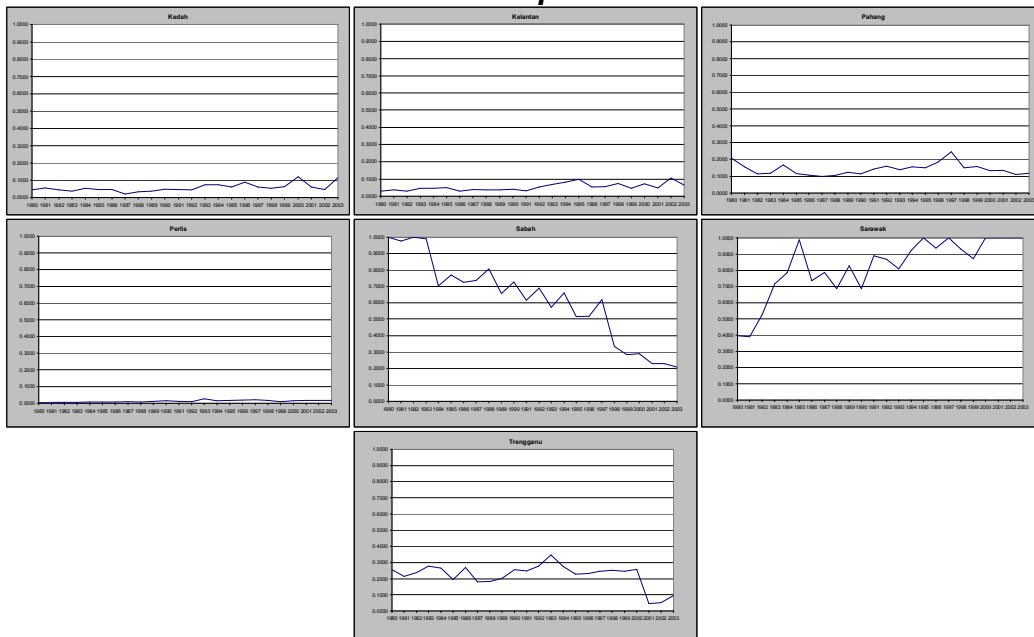
We also note a net difference in the evolution across time of the efficiency level of Sabah and Sarawak. In the case of Sabah, we observe a net degradation of its tax efficiency across time. In the early 1980s, the state is the most efficient state in term of tax collection. But in the mid 1980s, there is a sharp drop in its efficiency level which continues to deteriorate over the years to finally reach the level of efficiency of other states. This evolution is in net contrast to that of the state of Sarawak. In the beginning of the period under study, the level of tax efficiency of Sarawak is relatively low especially in comparison to Sabah. However, in 1982, Sarawak has seen its level of efficiency increased to finally overtake Sabah as the most efficient state in term of tax collection in the mid of 1980s. The evolution over time of the efficiency level of these two states somehow mirrors their standing in term of financial management in the recently published Report by the Auditor General of Malaysia (2003). Indeed, in the Report, the Sabah state government is considered as one of the states that are in dire financial situation while Sarawak is identified by the General Auditor as one of the states that have the best financial record.

Figure 5.9. Efficiency estimates (full sample).

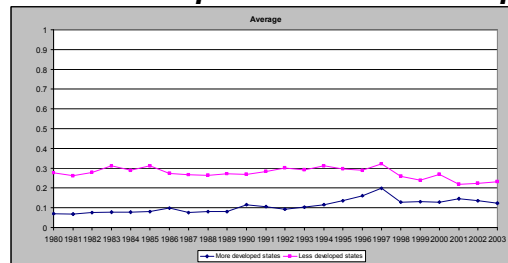
More developed states



Less developed states



Average more developed and less developed states



The fact that Sabah and Sarawak have a different position in term of their efficiency level as compared to other states does not really come as a surprise. In fact the two states are on different footing than the rest of the states as far as their revenues and responsibilities are concerned. This is due to their special position in the Federal Constitution of Malaysia. Not only that they are devolved with more revenues sources and more responsibilities as compared to another 11 states, they are also entitled to special grants from the federal government.

Given their special position, it may seem inappropriate to put these two states in the same basket as the rest of the states. And the relatively low efficiency level of the rest of the states as found in our estimations may be due to the inclusion of these two states in our sample. Indeed, it can be argued that the low estimates of efficiency level of these states may not signify that they are very inefficient but rather that they are relatively inefficient in comparison to Sabah and Sarawak. We will thus in the next section reestimate our regression by dropping the two states from our sample.

5.5.2. Subsample of Peninsular Malaysia

We present the results of our new estimations in table 5.11. Again based on these parameters we calculated the elasticity for each of the independent variable. The results are presented in table 5.12. In model A, none of the elasticities are statistically significant. However, in model B the elasticity of GDP is found to be significant.

As far as the estimates of the level of inefficiency is concerned, we found that even after dropping Sabah and Sarawak from our sample, federal grants is still positively associated with inefficiency level. The results may suggest that the association found previously between federal grants and tax efficiency is not spurious. Yet, the magnitude of the coefficient is somehow smaller than the one found in our preceding estimation. We also found that the effects of federal grants on inefficiency level to be conditional on GDP. The result implies that the level of GDP will attenuate the negative impact of federal grants on efficiency level. To put it differently, federal grants are found to be more disastrous for tax efficiency amongst poorer states. However it should be noted that the magnitude of the coefficient for the interaction term is rather small.

Table 5.11. Frontier estimation results (Peninsular Malaysia)

	Model A		Model B	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Forest	0.6157	0.9328	0.5077	0.8757
Forest ²	0.0023	0.0261	0.0030	0.0264
Urbanization	3.6591**	1.8277	3.2270*	1.7600
Urbanization ²	-0.0022	0.3889	0.0662	0.3818
Agriculture	0.8974**	0.4274	0.9765	0.6733
Agriculture ²	-0.0203	0.0181	-0.0174	0.0209
GDP	-3.0553**	1.2036	-3.3179***	1.2507
GDP ²	-0.3804	0.4326	-0.3763	0.4436
Population	4.8254**	1.9261	5.3012***	1.2655
Population ²	-0.5331	0.3583	-0.5661*	0.3152
Time	-0.1523	0.0973	-0.1265	0.1298
Time ²	-0.0021	0.0013	-0.0020	0.0013
Forest *Urbanization	-0.1551	0.1733	-0.1512	0.1746
Forest *Agriculture	0.0127	0.0276	0.0111	0.0283
Forest *GDP	-0.1509	0.1361	-0.1468	0.1330
Forest *Population	0.0592	0.1512	0.0706	0.1549
Forest *Time	0.0016	0.0084	0.0017	0.0082
Urbanization*Agriculture	0.0369	0.1321	0.0272	0.1374
Urbanization*GDP	0.7015	0.6760	0.7271	0.6779
Urbanization*Population	-0.8305	0.6251	-0.8361	0.6086
Urbanization*Time	-0.0065	0.0231	-0.0114	0.0299
Agriculture*GDP	-0.1247	0.0875	-0.1246	0.0890
Agriculture*Population	-0.0086	0.0651	-0.0201	0.0898
Agriculture*Time	0.0094	0.0063	0.0084	0.0070
GDP*Population	1.0479**	0.4930	1.0591**	0.4938
GDP*Time	-0.0324	0.0212	-0.0331	0.0218
Population*Time	0.0431**	0.0212	0.0438**	0.0219
Constant	-19.8381***	0.8859	-20.3323***	1.0315
Sigma squared	0.3322	0.0131	0.3295	0.0246
gamma	0.2215	0.0579	0.3273	0.0779

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 5.12. Elasticities of input (Peninsular Malaysia)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Forest	-0.0322	0.6645	0.3387	0.5416
Urban	0.1285	10.0599	-0.1217	8.3845
Agric	0.3842	0.3827	0.3567	0.6285
GDP	2.0330	6.6390	14.733***	4.1549
Pop	3.7294	10.7510	3.9682	8.2150

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 5.13. Efficiency estimates (Peninsular Malaysia)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Grants	1.2237***	0.0984	1.2026***	0.1489
GDP	0.7238**	0.3031	0.9133***	0.1006
Time	0.0039	0.0121	0.0019	0.0142
Size	-0.1250	0.3488	-0.0169	0.1191
GDP* Size	-0.0687**	0.0289	-0.0937***	0.0266
GDP*Grants	-0.0000**	0.0000	-0.0000*	0.0000
Constant	0.7906	3.1211		

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

As for other explanatory variables, we found that the coefficients for GDP to be positively associated with tax inefficiency, indicating that richer states tend to be less

efficient in their tax collection. On the other hand, it is also found that a higher dependence on grants as well a more vast land superfcy attenuate the negative impact of GDP on inefficiency level.

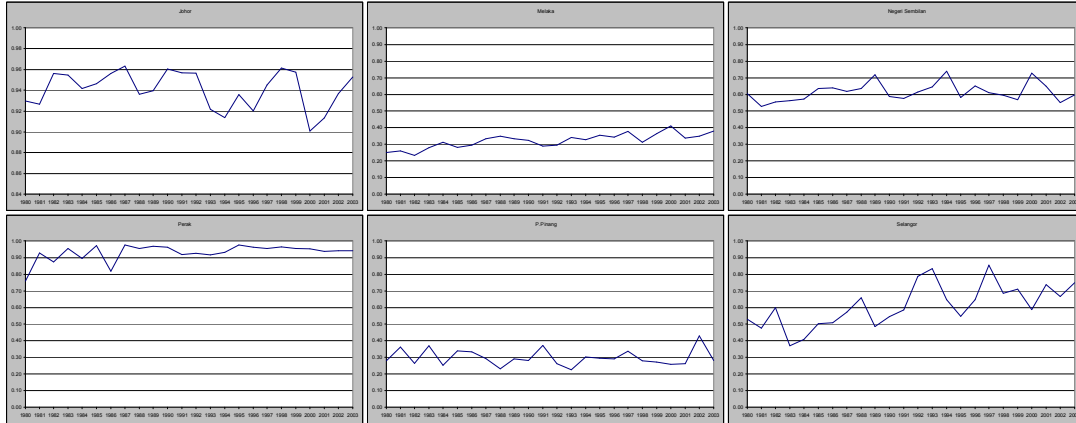
The scores of efficiency level for each state are presented in Figure 5.10. In contrast to our previous estimates, the state governments are found to be more efficient this time. The average efficiency level for all states during the period under study is 67%. The results suggest that the low efficiency level of the Peninsular states found previously in due to the inclusion of Sabah and Sarawak in our sample. It is noteworthy that the states governments differ widely in term of tax efficiency. The most efficient states are Perak and Pahang and the less efficient are Perlis and Penang. In figure 5.10, we separate the estimates of efficiency level according to the level of development of the states. It seems that the level of efficiency does not depend on the level of development as both groups have their fair share of very efficient and less efficient states. Indeed, the average of efficiency level for both groups is almost the same for both groups as shown by the lower panel of figure 5.10.

5.5.3. Tax and non-tax revenues

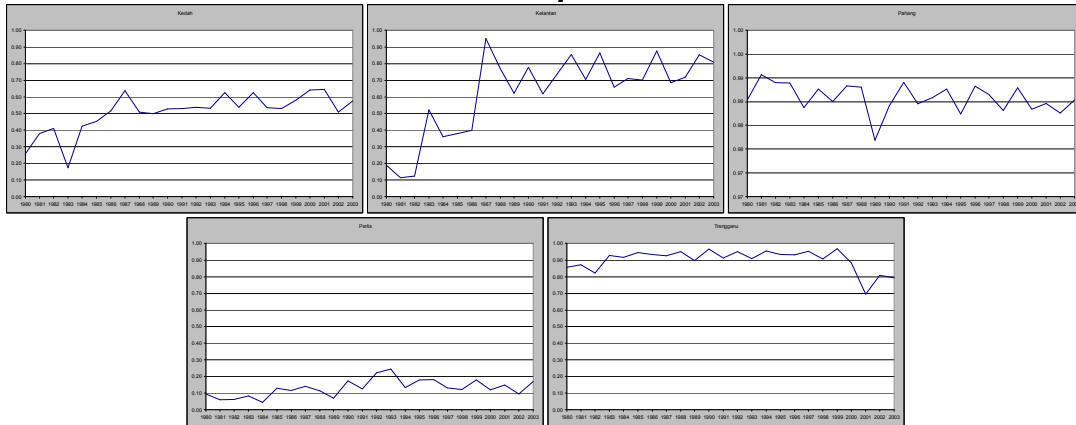
Up till now, when we refer to tax revenues we didn't make any difference between tax revenues per se and non-tax revenues. In other words, our tax revenues variable represents in fact the total own-source revenues collected by the state governments. However given the differences in the characteristics of the elements that constitute these two revenues, it is very unlikely that the state governments will be equally efficient in the collection of both of them. There is also no apparent reason to expect that the impact of federal grants on the efficiency level in tax revenues and non-tax revenues collection to be similar. It will thus be interesting to see which of the two will be more severely affected by the federal grants.

Figure 5.10. Efficiency estimates (Peninsular Malaysia)

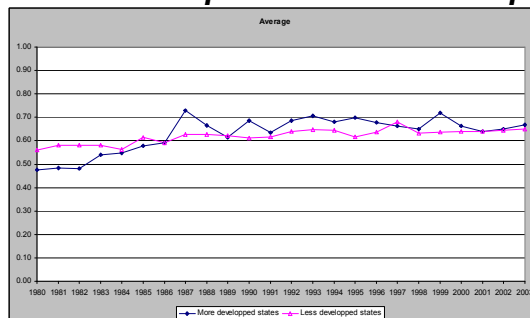
More developed states



Less developed states



Average more developed and less developed states



In figure 5.11, we show the proportion of tax and non-tax revenues of the state governments in Malaysia as well as the ration of tax to non-tax revenues. We note that most of the states governments especially the less developed ones, rely more on non-tax revenues than on tax revenues to finance their expenditures. One may thus wonder if this choice is made based on their efficiency level. In other words, do state governments choose to have non-tax revenues as their principal sources of incomes because they consider themselves as being relatively more efficient in collecting this category of revenues?

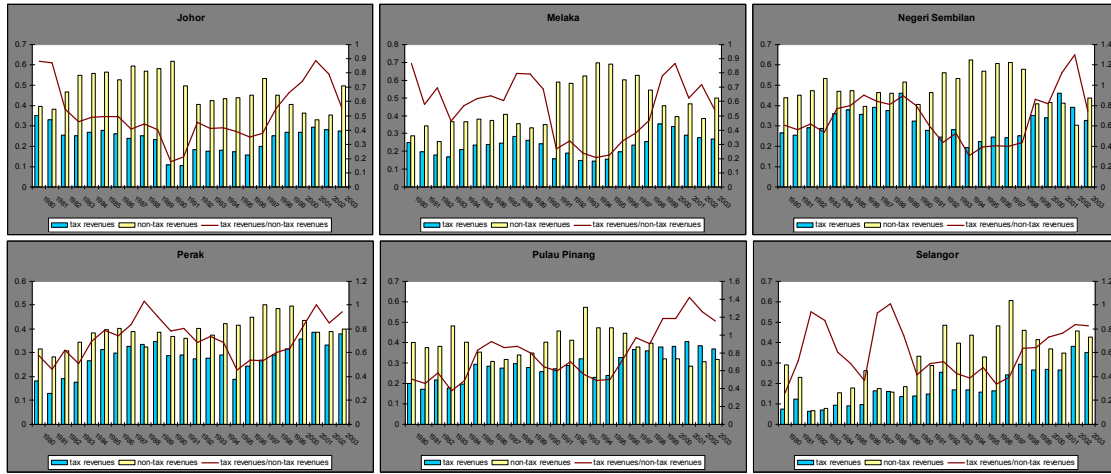
In what will follow, we will split our dependant variable into two separate variables – the tax revenues and the non-tax revenues. For tax revenues, we will retain the same independent variables as in our previous estimations. However, for non-tax revenues we drop forest and agriculture share as well their interaction term with other independent variables from our estimations. We also add in a new independent variable namely the size of the state as a proxy for the quantity of real estates that are possessed by a state government which it can sell or lease.

The results of our frontier estimation for the tax revenues are presented in table 5.14. The elasticities which are calculated from these estimates are reported in table 5.15. Finally table 5.16 present the results of the efficiency estimation.

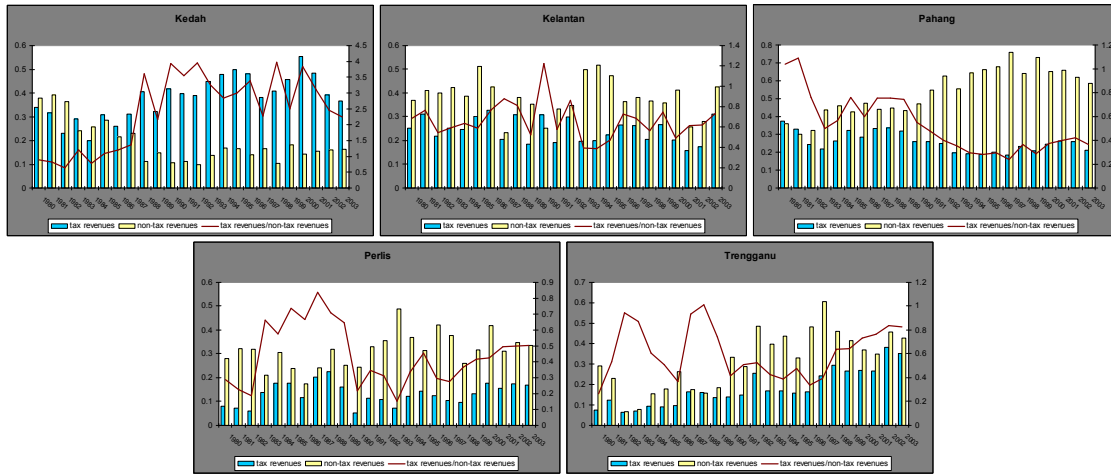
It is noteworthy that as shown in column A of table 5.15, when we assume a truncated normal distribution, several elasticities are found to be significant. Tax collection capacity is found to decrease with GDP but increase with population as well as agricultural activities. Nonetheless, when we switch to a half-normal distribution (column B. table 5.15), all of the elasticities are found to be non-significant.

Figure 5.11. Share of tax and non-tax revenues

More developed states



Less developed states



Source: State governments' financial statements, various issues

Table 5.14. Frontier estimation results (tax revenues)

	Model A		Model B	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Forest	-0.7897	0.8672	-0.7524	0.8699
Forest ²	-0.0139	0.0382	-0.0114	0.0379
Urbanization	-0.4986	1.0329	-0.9750	1.0710
Urbanization ²	0.5416	0.3918	0.4894	0.3904
Agriculture	2.0651***	0.7211	2.1507***	0.7243
Agriculture ²	-0.0364	0.0234	-0.0337	0.0234
GDP	-5.7711***	0.9788	-5.5143***	0.9899
GDP ²	1.4021**	0.6319	0.9534	0.6743
Population	8.2685***	0.9554	8.4373***	0.9534
Population ²	-0.6408	0.4306	-0.6438	0.4330
Time	-0.1266	0.1921	-0.1421	0.1869
Time ²	0.0000	0.0017	0.0004	0.0016
Forest *Urbanization	-0.0802	0.1957	-0.0349	0.1946
Forest *Agriculture	-0.0114	0.0356	-0.0102	0.0355
Forest *GDP	0.1334	0.2055	0.0681	0.2114
Forest *Population	0.1481	0.2222	0.1523	0.2208
Forest *Time	-0.0086	0.0095	-0.0101	0.0096
Urbanization*Agriculture	-0.0827	0.1568	-0.0571	0.1573
Urbanization*GDP	-0.2849	0.7206	0.1026	0.7213
Urbanization*Population	-0.0367	0.6762	-0.2428	0.6839
Urbanization*Time	-0.0159	0.0394	-0.0253	0.0384
Agriculture*GDP	-0.2509**	0.1246	-0.2132*	0.1258
Agriculture*Population	0.0122	0.1231	-0.0494	0.1232
Agriculture*Time	0.0267***	0.0098	0.0285***	0.0094
GDP*Population	-0.2606	0.7708	0.0242	0.8029
GDP*Time	-0.0872***	0.0258	-0.0813***	0.0267
Population*Time	0.0464*	0.0264	0.0497*	0.0264
Constant	-21.6408***	1.0023	-21.7982***	1.0098
Sigma squared	0.4199	0.0536	0.3971	0.0594
gamma	0.5647	0.0419	0.5839	0.0615

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

In table 5.16, our results show that the share of grants in state governments' total revenue contributes significantly to an increase in inefficiency of tax revenue collection. Federal transfers have thus discouraged fiscal efforts exerted by the state governments. We also found that the coefficient of GDP is significantly positive which implies that tax inefficiency increases with GDP. Size and time in contrary are found to be negatively associated with inefficiency level which signifies that tax efficiency increases with size and time.

Table 5.15. Elasticities of input (tax revenues)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Forest	0.2082	0.7160	0.1590	0.7013
Urbanization	-1.8939	1.3769	-1.6967	2.2844
Agriculture	0.5204***	0.0966	0.5030	1.6048
GDP	-5.2582***	1.6442	-3.6325	6.8969
Population	4.3692***	0.7356	4.4046	2.7202

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 5.16. Efficiencies estimates (tax revenues)

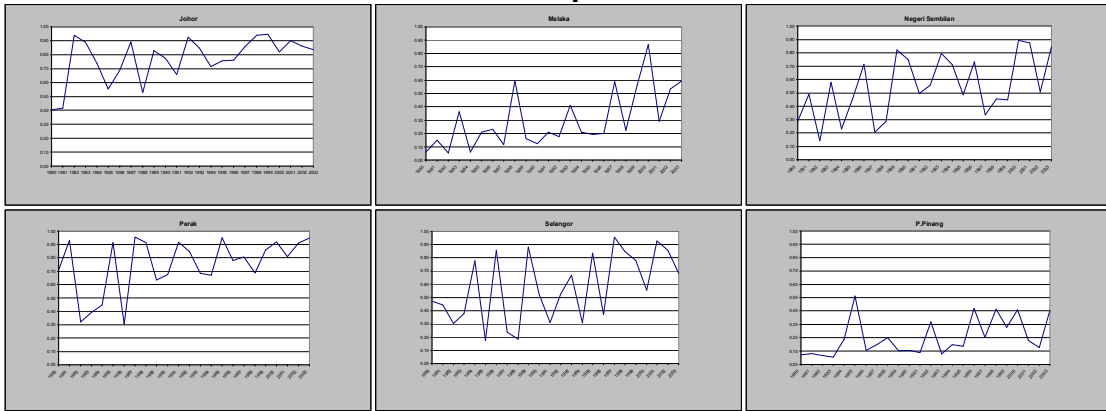
	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Grants	1.3030***	0.2246	1.3854***	0.2211
GDP	0.7102**	0.2875	1.3987***	0.1802
Time	-0.0671***	0.0219	-0.0479**	0.0213
Size	-0.8450***	0.1843	-0.2462***	0.1837
GDP*Size	0.0451	0.0408	-0.0842*	0.0505
GDP*Grants	-0.0000	0.0000	-0.0001	0.0001
Constant	3.5061***	1.2982		

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

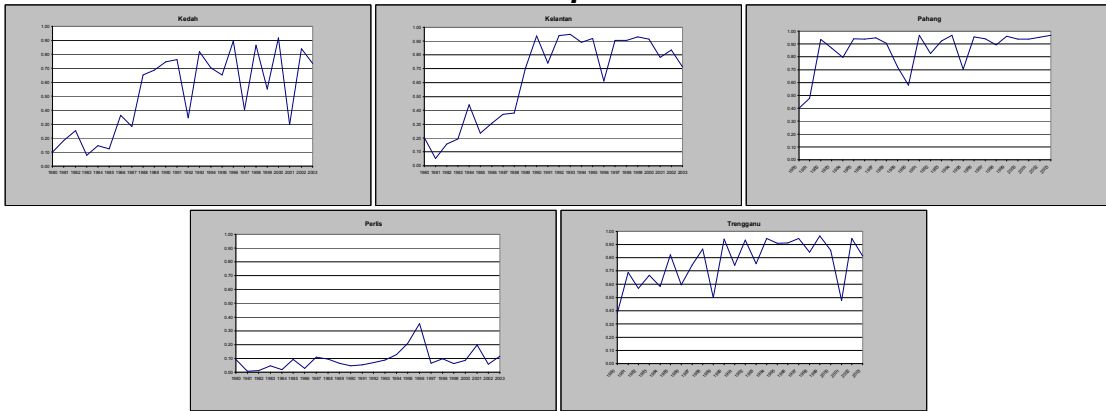
The estimates of the efficiency level in tax collection are shown in figure 5.12. We found that there is a general tendency towards an increase in efficiency level for all states (except for Perlis). There are also no net differences in both the level and the evolution of efficiency level between the more developed and less developed states. The results imply that despite the difficulty usually associated with tax collection, there seems to be a general improvement in the efficiency level.

Figure 5.12. Efficiency estimates (tax revenues)

More developed states



Less developed states



Average more developed and less developed states

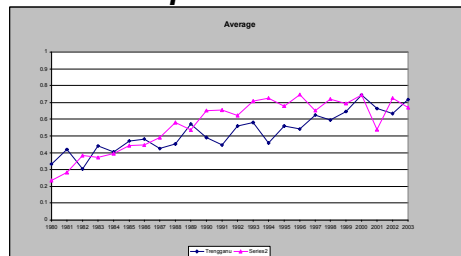


Table 5.17 presents the results for the frontier estimation of the non-tax revenues. The elasticities are reported in table 5.18 and the efficiency estimation results in table 5.19. As shown in table 5.19, our results seem to point out that the efficiency level in non-tax revenues collection is also negatively associated with the share of grants in total revenue. Despite their differences, both the tax and non-tax revenues are negatively affected by federal grants. The results however show that the magnitude of the estimated coefficient to be bigger in the case of tax revenues which suggest that the latter are more affected by federal grants. One explanation for this lies perhaps in the fact that tax revenues are in a way more difficult to collect than non-tax revenues (the continual problem of tax arrears as discussed in section may be interpreted as an attestation to the difficulty faced by the state governments in collecting their taxes). Given this difficulty, the state governments are more likely to reduce their efforts when they have other sources of funds that are relatively easier to obtain such as the federal grants.

In figure 5.13, we plot the efficiency scores of the non-tax revenue collection of each state. The figure shows that there is a general tendency towards less efficiency in non-tax revenues collection. The results point out that all of the states have seen their level of efficiency deteriorates over time. For example, in 1980, the average efficiency level stood at 53%. However, in 2003, the average efficiency level for all states is only 6%. The finding is quite alarming notably given the fact that most of the states are relying on non-tax revenues as their principal sources of incomes. It implies that the state governments are relying on revenues sources in which they are becoming less and less efficient. On the other hand, one may wonder if there is any coincidence between this decreasing trend in the non-tax revenues efficiency and the gradual shift observed in most states towards a more balanced proportion between tax and non-tax revenues. Would this mean that the state governments started to realize that they are becoming less efficient in non-tax revenues collection and decided to switch to tax revenues to finance their expenditures? On the other hand, the increasing share of the tax revenues in the state government budget may also be the reflection of the increasing efficiency of the state governments in collecting tax revenues.

Table 5.17. Frontier estimations results (non-tax revenues)

	Model A		Model B	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Urbanization	4.5733	3.4234	-2.5796	2.2132
Urbanization ²	0.1982	0.4020	1.3999***	0.3978
GDP	4.7218	3.9643	9.8349***	3.4437
GDP ²	-0.5446***	0.1900	-0.7609***	0.2175
Population	-2.9945**	1.5796	-2.9516	2.1879
Population ²	0.1159	0.1350	0.2540	0.1729
Size	-0.4323	0.9450	0.3056	0.7177
Size ²	0.0012	0.0366	-0.0227	0.0353
Time	0.1755	0.1278	0.3547**	0.1480
Time ²	-0.0001	0.0009	0.0016	0.0012
Urbanization*GDP	-1.2153**	0.5487	-1.1300**	0.4846
Urbanization*Population	0.1957	0.3122	-0.1281	0.3873
Urbanization*Size	-0.1615**	0.0891	-0.0259	0.1140
Urbanization*Time	-0.0394	0.0355	-0.1204***	0.0293
GDP*Population	0.2073	0.1774	-0.0365	0.2616
GDP*Size	0.2352*	0.1370	0.0487	0.0705
GDP*Time	0.0689***	0.0194	0.0894***	0.0274
Population*Size	-0.0008	0.0515	0.0241	0.0497
Population*Time	-0.0133	0.0195	-0.0080	0.0176
Size*Time	-0.0072	0.0068	-0.0144**	0.0072
Constant	-2.334	7.8829	-6.3862	3.8228
Sigma squared	0.4935	0.0531	0.4953	0.0337
gamma	0.9999	0.0104	0.9999	0.0000

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 5.18. Elasticities of input (non-tax revenues)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Urbanization	-0.7686	3.0633	-5.2344	4.1905
GDP	2.7712	1.31551**	3.5489	1.3273**
Size	-0.0388	1.2536	0.2204	1.2202
Population	-2.3884	2.0526	-1.6884	0.1274

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

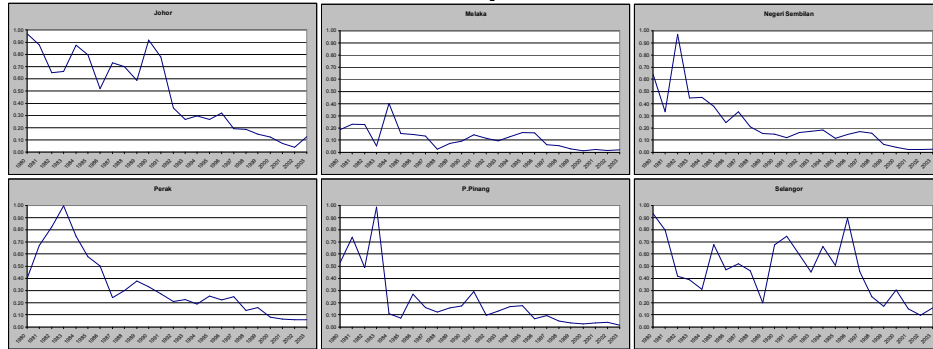
Table 5.19. Efficiency estimates (non-tax revenues)

	Model A		Model B	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Grants	1.2636***	0.1841	1.4965***	0.2251
GDP	-2.2952*	1.3761	0.7715**	0.3719
Time	0.1446***	0.0364	0.1449***	0.0201
Size	-1.5077**	0.7727	-0.1786**	0.1039
GDP*Size	0.2299	0.1669	-0.0575	0.0475
GDP*Grants	0.0001*	-0.0000	-0.0001***	0.0000
Constant	14.3200**	6.9768		

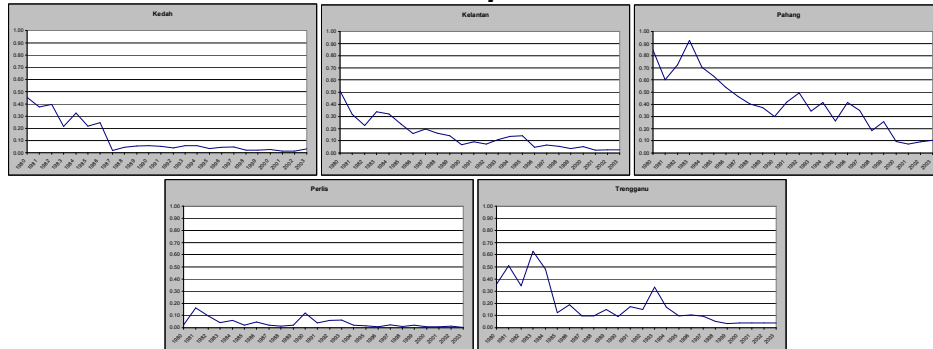
Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Figure 5.13. Efficiency estimates (non tax revenue)

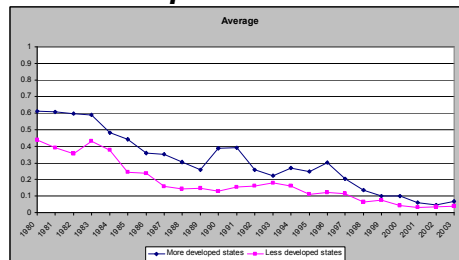
More developed states



Less developed states



Average more developed and less developed states



It is also noteworthy that the general decrease in the efficiency level in non-tax revenues collection is more or less compensated by the increase in the efficiency level in tax revenues collection. And this has resulted in the slight increase in the efficiency level of total own-revenues collection of the state government as shown in figure 5.10.

Finally the net contrast between the efficiency scores of the tax revenues and those of the non-tax revenues also suggest that efficiency consideration may not be the main criteria when it comes to choose between tax and non-tax revenues.

5.5.4. General purpose and specific purpose grants

We argued earlier that the impact of federal grants on tax efficiency will to a certain extent depend on the share of general purpose grants in the total grants. Indeed given the nature of this category of grants, there are reasons to expect that it will lead to a decrease in tax efficiency. For instance, since the state governments are not bind to any conditions with regard to the utilization of the funds, they may use the grants to substitute for local tax and thus reduce their tax efforts. In contrary, the use of specific purpose grants is restricted to certain type of spending identified by the federal government. It is therefore quite unlikely that these grants to be of any effect on the fiscal behavior of the state government.

In order to see whether there is truly a difference in the effects of general purpose and specific purpose grants on tax efficiency, we will divide our measure of federal grants into two separate variables; one representing the share of specific purpose grants to total expenditures and the other the proportion of general purpose grants to total expenditure. The results of our estimations are presented in table 5.20⁶⁹.

Apparently, the results seem to provide support for the negative impact of general purpose federal grants on the state governments' tax efficiency (column B, table 5.20). The estimated coefficient for the share of general purpose grant is found to be positive which signifies that tax efficiency decreases with this category of federal grants.

⁶⁹ Since we are more interested in assessing the impact of these two types of federal grants on tax efficiency, only the estimates of the second estimation is presented here. The results for the frontier estimates as well as the efficiency estimates are available upon request.

Our estimations also point to a negative relationship between tax inefficiency and the share of specific purpose grants. The results are consistent with the fact that specific grants usually come as a complement to state governments' own revenue in financing certain type of expenditures. An increase in the grants will in a way push the state governments to be more efficient in their tax collection in order for them to fulfill their part of the financing.

Nevertheless, our results are not robust to the choice of distribution. When we assume a truncated normal distribution, the coefficients though continue to have the expected sign, are no longer found to be statistically significant.

Table 5.20. Efficiency estimates (General vs Specific Purpose Grants)

	Model A		Model B	
	Coefficient	Standard Errors	Coefficient	Standard Errors
General Purpose Grants	0.3943	0.2789	0.5035**	0.2514
Specific Purpose Grants	-0.1007	0.7122	-0.1285**	0.0641
GDP	0.2785	0.2403	0.9893***	0.1368
Time	-0.0075	0.0219	0.0021	0.0252
Size	-0.5061***	0.0701	-0.4331***	0.0528
Constant	3.7801***	1.1885		

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

5.5.5. Endogeneity problem.

The correlation between tax collection (a proxy for fiscal effort) and transfers cannot be construed as evidence of a causal relationship between the two, nor can it indicate how subnational governments would respond in term of fiscal effort exerted if transfers were reduced in the future. This is due to the facts that transfers allocation are not a random process and that local tax collection may have increased because of other relevant but non-observable variables that were contemporaneous with, but otherwise

unrelated to, the increase in transfers. In any case, simply regressing local tax collection and transfers will produce inconsistent estimates. In order to avoid this problem, some authors have resorted to the use of specific events as instruments for federal transfers⁷⁰.

Unfortunately we do not have such events in Malaysia and thus the methods cannot be used in our study. Nevertheless, it should be noted that the allocations of the majority of federal grants in Malaysia are not based on the level of tax efforts exerted by the state governments (see our discussion of type of grants in section 4). The level of revenues collected by the state governments do not figure in most of the formulas that are used in determining the amount of grants that will be allocated to each state governments. There are only two grants that are related to the amounts of revenues collected by the state governments namely the state reserve fund grants and the state advance fund grants. Nevertheless, in order to avoid any endogeneity problem, we drop these two grants from our measure of federal grants. We then reestimate all our regressions using our new measure of federal grants. The same results were found even after we drop these two grants from our measure of federal grants. Federal grants are still found to be negatively correlated with the state governments' tax efficiency level.⁷¹ This is easily understood given the fact that these two grants constitute less than 2% of the total grants received by the state governments. For example in 2002, the state reserve fund grants stood at only RM 12 million compared to a total amount of grants that stood at more than RM 1000 millions.

5.5.6. Effects of spendings

Our estimations above apparently point to the conclusion that intergovernmental grants discourage fiscal efforts. A relevant policy question is to ask if the decrease in tax efficiency (thus a decrease in tax revenues) is accompanied by a decrease in expenditures

⁷⁰ For example, in their study of the effects of federal transfers on fiscal effort in Peru, Aragon and Garyoso (2005) exploits the introduction of a special transfers in 2001. Similarly, Chapparo et al. (2004) utilize the 1993 reforms of the Colombian transfer system to examine the causal relationship between transfers and fiscal efforts.

⁷¹ The results are not produced here in order to save space. They are however readily available upon request. As a robustness test, we also instrument our measure of federal grants with their lagged values. Again, as far as the correlation between the same results were found

or by an increase in borrowings. To answer this question we estimate the effects of federal transfers on state governments' expenditures. The estimation will also allow us to study the existence of a "flypaper effect".

We will estimate the following equations

$$Exp_{it} = \beta Grants_{it} + \alpha' X_{it} + u_{it} \quad (\text{eq. 11})$$

Where Exp_{it} is the state governments' real per capita expenditure, $Grants_{it}$ the log of the real federal grants, $lggrev$ the real per capita revenues, and X_{it} the vector comprising of the following control variables: the total population, the proportion of urban population, the proportion of ethnic malays, the gdp and the size of the state. We also included in our estimation the lag of the dependent variable to control for the persistent in the state governments' expenditure behavior. u_{it} is the error term.

The inclusion of the lagged values of our dependant variable renders impossible the use of usual fixed or random effect model because the estimators will not be convergent as the lagged value is correlated with the error term. Therefore we will use the generalized method of moments (GMM) as developed by Arellano and Bond (1991). The results of our estimation are reported in Table 5.21.

Our variable of interest here is the federal grants. The estimated parameter shows that there is no significant correlation between the state governments' expenditure and the federal grants. The result suggests thus that federal grants have no influence on the state governments spending behavior. The result also implies that there is no flypaper effect as far as the Malaysian state governments are concerned.

Combining this result with our previous finding suggest that an increase in federal grants would lead to a decrease in tax efficiency but at the same time, would leave the state governments' expenditure unchanged. This would mean that the federal grants are mainly used by the state governments as a substitute for their own revenues which in turn may be explained by the difficulty in raising taxes in the country.

Table 5.21. The effects on state governments' expenditures

	Coefficient	Standard Errors
Revenue	0.3992**	0.1717
Lagged exp.	0.4413***	0.0769
Malay population	0.0013	0.0012
Total Population	-0.0000	0.0000
Urbanization rate	0.0029	0.0018
Size	0.0000	0.0000
Grants	7.8299	10.4413
Constant	0.5404	0.4630
Hansen p-value		0.213
1 st order AC (prob)		-2.90 (0.004)
2 nd order AC (prob)		-0.16 (0.876)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Conclusion

The main objective of this chapter is to examine the impact of federal grants to state governments' fiscal efficiency. Indeed, the general observation of a continuous deterioration in the financial situation in Malaysia bring us to question if the state governments are making enough effort in exploiting all the revenue sources that are in their hands. And one may wonder if the intergovernmental grants system is one of the causes that lead the state governments to slack in their tax efforts is.

Fiscal effort is measured by the amount of taxes collected by the state government and the impact of federal grants on fiscal efforts is assessed by using the stochastic frontier analysis methodology. The advantage of using this method is that it allows us to obtain both the estimates of efficiency level as well as the determinants of the efficiency level.

Our estimations results seem to point to the fact that there is indeed a negative impact of federal grants on the tax efficiency of the state governments in Malaysia. The results suggest that an increase in federal grants is associated with a decrease in the tax efficiency of the state governments. On the other hand, the estimates also show that there is on average a slight increase in the level of tax efficiency of the state governments in Malaysia across time. Together, these two results suggest that a higher level of efficiency could be achieved if necessary steps are taken to minimize the effects of federal grants.

We also distinguish between the effects of federal grants on the efficiency of tax revenue and of non-tax revenues. We found that both of them are negatively associated with federal grants. However, the magnitude of the estimated coefficients is relatively bigger for the tax revenues. The results also show tax revenue efficiency to be increasing across time for all state. On the other hand, non-tax revenue efficiency tends to decrease across time. The findings are quite worrisome given the fact that state governments are more reliant on non-tax revenues than on tax revenues.

Finally, we test for the difference of general and specific purpose grants on tax efficiency. The results however are dependant on the type of distribution assumed.

A negative relationship between federal grants and fiscal efficiency has serious policy implications. It suggests that the state governments have failed to mobilize their tax potentials to the maximum and preferred to rely on federal transfers instead to finance their expenditures. The danger of being too dependant on federal grants has been widely covered in the literature. However, within the context of our study, transfer dependence can also lead to another problem namely underdeveloped local tax system. Due to federal grants, state governments can be discouraged from investing in the improvement of their tax system. Since federal grants are easily made available to them, state governments may not find it worthwhile to employ the latest technology or to hire more qualified personnel in order to increase their tax collection. Without these investments local tax system will not be able to cope with the latest development in the society and become less and less productive. This in turn will lead to a higher dependence on federal grants thus creating a vicious circle.

Appendix 5.1. Articles in the Constitution related to federal grants

Article number: 109

- (1) The Federation shall make to each State in respect of each financial year-
- (a) a grant, to be known as a capitation grant, which shall be calculated in accordance with the provisions of Part I of the Tenth Schedule;
 - (b) a grant for the maintenance of State roads, to be known as the State road grant, which shall be calculated in accordance with the provisions of Part II of that schedule.
- (2) Parliament may from time to time by law vary the rates of the capitation grant; but if the effect of any such law is to reduce grant, provision shall be made in that law for securing that the amount of grant received by any State in respect of any financial year is not less than ninety per cent of the amount received by that State in the preceding financial year.
- (3) Parliament may by law make grants for specific purposes to any of the States on such terms and conditions as may be provided by any such law.
- (4) The amounts required for making the grants mentioned in the preceding provisions of this Article shall be charged on the Consolidated Fund.
- (5) If, in accordance with Article 103, a Contingencies Fund is created, the power to make advances from that Fund for meeting an urgent and unforeseen need for expenditure shall include power to make such advances to a State for meeting such a need.
- (6) The Federation shall pay into a fund, to be known as the State Reserve Fund-
- (a) (Repealed)
 - (b) in respect of every financial year such sum as the Federal Government may, after consultation with the National Finance Council, determine to be necessary;

and the Federation may from time to time, after consultation with the National Finance Council, make grants out of the State Reserve Fund to any State for purposes of development or generally to supplement its revenues.

Article number: 112c

(1) Subject to the provisions of Article 112D and to any limitation expressed in the relevant section of the Tenth Schedule-

(a) the Federation shall make to the States of Sabah and Sarawak in respect of each financial year the grants specified in Part IV of that Schedule; and

(b) each of those States shall receive all proceeds from the taxes, fees and dues specified in Part V of that Schedule, so far as collected, levied or raised within the State, or such part of those proceeds as is so specified.

(2) The amounts required for making the grants specified in the said Part IV, and the amounts receivable by the State of Sabah and Sarawak under section 3 or 4 of the said Part V, shall be charged on the Consolidated Fund; and the amounts otherwise receivable by the State of Sabah and Sarawak under the said Part V shall not be paid into the Consolidated Fund.

(3) In Article 110, Clauses (3A) and (4) shall not apply to the State of Sabah and Sarawak.

(4) Subject to Clause (5) of Article 112D, in relation to the State of Sabah and Sarawak Clause (3B) of Article 110-

(a) shall apply in relation to all minerals, including mineral oils; but

(b) shall not authorise Parliament to prohibit the levying of royalties on any mineral by the State or to restrict the royalties that may be so levied in any case so that the State is not entitled to receive a royalty amounting to ten per cent ad valorem (calculated as for export duty).

Article number: 112d

(1) The grants specified in section 1 and subsection (1) of section 2 of Part IV of the Tenth Schedule, and any substituted or additional grant made by virtue of this Clause, shall at the intervals mentioned in Clause (4) be reviewed at the Governments of the Federation and the State or State concerned, and if they agree on the alteration or abolition of any of those grants, or the making of another grant instead of or as well as those grants or any of them, the said Part IV and Clause (2) of Article 112C shall be modified by order of the Yang di-Pertua Agong as may be necessary to give effect to the agreement:

Provided that on the first review the grant specified in subsection (2) of section 1 of the said Part IV shall not be brought into question except for the purpose of fixing the amounts for the ensuing five years.

(2) Any review under this Article shall take into account the financial position of the Federal Government, as well as the needs of the States or State concerned, but (subject to that) shall endeavour to ensure that the State revenue is adequate to meet the cost of State services as they exist at the time of the review, with such provision for their expansion as appears reasonable.

(3) The period for which provision is to be made on a review shall be a period of five years or (except in the case of the first review) such longer period as may be agreed between the Federation and the States or State concerned: but any order under Clause (1) giving effect to the results of a review shall continue in force after the end of that period, except in so far as it is superseded by a further order under that Clause.

(4) A review under this Article shall not take place earlier than is reasonably necessary to secure that effect can be given to the results of the review from the end of the year 1968 of, in the case of a second or subsequent review, from the end of the period provided for by the preceding review; but, subject to that, reviews shall be held as regards both the States of Sabah and Sarawak for periods beginning with the year 1969 and with the year 1974, and thereafter as regards either of them at such time (during or after the period provided for on the preceding review) as the Government of the Federation or of the State may require.

(5) If on the occasion of any review under this Article the Government of the Federation give notice to the States or State concerned of their intention to vary any of the assignments of revenue under Part V of the Tenth Schedule (including any substituted or additional assignment made by virtue of this Clause), or vary Clause (4) of Article 112C, the review shall take the variation into account, and provision shall be made by order of the Yang di- Pertuan Agong so as to give effect to the variation from the beginning of the period provided for on the review:

Provided that this Clause shall not apply to the assignments under section 4, 7 and 8, and shall not apply to that under section 5 or 6 until the second review.

(6) If on any review the Federal Government and the Government of a State are unable to reach agreement on any matter, it shall be referred to an independent assessor, and his recommendations thereon shall be binding on the Governments concerned and shall be given effects as if they were the agreement of those governments.

(7) Clause (4) of Article 108 shall not apply to require the Federal Government to consult the National Finance Council in respect of matters arising under this Article.

(8) Any order of the Yang di- Pertuan Agong under this Article shall be laid before each House of Parliament.

TENTH SCHEDULE

GRANTS AND SOURCE OF REVENUE ASSIGNED TO STATES

Part I - CAPITATION GRANT

1.

(1) The capitation grant payable to each State in respect of a financial year shall be at the following rates:

(a) for the first 100,000 persons at the rate of \$20 per person;

(b) for the next 150,000 persons at the rate of \$10 per person;

(c) for the next 250,000 person at the rate of \$6 per person;

(d) for the remainder at the rate of \$3 per person,

and shall be based on the annual population projection of the State as determined by the Federal Government and calculated as the last population census:

Provided that if the last census was taken one year before the beginning of the financial year, the grant for that particular year shall be based on the population as determined by that population census.

(2) (Repealed).

Part II - STATE ROAD GRANT

2. The State road grant payable to each of the States of Malaya in respect of a financial year shall be calculated by multiplying -

(a) the average cost to a State of maintaining a mile of State road at the minimum standard determined for State roads in those States by the Federal Government after consultation with the National Federal Council; by

(b) so much of the mileage of State roads in the State as qualifies for grant.

3. For the purpose of section 2 -

(a) the mileage of State roads in a State shall be taken to be that mileage as on the thirty-first day of December of the preceding financial year, and the average cost mentioned in paragraph (a) of that section shall be taken to be the average cost in that State calculated in the preceding financial year; and

(b) the maintenance of State roads means the preservation, upkeep and restoration of State roads, roadside furniture, bridges, viaducts or culverts forming part thereof or connected therewith as nearly as possible in their original condition as constructed or as subsequently improved.

4. A length of State road if it is actually maintained by the Public Works Department of the State at or above the minimum standard mentioned in section 2 (a) and a length of any road within the limit of a local authority if such road is certified by the Public Works Department of the State as coming within the qualifying standard and maintained at or above the minimum standard as mentioned in section 2 (a) qualify for grant.

5. In this Part of this Schedule, "State road" means any public road other than a federal road, and any other road other than a federal road to which the public has access.

6.

(1) The State road grant payable to Sabah or Sarawak shall, in each of the years 1964 and 1965, be payable at the rate of \$4,500 a mile in respect of a mileage in Sabah of 1,151 miles and in Sarawak of such amount as may be agreed between the Federal and State Governments.

(2) Thereafter sections 2 to 5 shall apply to the State road grant so payable with the following modifications:

(a) the minimum standard mentioned in section 2 (a) shall be the minimum standard determined for State roads in the State; and

(b) any length of road maintained by a local authority at the expense of the State shall be treated as maintained by the Public Works Department of the State.

Part IV - SPECIAL GRANTS TO STATES OF SABAH AND SARAWAK

1.

(1) In the case of Sarawak a grant of \$5,800,000 in each year.

(2) In the case of Sarawak, a grant of which the amount in 1964 and each of the four following years shall be respectively \$3.5m., \$7m., \$11.5m., \$16m., \$21m., and in later years shall be fixed on a review under Article 112B.

2.

(1) In the case of Sabah, a grant of an amount equal in each year to two-fifths of the amount by which the net revenue derived by the Federation from Sabah exceeds the net revenue which would have been so derived in the year 1963 if -

(a) the Malaysia Act had been in operation in that year as in the year 1964; and

(b) the net revenue for the year 1963 were calculated without regard to any alternation of any tax or fee made on or after Malaysia Day;

("net revenue" meaning for this purpose the revenue which accrues to the Federation, less the amounts received by the State in respect of assignments of that revenue).

(2) In the case of Sabah, for any year before 1968 in which the State road grant is less than \$5,179,500, a supplement to that grant on an amount equal to the deficiency.

3. In either case, for any year before 1974 and, if at the beginning of 1974 the Legislature to the State has power to make laws with respect to the carriage of passengers and goods by land or to mechanically propelled road vehicles, then during the continuance of that power, a grant equal to the cost to the State in the year of the State road transport department.

**CHAPTER 6. RESTRAINING STATE GOVERNMENTS'
SPENDING THROUGH BORROWING RESTRICTIONS.**

Introduction

In the last two decades, there has been an increasing interest in decentralization all around the world. Yet Malaysia seems to be oblivious to this decentralization wave. To date, there has been no major move made by the country in order to empower or to further develop the existing local and state governments. Instead, the federal government has, on various occasions, made an incursion on the functions of the states despite the clear division of powers and functions between the federal and state governments⁷².

The Malaysian government's reluctance to espouse the decentralization process is not without costs to the country. There are strong arguments that the devolution of several powers of the federal government to local levels could enhance efficiency as the latter could be more responsive to variations in local needs and perhaps more accountable to those being served. In his classic book, Oates (1972) states a Decentralization Theorem for which

“...in the absence of cost-savings from the centralized provision of a [local public] good and of interjurisdictional externalities, the level of welfare will always be at least as high (and typically higher) if Pareto-efficient levels of consumption are provided in each jurisdiction than if any single, uniform level of consumption is maintained across all jurisdictions”(Oates 1972, p. 54).

However it is important to notify that all these positive impacts may not materialize if no efforts are made in controlling the spending behavior of subnational governments. It is virtually a conventional wisdom, at least among economists, that subnational governments are predisposed for fiscal profligacy. The latter if left unchecked will embark on a spending spree which at the end will jeopardize the stability of the economy as a whole.

Malaysia is no exception. There are reasons to believe that the risk of fiscal profligacy does exist in the country. And the government seems to try to have a hold over

⁷² See Jomo and Wee (2002) for a discussion on the conflictual relation between state and federal governments in Malaysia.

this problem notably by the enactment in 1976 of the Article 111 (2) of the Malaysian Constitution which avers that

" A State shall not borrow except under the authority of State law, and State law shall not authorize a State to borrow except from the Federation or, for a period not exceeding five years, from a bank or other financial source approved for that purpose by the Federal Government, and subject to such conditions as may be specified by the Federal Government".

The regulation is rather strict in the sense that all borrowing by the state governments needs to go through the central government who will act like a filtering device. So in principle, borrowing for the purpose of financing activities or goods considered unwarrantable will be refused. States governments realizing that they will not get financing easily will become more close-fisted especially on unnecessary ventures. On the other hand, since there's no guarantee that only good projects will pass through and get financed as the central government may not have the capacity (or the willingness) to sieve all the projects submitted to them, state governments face weak incentives to be more fiscally responsible. In other words, this limitation may be regarded by the state governments as a mere veil with no consequence whatsoever on their spending behavior.

This chapter attempts to shed some light on the impact of this institutional control on the spending behavior of the 13 state governments in Malaysia. The rest of the chapter is organized as follows. The next section provides a summary on the relation between subnational governments and fiscal indiscipline. Section 2 looks at the role of institutional rules both theoretically and empirically. A description of the theoretical framework is provided in section 3. In section 4, we will discuss the data and empirical approach adopted. The results of the estimation strategy are presented and discussed in section 6. Finally, section 7 concludes.

1. Subnational governments and fiscal indiscipline

The question of fiscal indiscipline among subnational governments has been widely covered by the literature. And several explanations have been put forward by economists as to why subnational governments, in contrast to central government, are more inclined to fiscal indiscipline. These explanations can be grouped into two major factors.

1.1. The common pool problem

In a multi-tiered government, the subnational governments have the possibility to overfish the common revenues by shifting their costs onto others. This problem known as the common pool problem arises from the fact that the opportunity cost of public revenues as perceived by subnational governments is lower than the true social cost. Indeed, the financial resources of subnational governments do not fully come from own-source revenues like local taxes, charges and borrowing. Instead, subnational governments rely (in some cases, heavily) on the intergovernmental grants to finance its activities. And the larger the vertical fiscal gap is, the more aggravated the problem of common pool will be: subnational governments will have every incentive to overspend when means of financing are mostly raised by the central government.

Theoretical and empirical studies in public economics have shown that grants and own-source revenues are not viewed in the same way by individuals (Weingast, Shepsle and Johnson (1988), Oates (1991), Hines and Thaler (1995), Rodden (2002)). The main point that all these studies are trying to illustrate is that perceptions and beliefs about the level of subnational government expenditures considered as sustainable have been altered because of the existence of intergovernmental grants. Intergovernmental grants create the appearance that local public expenditures are funded by non-residents. There is thus a clear incentive for state or local governments to overspend in a project as they are not fully responsible for its cost. Because of the intergovernmental transfers, the link between taxes and benefits is distorted or broken. And consequently voters are less likely to sanction overspending by politicians.

An obvious answer to this problem would then be to reduce as much as possible the fiscal gap. If local sources of tax revenues were sufficiently large to enable subnational governments to finance their expenditure tasks without having to rely on central government's support, the divergence between private (local) and social (national) opportunity costs of public funds would disappear, and with that also the incentive to local overspending. This line of reasoning, however, overlooks another problem that underlies the tendency of fiscal profligacy among subnational governments: the soft budget constraint facing the latter. Even if the central government decides to give more tax autonomy to the subnational governments, the latter may rationally decide not to raise the revenue required to finance their expenditure since they may believe they have the option of being bailed out by the central government and then of financing local expenditure with national revenues.

1.2. The soft-budget constraint

The soft-budget constraint problem refers to the fact that federal transfers to subnational governments are based on ex post financial needs and not, as it should be, on ex-ante characteristics of the recipient states. As such, subnational governments are not held to a fixed budget but find their budget constraint softened by the injection of additional credit (or guarantees) whenever they are on the verge of fiscal fiasco. In other words, it refers to the failure of the central government to credibly show its commitment not to come to help to states in financial distress.

The soft budget constraint is aggravated by the existence of intergovernmental grants. When the central government is providing for a big chunk of the local and state government budget through the intergovernmental grants, it is very probable that, in the event of fiscal crisis, residents (and creditors) of the subnational governments will turn to central government for a solution. This is because a highly transfer-dependent local government, when faced with an adverse fiscal shock, may not have the flexibility to raise additional revenue and it may be forced to reduce the provision of basic public services, to default on loans or to rely on arrears on employees and contractors. Besides, the literature on "flypaper effects" shows that intergovernmental grants may spur new

expenditure commitments or new public employees which are difficult to cut during downturns. Consequently, the high adjustment cost faced by the subnational government in time of distress makes it difficult for the central government to commit to the implicit or explicit ex-ante rule. As a result, subnational governments estimating that the central government will not be able to ignore their fiscal woes, face weak incentives to be fiscally responsible⁷³.

Another factor that may affect the ex-post incentive of the central government to intervene is the externalities that may be caused by a fiscal crisis. Interjurisdictional externalities can create the fundamental incentive for a central government to intervene in the fiscal affairs of lower-level governments. The classical solution to the efficiency problem created by interjurisdictional externalities is for a higher-level government to offer subsidies to localities that internalize these externalities. And in the case of a fiscal crisis, the failure of one state or region, especially the big ones, might create negative effects for the rest of the country. As a result neighboring states or regions may find it worthwhile to provide a bailout transfers for their ailing neighbors (Wildasin 1997). However, it is not only the failure of big state or regions that will trigger the intervention of central government. In a study of four cases of bailouts of subnational governments in Australia, Germany, Italy and Sweden, von Hagen et al (2000) shows that there is little evidence in favor of the "too big to fail" argument explaining bailouts. Saarland and Bremen, the two German states that were bailed out in the 1990s were the smallest in the West German federation⁷⁴. In Italy, the tendency to ask for bailouts seems to be stronger for small regions and municipalities than for larger ones. One explanation is that the central government may be more willing to grant a bailout to small states, because the fiscal cost is likely to be negligible in terms of its own budget even if it is important in terms of the local government's budget - "too small to fail".

⁷³ The no-bailout commitment problem of the central government can also be explained through a simple dynamic games of incomplete information between the central and subnational governments as proposed by Rodden (2005)

⁷⁴ In 1993, the German federal government made a contract with the two state governments, promising them annual grants over a period of five years to reduce their financial burden caused by the high debts. The contract granted Bremen an annual payment of about DM 1.6 billion and Saarland an annual DM 1.8 billion, or 22.5 percent and 18 percent, respectively, of their annual expenditures. These grants were not to be repaid by the two states. In turn, the states committed to keeping their annual expenditure growth below three percent, a limit that was reduced to two percent in 1997.

1.3. Examples of fiscal indiscipline

The Argentinean case provides a good illustration of how a high degree of vertical imbalance⁷⁵, as well as lack of transparency and discretionary character of some of the transfers going to provinces, have undermined the incentives of subnational governments to behave in fiscally responsible ways. A study by Jones, Sanguinetti and Tommasi (1997 and 1999) provides some evidence on the common pool incentive effects induced by the coparticipation regime⁷⁶. The authors show that the larger provinces tend to "internalize" more the federal tax cost of their spending. They also found that the provinces that are more favored by the "secondary coparticipation" (beyond the mere devolution of the taxes collected by the national government in the province) are more inclined to fiscal profligacy and that the national executive is able to discipline governors from the same party into internalizing some of these cost.

A direct consequence of the inefficiencies in the Argentinean system of multi-layered government is the numerous and costly bail-outs episodes provided by the federal government to the financially distressed subnational governments. For example, from 1992 to 1994, USD 800 millions have been disbursed by the federal government to seven provincial governments. An estimated USD 1500 million have also been spent with the transfer to the federal government of some provincial pension system.

⁷⁵ Argentina is one of the most decentralized countries in Latin America in terms of public spending, with approximately 50 percent of the total occurring at the sub-national level. The revenue side presents the inverse picture, with most important taxes collected at the national level. This leads to a high degree of vertical fiscal imbalance. For the period of 1985 to 1995, an average of 65 percent of provincial expenditures were financed through transfers from a common pool of national taxes, with only 35 percent financed from direct own-provincial revenues (Nicollini et al 2002)

⁷⁶ The coparticipation or the tax-sharing regime is the process by which the collection of the main taxes is then re-allocated to provinces. This coparticipation regime has received constitutional status in the reformed constitution of 1994, which has given a mandate to enact a new law by 1996, requirement that has not been fulfilled as yet. Thus the current legislation regulating the coparticipation regime is still law 21548 issued in 1988. It established that the federal government retains 42% of these taxes while 57% were distributed among the provinces, with the remaining 1% set aside "to finance unforeseen crises in the provinces." The law also establishes the percentages of the secondary distribution, and is supplemented by several other laws regulating the distribution and destination of some specific taxes that finance a set of predetermined activities. Some of the main features of the 1988 coparticipation scheme prevail today, even though there have been numerous changes and adjustments. One of the main changes was to establish "precoparticipations," that is, to redirect parts of the tax revenue originally going into the tax-sharing pool, towards other purposes. Another important change was to provide some fixed-sum transfers and a minimum transfer guarantee to the provinces.

Brazil provides another example of decentralization turned sour. The Brazilian states have been through three debt crises in the last two decades which are mainly due to the weakness of the central government's no-bailout commitment⁷⁷. In each of the crisis episodes, the states – already facing precarious fiscal situations with high levels of spending on personnel and dangerous levels of borrowing- were pushed into debt servicing crisis by unexpected shocks. In each case, their first reaction was to demand bailouts from the central government, and in each case the federal government responded by taking measures to federalize state debts. For example, throughout the 1980s, the federal government honored the states' federally guaranteed obligations to their respective creditors. In 1989, after lengthy negotiations the federal government agreed to transform the accumulated state arrears and remaining principal into a single debt to the federal treasury. In the 1990s, state governments lacked the funds to liquidate their short-term debt and appealed to their creditors to roll it over. The states also run up arrears to suppliers and personnel. The federal government responded by establishing in 1995 the Program for State Restructuring and Fiscal Adjustment, which provided two lines of credit to the states: one to pay off arrears to employees and contractors and the other to refinance their revenue anticipation loans. Under the term of the loans, the states agreed in theory to a series of reform measures dealing with personnel management, state enterprises, tax administration, debt reduction and overall expenditure control (Rodden 2005). The federal government however, had very little power to enforce these conditions, and funds were disbursed before any of the conditions could actually be imposed (Dillinger 1997).

An empirical study by Rodden (2005) shows that over-represented states receive larger transfers, spend more, run larger deficits, and accrue more debt which is consistent with the hypothesis that such states have enhanced bailout expectations owing to their favorable position in legislative bargaining. For example, the results show that the effect from a move from Minas Gerais, which has a two-chamber average of 1.6 seats per million inhabitants, to Rondonia, which has 4.13 seats per million, is a R\$92 increase in expenditures and a R\$44 increase in the deficit. According to the author though a similar

⁷⁷ See Rodden (2005) for a brief and thorough explanation of these crises

correlation was also found in the German case, the link between representation and bailout expectations seems more plausible in Brazil than in Germany. In Brazil, it is common knowledge that the distribution of grants, loans, and ultimately bailouts is a matter of political bargaining, especially between the president and the two chambers of the legislature, where small, over-represented states are attractive coalition partners. The study also found little evidence for the notion that the president's co-partisans exhibit fiscal restraint. The fact that a governor shares the partisan affiliation of the president's governing coalition had no effect on the expenditures or deficits of the regions.

2. The role of institutional rules

2.1. Classification of institutional rules

In response to the fiscal indiscipline problem, various institutional approaches have been adopted that consist mainly in limiting the subnational governments' access to credit. As it is put by Rodden (2002), the underlying idea is akin to the situation of a “...*vulnerable parent who takes away a child's credit card*”.

Following Ter Minassian (1997), these approaches are usually grouped into 4 broad categories: Market discipline, rule-based control, administrative constraint and cooperative arrangement⁷⁸. These rules are not mutually exclusives and most countries utilize a mix of them. The diversity in approaches adopted indicate among others, the legal or constitutional status of subnational governments, the degree of political and administrative controls of the central government over them, the country's overall tradition of financial discipline, the presence or absence of serious fiscal and macroeconomic imbalances and the state of development of the country's financial market. Table 6.1 captures the predominant form of subnational borrowing controls in selected countries.

⁷⁸ A different approach was proposed by Alesina and Perotti(1996) who distinguish three types of "rules and regulations" (1) numerical targets on the budget such as a balanced-budget rule (2) procedural rules (such as voting rules) that regulate the preparation and legislative approval of the budget and (3) rules regarding the transparency of the budget

Table 6.1. Subnational Borrowing Controls in Selected Countries

	Market discipline		Cooperative Control		Administrative Control		Rules-Based Control		Borrowing Prohibited	
	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic	Overseas	Domestic
Ind.Countries										
Australia			√	√						
Austria					√	√				
Belgium			√	√						
Canada	√	√								
Denmark			√	√						
Finland	√	√								
France	√	√								
Germany							√	√		
Greece					√	√				
Ireland					√	√				
Italy							√	√		
Japan						√			√	
Netherlands							√	√		
Norway					√	√				
Portugal	√	√								
Spain					√	√				
Sweden	√	√								
Switzerland							√	√		
U.Kingdom					√	√				
United States							√	√		
Dev.Countries										
Argentina					√	√				
Brazil					√	√				
Bolivia					√	√				
Chile					√	√				
Colombia					√	√				
Ethiopia						√			√	
India					√	√				
Indonesia					√	√				
Korea					√	√				
Mexico						√			√	
Peru					√	√				
South Africa			√	√						
Thailand									√	√
Tran.economies										
Albania									√	√
Armenia									√	√
Azerbaijan									√	√
Belarus									√	√
Bulgaria									√	√
China									√	√
Estonia					√	√				
Georgia									√	√
Hungary					√	√				
Kazakhstan									√	√
Kyrgyz Rep									√	√
Latvia					√	√				
Lithuania					√	√				
Poland									√	√
Romania									√	√
Russia	√	√								
Slovenia									√	√
Tajikistan									√	√
Ukraine									√	√
Uzbekistan									√	√

Notes: The classification attempt to capture the predominant form of control. In some countries, the approach used may involve a combination of several techniques.

Source: Ter-Minassian and Craig (1997)

2.1.1. Market discipline

Market discipline is a self-imposed rule that relies on capital markets to limit subnational borrowings. There's no limit set by the central government and the subnational governments are free to decide on how much to borrow, from whom to borrow and what to spend the money borrowed on. Canada, Switzerland and United States are countries where such a rule exists. Brazil has also adopted such a rule in the early eighties which lead to the build-up of debts.

However, several conditions are necessary in order for financial markets to exert effective discipline over subnational borrowing (Lane (1993)). First, markets should be free and open, with no regulation on financial intermediaries that could place subnational governments in a privileged-borrower position. Second, adequate information on the borrower's outstanding debt and repayment capacity should be available to potential lenders. Third, there should be no perceived chance of a bailout by the central government in a case of impending default. Finally, the borrower should have institutions ensuring adequate policy responsiveness to market signals.

All these conditions are very stringent and it is very unlikely that they are to be fully realized by the majority of countries. Typically, especially in developing countries, available information on the finance of subnational government still suffers from serious weaknesses in coverage, quality and timeliness. Many countries still utilize various forms of portfolio constraints on financial intermediaries to facilitate the placement of government securities (including those of subnational governments) at a reduced cost. More importantly, in many especially developing countries, subnational governments maintain total ownership or controlling stakes in some financial institutions, which provide a captive market for their bond issues or borrowing. Also, a number of countries have already experienced various forms of intervention by the central government (or the central bank) to prevent default by subnational governments on their debts. Finally, relatively short electoral cycles frequently make politicians at the subnational government level short-sighted and unresponsive to early warnings by the financial markets.

Recognition of these realities may be a major reason why sole reliance on market discipline to control subnational borrowing is rather unusual.

A study by Rodden (2005) shows that credit market discipline of subnational governments is most plausible when subnational governments have considerable tax autonomy. In federations where the central government has a history of regulating subnational borrowing and financing a large share of subnational expenditures through predictable transfers credit ratings are tightly clustered around or identical to the central's government's sovereign rating, and rating agencies give much greater weight to the central government's economic and fiscal performance than those of the provinces. For example, two of six states in Australia where the average level of dependence of the state governments on federal transfers is around 50%, received AAA ratings from Standard and Poor's. In contrast, in the US where average federal transfers to the state governments is twice as low (around 23%), only 4 of 39 states rated by Standard and Poor's received AAA rating.

2.1.2. Rule-based approach

In some countries, a standing rule is specified in the Constitution or in a law to control subnational borrowing ⁷⁹. This rule-based control can take diverse form. For example in Germany, Switzerland or the United States, it is stipulated by the law that subnational governments borrowing should be limited to investment purposes (the so-called golden rules). In Belgium and Germany, there's a rule restricting the level of spending of the subnational governments. In Sweden, it is prescribed in the law that municipalities have to balance their budget.

⁷⁹ The choice between a statutory or a constitutional law is not always obvious. Since a rule needs to be credible, it should be viewed as permanent. This leads to the question of whether the fiscal rule should be implemented by statutory or constitutional law, the latter being far more difficult to change or revoke. Due to the costs of changing a constitutional rule of law, it is likely that a constitutional fiscal rule will be less explicit in its policy specification. At the same time, it is likely that it will stand the test of time. By comparison, a statutory fiscal rule has the advantage of increased clarity, yet is more likely to be altered over time. Thus, there is a trade-off between longevity and clarity. An additional concern with respect to constitutional rules is that they may transfer the interpretation of an economic target or rule from policymakers to constitutional court judges.

The main advantage of fiscal rules lies in the fact that they are clear, transparent, and relatively easy to monitor. It also avoids protracted bargaining between the central and subnational governments which according to Ter-Minassian (1997) usually resulted in outcomes that are determined more by short term political factors than by considerations of sound macroeconomic management. Easily understood by economic agents, these rules may also help improve the credibility of fiscal policy.

On the other hand, the lack of inflexibility of these rules leaves little room for maneuver in case of unexpected economic downturns. This will then encourage the subnational governments to develop behaviors or practices aimed at circumventing the rules. Such practices include;

- the reclassification of expenditures from current to capital to escape current budget balance requirements
- the increase in off-budget items
- the use of dubious accounting practices (creative accounting)
- the use of state and local-government owned enterprises to borrow for purposes which should be funded through the relevant government budget
- the use of debt instruments- such as sales and leaseback arrangements or the so-called private revenue bonds in the United States (Stotsky and Sunley 1997) - which are not included in the debt limits
- the resort to arrears towards suppliers, which are typically difficult to monitor for inclusion in the public debt ceilings.

Therefore, unless these practices are taken into consideration, a rule-based approach is doomed to be ineffective. Ter Minassian(1997) suggested several measures as a support to a rules-based approach in order to make it more effective; clear and uniform accounting standards for government entities, strictly limiting and preferably eliminating the scope for off-budget operations, comprehensive definitions of what constitutes debt, the setting up of modern government financial management information systems, capable of providing timely and reliable data on all phases of expenditure as well as on financial operations of the various levels of government and policies, like privatization which

minimize the scope for use of financial and non-financial enterprises for government purposes.

2.1.3. Administrative constraint

Some countries choose not to impose any fiscal rules in an effort to preserve a flexible fiscal policy. In these countries, the control on subnational borrowing takes the form of an administrative control. Similarly to fiscal rules, they are various form of administrative constraint such as the setting of annual limit in the overall debt of a local government in Lithuania or the prohibition of external borrowing for subnational governments in Mexico.

One main advantage of administrative procedures is that they introduce strict controls over subnational borrowing while preserving a flexible fiscal policy. However, the implied approval of individual spending and borrowing initiatives of subnational governments by the central government introduces an explicit or implicit guarantee of local and regional public debt. Having granted permission, the federal government may find it more difficult to refuse a bailout later on, should the regional government run into trouble. Imperfect information on local investment projects as well as local needs, introduces another drawback of this mechanism. Although subnational governments can potentially select the most necessary and cost-efficient spending programs, central authorities lacking the necessary information will select only “average” quality ones. Moreover, perceiving their borrowing as guaranteed by the central government, local administrations may be inclined to submit any project for central government approval regardless of its quality and risk, because in the worst case, the losses will be covered out of the common resource pool.

2.1.4. Cooperative arrangements

Finally, both local and central governments may work together in coming up with a set of cooperative arrangements to control the subnational borrowing. The loan council set up in 1929 in Australia is an example of a cooperative arrangement in controlling subnational borrowing. The main strength of the cooperative approach is that it combines

many individual advantages of the other three approaches. By promoting a dialogue between the different levels of government, it has the potential to ensure the coordination of macroeconomic policy, while retaining sufficient flexibility. It raises awareness among subnational governments of the macroeconomic implications of their budgetary choices. Finally, it does not automatically imply a central government guarantee for subnational borrowing. On the other hand, its hybrid nature is also its main weakness. When poorly implemented, cooperative arrangements produce the flaws of other approaches instead of their advantages. They may undermine the leadership of the central government, soften subnational government budget constraints, promote bargaining for federal transfers, and hamper policy coordination. By trying to deal with all the challenges simultaneously, the cooperative approach may end up dealing effectively with none.

2.2. Institutional rules and fiscal outcomes

A number of empirical studies have focused on the impact of these institutional controls on fiscal outcomes such as the local fiscal deficits or the level of subnational indebtedness. Yet the econometric evidence has so far been limited and mixed.

In a sample of 30 countries, von Hagen and Eichengreen (1996) found that the introduction of borrowing constraints has led to increases in subnational indebtedness. However, this result is based on a regression that does not control for factors other than GDP. Fornasari, Webb, and Zou (2000), in a study on 31 countries, found that constraining subnational borrowing did not seem to have any consistent effect on subnational fiscal deficits. Jin and Zou (2002) found similar results in 32 countries for the size of subnational governments. These results comforted the view according to which these fiscal institutions are simply a veil that can easily be pierced by voters and their fiscal representatives (Poterba 1995).

On the contrary, empirical results found in some studies show that fiscal institutions have a potential to affect fiscal outcomes. A report by Advisory Commission on Intergovernmental Relation (ACIR) in 1987 shows that an index of the stringency of the state's balanced budget requirement to significantly reduce state deficits measured here by a general fund deficit. The results however are quite questionable as it is based on

a single cross-section regression. Alt and Lowery (1994) explore the effects of political and economic variables on government spending and revenue using a panel data set from 1968-87. From this two equation model, they simulate the likely path of deficits following various economic shocks, where deficits are defined as general expenditure minus general revenue. They found that Republican state facing a “no carry-over” balanced budget constraint are found to close more of the deficit gap than republican states without the “no carry-over” constraint. However, Democratic states with and without the “no carry-over” constraint behave similarly, closing the same deficit gap as the republican “no carry-over” states. Poterba (1994) found that states with strict anti deficit rules respond to a deficit shock by reducing spending and increasing tax more than do states with weak anti deficit rules. A USD100 deficit overrun leads to only a USD17 expenditure cut in a state with a weak anti-deficit law, while it leads to a USD44 cut in other states. Using budget data from a panel of 47 states from the period of 1970-1991, Bohn and Inman (1994) estimates the responsiveness of state deficits to change in state income and found that an end-of-the-year (stricter) budget requirement have a positive effects on a state's general fund surplus. Alesina, Hausmann, Hommes and Stein (1999) found that an index of fiscal institutions that included a component measuring the existence of fiscal rules limiting the level of debt was negatively correlated with fiscal deficits in a sample of Latin American countries. Furthermore, the component of the index related to rules in the strict sense was also found to be negatively correlated with fiscal deficits. The authors conclude that fiscal rules can contribute to fiscal prudence. Rodden (2002) in a study on a panel data of 33 countries, found that the largest deficits are run by subnational governments that rely heavily on federal transfers and at the same time are free to borrow.

However, all these studies are plagued by a serious endogeneity problem. The correlation found between fiscal institutions and fiscal outcomes may actually be the reflection of underlying voters' preferences. In fact, it is possible for states in which voters have preference for fiscal prudence tend to have lower fiscal deficits and to support a constitutional or legislative limit on subnational borrowing. Then again, efforts have been made in order to take into account the endogeneity of these institutional rules

by introducing variables that controlled for some measure of state voter preferences, such as the political party of the governor or the legislature or the fraction of the state voting for each party's presidential candidate in recent elections (Poterba 1995). On the other hand, some authors argue that the problem of voters' preferences needs not necessarily exist as most of these institutional controls are passed or implemented several years back thus they do not reflect the current residents' preferences (Kiewiet and Szakaly (1992)). This line of argument is particularly valid for countries which chose to adopt rule-based controls that require enactment of laws or amendments to the constitution. However, in cases where administrative constraints or cooperative arrangements are preferred, it is a little bit far-fetched to assume that voters' preferences are overlooked.

There have also been study cases which analyzed the implementation of institutional rules and its effect on a particular country. These studies are particularly interesting as they provide a more thorough analysis of the country's social, economic and political situation which are very determinants on the outcome of such rules. Three lessons can be obtained from these study cases

- Institutional rules are not simple when subnational governments have access to a wide variety of formal and informal sources of credit.
- These mechanisms are only as good as the strength and credibility of the central government's commitment to stand by and enforce them
- Blunt hierarchical mechanisms like central government credit allocation and borrowing restrictions do not seem to work well in large, diverse federations.

2.3. The Malaysian case and the choice of methodology

In the case of Malaysia, it is clear from Article 111(12) of the Constitution that the state governments cannot make any borrowings without the federal government being advised about it. At the same time, even though the article makes allowance for other sources of financing, we note that the state governments' borrowings consist mainly of loans from the federal government (up to 95%). Therefore as far as their borrowing activities are concerned, we can see that the state governments are highly dependant on

the federal government. This situation originates probably from the fact that most of the state governments are too small to venture into the capital market. It can also be explained by the fact that the capital market is not developed enough and is not yet ready to welcome a new player. As for the rest 5% of the financing, it comes mainly from the local financial institutions.

It is also clear from the Article that regarding the application of the regulation, no exception is made for any particular state. The rule is applied with the same intensity to all states. However the fact that the borrowing limitation is similar for all states makes it impossible for us to adopt the same methodology as the one employed by most studies where the intensity and type of rules vary across time or geographical areas.

We propose to adopt the approach normally used to study the intertemporal behaviors of an economic agent. We assume that the borrowing limitation imposed by the Constitution works like a liquidity constraint that inhibits the state governments from smoothening their consumption over time or in other word from observing a forward looking behavior implied by the permanent income hypothesis. Therefore, if the results of the estimation show that state governments observe a forward looking behavior, it means that the latter are not subject to any liquidity constraint and thus the borrowing limitation do not have any influence on their spending behavior.

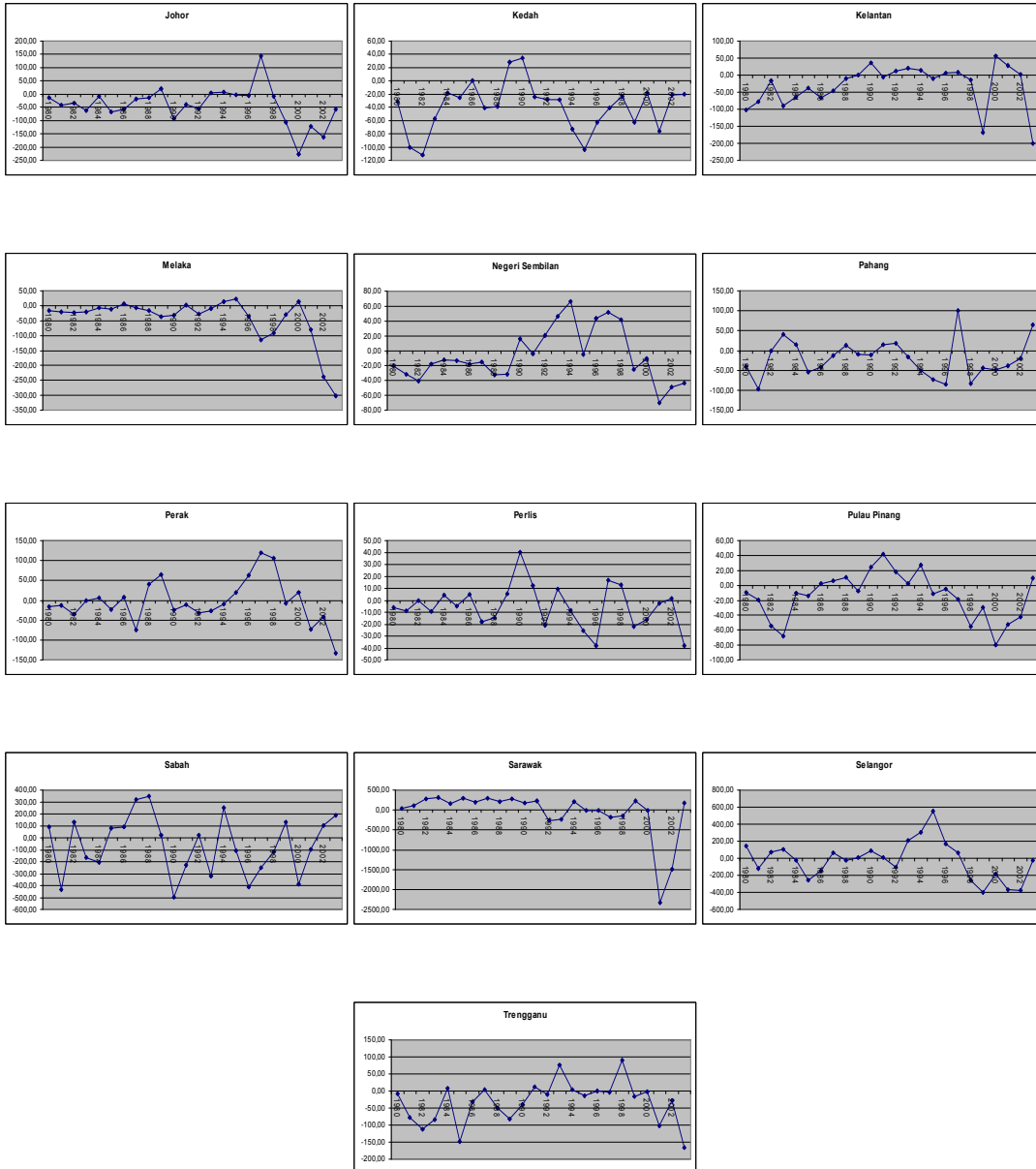
On the contrary, a non-forward looking behavior does not necessarily mean that the borrowing limitation is effective for such eventuality can also be explained by the presence of precautionary saving⁸⁰. Nevertheless, in the case of the state governments in Malaysia, we may argue that it is quite unlikely for the latter to be the cause of any non-observation of the permanent income hypothesis and this essentially for three reasons.

⁸⁰Several attempts have been made in order to discriminate between these two effects but to no avail. According to Carroll and Kimball (2001), these attempts are bound to fail for both the precautionary saving and the liquidity constraint are derived from the concavity of the consumption function. In fact, precautionary saving and liquidity constraint are related to two different phenomenons that lead to the same deviation from the implication of permanent income. These two phenomenons are; excess smoothness to income innovation which can be explained by the existence of precautionary saving and excess sensitivity to expected income changes explained by the liquidity constraint effect.

Firstly, if we look at the financial positions of the state governments as a whole for the period of 1980-2003, as depicted by figure 6.1, we notice that most of the time, the revenues of state governments were insufficient to finance their expenditures, resulting sometimes in a huge deficits (the highest deficit was recorded in 2001 where it stood at a whopping RM 3.745 billions (USD 1 billion). It is thus more probable for the state governments to draw into their savings in order to finance these deficits than to add into them. The increase in state governments' debts as depicted by figure 6.2 is another major consequence of these deficits. Furthermore, a recent report by the Auditor-General's Office revealed that most states have not been able to maintain their assets and their incomes have dwindled over the years. Consequently, as at 31/12/2003 a total amount of RM 2.55 billion (USD 580 millions) in arrears of debt service repayments are yet to be settled by the state governments to the federal government (see table 6.2).

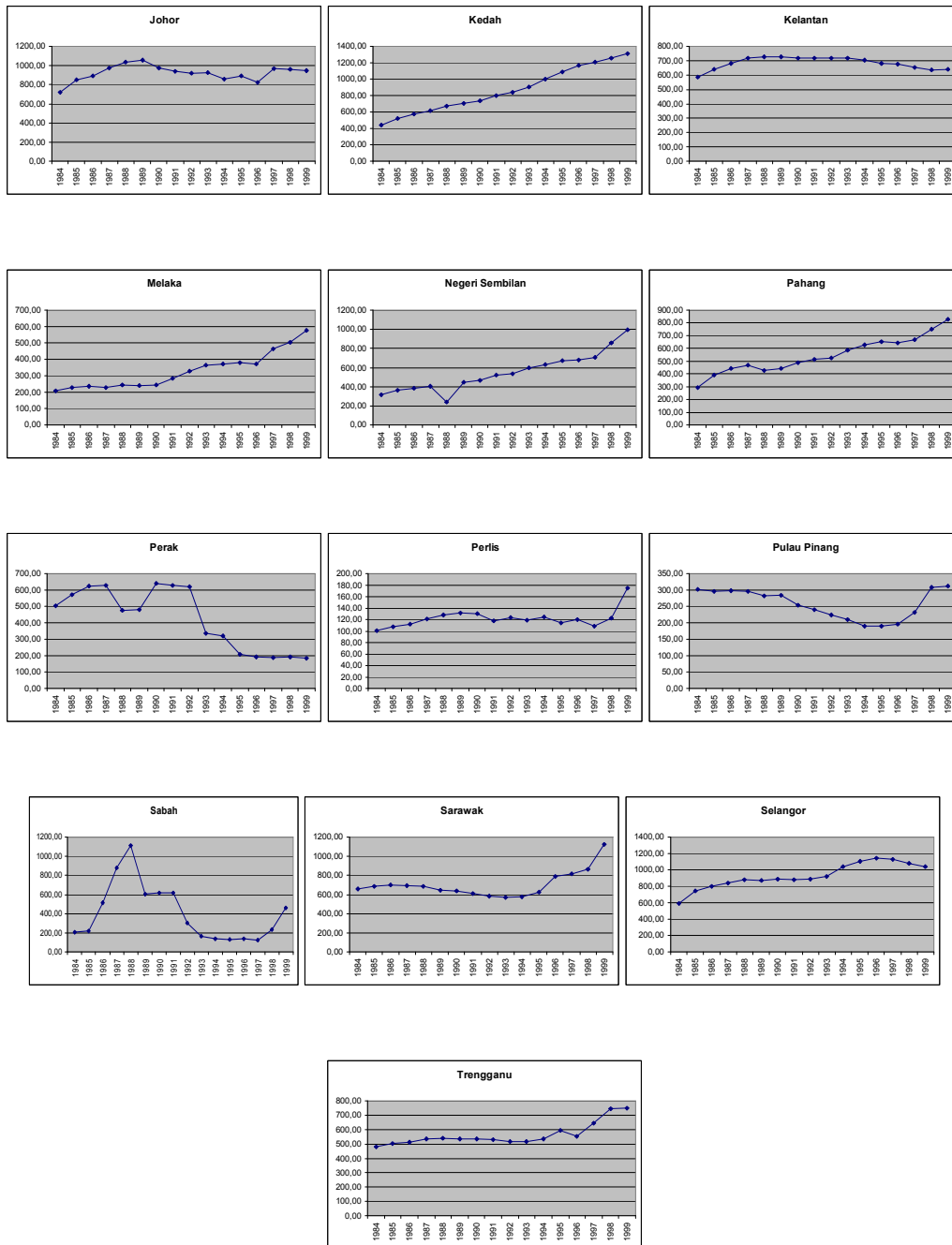
Secondly, consumers constitute precautionary saving in order to deal with uncertainty in their future income. With enough savings, consumers hope that they will be able to at least enjoy the same level of utility in case of unpredictable adverse events. There are thus two underlying conditions for the existence of precautionary saving - the uncertainty of future incomes and the risk averse behavior of the consumers. In the case of the Malaysian state governments, while it is plausible to assume that they are to a certain extent risk-averse, the structure of their revenue is such that it is less likely for it to vary considerably in an unpredictable manner.

Figure 6.1. State governments' finance 1980-2003



Source: Malaysian State Governments Financial Statement, various issues

Figure 6.2. State governments' outstanding debts 1984-1999



Source: Malaysian State Government Financial Statement, various issues

Table 6.2. Loans repayments and loan repayments arrears of the state governments

State government	Loan repayment arrears as at 31/12/2002 (RM Million)	Year 2002		Loan repayment arrears not identified (RM Million)	Loan repayment arrears as at 31/12/2003 (RM Million)
		Annuity payable (RM Million)	Annuity paid (RM Million)		
Johor	506.64	66.42	4.68	-	568.38
Kedah	488.48	71.54	11.72	67.33	615.63
Kelantan	129.57	25.44	0.74	4.02	158.29
Melaka	38.07	35.05	33.00	32.01	72.13
N. Sembilan	36.34	65.49	22.17	-	79.66
Pahang	244.99	93.86	2.44	19.35	355.76
Perak	4.35	15.92	14.56	-	5.71
Perlis	36.47	9.00	0.00	2.26	47.73
Pulau Pinang	31.71	31.19	20.57	-	42.33
Sabah	35.59	13.07	0.00	3.78	52.44
Sarawak	41.26	129.87	113.87	1.48	58.74
Selangor	178.62	94.56	0.58	1.89	274.49
Trengganu	160.09	52.83	6.72	7.60	213.80
Total	1932.18	704.24	231.05	139.72	2545.09

Source: Auditor General's Report 2003

In fact, the tax base of the state governments is very small. All direct taxes are collected by the Federal government and state governments are assigned residual revenues such as those related to land, real property, agriculture and forestry. As for other

sources of revenue, they come mainly from non-tax revenues (such as licenses and permits, commercial undertakings and service fees) as well as transfers and grants from the federal government. Most of the sources of these revenues are clearly sheltered from unpredictable shocks⁸¹ and as a consequence, state governments may not consider it as necessary, the constitution of precautionary saving.

Together, these evidences suggest that as far as the Malaysian state governments are concerned, a deviation from the permanent income hypothesis is more likely to be explained by the existence of liquidity constraint than by the presence of precautionary saving motive. In other words, we believe that any potential non-forward looking behavior by the state governments in Malaysia is due more to their excess sensitivity to current income variation than to their lack of reaction to unpredictable income innovation.

3. Theoretical framework

In the intertemporal approaches to decision making, it is assumed that agents are forward looking which implies that decisions regarding today's consumption are made on the basis of expectations about future resources.

This model of intertemporal consumption behavior by private households uses as benchmark the permanent-income hypothesis. Testable empirical implications of the permanent-income hypothesis were developed in a seminal paper by Hall (1978). The first application of the notion of intertemporal decision making to the state and local governments' spending behavior was done by Holtz-Eakin and Rosen (1989). It is their framework that will be adopted for the present case.

We first assume the existence of a decision maker representing the state governments whose goal is to maximize the expected present value of utility subject to an

⁸¹ Such a situation is not limited to Malaysia. Indeed, in the literature concerning the assignment of revenue-raising responsibilities, there is broad consensus that taxes that are more sensitive to changes in income should be assigned to the central government. As such, the central government will have in its hand an instrument of stabilization and the subnational governments will have its budget sheltered from cyclical fluctuation.

intertemporal budget constraint. The utility function depends upon the flow of government services measured here by current expenditures. If we denote the period-specific utility function for state i by $U_i(\cdot)$, then the maximization programme can be expressed as follows

$$V_t = E_t \left[\sum_{s=0}^{\infty} \beta^s U_i(G_{it+s}) \right] \quad (\text{eq. 1})$$

where E_t denotes expectations taken using information available through the end of period t , $\beta = \frac{1}{1+\delta}$ and δ is the pure rate of time preference, and G_{it} is the level of state government i spending on nondurable goods and services in period t . An attractive feature of this model is that it does not require us to specify whose preferences are represented by $U(\cdot)$. It might as well depict that of a bureaucrat of state government or that of a representative resident. We only need to assume that the decision maker has a stable preference.

Furthermore, the state government i decision-maker is subject to the following intertemporal budget constraint

$$W_{it-1} + \sum_{s=0}^{\infty} \rho^s (R_{it+s} - G_{it+s}) = 0 \quad (\text{eq. 2})$$

where W_{it} is state government i wealth at period t , R_{it} resources available to state government i at period t and $\rho = \frac{1}{1+r}$ and r is the constant real rate of interest. R_{it} is considered to be exogenous. This budget constraint states that the initial wealth plus the present value of resources must at least cover the present value of expenditures.

The resolution of the above maximization problem will yield the optimal spending path of the state government i which is characterized by the system of Euler equations

$$E_t \left[\frac{U'(G_{it+s})}{U'(G_{it+s-1})} \right] - \frac{1+\delta}{1+r} = 0 \quad (\text{eq. 3})$$

According to equation (3), the marginal rate of substitution between state government expenditure in adjacent period is equated to the intertemporal relative prices.

After some manipulation, equation (3) can be transformed into the following expect relationship

$$\ln U'(G_{it}) - \ln U'(G_{it-1}) = \ln \left(\frac{1+\delta}{1+r} \right) + \nu_t \quad (\text{eq. 4})$$

where ν_t represents an expectational error term and, assuming that expectations are formed rationally;

$$E_{t-1}(\nu_t) = 0 \quad (\text{eq. 5})$$

A direct implication of equation (4) is that the state government expenditure is a martingale.

There are in effect several assumptions which are embedded in the above model. It first assumes that the state government spending decisions are derived from the maximization of the discounted value of a time-separable objective function. Secondly, it assumes that the state government is not facing any credit market rationing. Finally, the model assumes rationally formed expectations.

It is the second assumption that we're interested in. Since state governments in Malaysia are facing credit market constraints, we presume that the model will be invalidated if it is to be confronted with the Malaysian data.

In practice and under certain assumptions, the permanent-income hypothesis, applied here to the state and local governments' spending, can be tested by estimating an equation of the form

$$\Delta \ln G_t = \alpha_0 + \sum_{j=1}^k \alpha_j \Delta G_{t-j} + \eta_t \quad (\text{eq. 6})$$

where α parameters to be estimated and η_t a random error term⁸². If α are found to be significantly different from zero, we can reject the permanent income hypothesis.

One disadvantage of this approach is that the results may be difficult to interpret since the permanent-income hypothesis is not tested against any specific alternative. A non-zero α_j does not necessarily reflect a total rejection of the permanent income hypothesis as it is possible that only, say 20% of spending produces the rejection while the other 80% are well determined in accordance with the permanent income model.

Campbell and Mankiw (1990) proposed an alternative test that allows one to measure the quantitative significance of the rejection. This test assumes that there's a fraction λ of state governments' expenditures that is determined by current resources so that another $1-\lambda$ will follow the permanent income hypothesis. The so-called ' λ model' is given by the following equation:

$$\Delta \ln G_{it} = (1-\lambda)\nu + \lambda\Delta R_{it} + (1-\lambda)\varepsilon_{it} \quad (\text{eq. 7})$$

The key parameter in equation (7), and the parameter to be estimated in the empirical analysis, is λ . If λ is strictly positive, the consumption path is affected by expected fluctuations in income, and the permanent-income hypothesis is rejected. In this case, we presume that the state governments' expenditures are to a certain extent influenced by the borrowing limitations. Again it is important to emphasize that as indicated in the previous section, the precautionary saving motive is assumed to be absent. Thus any deviation from the permanent income hypothesis is due to the existence of liquidity constraint.

On the other hand, if λ equals zero, expected fluctuations in income will disappear from the consumption path. Consistent with the permanent-income hypothesis,

⁸² The equation is exact if we assume that the decision maker's utility function displays a constant relative risk aversion. Otherwise, this equation should be considered as a first-order logarithmic approximation.

consumers are perfectly able to smooth spending over time. In terms of borrowing limitation, this result signifies that the control has been ineffective and has no effect whatsoever on the spending behavior of the state governments.

An advantage with the ' λ -model' is that it does not only facilitate a test of the permanent-income hypothesis. If the permanent-income hypothesis is rejected, it also provides information about how 'serious' the rejection is: the higher the value of λ , the more weight is put on expected fluctuations in income and the more "serious" is the rejection. This finding can be used in order to determine whether the liquidity constraint has a role in influencing the subnational behavior or not. Assuming that the "rich" states will be less affected by the liquidity constraint, the rejection of the permanent income hypothesis for this group should be at a lower degree than the one observed for the group of "poor" states. In other words, we may assume that liquidity constraint is at play if the behavior of the "poor" states differs significantly from the "rich" states. Again, such a conclusion is possible uniquely in the case where precautionary saving motive is, for valid reasons, assumed to be absent.

4. Data and Empirical Specification

4.1. Data

The study is based on the expenditures and revenues data of the 13 states in Malaysia from 1980 to 2003 obtained from the Financial Statements produced yearly by each state government. Concurrently with the theoretical consideration⁸³, we only consider the spending on non-durables good and services.

We do not have data on non-durable spending, so we have to use the current expenditure bearing in mind that it may include some spending on durables. The revenue of the state governments consist of taxes, licenses, user charges, commercial undertakings as well as grants from the federal government. Expenditures and revenue data are measured in real per capita terms using the consumer price index as deflator. We use

⁸³In the utility maximization program, we assume that the utility is separable in time (Dyan (1992) Albaran (2002)). Thus consumption in $t-1$ should not have any effect on the utility in period t . In order to avoid this, we will exclude consumption on durables from our specification.

three different price indexes: one for all the states of the Peninsular Malaysia, one for the state of Sabah and one for the state of Sarawak.

Table 6.3 summarizes the average growth of revenues and expenditures for all states for the period 1980-1990 and 1990-2000. We note that for the first period, all states have experienced a positive growth of their revenue and expenditures. We also note that for most states, their revenue seems to grow faster than their expenditures. In the second period, we note that not only the growth for both the revenue and the expenditure have turned negative for certain states, but for those who experienced positive growth the hike is much lower as compared to the one in the first period. In total, for the period of 1990-2000, the average growth of expenditures and revenue for all states are 2.68% and 1.62% respectively (as compared to 6.10% and 7.53% in the first period). The radical change in the evolution of the revenue and the expenditures of the state governments between the 2 periods is not a surprise as it is the reflection of the growing centralization of the country. This point is illustrated by the acceleration of the growth of expenditures of the federal government in the second period.

4.2. Empirical Specification

The empirical counterpart of equation (7) can be written as follows:

$$\Delta \ln G_{it} = \alpha_t + f_i + \lambda \Delta R_{it} + \varepsilon_{it} \quad (\text{eq. 8})$$

where G_{it} and R_{it} represent, respectively, spending and revenues of state government i in year t . The time specific constant α_t captures the real interest rate and other macroeconomic variables that are common to all state governments. f_i is a state specific effect that captures any differences in time preferences across the state governments.

The state-fixed effect can be removed by differencing equation (8) and we arrive at the following equation,

$$\Delta^2 \ln G_{it} = \Delta \alpha_t + \lambda \Delta^2 R_{it} + \Delta \varepsilon_{it} \quad (\text{eq. 9})$$

In the above equation, the error term (ε_{it}) can be interpreted as the revision in the decision maker's forecast of future resources. However, it is very likely that this revision of future resources will be linked to the growth of current resources (ΔR_{it}) and this correlation will carry over to $\Delta \varepsilon_{it}$ and $\Delta^2 R_{it}$. Hence the method of ordinary least squares (OLS) will no longer be appropriate to estimate equation (8).

Table 6.3. The evolution of state governments' real revenue and expenditures (1980-1990 and 1991-2001) (in %)

	1980-1990		1990-2000	
	Expenditure	Revenue	Expenditure	Revenue
Johor	4,22	7,04	-1,83	-4,38
Kedah	1,53	10,75	4,52	4,56
Kelantan	6,12	10,09	3,23	3,36
Melaka	7,50	8,29	1,53	4,89
N.Sembilan	0,54	3,75	4,05	3,29
Pahang	4,57	4,62	0,50	2,18
Perak	2,91	7,18	4,15	2,36
Perlis	9,43	8,59	0,49	-4,16
Penang	7,18	7,35	5,80	2,68
Sabah	3,90	0,20	-6,59	-1,80
Sarawak	11,20	11,07	8,10	2,69
Selangor	6,07	10,23	8,49	4,71
Trengganu	14,13	8,79	2,40	0,68
All states	6,10	7,53	2,68	1,62
Federal. Gov	3.74	4.73	5,32	4,39

Source: Malaysian State Governments Financial Statement, various issues

Consequently, we will apply the generalized method of moments (GMM) as developed by Arellano and Bond (1991). This method suggests that if the error term is serially uncorrelated, lagged values of spending and revenue, dated $t-2$ and back, can be used as valid instruments. As for the number of lags to be used as instruments in our study, we will select the most parsimonious set of instruments consistent with the data.

There are two types of GMM estimators: (1) the difference estimator and (2) the system estimator. A problem with the original Arellano-Bond estimator is that lagged levels are often poor instruments for first differences. Arellano and Bover (1995) described how, if the original equations are added to the differenced system, additional moment conditions can be brought to bear to increase efficiency. In these equations, predetermined and endogenous variables in levels are instrumented with suitable lags of their own first differences.

In what follows, we present results using the “system GMM” estimator. We will compare the system GMM results with those of the less efficient difference GMM estimator as well as with those of OLS estimator which treats the endogenous variables and their lags as exogenous.

5. Results

We start by estimating the above equation using the OLS method. As indicated by column (1) of table 6.4, we find that the permanent income hypothesis can be rejected as λ is significantly different from 0. Similarly, one can reject the hypothesis that the data are consistent with the Keynesian model i.e. $\lambda = 1$. Thus the spending behavior of the state governments is governed by both the permanent income hypothesis and the Keynesian model. We note however that a substantial share (85%) of state government spending is determined by intertemporal optimization.

As stressed in the section above, OLS may not be an appropriate estimation method because there's a potential endogeneity problem with the regressor. Therefore, we reestimate the equation using the GMM method. Here, we set the maximum number of

instruments used to 13⁸⁴. In table 6.4, our primary result is given by column (3) where we use the “system” GMM estimator. In column (2) the “difference” GMM estimator is used.

Our estimation results shows that we cannot reject the hypothesis that the value of λ equals zero. On this basis, one cannot reject the permanent income hypothesis. The state governments spending are completely determined by intertemporal optimization. The joint hypothesis of correct model specification and valid instruments cannot be rejected and while the disturbances exhibit negative first-order serial correlation, there are no sign of second-order serial correlation.

It is interesting to notify that the value of λ decreases when we use the GMM method instead the OLS. This signifies that the correlation between the growth of current resources (ΔR_{it}) and the innovation in the permanent resources (ε_{it}) is positive. This result is consistent with the one found in the literature⁸⁵ and signifies that part of the growth in the current resources is anticipated to be permanent.

In terms of borrowing limitation, the fact that the state governments' current expenditures are not determined by current resources indicates that the latter are not facing any liquidity constraint. In other words, the borrowing limitation imposed on the state governments does not have any effect on their spending behaviors. They are capable of completely smoothening their consumption inspite of this institutional constraint. These results also comforted our belief in the absence of precautionary saving constitution by the state governments.

We test for the stability of the coefficient for the whole period. For that we have to look for events that can constitute a structural break in the spending behavior of the state governments. As there were no radical changes that took place within the political context of the country during the period of study, we turn to economic environment in

⁸⁴ It is well documented that GMM estimators with too many overidentifying restrictions perform poorly in finite samples. As a rule of thumb, one should use fewer than N instruments, where N is the number of cross-sectional units (in our case N=13).

⁸⁵ See Dahlberg and Lindström (1998) Borge and Tovmo (2000) and Borge, Dalberg and Tovmo (2001)

order to detect any structural breaks that have marked these two decades. We notice that during this period the country has experienced two recessions; one in 1984 where the GDP fell by 1.1% and the other in 1998 where it fell by 7.8% (see figure 6.3). Consequently, we've decided to divide our sample into 3 sub periods: 1980-1984, 1987-1997 and 1998-2003.

Table 6.4. Estimation results for pooled sample (1980-2003)

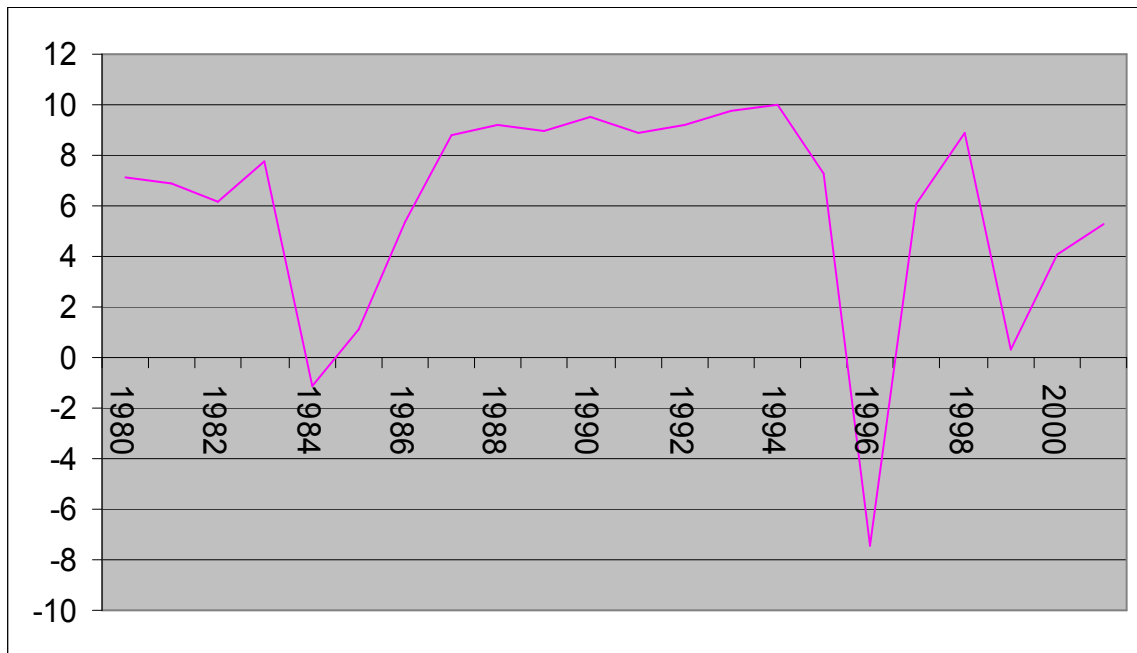
	OLS	GMM difference	GMM system
	A	B	C
λ	0.2934*** (0.0605)	0.0412 (0.1302)	-0.1311 (0.1073)
Constant	-0.0004 (0.0099)		0.0039 (0.0077)
R^2	0.1600		
Hansen test		9.21	8.43
No. of restriction		12	11
Hansen p-value		0.685	0.675
1 st order AC (prob)		-3.28 (0.001)	-3.28 (0.001)
2 nd order AC (prob)		0.11 (0.910)	0.12 (0.906)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

How do these recessions which in no way can be attributed to the state governments, can have any effect on the spending behavior of the latter? We assume that as these recessions may induce the federal government to become more prudent in the management of the economy, the state governments may also be indirectly affected (for example the central government may tend to be more particular in the application of Article 111(2) of the Constitution). More precisely, we presume that the liquidity constraint will be most binding in the third period (1998-2003) for, during that period, the

recession has been relatively deeper (as compared to the one in 1984) and the growth rates in subsequent years have been relatively slower. We also presume that the liquidity will be least binding in the first period where no recession has occurred. The result is presented in table 6.5. A Chow test indicates that the coefficient is not stable for the whole period. The estimation result however show that λ is not significantly different from zero in all three periods. On the other hand, the value of λ seems to verify our presumption regarding the role of the 1997 recession.

Figure 6.3. GDP growth (1980-2003)



Source: Malaysia Economic Report, Ministry of Finance, various issues.

The effect of borrowing limitation on the spending behavior of state governments may also be influenced by the latter's level of income. It is possible that the limitation has an effect only on states with a certain level of income. In other words, we assume that for state governments with a relatively high level of income, their expenditures are less likely to be affected by institutional rule. We test for this by splitting our sample into 2 groups according to their level of income. Following Zeldes (1985) and Shea (1995), we use the average values of real per capita revenues during the period under study to determine the 2 groups. If there were to be any liquidity constraint, then it is more likely

that states with a lower income will be affected by it. We should thus observe a less forward looking behavior among this group as compared to the one with a higher income.

Table 6.5. Estimation results for split sample

	1980-1984 (1)	1987-1997 (2)	1998-2003 (3)
λ	-0.3492 (0.4069)	-0.0720 (0.1892)	0.3162 (0.1077)
Constant	0.04878 (0.0485)	0.0211* (0.0109)	-0.0221 (0.0255)
Hansen test	0.12	12.58	3.23
No. of restriction	2	11	4
Hansen p-value	0.941	0.322	0.520
1 st order AC	-1.57	-2.92	-1.96
2 nd order AC	0.80	0.42	0.43
No. of observations	52	169	78
F-statistics (Chow test)		6.2471	
Prob		0.0022	

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

The results of the estimation are reported in table 6.6. Our results indicate that, in our preferred specification (column (5) and (6)), the level of income doesn't seem to have any influence on the effect of the institutional limitation. For both groups, state governments' spending behavior is found to be unaffected by the borrowing limitation. For the high income group, our estimation results varied according to the estimation method used. When the GMM in difference is employed, we found that the growth of consumption is negatively and significantly correlated with the growth in income. However, when we use the GMM system, the correlation becomes non significant. We

take this result as a sign that the GMM system is a more efficient method of estimation than the GMM in difference.

Table 6.6. Estimation results for split sample (1980-2003)

	OLS Low income	OLS High Income	GMM difference Low income	GMM difference High income	GMM system Low income	GMM difference High income
	A	B	C	D	E	F
λ	0.3902*** (0.1097)	0.2359*** (0.0602)	0.022 (0.3575)	-0.4358** (0.1382)	0.0665 (0.3077)	-0.2274 (0.2245)
Constant	0.0035 (0.0120)	-0.0053 (-0.0140)			0.0060 (0.0040)	-0.0033 (0.0177)
R^2	0.1920	0.1326				
Hansen test			6.80	5.45	3.35	3.80
No. of restriction			6	5	5	4
Hansen p- value			0.340	0.363	0.647	0.434
1 st order AC			-2.23	-2.26	-2.18	-2.18
2 nd order AC			0.03	0.08	0.04	0.06

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

We also take into account the fact that the results of the estimations may be sensitive to the instruments being used by varying the set of instruments employed. However we found the results did not vary that much from the ones in our original specifications and all of them seem to point to the same conclusion.

The results of our estimations showed that the borrowing restriction imposed on the state governments have not been effective in curbing their spending behavior. Indeed, the regulation provides an avenue for the federal government to control subnational

governments' spending behavior. Therefore, the impact of the regulation will mostly (if not totally) depend on the motivation as well as the capacity of the federal government to implement it. Two questions thus ensued: Does federal government really have the incentives to restrict subnational governments' borrowing? Does it have the capacity to do so?

Given the actual repartition of powers and responsibilities between different levels of governments, the federal government may not consider it as necessary to exert a strict control on the state governments spending behavior. As the state governments' responsibilities are quite limited, the federal government may believe that their expenditures will stay within a certain acceptable limit and will not pose any great danger to the stability of the economy as a whole. As a result, the federal government may not be as stringent as it should normally be in approving loan applications by state governments. However, we believe that with the growing incapacity of the state governments in honoring their debts, the federal government may become more vigilant in the future.

The ineffectiveness of the borrowing limitations may also be the reflection of the central government's willingness not to further burden state governments' financial needs by restricting their access to loans. With most of the revenue sources being devolved to the federal government, state governments' financial resources are far from sufficient to cover their expenditures, creating a financial gap which is normally filled through federal transfers (grants and loans). At the same time, statistics showed that there's a net tendency for federal government to shift its financial allocation to state governments from grants to loans over time. Federal government grants to the states decreased from 9.0 per cent of its operating budget in 1975 to 3.5 per cent in 1999. Meanwhile, outstanding loans from the federal government to the state governments increased from RM1107 million to over RM9000 million. In other words, state governments' easy access to borrowing may simply be the result of the federal government relying more and more heavily on loans to cover the financial needs of the states government.

The fact that state governments can have some degree of political leverage over the decision-making of the central government can also help explain why they are not

constrained in their spending behavior. Even though, it is up to the central government to decide whether to grant a loan or not, a state government can use its representatives both at the legislature and the executive to tilt the decisions in its favor. While there is as yet no empirical proof as to the relation between political representations and the amount of loans accorded to subnational governments in Malaysia, anecdotal evidence suggests that elected politicians tend to reward their constituencies. Besides, since the whole process concerning loan applications and approval are usually kept away from public scrutiny, it is quite plausible to believe that economical and financial merits are not the sole determinant factors for state governments to secure a loan.

To summarize, the way responsibilities and powers are divided across levels of governments in Malaysia has to a certain extent rendered the federal government less “motivated” in regulating subnational governments’ borrowing. In addition, the political leverage possessed by the subnational government on the decision-making of the central government make it even harder for the latter to properly enforce the regulation.

A relevant policy question is whether the borrowing contracted by the state governments will be translated into future resources for them. If this is the case then the state governments will face less difficulty in paying back their debt. For this to happen, it is important that the borrowings are used for development purposes and not for financing current expenditures. This is the case in Malaysia where most if not all of the borrowings contracted from the federal government, are used for the financing of development projects. Also, for these development projects to turn into future taxes for the state governments, it is important that the latter have a share in the future income generated by these projects. It is plausible to conceive a situation where all the proceeds of the development projects fell to the hand of the federal government especially in the case of Malaysia where most of the tax bases are devolved to the central government. To put it differently, even though the borrowings in Malaysia are mainly used for development purposes, it is yet to be analyzed whether the revenues of the state governments can be expected to increase with development expenditure so as to pay for this expenditure over time. If revenues do not respond to these investments then funding through borrowing is less reasonable even for development purposes. In the next section, we will try to get

some preliminary measure of the state governments' revenue responsiveness to development projects.

6. Responsiveness of state governments' revenues to developments investments.

In this section, we will examine the responsiveness of state governments' revenues to developments investments. For that we will estimate the following equation

$$\ln R_{it} = \alpha_0 + \beta X_{it} + \beta D_{it} + \varepsilon_{it}$$

Where R, is the log of the real per capita revenue of the state governments, D is the lagged development expenditure of the state governments. We take a lagged value of development expenditure as we believe that it takes a certain time before an investment could yield benefit to the state governments. X is the control vector that includes the log of the total population, the GDP, the dummy for state governments with petroleum resources, the proportion of forest area, the size of the state and the urbanization rate. We also included in our model the lagged value of the dependant variable in order to control for revenue persistence.

Because of the inclusion of the lagged value of the dependant variable, the ordinary panel data estimation will yield biased results. As such, we will use the GMM method instead. The results of our estimations are reported in table 6.7. The three columns of the table differ in the lagged of the development expenditure retained – one year for column A, two years for B and three years for C.

Our findings show that when a one-period lag is retained, the state governments' revenue is positively associated with development expenditure. This implies that the state governments do benefit from the development expenditure that they implemented. They should thus be able to service the debt that they contracted in order to finance these expenditures. However, the results of the other two estimations show that the development expenditure is not correlated with state governments' revenue which implies that the effect of development projects only lasts for one year and will disappear

afterwards. This in turn may be suggestive of the fact that most if not all development projects implemented by the state governments are rather small in scope and with immediate or short term effect⁸⁶.

One may argue that the effects of the development expenditure to the state governments' revenue actually take place through the transfers that the state governments receive from the federal government. Since most of the taxes are devolved to the federal government, it is very likely that the latter will benefit directly or indirectly from development projects implemented by the state governments. And the federal government may in turn share some of this benefit with the state governments by increasing its transfers to them. If this is the case, then it would mean that it is the federal government that will decide whether the state governments will benefit from their investments or not.

In order to test for this argument, we replace our dependant variable with the state governments' own revenue. If the effect of the development transit mainly through the federal grants, we shouldn't find any correlation between our dependent variable and the development expenditure. Table 6.8 summarizes the results of our estimations. Our results seem to indicate show that even after controlling for the federal transfers, the development expenditure is still found to be positively correlated with state governments' revenue. It is also noteworthy that the estimated parameters for all the variables are of similar magnitude to the one found previously. In summary, based on our results, it appears that state governments in Malaysia managed to derive some benefit from the developments projects that they have implemented. In other words, the development projects do provide an avenue for the state governments to gain some revenues of their own that could eventually be used to pay back their debt. Nevertheless, the results are not sufficient for us to claim that the revenues obtained from these channel will necessarily be used for the repayment of the debt contracted to finance the projects.

⁸⁶ The ideal situation would be when we have development expenditures ventilated according to their types, their level of borrowing as well as their size.

Table 6.7. The effects of development expenditure on revenue

	A	B	C
Lag revenue	0.6388*** (0.1532)	0.7398*** (0.1067)	0.6835*** (0.1163)
Lag dev. Exp	0.0989* (0.0461)	0.0336 (0.0255)	0.0581 (0.0392)
Size	0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)
Petrol	0.2345 (0.1629)	0.1859 (0.1204)	0.2243 (0.1290)
Population	-0.1082** (0.0409)	-0.0902* (0.0424)	-0.0935** (0.0427)
Forest	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)
Urban	0.0028 (0.0027)	0.0022 (0.0014)	0.0027* (0.0014)
GDP	0.0004 (0.0003)	0.0003 (0.0002)	0.0004 (0.0003)
Constant	1.8284** (0.7912)	1.5331** (0.6498)	1.6715** (0.6622)
Hansen test	8.02	2.96	3.70
Hansen p-value	0.432	0.564	0.448
1 st order AC (prob)	-2.93 (0.003)	-2.91 (0.004)	-2.98 (0.003)
2 nd order AC (prob)	0.72 (0.473)	1.01 (0.313)	0.76 (0.445)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Table 6.8. The effects of development expenditure on own revenue

	A	B	C
Lag revenue	0.6375*** (0.1537)	0.7351*** (0.1032)	0.6833*** (0.1164)
Lag dev. Exp	0.0992* (0.0462)	0.0347 (0.0269)	0.0581 (0.0392)
Size	0.0000 (0.0000)	0.0000 (0.0000)	-0.0000 (0.0000)
Petrol	0.2358 (0.1635)	0.1913 (0.1178)	0.2246 (0.1292)
Population	-0.1085** (0.0410)	-0.0911* (0.0412)	-0.0936** (0.0427)
Forest	0.0000 (0.0000)	0.0000 (0.0000)	-0.0000 (0.0000)
Urban	0.0028 (0.0020)	0.0023 (0.0015)	0.0028* (0.0014)
GDP	0.0004 (0.0003)	0.0003 (0.00023)	0.0004 (0.0003)
Constant	1.8337** (0.7925)	1.552 (0.6291)	1.6722** (0.6626)
Hansen test	8.01	5.08	3.70
Hansen p-value	0.432	0.279	0.449
1 st order AC (prob)	-2.93 (0.003)	-2.82 (0.005)	-2.98 (0.003)
2 nd order AC (prob)	0.71 (0.475)	1.01 (0.314)	0.76 (0.445)

Notes: standard error in parentheses; significant at 10% level*, significant at 5% level**, significant at 1% level***.

Conclusion

In this chapter, we attempt to assess the effectiveness of the control mechanism designed to curb the incentives for fiscal indiscipline among subnational governments in Malaysia. The objective is to examine whether a decision to further decentralize the economy in the future will not be translated into macroeconomic instability due to the tendency for fiscal profligacy of the state governments. Indeed such eventuality can be avoided if the federal government has what it takes in order to put the spending behavior of the state governments under control.

However, the nature of the borrowing limitation in Malaysia (invariant across all 13 states) makes it impossible for us to adopt the methodology usually found in the literature. Consequently, we applied the methodology normally employed in the study of intertemporal behavior or more precisely, the one suggested by Campbell and Mankiw (1990). This method allowed us to examine the extent to which intertemporal considerations play a role in determining the spending behaviors of the state governments.

We regarded the borrowing limitation imposed by the Federal Constitution as similar to a liquidity constraint facing the state governments. We assumed that if this limitation were to have an impact on the state governments, we should not observe a complete forward looking behavior by the latter. We also argued that at the state governments' level, the precautionary saving motive can be assumed to be absent. Thus, any potential deviation from the implication of the permanent income hypothesis is mainly due to the presence of liquidity constraint.

Our estimation results show that the spending behavior of the state governments in Malaysia is completely governed by the permanent income hypothesis. We also find some evidence that regardless of their income level, states governments manage to completely smoothen their current expenditures. Taken together, these results suggest that the borrowing limitations imposed on the state governments do not have any impact

whatsoever on the spending behavior of the state governments in Malaysia. The institutional rule can thus be considered as a mere veil that can easily be pierced down.

The finding of this study implies that the federal government in Malaysia has not succeeded in putting the spending of the state governments in check. It also implies that the borrowing limitation, clearly etched in the Federal Constitution is taken for granted by both the federal and state governments. Given the actual level of decentralization in Malaysia in terms of spending and taxation power of the state governments, these results did not really take us by surprise. The central government realizing that the state governments do not have much powers, does not see it as necessary to really control the latter's spending behavior and thus is very laxist in the application of Article 111(2). Besides, the facts that state governments rely more and more heavily on loans to cover their expenditures make it difficult for the federal government to be too strict in approving their loan applications. Finally, we believe that there's a lack of objectivity in the decision making of the federal government due to the political influences exerted by the state governments through their representatives at the legislature and the executive.

Our study also point to the conclusion that there is a correlation between development projects and the state governments' revenue. The results suggest that state governments do benefit from this projects and it is thus reasonable for the latter to be financed through borrowing. Nevertheless, it remains to be answered whether the revenues generated are sufficient to reimburse the borrowings.

Another interesting implication of this finding in this chapter concerns the reaction of state governments to variation in their resources. As indicated in the literature, there are mainly three ways for state governments to smoothen their current expenditure in case of a revenue variation; (1) Adjustment in local tax rates, (2) Adjustment of the level of development expenditures and (3) Adjustment of the financing of development expenditures. The first alternative is not relevant in this case since the value of λ is obtained after we have control for changes in the revenue. The revenue variable is thus exogenous to our model. As for the second alternative, it is less likely to occur since development expenditures are financed mostly by grants and borrowing from federal

government. Thus in our case it is the third alternative that will most probably be privileged. More precisely, in order to smoothen current expenditure in case of a decrease in current revenue, Malaysian state governments will decrease the level of state-owned financing for development expenditures and increase the level of borrowing for these expenditures. In total, our findings show not only that the borrowing limitations have not impeded the state governments from completely smoothening their current expenditures but more importantly, the smoothening of the latter are done mostly through a variation in the borrowing for development expenditures. Consequently, if the federal government seeks to influence the spending behavior of the state government by changing the amount of intergovernmental grants, it is likely that all this transitory variation will be spread across time (which is achieved mostly by an increase in borrowing for development activities).

CONCLUSION GENERALE

Il y a deux objectifs principaux que nous essayons d'atteindre dans cette thèse. Premièrement, nous essayons d'examiner empiriquement les effets de la décentralisation sur la stabilité macroéconomique. Cette recherche est motivée par la constatation que s'il existe une littérature assez importante sur l'impact de décentralisation sur la croissance, la question des effets de la décentralisation sur la stabilité macroéconomique reste relativement peu développée. Cependant, force est de constater que l'issue d'une politique de décentralisation qui en résumé consiste à accorder plus de pouvoirs et de responsabilités aux gouvernements locaux, est largement dépendante des comportements de ces derniers. Ainsi, nous avons été amenés dans la deuxième partie de notre thèse de traiter des questions des déterminants des comportements des gouvernements locaux. Plus spécifiquement, nous essayons de mettre en relation les comportements des gouvernements locaux avec les institutions qui les entourent et plus particulièrement les incitations qui résultent de ces institutions. Nous avons pour cela choisi la Malaisie comme notre étude de cas.

Contrairement à ce que démontrent certains économistes, nous n'avons pas trouvé des effets négatifs de la décentralisation sur la stabilité macroéconomique. Nous avons choisi comme indicateurs de stabilité macroéconomique les trois variables suivantes; le taux d'inflation, le taux de change *de facto* et le déficit budgétaire. Quant à la décentralisation, elle est représentée par la proportion des dépenses des gouvernements locaux et régionaux sur la dépense totale des gouvernements et la proportion du revenu des gouvernements locaux et régionaux par rapport au revenu total des gouvernements. Nos estimations ont montré que la décentralisation a conduit à moins de variation dans le taux d'inflation et de taux de change. Quant au déficit budgétaire, les résultats des estimations ne sont pas significatifs statistiquement, ce qui signifie qu'il n'y a pas de relation entre les deux variables. Il est aussi intéressant de noter les rôles importants que jouent les variables institutionnelles et politiques sur les effets de la décentralisation sur la stabilité macroéconomique. Nos résultats montrent que les effets de

décentralisation sur la stabilité macroéconomique sont atténués dans le cas où il y a plus de corruption ou dans le cas où la gouvernance est moins bonne.

Notre étude sur le cas malaisien commence à partir du chapitre 3 en présentant le cadre général et historique du pays. Plus particulièrement, nous avons montré quelles sont les circonstances qui ont mené à l'adoption d'un système fédéral dans ce pays. Nous avons également montré comment ce système a conduit à des déséquilibres sociaux et économiques que le pays a du mal à résoudre jusqu'à présent.

Dans le chapitre 4 nous nous demandons si les comportements des gouvernements des Etats en Malaisie sont influencés par les facteurs politiques et institutionnels. Plus précisément, nous sommes partis de l'hypothèse selon laquelle les Etats qui ont plus de représentants au législatif et à l'exécutif seraient plus enclins à être moins regardant dans leurs dépenses. Nous avons également testé les effets « *partisans* » selon lesquels les Etats qui partagent les mêmes sentiments idéologiques avec le gouvernement central seraient plus dépensiers que les Etats qui ne le sont pas. Les résultats de nos estimations économétriques ont montré que les Etats qui sont surreprésentés à l'exécutif ont des niveaux des dépenses et de déficits plus élevés. Cependant, la surreprésentation au niveau législatif n'a pas d'effet sur les niveaux de dépenses et de déficits des Etats. Ceci peut s'expliquer par le fait que dans la plupart des pays en développement, y compris la Malaise, les pouvoirs décisifs sont concentrés entre les mains de l'exécutif. La législature quant à elle, n'a qu'un rôle très limité. Notre résultat a aussi démontré que l'appartenance idéologique n'a pas d'effet significatif sur les comportements en matière des dépenses des gouvernements des Etats. Ces résultats semblent cependant contraires aux traitements accordés par le gouvernement central aux Etats qui sont ou ont été contrôlés par l'opposition. Ensuite, nous avons examiné si les Etats qui sont surreprésentés au niveau exécutif ont effectivement reçu des fonds supplémentaires de la part du gouvernement central. Autrement dit, les représentants des Etats au niveau exécutif ont-ils joué un rôle dans l'obtention des fonds supplémentaires pour leurs Etats ? Afin de répondre à cette question, nous avons estimé la corrélation entre la surreprésentation au niveau exécutif et trois types de transferts de fonds – les

transferts intergouvernementaux, les prêts fédéraux et l'allocation des fonds pour le plan de développement. Nos résultats ont montré qu'aucune de ces trois variables n'est significativement corrélée avec la surreprésentation au niveau de l'exécutif, ce qui signifie que les dépenses/déficits supplémentaires des Etats surreprésentés à l'exécutif ne sont pas financés par ces transferts. Cependant, il existe d'autres transferts plus officieux que nous n'avons pas pu tester dans le cadre de cette thèse à cause notamment du manque des données.

Le chapitre 5 examine le lien entre l'effort fiscal des Etats malaisiens et les transferts fédéraux. Dans la littérature, il a été démontré que les transferts de la part du gouvernement central peuvent décourager l'effort fourni par les gouvernements locaux dans la collecte de leurs taxes surtout si ces transferts sont obtenus de manière relativement facile. Dans le cas malaisien, en utilisant la méthode de l'analyse des frontières stochastiques, nous avons démontré que l'efficacité des Etats dans la collecte de leurs taxes est négativement corrélée avec le montant des transferts qu'ils reçoivent du gouvernement fédéral. En même temps, nous avons trouvé que les Etats sont de plus en plus efficaces dans la collecte de leurs taxes. Ensemble, ces résultats suggèrent qu'une meilleure progression dans la collection des taxes pourrait être obtenue si les effets négatifs des transferts fédéraux sont minimisés.

Enfin, le dernier chapitre est consacré à l'évaluation de l'impact des contraintes institutionnelles sur les comportements des Etats en Malaisie. L'Article 111(2) de la Constitution de la Malaisie stipule que les Etats ne peuvent emprunter qu'une fois l'autorisation du gouvernement fédéral obtenue. Cette contrainte a pour but de limiter l'accès des gouvernements des Etats au crédit et éventuellement de contrôler leurs dépenses. Dans ce chapitre, nous nous interrogeons sur l'efficacité d'une telle réglementation. Pour ce faire, nous avons adopté le modèle des anticipations rationnelles de Hall (1976) ; si la réglementation agit comme une sorte de contrainte de liquidité, les Etats ne vont pas pouvoir lisser leurs comportements dans le temps. Nos estimations ont cependant démontré que les Etats se comportent comme s'il n'existait aucune contrainte de liquidité. Et les mêmes résultats sont obtenus après avoir contrôlé pour les niveaux de revenus. Ces résultats peuvent être interprétés comme le signe

que la loi qui régleme nte l'accès des Etats au crédit n'est pas effective. Nous pensons que cela peut s'expliquer par trois raisons principales: les responsabilités très limitées des Etats, la dépendance des Etats vis-à-vis des emprunts fédéraux pour financer leurs dépenses et la mainmise des hommes politiques dans l'obtention de l'autorisation pour faire des emprunts.

Recommandations

Notre analyse sur les effets des environnements institutionnels et politiques sur les comportements des Etats malaisiens nous a permis de faire les recommandations de politique économiques suivantes.

- 1) Il faut que le gouvernement central adopte une position plus claire lorsqu'il s'agit de résoudre des problèmes financiers auxquels doivent faire face les gouvernements des Etats. Ceci est nécessaire afin d'éviter de mauvaises espérances de la part de ces derniers, notamment en ce qui concerne les aides financières qu'ils vont recevoir de la part du gouvernement central.
- 2) La mainmise des hommes politiques (à l'exécutif ou à la législature) dans les décisions que prend le gouvernement central sur les affaires concernant les gouvernements des Etats tels que l'allocation des transferts fédéraux, doit être contrôlée et limitée au minimum. Ceci dans le but de rendre ces décisions les plus objectives possibles.
- 3) Il faut aussi qu'une plus grande autonomie financière soit accordée aux Etats en leur délégrant plus de pouvoir de taxation. Mais il faut aussi que les Etats soient plus efficaces dans la collecte de leurs taxes afin d'éviter que ces nouvelles taxes ne viennent s'ajouter aux montants déjà élevés des arriérés des taxes non collectés. Pour cela, le gouvernement central peut fournir une assistance technique et financière temporaire afin d'aider les Etats à améliorer leur système de collecte.
- 4) Concernant les transferts fédéraux, l'actuel système ne semble pas avoir réussi à résoudre le problème d'inégalités entre les Etats. Il y a donc besoin d'un système de transfert qui prend en compte les différences de capacités entre les Etats. Par ailleurs, il faut

également que l'allocation de ces transferts soit faite de façon plus objective et transparente.

- 5) Quant à l'accès aux emprunts, il semble que même si le gouvernement central est le seul à donner la permission aux Etats de faire des emprunts, cette permission semble trop facilement accordée. Il faut que des conditions plus strictes comme le montant des dettes déjà contractées ainsi que la performance des Etats en termes des services de la dette soient prises en compte avant que de nouveaux emprunts soient accordés. Il semble aussi qu'il y ait besoin d'une meilleure appréhension des coûts et des bénéfices des projets qui vont être financés par ces emprunts, notamment en termes de revenus générés qui vont en partie déterminer la capacité des Etats à rembourser leurs dettes dans le futur.
- 6) Les Etats doit aussi être rendus responsables de leurs actes non seulement auprès du gouvernement central mais également auprès des électeurs afin de les rendre plus responsables dans la gestion de leurs dépenses. Le système politique actuel n'est pas propice à cela car la population locale ne juge pas vraiment les hommes politiques selon leurs performances mais plutôt selon leur appartenance politique. En plus, le système électoral qui est loin d'être démocratique rend la tâche plus difficile. L'accès à l'information est lui aussi loin d'être parfait. La population est souvent ignorante de la gestion financière des Etats (ils sont plus orientés vers la performance économique comme la croissance).

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Résumé

Lors des deux décennies dernières, une vague de décentralisation a déferlé sur le monde entier. En effet, selon Ebel (2000), des 77 pays en développement et en transition recensés dans le monde, 63 ont procédé à une politique de décentralisation. Il y a deux objectifs principaux que nous essayons d'atteindre dans cette thèse. Premièrement, nous essayons d'examiner empiriquement les effets de la décentralisation sur la stabilité macroéconomique. Cette recherche est motivée par la constatation que s'il existe une littérature assez importante sur l'impact de décentralisation sur la croissance, la question des effets de la décentralisation sur la stabilité macroéconomique reste relativement peu développée. Cependant, force est de constater que l'issue d'une politique de décentralisation qui en résumé, consiste à accorder plus de pouvoirs et de responsabilités aux gouvernements locaux, est largement dépendante des comportements de ces derniers. Ainsi, nous nous sommes amenés dans la deuxième partie de notre thèse de traiter des questions des déterminants des comportements des gouvernements locaux. Plus spécifiquement, nous essayons de mettre en relation les comportements des gouvernements locaux avec les institutions qui les entourent et plus particulièrement les incitations qui résultent de ces institutions. Nous avons pour cela choisi la Malaisie comme notre étude de cas.

Mots clés: décentralisation, fédéralisme budgétaire, stabilité macroéconomique, comportements des gouvernements locaux, Malaisie.

Abstract

In the last two decades there has been a worldwide interest in decentralization of government in all parts of the world. According to Ebel (2000), out of the 77 developing and transition countries with populations greater than 7 million, 63 have embarked on some form of fiscal decentralization. There are two main objectives that we tried to achieve through this thesis. Firstly, we tried to examine empirically the effects of decentralization on macroeconomic stability. Even though there is a huge literature both theoretically and empirically on the impact of decentralization, not many of them seems to be interested on the question of the link between decentralization and macroeconomic stability. Nevertheless, it should be noted that the outcome of a decentralization policy which in short can be defined as the delegation of more powers and responsibilities to lower level governments, depends largely on the behavior of these subnational governments. As such, in the second part of this thesis, we tried to analyze the determinants of subnational governments' behaviors. More specifically, we tried to look at the relation between the behavior of subnational governments and the institutions in which they evolve and more particularly the incentives that result from these institutions. In order to achieve that, we used Malaysia as our case study.

Keywords: Decentralization, Fiscal Federalism, Macroeconomic Stability, Subnational governments' behavior, Malaysia.