

Fiscal Decentralization and Fiscal Performance

Anwar Shah

Abstract

A resurgence of recent interest in fiscal federalism has been a source of concern among macro stabilization experts. They argue that a decentralized fiscal system poses a threat to macro stability as it is incompatible with prudent monetary and fiscal management.

This paper addresses these concerns by taking a simple neo-institutional economics cum econometric analysis perspective. This analysis enables the paper to conclude that, contrary to a common misconception, fiscal decentralization is associated with improved fiscal performance and better functioning of internal common market

Fiscal policy coordination represents an important challenge for federal systems. In this context, fiscal rules and institutions provide a useful framework but not necessary a solution to this challenge. Fiscal rules binding on all levels can help sustain political commitment in countries having coalitions or fragmented regimes in power. Coordinating institutions help in the use of moral suasion to encourage a coordinated response. Industrialized countries experiences also show that unilaterally imposed federal controls and constraints on sub-national governments typically do not work. Instead, societal norms based on fiscal conservatism such as the Swiss referenda and political activism of the electorate play important roles. Ultimately capital markets and bond-rating agencies provide more effective discipline on fiscal policy. In this context, it is important not to backstop state and local debt and not to allow ownership of the banks by any level of government. Transparency of the budgetary process and institutions, accountability to the electorate and general availability of comparative data encourages fiscal discipline.

Fiscal decentralization poses significant challenges for macroeconomic management. These challenges require careful design of monetary and fiscal institutions to overcome adverse incentives associated with the “common property” resource management problems or with rent seeking behaviors. Experiences of federal countries indicate significant learning and adaptation of fiscal systems to create incentives compatible with fair play and to overcome incomplete contracts. This explains why that decentralized fiscal systems appear to do better than centralized fiscal systems on most aspects of monetary and fiscal policy management and transparent and accountable governance.

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Fiscal Decentralization and Fiscal Performance

By Anwar Shah¹

1. Introduction

A large and growing number of countries around the globe are re-examining the roles of various orders of government and their partnerships with the private sector and the civil society with a view to creating governments that work and serve their people (see Shah, 1997 for motivations for a change). This rethinking has led to a resurgence of interest in fiscal federalism principles and practices as federal systems are seen to provide safeguards both against the threat of centralized exploitation as well as decentralized opportunistic behavior while bringing decision making closer to the people. In fact federalism represents either “coming together” or “holding together” of constituent geographic units to take advantage of the greatness and smallness of nations as in a flat (globalized) world nation states are observed to be too large to address small things in life and too small to address large tasks. But federal fiscal systems to accommodate “coming together” or “holding together” according to some influential writers pose a threat to macro stability. They argue that decentralized governance structure is incompatible with prudent fiscal management and even regional fiscal equity (see e.g. Prud’homme 1995, Tanzi, 1996). This paper investigates the conceptual and empirical bases of these arguments. More specifically, the paper addresses the following questions:

- Are there greater risks of macroeconomic mismanagement and instability with decentralized fiscal systems (federal vs. unitary countries)?
- What has been the experience to-date in macroeconomic management in federal vs. unitary countries? Or what has been the impact of decentralization on fiscal discipline and macro stability?

To address the above questions, the paper takes a simple institutional cum econometric analysis perspective. The strengths and weaknesses of fiscal and monetary policy institutions

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under alternate fiscal regimes are examined drawing upon neo-institutional economics perspectives on fiscal institutions (see von Hagen, 2002, 2005 and Von Hagen, Hallet and Strauch, 2002). A neo-institutional economics perspective aims to reduce transactions costs for citizens (principals) in inducing compliance with their mandates by various orders of governments (agents). A fiscal system that creates countervailing institutions to limit the opportunistic behavior of various agents and empowers principals to take corrective action is expected to result in superior fiscal outcomes. In the context of this paper, the relevant question then is what type of fiscal system (centralized or decentralized) offers greater potential for contract enforcement or rules or restraints to discourage imprudent fiscal management. The paper undertakes a qualitative review of institutional arrangements for monetary and fiscal policy in federal and unitary countries. This is supplemented by two country case studies and a broader cross-country econometric analysis to examine fiscal outcomes under alternate fiscal systems. These results are used to draw some general lessons of public policy interest.

The paper concludes that, contrary to a common misconception, *decentralized fiscal systems offer a greater potential for improved macroeconomic governance and regional fiscal equity than centralized fiscal systems*. *While empirical evidence on these questions is quite weak, nevertheless it further supports the conclusion that fiscal decentralization is associated with improved fiscal performance and better functioning of the internal common market*. This is to be expected as decentralized fiscal systems require greater clarity in the roles of various players (centers of decision making), transparency in the rules and greater care in the design of institutions that govern interactions to ensure fair play and limit opportunities for rent seeking. The rest of the paper is organized as follows. Section 2 discusses the institutional environment for macroeconomic management. This is elaborated separately for monetary and fiscal policies. Section 3 reviews internal common market and economic union considerations. Section 4 provides conclusions. A final section draws some general and institutional lessons for enhancing the quality of macroeconomic governance.

2. Institutional Environment for Macroeconomic Management

Using Musgrave's trilogy of public functions, namely allocation, redistribution and stabilization, the fiscal federalism literature has traditionally reached a broad consensus that while the former function can be assigned to lower levels of government, the latter two functions are more appropriate for assignment to the national government. Thus macroeconomic management - especially stabilization policy -- was seen as clearly a central function (see e.g. Musgrave, 1983:

516; Oates, 1972). The stabilization function was considered inappropriate for sub-national assignment as (a) 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; (b) monetization of local debt will create inflationary pressures and pose a threat for price stability; (c) currency stability requires that both monetary and fiscal policy functions be carried out by the center alone; and (d) cyclical shocks are usually national in scope (symmetric across all regions) and therefore require a national response. The above views have been challenged by several writers (see e.g. Scott, 1964; Dafflon, 1977; Sheikh and Winer, 1977; Gramlich, 1987; Walsh, 1992; Biehl, 1994; Shah, 1994; Mihaljek, 1995; Sewell, 1995; Huther and Shah, 1996) on theoretical and empirical grounds yet they continue to command considerable following. An implication that is often drawn is that decentralization of the public sector especially in developing countries poses significant risks for the “aggravation of macroeconomic problems” (Tanzi, 1996, p.305).

To form a perspective on this issue, we reflect in the following on the theoretical and empirical underpinnings of the institutional framework required for monetary and fiscal policies.

2.1 Institutional Setting for Monetary Policy

Monetary policy is concerned with control over the level and rate of change of nominal variables such as the price level, monetary aggregates, exchange rate and nominal GDP. The control over these nominal variables to provide for a stable macro environment is commonly agreed to be a central function and monetary policy is centralized in all nation states, federal and unitary alike. Nevertheless, there are occasional arguments to add a regional dimension to the design and implementation of monetary policies. For example Mundell (1968) argues that an optimal currency area may be smaller than the nation state in some federations such as Canada and USA and in such circumstances, the differential impact of exchange rate policies may be inconsistent with the constitutional requirement of fair treatment of regions. Further complications arise when the federal government raises debt domestically, but provincial governments borrow from abroad: This is the case in Canada as federal exchange rate policies affect provincial debt servicing. Similarly Buchanan (1997) argues against the establishment of a confederal central bank such as the European Union Central Bank as it negates the spirit of competitive federalism.

In a centralized monetary policy environment, Barro (1996) has cautioned that a stable macro environment may not be achievable without a strong commitment to price stability by the

monetary authority. This is because if people anticipate growth in money supply to counteract a recession, the lack of such response will deepen recession. The credibility of a strong commitment to price stability can be established by consistently adhering to formal rules such as a fixed exchange rate or to monetary rules. Argentina's 1991 Convertibility Law establishing parity in the value of the peso in terms of the US dollar and Brazil's 1994 Real Plan helped achieve a measure of this level of credibility. Argentina's central bank strengthened credibility of this commitment 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. Alternately, guaranteeing independence from all levels of the government for a central bank whose principal mission is price stability could establish the credibility of such a commitment (Barro, 1996, Shah, 1994, p.11). Barro considers the focus on price stability so vital 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. He said, "The ideal central banker should always appear somber in public, never tell any jokes, and complain continually about the dangers of inflation" (1996, p.58). Empirical studies show that the three most independent central banks (the National Bank of Switzerland - the Swiss Central Bank, Bundesbank of Germany, and the US Federal Reserve Board) over the period 1955 to 1988, 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 further showed lower volatility. The same studies also show that the degree of central bank independence is unrelated to the average rate of growth and average rate of unemployment. Thus Barro argues that a "more independent central bank appears to be all gain and no pain" (1996, p.57). The European Union has recognized this principle by establishing an independent European Central Bank. The critical question then is whether or not independence of the central bank is compromised under a decentralized fiscal system. One would expect, a priori, that the central bank would have greater stakes and independence under a decentralized system since such a system would require clarification of the rules under which a central bank operates, its functions and its relationships with various governments. For example, when Brazil in 1988 introduced a decentralized federal constitution, it significantly enhanced the independence of the central bank (Shah, 1991, Bomfim and Shah, 1994). Yet, independence of the central bank in Brazil remains relatively weak compared to other federal countries (see Huther and Shah, 1996). On the other hand, in centralized countries the role of the central bank is typically shaped and influenced by the Ministry of Finance. In one extreme case, the functions of the central bank of the UK (a unitary state), the Bank of England, are not defined by law but have developed over time by a

tradition fostered by the UK Treasury. Only in May 1997 has the newly elected labor party government of Prime Minister Tony Blair assured the Bank of England a free hand in its pursuit of price stability. Such independence may still on occasions be compromised as the Chancellor of the Exchequer still retains a presence on the board of directors as a voting member. New Zealand and France (unitary states) have lately recognized the importance of central bank independence for price stability and have granted independence to their central banks. The 1989 Reserve Bank Act of New Zealand mandates price stability as the only function of the central bank and expressly prohibits the government from involvement in monetary policy. The People's Bank of China, on the other hand, does not enjoy such independence and often works as a development bank or as an agency for central government "policy lending" and in the process undermines its role of ensuring price stability (see World Bank, 1995 and Ma, 1995). For monetary policy, it has only the authority to implement the policies authorized by the State Council. The Law of the People's Bank of China, 1995, article 7 states that its role is simply to "implement monetary policies under the leadership of the State Council" (see Chung and Tongzon, 2004).

For a systematic examination of this question, Huther and Shah (1996) relate the evidence presented in Cukierman, Webb and Neyapti (1992) on central bank independence for 80 countries to indices of fiscal decentralization for the same countries. Cukierman et al. assess independence of a central bank based upon an examination of 16 statutory aspects of central bank operations including the terms of office for the chief executive officer, the formal structure of policy formulation, the bank's objectives as stated in its charter, and limitations on lending to the government. Huther and Shah (1996) find a weak but positive association between fiscal decentralization and central bank independence confirming our a priori judgment that central bank independence is strengthened under decentralized systems. Table 1 uses a cross section of 40 countries for the period 1995-2000 to provide econometric analysis of the impact of fiscal decentralization on central bank independence. The results confirm the positive impact of fiscal decentralization and federalism on central bank independence.

Increases in the monetary base caused by the central bank's bailout of failing state and non-state banks represent occasionally an important source of monetary instability and a significant obstacle to macro economic management. In Pakistan, a centralized federation, both the central and provincial governments have, in the past, raided nationalized banks. In Brazil, a decentralized federation, 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. Brazil, nevertheless later dealt with this issue head on with successful privatization of state-owned banks in late 1990s and through prohibition of government borrowing from state banks or

from the central bank (Levy, 2005). Thus a central bank role in ensuring arms length transactions between governments and the banking sector would enhance monetary stability regardless of the degree of decentralization of the fiscal system.

Available empirical evidence suggests that such arms length transactions are more difficult to achieve in countries with a centralized structure of governance than under a decentralized structure with a larger set of players. This is because a decentralized structure requires greater clarity in the roles of various public players, including the central bank. No wonder one finds that the four central banks most widely acknowledged to be independent (Swiss Central Bank, Bundesbank of Germany, Central Bank of Austria and the United States Federal Reserve Board) have all been the products of highly decentralized federal fiscal structures. It is interesting to note that the independence of the Bundesbank is not assured by the German Constitution. The Bundesbank Law providing such independence also stipulates that the central bank has an obligation to support the economic policy of the federal government. In practice, the Bundesbank has primarily sought to establish its independence by focusing on price stability issues. This was demonstrated in the 1990s by its decision to raise interest rates to finance German unification in spite of the adverse impacts on federal debt obligations (see also Biehl, 1994).

The Swiss Federal Constitution (article 39) assigns monetary policy to the federal government. The federal government has, however, delegated the conduct of monetary policy to the Swiss National Bank, a private limited company regulated by a special law. The National Bank Act of 1953 has granted independence in the conduct of monetary policy to the Swiss National Bank although the bank is required to conduct its policy in the general interest of the country. It is interesting to note that the Swiss National Bank allocates a portion of its profits to cantons to infuse a sense of regional ownership and participation in the conduct of monetary policy (Gygi, 1991).

This paper also examined empirically some additional questions on the impact of fiscal decentralization on monetary stability. These included the impact of fiscal decentralization; growth of the money supply; control of inflation; and inflation and macroeconomic balances. Regression results reported in Table 2 show that growth of the money supply is primarily determined by central bank independence and fiscal decentralization has an insignificant positive impact. Similarly, fiscal decentralization has a positive but insignificant impact on price inflation (Table 3). Finally, the impact of fiscal decentralization on inflation and macroeconomic balances was found to be insignificant (Table 4).

Monetary Management in Brazil: a decade of successful reforms

Brazil had a long history of state ownership of the banking system and imprudent borrowing by governments from their own banks and subsequent bailouts. This tradition undermined fiscal discipline and macro-stability. Of lately the federal system has been able to come to grips with these issues. To this end, Brazil has given substantial independence to the Central Bank of Brazil and also adopted a variety of institutions to promote arms-length transactions among governments and the financial sector institutions. In August 1996 the federal government launched the Program to Reduce State Involvement with Banking Activities (PROES) that offered state governments support in financing the costs of preparing state banks for privatization, liquidation, or restructuring of state banks, some of which were converted to development agencies; as well as the voluntary alternative to delegate the control of the overall process of reform to the federal government (Beck, Crivelli and Summerhill, 2003). Government efforts have successfully led to a reduction in the number of state-owned banks; among some of the ones privatized are former state banks of: Rio de Janeiro (BANERJ) in June 1997; Minas Gerais (BEMGE) in September 1998; Pernambuco (BANDEPE) in November 1998; Bahia (BANEB) June 1999; Paraná (BANESTADO) October 2000; Sao Paulo (BANESPA) November 2000; Paraíba (PARAIBAN) November 2001; Goiás (BEG) in December 2001; and Amazonas (BEA) in January 2002.²

More recently, the Law of Fiscal Responsibility enacted in 2000 (LRF, 2000) prohibits government borrowing from own banks or the central bank. It requires that all new government borrowing receive the technical approval of the Central Bank and the approval of the Senate. Borrowing operations are prohibited altogether during a period of 180 days before the end of incumbents' government mandate (Afonso and de Mello, 2000). For capital markets, the LRF declares that financing operations in violation of debt ceilings would not be legally valid and amounts borrowed should be repaid fully without interest. Unpaid interests due nullification constitute a loss to the lender. Overall Brazil has achieved monetary discipline since 1997 and sustained price stability since 1995.

Monetary Management in China: Still Muddling Through

China is a unitary country and this unitary character is strongly reinforced through its one-party system. China until the early 1980s had an unsophisticated banking system comprised of the

People's Bank of China (PBC), along with a few specialized banks such as the People's Construction Bank - an arm of the Ministry of Finance. The central budget and the banking system provided the working capital needed by enterprises and cash used principally to cover labor costs and purchases of agricultural products. The role of the banking system was limited, since most investments in fixed assets in enterprises were financed by direct transfers or grants from the government budget. In 1983, in a major reform, direct grants were replaced with interest-bearing loans to production enterprises. Consequently, the banking system gradually became the primary channel through which investments were financed and the central authority exercised macroeconomic control. In 1984, the PBC was transformed into the Central Bank of China under the State Council and its commercial banking operations were transferred to the Industrial and Commercial Bank of China. A network of provincial branches came to serve as the relays for the central bank's monetary operations. At the same time, other specialized banks and non-bank financial institutions and numerous local branches also emerged. The banks and the central bank established municipal, county and sometimes township level branches. The pressure on the central bank to lend originated in investment demand from state owned enterprises (SOEs).

These developments have made possible a decentralization of enterprise financing, but they have also created a wider financial arena for the scramble after resources and have greatly complicated the management of monetary policy from the center. Under the de-concentrated system, provincial and local authorities have substantial powers in investment decision-making and exert great influence on local bank branches' credit expansion. Although provinces are given certain credit ceilings at the beginning of the year, the central bank is often forced to revise the annual credit plans under pressure from localities. Local branches of the central bank were given discretionary authority over 30 percent of the central bank's annual lending to the financial sector (see World Bank, 1997:7.23). Provincial and local governments used this discretionary authority of central bank branches to their advantage by borrowing at will thereby endangering price stability. According to Qian and Wu (2000), 70% of the central bank loans to state banks were channeled through central bank regional branches. Consequently, two-digit inflation occurred in 1988 and 1989 and was followed by a credit squeeze. Monetary (inflation) cycles appeared to be more frequent than during the pre-reform era and caused significant resource waste. As 1992's credit ceilings were again exceeded by a surprisingly high margin, for instance two-digit inflation reoccurred in 1993, 1994, and 1995. Given these effects some studies have identified monetary de-concentration during this

² See Banco do Brasil 2000, and 2002.

period as a mistake (Qian, 2000).³ As a response the “Central Bank Law” of 1995 re-centralized monetary policy by reassigning supervisory power of central bank regional branches uniquely to Central Bank Headquarters. The Chinese monetary authorities have taken steps to promote arms length transactions in the banking system albeit with limited success. This was done by promoting arms length transactions in the government owned banking sector through (a) reducing provincial government influence on the PBC’s regional branches. The PBC was reorganized into 9 regions as opposed to earlier configuration of 31 provincial jurisdictions; (b) limiting sub-national influences on state-owned bank, which was met with little success as the SOE’s borrowing from these banks could not be restrained and non-performing portfolio of these bank grew in size; and (c) interest rate liberalization to bring market discipline.

These above policies have not been very successful. This is because while state commercial banks are not under the control of local governments and have the authority to decide how to allocate their loans, yet state banks receive strong pressures from the central government either to directly fund SOEs that could not cover wage payments (Cull and Xu, 2003) or to purchase bonds issued by policy banks (Yusuf, 1997). State banks are willing to comply with these demands on the expectation of central government bailout in case of default. In this vein, Cull and Xu (2003) present empirical evidence that the link between bank loans and profitability weakened in the 1990s, while Shirai (2001) finds empirically that commercial bank investments in government bonds are associated with lower levels of profitability. Results from both of the aforementioned studies buttress the notion that Chinese reforms have not been successful in promoting arms-length transactions in the banking system, which is riddled with lending operations of a bailout-type nature. The central government’s use of the banking system to finance sub-national governments and SOEs had deleterious effects on price stability governance of the financial sector.

2.2 Institutional Setting for Fiscal Policy

In a unitary country, the central government assumes exclusive responsibility for fiscal policy. In federal countries, fiscal policy becomes a responsibility shared by all levels of government and the federal government in these countries uses its spending power i.e. powers of

³ According to Ma (1995), due to current monetary and fiscal institutions local government incentives are not aligned with those of the central level, significant decentralization reforms in 1989, and 1993 were immediately followed by inflation forcing the central government back to centralization.

the purse (fiscal transfers) and moral suasion through joint meetings to induce a coordinated approach to fiscal policy. The allocation of responsibilities under a federal system also pays some attention to the conduct of stabilization policies. This is often done by assigning stable and cyclically less sensitive revenue sources and expenditure responsibilities to sub-national governments. Such an assignment attempts to insulate local governments from economic cycles and the national government assumes prominence in the conduct of a stabilization policy. In large federal countries such insulation is usually possible only for the lowest tier of government as the intermediate tier (states and provinces) shares responsibilities with the federal government in providing cyclically sensitive services such as social assistance. These intermediate tier governments are allowed access to cyclically sensitive revenue bases that act as built-in (automatic) stabilizers.

Fiscal Federalism as a Bane for Fiscal Prudence

Several writers (Tanzi, 1996, Wonnacott, 1972) have argued, without empirical corroboration, that the financing of sub-national governments is likely to be a source of concern within open federal systems since sub-national governments may circumvent federal fiscal policy objectives. Tanzi (1995) is also concerned with deficit creation and debt management policies of junior governments. A number of recent studies highlight institutional weaknesses in federal constitutions that may work against coordination of fiscal policies in a federal economy (Weingast 1995, Seabright 1996, Saiegh and Tommasi 2000, Iaryczower et al. 2001). These studies note that the institutional framework defining a federal governance structure is usually composed of a body of incomplete contracts.⁴ In the presence of undefined or vague property rights over taxing and spending jurisdictions among layers of government, suboptimal policies would emerge as these would represent the outcome of the intergovernmental bargaining process as opposed to evolution from sound economic principles. They argue that the federal bargaining process is subject to the common property resource problem as well as the “norm of universalism” or “pork barrel politics”; both of which lead to over-grazing.. For example, Jones, Sanguinetti and Tommasi (1998) assert that the problem of universalism manifests in Argentina at

⁴ Incompleteness of these contracts arises as unforeseen issues come to the policy agenda. Several of these issues could not possibly be contemplated at the original contract –constitution– or if covered, not fully addressed on it due to the ever increasing complexity in public management over time, or due to the prohibitively high costs that designing policy for a immensely large number of future possible scenarios would entail.

two levels - first, among provinces lobbying for federal resources, and second, among local governments for greater stakes of the each provincial pool of resources.

Fiscal Federalism as a Boon to Fiscal Prudence

Available theoretical and empirical work does not provide support for the validity of these concerns. On the first point, at the theoretical level, Sheikh and Winer (1977) demonstrate that relatively extreme and unrealistic assumptions about discretionary non-cooperation by junior jurisdictions are needed to conclude that stabilization by the central authorities would not work at all simply because of a lack of cooperation. These untenable assumptions include regionally symmetric shocks, a closed economy, segmented capital markets, lack of supply side-effects of local fiscal policy, non-availability of built-in stabilizers in the tax-transfer systems of sub-national governments and in interregional trade, constraints on the use of federal spending power (such as conditional grants intended to influence subnational behavior), unconstrained and undisciplined local borrowing and extremely non-cooperative collusive behavior by subnational governments (see also Gramlich, 1987, Mundell, 1963, Spahn, 1997). The empirical simulations of Sheikh and Winer for Canada further suggest that failure of federal fiscal policy in most instances cannot be attributed to non-cooperative behavior by junior governments. Saknini, James and Sheikh (1996) further demonstrate that, in a decentralized federation having markedly differentiated sub-national economies with incomplete markets and non-traded goods, federal fiscal policy acts as insurance against region-specific risks and therefore decentralized fiscal structures do not compromise any of the goals sought under a centralized fiscal policy (see also CEPR, 1993).

Gramlich (1987) points out that in open economies, exposure to international competition would benefit some regions at the expense of others. The resulting asymmetric shocks, he argues, can be more effectively dealt with by regional stabilization policies in view of the better information and instruments that are available at the regional/local levels. An example supporting Gramlich's view would be the effect of oil price shocks on oil producing regions. For example, the Province of Alberta in Canada dealt with such a shock effectively by siphoning off 30 percent of oil revenues received during boom years to the Alberta Heritage Trust Fund, a "rainy day umbrella" or a stabilization fund. This fund was later used for stabilization purposes i.e. it was run down when the price of oil fell. The Colombia Oil Revenue Stabilization Fund follows the same tradition.

The above conclusion however, must be qualified by the fact that errant fiscal behavior by powerful members of a federation can have an important constraining influence on the conduct of federal macro policies. For example, achievement of the Bank of Canada's goal of price stability was made more difficult by the inflationary pressures arising from the Province of Ontario's increases in social spending during the boom years of late 1980's. Such difficulties stress the need for fiscal policy coordination under a decentralized federal system.

On the potential for fiscal mismanagement with decentralization as noted above by Tanzi, empirical evidence from a number of countries suggests that, while national/central/federal fiscal policies typically do not adhere to the European Union (EU) guidelines that deficits should not exceed 3% of GDP and debt should not exceed 60% of GDP, junior government policies typically do. This is true both in decentralized federal countries such as Brazil and Canada and centralized federal countries such as Australia and India. Centralized unitary countries do even worse on the basis of these indicators. For example, Greece, Turkey and Portugal and a large number of developing countries, do not satisfy the EU guidelines. National governments also typically do not adhere to EU requirements that the central banks should not act as a lender of last resort.

The failure of collective action in forcing fiscal discipline at the national level arises from the "tragedy of commons" or "norm of universalism" or "pork barrel politics". But these problems are not unique to federal system. Legislators, in both federal and unitary countries, in their attempt to avoid a deadlock trade votes and support each others projects by implicitly agreeing that "I'll favor your best project if you favor mine" (Inman and Rubinfeld, 1992: 13). Such a behavior leads to overspending and higher debt overhang at the national level. It also leads to regionally differentiated bases for federal corporate income taxation and thereby loss of federal revenues through these tax expenditures. Such tax expenditures accentuate fiscal deficits at the national level. In the first 140 years of US history, the negative impact of "universalism" was kept to a minimum by two fiscal rules: the Constitution formally constrained federal spending power to narrowly defined areas and an informal rule was followed to the effect that the federal government could only borrow to fight recession or wars (Niskanen, 1992). The Great Depression and the New Deal led to an abandonment of these fiscal rules. Inman and Fitts (1990) provide empirical evidence supporting the working of "universalism" in post New Deal, USA. To overcome difficulties noted above with national fiscal policy, solutions proposed include: "gate-keeper" committees (Weingast and Marshall, 1988, Eichengreen, Hausman and von Hagen, 1997); imposing party discipline within legislatures (Cremer, 1986); constitutionally imposed or legislated fiscal rules (Niskanen, 1992, Poterba and von Hagen, 1999; Braun and Tommasi, 2001;

Kennedy and Robins, 2001; Kopits, 2005); executive agenda setting (Ingberman and Yao, 1991); market discipline (Lane, 1993); and decentralizing when potential inefficiencies of national government democratic choice outweigh economic gains with centralization. Observing a similar situation in Latin American countries prompted Eichengreen, Hausman and von Hagen (1997) to propose establishment of an independent “gate-keeper” in the form of a national fiscal council to periodically set maximum allowable increases in general government debt. While federal and unitary countries alike face these problems, yet federal countries have demonstrated greater adaptation in limiting the discretionary and unwelcome outcomes of political markets by trying on the solutions proposed above. It is also interesting to note that fiscal stabilization failed under a centralized structure in Brazil but achieved major successes in this arena later under a decentralized fiscal system. The results in Table 5 provide further confirmation of these observations. The table using regression analysis shows that debt management discipline (country ratings by the World Bank staff) had a positive but insignificant association with the degree of fiscal decentralization for a sample of 24 countries.

Given that the potential exists for errant fiscal behavior of national and sub-national governments to complicate the conduct of fiscal policy, what institutional arrangements are necessary to safeguard against such an eventuality. As discussed below, mature federations place a great deal of emphasis on intergovernmental coordination through executive or legislative federalism as well as fiscal rules to achieve a synergy among policies at different levels. In unitary countries, on the other hand, the emphasis traditionally has been on use of centralization or direct central controls. These controls typically have failed to achieve a coordinated response due to intergovernmental gaming. Moreover, the national government completely escapes any scrutiny except when it seeks international help from external sources such as the IMF. But external help creates a moral hazard problem in that it creates bureaucratic incentives on both sides to ensure that such assistance is always in demand and utilized.

Fiscal Policy Coordination in Mature Federations

In mature federations, fiscal policy coordination is exercised both through executive and legislative federalism as well as formal and informal fiscal rules. In recent years, legislated fiscal rules have come to command greater attention in both federal and unitary countries alike (see Table 6). These rules take the form of budgetary balance controls, debt restrictions, tax or expenditure controls and referendum for new taxing and spending initiatives. For example, the

European Union in its goal of creating a monetary union through the provisions of the Maastricht treaty established ceilings on national deficits and debts and supporting provisions that there should be no bailout of any government by member central banks or by the European Central Bank. The European Union is also prohibited from providing an unconditional guarantee in respect of the public debt of a member state (Pisani-Ferry, 1991). These provisions were subsequently strengthened by the Growth and Stability Pact provisions (legislated fiscal rules adopted by the European Parliament). Most mature federations also specify no bailout provisions in setting up central banks with the notable exception of Australia until 1992 and Brazil until 1996. In the presence of an explicit or even implicit bailout guarantee and preferential loans from the banking sector, printing of money by sub-national governments is possible thereby fueling inflation. European Union guidelines provide a useful framework for macro coordination in federal systems but such guidelines may not ensure macro stability as the guidelines may restrain smaller countries with little influence on macro stability such as Greece but may not restrain superpowers like France and Germany as demonstrated by recent history. Thus a proper enforcement of guidelines may require a fiscal coordinating council. Recent experiences with fiscal adjustment programs suggest that while legislated fiscal rules are neither necessary nor sufficient for successful fiscal adjustment, they can be of help in forging sustained political commitment to achieve better fiscal outcomes especially in countries with divisive political institutions or coalition regimes. For example, such rules can be helpful in sustaining political commitment to reform in countries with proportional representation (Brazil) or multi-party coalition governments (India) or in countries with separation of legislative and executive functions (USA, Brazil). Fiscal rules in such countries can help restrain pork-barrel politics and thereby improve fiscal discipline. Von Hagen (2005) based upon a review of EU experiences with fiscal rules concludes that budgetary institutions matter more than fiscal rules. The EU fiscal rules may have encouraged European countries to strengthen budgetary institutions which in turn had welcome effects on fiscal discipline and fiscal outcomes.

Table 6 Fiscal Rules at a Glance

Country/Province	Budgetary balance controls	Debt restrictions	Tax or expenditure controls and establishment of stabilization funds	Referendum for new taxes and expenditures	Penalties for non-compliance
EU- GSP	yes	yes			Yes but ineffective for large states

US States	48	41	30	3	yes
Canada - Provinces	8	3	2	4	yes
Germany	Yes				
New Zealand	Yes				
Sweden			yes		
Switzerland	yes	yes	yes	yes	
Brazil, 2000-	Yes	Yes	Yes		Yes including prison terms
Argentina, 2004-	Yes	Yes	yes		
Argentina - provinces	17	17	17		
India, 2003-	yes	Yes			
India - States	yes	yes			
Sources: Various including Finance Canada (2005).					

Mature federations vary a great deal in terms of fiscal policy coordinating mechanisms. In the USA, there is no overall federal-state coordination of fiscal policy and there are no constitutional restraints on state borrowing but states' own constitutional provisions prohibit operating deficits. Intergovernmental coordination often comes through establishment of fiscal rules established through acts of Congress such as the Gramm-Rudman Act. Fiscal discipline primarily arises from three distinct incentives offered by the political and market cultures. First, the electorates are conservative and elect candidates with a commitment to keep public spending in check. Second, pursuit of fiscal policies that are perceived as imprudent lower property values thereby lowering public revenues. Third, capital markets discipline governments that live beyond their means (see Inman and Rubinfeld, 1992).

In Canada, there are elaborate mechanisms for federal-provincial fiscal coordination. These take the form of intergovernmental conferences (periodic first ministers' and finance ministers/treasurers' conferences) and the Council of the Federation (an interprovincial consultative body). The majority of direct program expenditures in Canada are at the sub-national level but Ottawa (i.e. the Canadian federal government) retains flexibility and achieves fiscal harmonization through conditional transfers and tax collection agreements. In addition, Ottawa has established a well- knit system of institutional arrangements for intergovernmental consultation and coordination. But much of the discipline on public sector borrowing comes from the private banking sector monitoring deficits and debt at all levels of government. Overall financial markets and electorates impose a strong fiscal discipline at the sub-national level.

In Switzerland, societal conservatism, fiscal rules and intergovernmental relations play an important part in fiscal coordination. Borrowing by cantons and communes is restricted to capital

projects that can be financed on a pay-as-you-go basis and requires popular referenda for approval. In addition, cantons and communes must balance current budgets including interest payments and debt amortization. Intergovernmental coordination is also fostered by “common budget directives” applicable to all levels of government. These embody the following general principles: (a) the growth rates of public expenditures should not exceed the expected growth of nominal GNP; (b) the budget deficit should not be higher than that of the previous year; (3) the number of civil servants should stay the same or increase only very slightly; (4) the volume of public sector building should remain constant and an inflation indexation clause should be avoided (Gygi, 1991:10).

The German Constitution specifies that Bund (federal) and Laender (state level governments) have budgetary independence (Art. 109(1) GG) but must take into account the requirements of overall economic equilibrium (Art. 109 (2) GG). The 1969 Law of Stability and Growth established the Financial Planning Council and the Cyclical Planning Council as coordinating bodies for the two levels of government. It stipulates uniform budgetary principles to facilitate coordination. Annual budgets are required to be consistent with the medium term financial plans. The Law further empowered the federal government to vary tax rates and expenditures on short notice and even to restrict borrowing and equalization transfers. Lander parliaments no longer have tax legislation authority and Bund and Laender borrowing is restricted by the German constitution to projected outlays for capital projects (the so-called “golden rule”). However, federal borrowing to correct “disturbances of general economic equilibrium” is exempt from the application of this rule. The federal government also follows a five year budget plan to so that its fiscal policy stance is available to sub-national governments. Two major instruments were created by the 1969 law to forge cooperative federalism: (i) joint tasks authorized by the Bundesrat and (ii) federal grants for state and local spending mandated by federal legislation or federal-state agreements. An additional helpful matter in intergovernmental coordination is that the central bank (Bundesbank) is independent of all levels of government and focuses on price stability as its objective. Most important, full and effective federal-lander fiscal coordination is achieved through the Bundesrat, the upper house of parliament where lander governments are directly represented. German Bundesrat represents the most outstanding institution for formal intergovernmental coordination. Such formal institutions for intergovernmental coordination are useful especially in countries with legislative federalism. The Constitution Act, 1996 of the Republic of South Africa has established such an institution for intergovernmental coordination called the National Council of the Provinces.

Commonwealth-state fiscal coordination in Australia offers important lessons for federal countries. Australia established a loan council in 1927 as an instrument of credit allocation since it restricted state governments to borrow only from the commonwealth. An important exception to this rule was that states could however use borrowing by autonomous agencies and local government for own purposes. This exception proved to be the Achilles' heel for the Commonwealth Loan Council, as states used this exception extensively in their attempt to bypass the cumbersome procedures and control over their capital spending plans by the Council. The Commonwealth Government ultimately recognized in 1993 that central credit allocation policy was a flawed and ineffective instrument. It lifted restrictions on state borrowing and reconstituted the Loan Council so that it could serve as a coordinating agency for information exchange so as to ensure greater market accountability. The New Australian Loan Council attempts to provide a greater flexibility to states to determine their own borrowing requirements and attempts to coordinate borrowing with fiscal needs and overall macro strategy (see Figure 2). It further instills a greater understanding of the budgetary process and provides timely and valuable information to the financial markets on public sector borrowing plans. The process seems to be working well so far.

For the European Union, Wierts (2005) concludes that sub-national governments' contributions to consolidated public sector deficits and debts were relatively smaller as compared to the central governments in most EU countries – federal and unitary countries alike..

The Impact of Fiscal Decentralization on Fiscal Management – Econometric Evidence

Econometric analysis carried out here and presented in Tables 7 through 14 examine the impact of fiscal decentralization on various dimensions of the quality of fiscal management. Econometric evidence presented here supports the hypothesis that fiscal decentralization has a positive significant impact on the quality of fiscal management (Table 7). The effect of fiscal decentralization on the efficiency in revenue collection is negative but insignificant (Table 8). Fiscal decentralization leads to prudent use of public resources (Table 9). Growth in public spending is positively associated with fiscal decentralization but insignificantly so with the score index of decentralization (Table 10). Fiscal decentralization is negatively but insignificantly associated with the control of deficits (Table 11). Fiscal decentralization has a positive but insignificant impact on growth of public debt (Table 12). Fiscal decentralization contributes to enhanced transparency and accountability in public management (Table 13). Finally, fiscal decentralization has a positive yet insignificant association with growth of GDP.

Fiscal Policy Coordination in Brazil: From Fiscal Distress to Fiscal Discipline – A Giant Leap Forward

Tax assignments mandated by the 1988 Constitution in Brazil reduced federal flexibility in the conduct of fiscal policies. The new Constitution transferred some productive federal taxes to lower level jurisdictions and also increased sub-national governments' participation in federal revenue sharing schemes. One of the most productive taxes, the value added tax on sales, was assigned to states and the Council of State Finance Ministers (CONFAZ) was set up to play a coordinating role. Federal flexibility in the income tax area, however, remained intact. This gives the federal government some possibility of not only affecting aggregate disposable income, and therefore aggregate demand, but also exerting direct influence over the revenues and fiscal behavior of the lower levels of government which end up receiving nearly half of the proceeds of this tax. The effectiveness of such a policy tool is an open question and critically depends upon the goodwill of sub-national governments. Consider the case where the federal government decides to implement a discretionary income tax cut. The measure could have a potentially significant effect on the revenues of state and local governments, given their large share in the proceedings of this tax. It is possible that, in order to offset this substantial loss in revenues from federal sources, lower levels of government might choose either to increase the rates and/or bases on the taxes under their jurisdiction, or increase their tax effort. Such state and local government responses could potentially undermine the effectiveness of income taxes as a fiscal policy instrument. Thus a greater degree of intergovernmental consultation, cooperation and coordination would be needed for the success of stabilization policies.

An overall impact of the new fiscal arrangements was to limit federal control over public sector expenditures in the federation. The success of federal expenditures as a stabilization tool again depends upon sub-national government cooperation in harmonizing their expenditure policies with the federal government. Once again, the Constitution has put a premium on intergovernmental coordination of fiscal policies. Such a degree of coordination may not be attainable in times of fiscal distress.

A reduction in revenues at the federal government's disposal and an incomplete transfer of expenditure responsibilities have further constrained the federal government. The primary source of federal revenues are income taxes. These taxes are easier to avoid and evade by taxpayers and therefore are declining in relative importance as a source of revenues. Value added sales taxes, which are considered a more dynamic source of revenues, have been assigned to the state level.

Thus federal authorities lack access to more productive tax bases to alleviate the public debt problem and to gain more flexibility in the implementation of fiscally based macroeconomic stabilization policies. According to Shah (1991, 1998) and Bomfim and Shah (1994) this situation could be remedied if a joint federal-state VAT to be administered by a federal-state council were to be instituted as a replacement for the federal IPI, the state ICMS, and the municipal services tax, which bases partially overlap. Such a joint tax would help alleviate the current federal fiscal crisis as well as streamline sales tax administration. They argued that Federal expenditure requirements could be curtailed with federal disengagement from purely local functions and by eliminating federal tax transfers to municipalities. Transfers to the municipalities would be better administered at the state level as states have better access to data on municipal fiscal capacities and tax effort in their jurisdictions. Some rethinking is in order on the role of negotiated transfers that have traditionally served to advance pork-barrel politics rather than to address national objectives. If these transfers were replaced by performance oriented conditional block (per capita) federal transfers to achieve national (minimum) standards, both the accountability and coordination in the federation would be enhanced. These rearrangements would provide the federal government with greater flexibility to pursue its macroeconomic policy objectives. Finally, they advocated the development of fiscal rules binding on all levels of government and a federal-state coordinating council to ensure that these rules are enforced.

There has been significant progress on most of these issues in recent years. For example, negotiated transfers have become insignificant due to the fiscal squeeze experienced by the federal government. The senate has prescribed guidelines (Senate Resolution #69, 1995) for state debt: maximum debt service is not to exceed 16% of net revenue or 100% of current revenue surplus, whichever is less and the maximum growth in stock of debt (new borrowing) within a 12 month period, must not exceed the level of existing debt service or 27% of net revenues whichever is greater (Dillinger, 1997). More recently in 1998, pension and civil service entitlements reform have introduced greater budgetary flexibility for all levels of government. Likewise, after the suboptimal results achieved from letting capital markets discipline sub-national borrowings, the Brazilian federal government opted for establishing a fairly constraining set of Fiscal Responsibility institutions. First, the Law 9696 of September 1997 set up the framework for a series of debt restructuring contracts between December 1997 and June 1998, whereby a portion of debt (20 percent) should be paid with the proceedings of privatization of state assets, while the remaining portion of state and local debt was restructured with maturities up to 30 years at a subsidized interest rate (equal to 6 percent annual real rate). Debt restructuring contracts become comprehensive in scope as twenty five out of 27 states and over 180 municipalities signed debt

restructuring agreements (Goldfajn and Refinetti 2003, IMF 2001). In exchange the contracts require the SNGS' commitments to engage in adjustment programs aimed to reduce the debt to net revenue ratio to less than one over a per-case negotiated period of time. Contracts established sanctions for violations to adjustment program agreements, such as increase debt service caps (annual debt service to net revenue ratio of 13 to 15 percent above which service debt is capitalized) and substitutions of market interest rate for the subsidized interest rate. Debt restructuring contracts also impose stringent penalties for non-compliant states and in the event of a default, authorize the federal government to withhold fiscal transfers or, if this is not enough, to withdraw the amount due to the states from their bank accounts (Goldfajn and Refinetti, 2003, p. 18). Debt restructuring agreements prohibit further credit or re-structuring operations involving other levels of government. This helps to avoid moral hazard incentives from the possibility of intergovernmental bailouts (IMF, 2001).

Building upon the Law 6996/97 and complementary regulations the Brazilian federal government adopted a Fiscal Responsibility Law (Lei de Responsabilidade Fiscal -LRF) in May 2000 and its companion Law (Lei 10028/2000) binding for federal, state and municipal/local governments. The LRF is likely the most significant reform after 1988 constitution in terms of its impact on the dynamics of federalism in Brazil; as subsequent compromises between states and the federal government have continuously increased the negotiation leverage of the latter increasing also its effectiveness in macroeconomic management. The FRL establishes *ex-ante* institutions such as a threshold state debt, deficit, and personnel spending ceilings. According to the LRF states and municipalities must maintain debt stock levels below ceilings determined by the Federal Senate regulations. If a sub-national government exceeds this debt ceiling the exceeding amount must be reduced within one-year period, during which the state or municipality is prohibited of incurring any new debt and becomes ineligible for receiving discretionary transfers (World Bank 2002). The LRF also regulates that all new borrowing requires the technical approval of the Central Bank and the approval of the Senate. Borrowing operations are prohibited all together during a period of 180-days before the end of incumbents' government mandate (Afonso and de Mello, 2000). In terms of personnel management, the LRF provisions define ceilings on payroll spending. This should not exceed 50 percent of federal government's net revenues while this ceiling equals 60 percent at the sub-national level. The LRF also institutionalized a variety of *ex-post* provisions aimed at the enforcement of its regulations. For governments, violations to personnel or debt ceiling can lead to fines up to 30% of annual salary of the responsible; impeachment of mayors or governors; and even prison terms in case of violation of mandates regarding election years. For capital markets, the LRF declares that

financing operations in violation of debt ceilings would not be legally valid and amounts borrowed should be repaid fully without interest. This provision is aimed at discouraging such lending behavior by the financial institutions.

The Brazilian Federation had a remarkable success in ensuring fiscal policy coordination and fiscal discipline at all levels in recent years. By June 2005, the LRF (2000) had significant positive impacts on fiscal performance in Brazil. All states and the federal government have complied with the ceiling on personnel expenditures (50% of current revenues). On debt, only 5 states out of 27 states (inclusive of Federal District) are still above the ceiling of 200% of revenues, owing to 2002 currency devaluation. 92% of municipalities have reduced debts below 1.2 times revenue levels and only a handful of large municipalities have unsustainable debt levels. Primary surplus was achieved by all states by 2004 (Levy, 2005).

Fiscal Management in China: An Unmet Challenge

Before 1980, China's fiscal system was characterized by a decentralized revenue collection followed by central transfers i.e., all taxes and profits were remitted to the central government and then transferred back to the provinces according to expenditure needs approved by the center through bilateral negotiations. Under this system, the localities had little managerial autonomy in local economic development. In 1980, this system was changed into a contracting system. Under the new arrangements, each level of government makes a contract with the next level up to meet certain revenue and expenditure targets. A typical contract defines a method of revenue-sharing, which could be a percentage share that goes to the center, or a fixed fee plus a percentage share. This contracting system means that the economic interests of each level of government are sharply identified.

Under the fiscal contract system introduced in the early 1980s, the localities have controlled the effective tax rates and tax bases in the following two ways. First, they have controlled tax collection efforts by offering varying degrees of tax concessions. Second, they have found ways to convert budgetary funds into extra-budgetary funds, thus avoiding tax-sharing with the center. As a result, the center has had to resort to various ad hoc instruments to influence revenue remittance from the localities, and these instruments have led to perverse reactions from the localities. On the expenditure side, the center has failed to achieve corresponding reductions in expenditure when revenue collection has been decentralized. The center's flexibility in using expenditure policy has been seriously undermined by the lack of centrally-controlled financial resources and the heavy burden of "capital constructions." Between 1978 and 1992, the ratio of government revenue to

GNP dropped from 31 percent to 17 percent. Increasing deficits became a problem, and the lack of funds for infrastructure investment exacerbated bottlenecks in the economy.

Due to the lack of fiscal resources and policy instruments, the central government has found itself in an increasingly difficult position to achieve the goals of macroeconomic stabilization, regional equalization, and public goods provision. In early 1994, the central government initiated reform of the tax assignment system in an attempt to address these difficulties. Under the new system, the center will recentralize the administration and collection of central and shared-taxes and will obtain a larger share of fiscal resources as a result of the new revenue-sharing formula. Initially, among the major taxes only the VAT was centralized. Later in year 2002, the administration of Personal Income Tax and the Enterprise Income Tax was also centralized. The VAT is shared 75:25 (centre-local) and all extra central revenues above the 1993 levels is then shared 60:40. Revenues are returned to provinces using derivation or point of collection basis. The central government expected to improve significantly its ability to use tax and expenditure policies in macroeconomic management as a result of these steps. Nevertheless, the new system fails to address a number of flaws in the old system : (1) the division of tax bases according to ownership will continue to motivate the center to reclaim enterprise ownership whenever necessary; (2) the division of expenditure responsibility is not yet clearly defined; (3) the new system impedes local autonomy as the localities are not allowed to determine the bases and/or rates for local taxes; and (4) the design of intergovernmental transfers is not fully settled yet. In 1994 and 1995, the central government also imposed administrative restrictions on investments by provincial and local governments and their enterprises (see Ma, 1995, and World Bank, 1994 for further details) to deal with inflationary pressures. The introduction of the State Council Document No.29 in 1996 and other measures in 1997 to consolidate budgetary management over extra-budgetary funds, sharply restricted the authority of local governments especially rural local governments to impose fees and levies to finance own expenditures (see World Bank, 1998).

The Budget Law 1994 prohibits the central government from borrowing from the Peoples Central Bank of China. The Budget Law also requires local governments to have balanced budgets and restricts sub-national governments borrowing in financial markets and issuing bonds (Qian 2000). Legal restraints on sub-national borrowing and unfunded central mandates have encouraged provincial-local governments to assume hidden debts. Such borrowing is channeled through state-owned entities such as urban construction and investment companies that borrow from banks or issue bonds on behalf of the local government (World Bank, 2005). Such hidden debts pose significant risks for macro stability.

A combination of unfunded mandates and extremely constrained taxing powers generate incentives for local governments to develop informal channels of taxation. This is evidenced by the high levels of extra budgetary funds (self raised funds) at the sub-provincial levels, comprising surcharges, fees, utility and user charges that are not formally approved by the central government while technically legal. A pilot experiment in Anhui province identified collection of per capita fees from peasants for local education, health, militia training, road construction and maintenance, welfare for veterans, and birth control (Yep, 2004). This type of quasi-fiscal income, which accounted for as high as 56% of total tax revenues in 1996 (Eckaus 2003: China Statistical Yearbook 2000, pp. 257, 271) or 8-10 per cent of GDP in 1995 (World Bank, 2000). This non-tax type of revenue extraction has often imposed excessive burdens in local constituents generating continuous confrontations between peasants and local officials (Lin and others 2002, Bernstein and Lu 2003, Yep 2004). As noted by Krug, Zhu, and Hendrischke (2005) sub-provincial governments agencies *de facto* control of the property rights of revenues not covered by the tax sharing system enables “sub-provincial governments at all levels to maintain their residual tax rights over the informal tax system.” (p.11). In fact, institutions ruling sub-provincial taxation are shaped as a complex and asymmetric system of contracts between the provincial government and lower layers of government. More recently the central government has abolished the agricultural income tax and rural fees and charges in 2002 through the “Tax-for-Fee program”. These prohibitions have deleterious consequences for county finances as compensating transfers do not fully cover these growing sources of county finance.

Promoting greater fiscal discipline at the sub-national level in China remains virtually an impossible task so long as local governments retain ownership of enterprises providing private goods, lack clarity in their spending and taxing responsibilities and obtain a disproportionate amount of local revenues from ad hoc central transfers. Thus fiscal policy coordination and fiscal discipline remains an unfinished challenge in China.

Fiscal Policy Coordination - Some Conclusions

Fiscal policy coordination represents an important challenge for federal systems. In this context, fiscal rules and institutions provide a useful framework but not necessary a solution to this challenge. Fiscal rules binding on all levels can help sustain political commitment in countries having coalitions or fragmented regimes in power. Coordinating institutions help in the use of moral suasion to encourage a coordinated response. Industrialized countries experiences also show that unilaterally imposed federal controls and constraints on sub-national governments

typically do not work. Instead, societal norms based on fiscal conservatism such as the Swiss referenda and political activism of the electorate play important roles. Ultimately capital markets and bond-rating agencies provide more effective discipline on fiscal policy. In this context, it is important not to backstop state and local debt and not to allow ownership of the banks by any level of government. Transparency of the budgetary process and institutions, accountability to the electorate and general availability of comparative data encourages fiscal discipline.

3. Securing an Economic Union

Five dimensions of securing an economic union in a federal system have relevance for macroeconomic governance: preservation of the internal common market; tax harmonization; transfers and social insurance; intergovernmental fiscal transfers, and regional fiscal equity. These are briefly discussed in the following paragraphs.

3.1 Preservation of the Internal Common Market

Preservation of an internal common market remains an important area of concern to most nations undertaking decentralization. Sub-national governments in their pursuit of attracting labor and capital may indulge in beggar-thy-neighbor policies and in the process erect barriers to goods and factor mobility. Thus decentralization of government regulatory functions creates a potential for disharmonious economic relations among sub-national units. Accordingly, regulation of economic activity such as trade and investment is generally best left to the federal/central government. It should be noted, however, that central governments themselves may pursue policies detrimental to the internal common market. Therefore, as suggested by Boadway (1992), constitutional guarantees for free domestic flow of goods and services may be the best alternative to assigning regulatory responsibilities solely to the center.

The Constitutions of mature federations typically provide: a free trade clause (as in Australia, Canada and Switzerland); federal regulatory power over interstate commerce (as in Australia, Canada, Germany, USA, and Switzerland) and individual mobility rights (as in most federations). In contrast, in China, a large unitary country, mobility rights of individuals are severely constrained by the operation of “hukou” system of household registration which is used to determine eligibility for grain rations, employment, housing, education and health care benefits.

3.2 Tax Harmonization and Coordination

Tax competition among jurisdictions can be beneficial by encouraging cost-effectiveness and fiscal accountability in state governments. It can also by itself lead to a certain amount of tax harmonization. At the same time, decentralized tax policies can cause certain inefficiencies and inequities in a federation as well as lead to excessive administrative costs. Tax harmonization is intended to preserve the best features of tax decentralization while avoiding its disadvantages.

Inefficiencies from decentralized decision making can occur in a variety of ways. For one, states may implement policies which discriminate in favor of their own residents and businesses relative to those of other states. They may also engage in beggar-thy-neighbor policies intended to attract economic activity from other states. Inefficiency may also occur simply from the fact that distortions will arise from different tax structures chosen independently by state governments with no strategic objective in mind. Inefficiencies also can occur if state tax systems adopt different conventions for dealing with businesses (and residents) who operate in

more than one jurisdiction at the same time. This can lead to double taxation of some forms of income and non-taxation of others. State tax systems may also introduce inequities as mobility of persons would encourage them to abandon progressivity. Administration costs are also likely to be excessive in an uncoordinated tax system (see Boadway, Roberts and Shah, 1994). Thus tax harmonization and coordination contribute to efficiency of internal common market, reduce collection and compliance costs and help to achieve national standards of equity.

European Union has placed a strong emphasis on tax coordination issues. Canada has used tax collection agreements, tax abatement and tax base sharing to harmonize the tax system. The German federation emphasizes uniformity of tax bases by assigning the tax legislation to the federal government. In developing countries, due to tax centralization, tax coordination issues are relevant only for larger federations such as India and Brazil. In Brazil, the use of ICMS (origin based) as a tool for attracting capital inflow from other regions has become an area of emerging conflict among regions. Despite the fact that the Council of States sought to harmonize ICMS base and rates, there is evidence that some of the tax concessions refused by the Council are practiced by many states anyway. States can also resort to tax base reductions or grant un-indexed payment deferrals (Longo 1994). For example, some northeastern states have offered fifteen years ICMS tax deferral to industry. In an inflationary environment such a measure can serve as an important inducement for attracting capital from elsewhere in the country (Shah, 1991).

Tax harmonization and coordination is theoretically a non-issue in the context of a unitary country but substantial use of informal tax system and tax preferences by local governments in China has elevated it to some prominence.

3.3 Transfer Payments and Social Insurance

Along with the provision of public goods and services, transfer payments to persons and businesses comprise most of government expenditures (especially in industrialized countries). Some of these transfers are for redistributive purposes in the ordinary sense, and some are for industrial policy or regional development purposes. Some are also for redistribution in the social insurance sense, such as unemployment insurance, health insurance and public pensions. Several factors bear on the assignment of responsibility for transfers. In the case of transfers to business, many economists would argue that they should not be used in the first place. But, given that they are, they are likely to be more distortionary if used at the provincial level than at the federal level. This is because the objective of subsidies is typically to increase capital investments by firms,

which is mobile across provinces. As for transfers to individuals, since most of them are for redistributive purposes, their assignment revolves around the extent to which the federal level of government assumes primary responsibility for equity. From an economic point of view, transfers are just negative direct taxes. One can argue that transfers should be controlled by the same level of government that controls direct taxes so that they can be integrated for equity purposes and harmonized across the nation for efficiency purposes. The case for integration at the central level is enhanced when one recognizes the several types of transfers that may exist to address different dimensions of equity or social insurance. There is an advantage of coordinating unemployment insurance with the income tax system or pensions with payments to the poor. Decentralizing transfers to individuals to the provinces will likely lead to inefficiencies in the internal common market, fiscal inequities and inter-jurisdictional beggar-thy-neighbor policies. Following this guidance, most federal countries assign unemployment insurance and social security to national levels as do also most unitary countries. An important exception is China where these are considered provincial-local responsibilities.

3.4 Intergovernmental Fiscal Transfers

Federal-state transfers in a federal system serve important objectives: alleviating structural imbalances, correcting for fiscal inefficiencies and inequities, providing compensation for benefit spill-outs and achieving fiscal harmonization. The most important critical consideration is that the grant design must be consistent with grant objectives and ad hoc pork-barrel transfers should be avoided. Industrial country experience shows that successful decentralization cannot be achieved in the absence of a well designed fiscal transfers program. The design of these transfers must be simple, transparent and consistent with their objectives. Properly structured transfers can enhance competition for the supply of public services, accountability of the fiscal system and fiscal coordination just as general revenue sharing has the potential to undermine it. A comparative look at the design and practice of fiscal transfers suggest that federal countries typically pay greater attention to the incentive effects of these transfers than unitary countries.

3.5 Regional Fiscal Equity

While we have not addressed the regional equity issue due to paucity of data, a few casual observations may be in order. As we noted earlier, regional inequity is an area of concern for decentralized fiscal systems and most such systems attempt to deal with it through the spending powers of the national government or through fraternal programs. Mature federations such as Australia, Canada and Germany have formal equalization programs. This important feature of decentralization has not received adequate attention in the design of institutions in developing countries. Despite serious horizontal fiscal imbalances in a large number of developing countries, explicit equalization programs are untried, although equalization objectives are implicitly attempted in the general revenue sharing mechanisms used in Brazil, Colombia, India, Mexico, Nigeria and Pakistan. These mechanisms typically combine diverse and conflicting objectives into the same formula and fall significantly short on individual objectives. Because these formulas lack explicit equalization standards, they fail to address regional equity objectives satisfactorily.

Regional inequity concerns are more easily addressed by unitary countries but it is interesting to note that the record of unitary countries in addressing these inequities is worse than federal countries (Shankar and Shah, 2004). Von Hagen (2005) also concludes that “surprisingly, perhaps, there is no clear evidence that regional risk sharing is larger in unitary than in federal states” (p.23).

4. Fiscal Decentralization and Fiscal Performance: Some Conclusions

Fiscal decentralization poses significant challenges for macroeconomic management. These challenges require careful design of monetary and fiscal institutions to overcome adverse incentives associated with the “common property” resource management problems or with rent seeking behaviors. Experiences of federal countries indicate significant learning and adaptation of fiscal systems to create incentives compatible with fair play and to overcome incomplete contracts. This explains why that decentralized fiscal systems appear to do better than centralized fiscal systems on most aspects of monetary and fiscal policy management and transparent and accountable governance (see Table 15).

Table 15 Fiscal Decentralization and Fiscal Performance - A Summary of Empirical Results	
Fiscal Performance Indicator	Impact of Fiscal Decentralization
<i>Central Bank Independence</i>	Positive and significant
Growth of Money Supply	Positive but insignificant
Inflation	Negative but insignificant
<i>Management of inflation and macroeconomic imbalances</i>	Positive but insignificant
Quality of Debt Management	Positive but insignificant
<i>Quality of Fiscal Policies and Institutions</i>	Positive and significant
Efficiency in Revenue Collection	Mixed but insignificant
<i>Prudent Use of Tax Monies</i>	Positive and significant
<i>Growth of government spending</i>	Negative and significant
Control of fiscal deficits	Negative but insignificant
Growth of Public Debt	Positive yet insignificant
<i>Public Sector Management- Transparency and Accountability</i>	Positive and significant
GDP growth	Positive but insignificant
Source: Econometric results	

5. Some Lessons for Developing Countries

The following important lessons for reform of fiscal systems in developing countries can be distilled from a review of past experiences.

- *Monetary policy is best entrusted to an independent central bank with a sole mandate for price stability.* Political feasibility of such an assignment improves under federal systems (decentralized fiscal systems).
- *Fiscal rules are neither necessary nor sufficient for fiscal discipline. However, fiscal rules accompanied by “gate keeper” intergovernmental councils/committees provide a useful framework for fiscal discipline and fiscal policy coordination for countries with fragmented political regimes.* In this context, one can draw upon industrial countries’ experiences with ‘golden rules’, Maastricht type guidelines and ‘common budget directives’ to develop country specific guidelines. To ensure voluntary compliance with the guidelines, an appropriate institutional framework must be developed. Transparency of the budgetary processes and institutions, accountability to the electorate and general availability of comparative data on the fiscal positions of all levels of government further strengthen fiscal discipline.

- *The integrity and independence of the financial sector contributes to fiscal prudence in the public sector.* To ensure such an integrity and independence, ownership and preferential access to the financial sector should not be available to any level of government. In such an environment capital markets and bond rating agencies would provide an effective fiscal policy discipline.
- *To ensure fiscal discipline, governments at all levels must be made to face the financial consequences of their decisions.* This is possible if the central government does not backstop state and local debt and the central bank does not act as a lender of last resort to the central government.
- *Societal norms and consensus on the roles of various levels of governments and limits to their authorities are vital for the success of decentralized decision making.* In the absence of such norms and consensus, direct central controls do not work and intergovernmental gaming leads to dysfunctional constitutions.
- *Tax decentralization is a pre-requisite for sub-national credit market access.* In countries with highly centralized tax bases, unrestrained credit market access by sub-national governments poses a risk for macro stabilization policies of the national government as the private sector anticipates a higher level government bailout in the event of default and does not discount the risks of such lending properly.
- *Higher level institutional assistance may be needed for financing local capital projects.* This assistance can take the form of establishing municipal finance corporations that run on commercial principles to lower the cost of borrowing by using the superior credit rating of the higher level government and municipal rating agencies to determine credit worthiness.
- *An internal common market is best preserved by constitutional guarantees.* National governments in developing countries have typically failed in this role.
- *Intergovernmental transfers in developing countries undermine fiscal discipline and accountability while building transfer dependencies that cause a slow economic strangulation of fiscally disadvantaged regions.* Properly designed intergovernmental transfers on the other hand can enhance competition for the supply of public goods, fiscal harmonization, sub-national government accountability and regional equity. Substantial theoretical and empirical guidance on the design of these transfers is readily available.
- *Periodic review of jurisdictional assignments is essential to realign responsibilities with changing economic and political realities.* With globalization and localization, national government's direct role in stabilization and macroeconomic control is likely to diminish

over time but its role in coordination and oversight is expected to increase as regimes and sub-national governments assume enhanced roles in these areas. Constitutional and legal systems and institutions must be amenable to timely adjustments to adapt to changing circumstances.

- *Finally, contrary to a common misconception, decentralized fiscal systems offer a greater potential for improved macroeconomic governance than centralized fiscal systems.* This is to be expected as decentralized fiscal systems require greater clarity in the roles of various players (centers of decision making) and transparency in rules that govern their interactions to ensure fair play.

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Appendix

Table 1. Fiscal Decentralization and Central Bank Independence
Dependent Variable: Central Bank Independence (CBI)

	Expenditure Dec. (Fraction Subnational expenditures)	Revenue Dec. (Fraction Subnational revenues)	Federal Dummy
Fiscal Decentralization	.46 * (2.11)	.48 * (2.12)	
Federal Dummy			.12 (1.52)
Log Income per Capita	-.06 ** (-3.39)	-.06 ** (-3.30)	-.07 ** (-4.45)
Political Stability	-.04 ** (-6.82)	-.04 (-7.08)	-.05 ** (-4.51)
Exchange Rate Regime	-.13 ** (-3.63)	-.13 (-3.64)	-.11 ** (-3.51)
Inflation	.32e-2 (1.32)	.31 (1.29)	.23e-2 (.67)
Constant	1.18 ** (6.70)	1.15 (6.58)	1.35 ** (7.83)
N. Obs.	40	40	42
R Square	.43	.43	.39

White corrected *t*-statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

$$CBI = \alpha + \beta_1 INC + \beta_2 PS + \beta_3 ERR + \beta_4 INF + u$$

where:

CBI: Central Bank Independence (CBI) Cukierman et al. / Journal of Monetary Economics 49 (2002) 237–264.

INC: Log GDP per Capita

PS: An index of Political Stability was constructed using principal components analysis of the following variables:

GW: Guerrilla Warfare (S17F3)

GC: Government Crisis (S17F4)

Rev: Revolution (S17F7)

Cd: Copus d'etat (S21F1)

MCh: Major constitutional changes (S21F2)

ERR: Exchange Rate Regime. Information on the exchange rate regime is summarized by the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* for year 2000.

1= Exchange Arrangement with no separate legal tender

2= Currency board Arrangement

3= Conventional pegged system

4= Pegged Exchange rate within horizontal bands

5= Crawling pegs

6= Crawling band

7=Managed floating with no pre-announced path for the exchange rate

8=Independently Floating

INF: Consumer Prices annual Growth Rate

No regression of qualitative decentralization variables could be conducted due to insufficient degrees of freedom, given only 13 observations commonly defined with CBI variable.

Table 2. Fiscal Decentralization and Monetary Management

Dependent Variable: Monetary Supply-- M2 growth (WDI)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)	Expenditure Dec.(Fraction Subnational expenditures)	Revenue Dec. (Fraction Subnational revenues)
Fiscal Decentralization	.95 (.71)	-1.61 (-.87)	26.18 (1.9)	25.59 (1.79)
Log Income per Capita	-2.41 (-1.89)	-1.3 (-.97)	-11.86 ** (-5.51)	-11.69 ** (-5.28)
Exchange Rate Regime	-.30 (-.67)	-.11 (-.14)		
Budget Balance to GDP	-.60 (.64)	-.79 (-1.01)	1.59 (1.68)	1.61 (1.27)
Political Stability				
Central Bank Independence			-25.82 * (-2.24)	-26.31 * (-2.20)
Constant	30.9 (2.75)	26.51 (2.5)	126.65 ** (5.67)	
N. Obs.	23	23	27	27
Adj. R Square	.17	.19	.63	.62

White corrected t -statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

$$M = \alpha + \beta_1 GDPC + \beta_2 CBI + \beta_3 ERR + \beta_4 CBS + u$$

where:

M : Monetary Supply-- M2 growth (WDI)

$GDPC$: log GDP per Capita

CBI : Central Bank Independence (Cukierman, 2000)

ERR : Exchange Rate Regime. Information on the exchange rate regime is summarized by the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* for year 2000.

1= Exchange Arrangement with no separate legal tender

2= Currency board Arrangement

3= Conventional pegged system

4= Pegged Exchange rate within horizontal bands

5= Crawling pegs

6= Crawling band

7=Managed floating with no pre-announced path for the exchange rate

8=Independently Floating

CBS : Central Gov. Budget Surplus (% of Exp.)

u : error term

Examining the effects of fiscal decentralization on price stability

Two models were estimated. In the first model (Equation 1 below) a measure of inflation is the dependent variable. Results for this model are reported in table 17. In the second model (Equation 2 below) the dependent variable is a CPIA indicator of Management of Inflation & Macroeconomic Imbalances. Results for the second model are reported in table 18.

$$(1) I = \alpha + \beta_1 GDPC + \beta_2 CBI + \beta_3 ERR + \beta_4 CBS + \beta_5 UNP + \beta_6 DEV + u$$

where:

I: Inflation—GDP Deflator annual % growth (WDI)

GDPC: log GDP per Capita

CBI: Central Bank Independence

ERR: Exchange Rate Regime

CBS: Central Gov. Budget Surplus (% of Exp.)

UNP: Unemployment Total as a Percent of Labor Force

DEV: Development Dummy. Dummy equal to one for high income OECD and Non-OECD countries as defined by the World Bank Development Indicators country categories.

Table 3. Fiscal Decentralization and Control of Inflation

Dependent Variable: Inflation--CPI growth (WDI)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)					
Fiscal Decentralization	-67.80 (-1.25)	-40.58 (-.60)					
Federal Dummy							
Growth Income per Capita	-98.16 (-2.23)	-102.32 (-2.40)					
Exchange Rate Regime	48.65 (1.90)	141.99 (1.67)					
Budget Balance to GDP	8.58 (.39)	7.53 (.42)					
Constant	474.93 (2.69)	253.29 (.80)					
N. Obs.	27	27					
Adj. R Square	.50	.52					

White corrected *t*-statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

Table 4. Fiscal Decentralization and Management of Inflation & Macroeconomic Imbalances
 Dependent Variable: Management of Inflation & Macroeconomic Imbalances (CPIA)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)			
Fiscal Decentralization	.02 (.22)	.12 (1.04)			
Federal Dummy					
Log Income per Capita	.26 (1.07)	.23 (.91)			
Trade	.59e-2 (1.06)	.60e-2 (1.11)			
Population	1.15e-9 * (2.30)	1.16e-9 * (2.55)			
Unemployment					
LAC					
EECA					
AFR					
Constant	1.90 (1.34)	1.68 (1.22)			
N. Obs.	27	27			
Adj. R Square	.21	.23			

White corrected t -statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

Table 5. Fiscal Decentralization and Quality of Debt ManagementDependent Variable: *MPD*:- Management of Public Debt (External and Domestic) CPIA-3

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)	Expenditure Dec.(Fraction Subnational expenditures)	Revenue Dec. (Fraction Subnational revenues)	
Fiscal Decentralization	.08 (.47)	.50e-2 (.03)	.85 (.77)	.86 (.82)	
Log Income per Capita	.55 * (2.39)	.58 * (2.67)	.49 ** (2.81)	.49 ** (2.81)	
Inflation	-.09 * (-2.62)	-.10 * (-2.85)	-.02 ** (-7.17)	-.02 ** (-7.15)	
Political Stability	.53e-2 (.27)	.37e-3 (.02)	-.56 (-1.01)	-.58 (-1.04)	
LAC Dummy	-.33 (-.54)	-.23 (-.35)	-.28 (-.56)	-.28 (-.57)	
AFR Dummy	.52 (.84)	.59 (.98)	.41 (.59)	.41 (.59)	
EECA Dummy	-.56 (-1.06)	-.52 (-.92)	-.09 (-.28)	-.11 (-.33)	
Constant	1.05 (.7)	.73 (.46)	.51 (.38)	.46 (.34)	
N. Obs.	24	24	50	50	
Adj. R Square	.46	.46	.41	.41	

White corrected *t*-statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

Table 7. Fiscal Decentralization and Quality of Fiscal PoliciesDependent Variable: *FP*: Fiscal Policy (CPIA 2)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)			
Fiscal Decentralization	.21 (1.43)	.36 (2.24)			
Federal Dummy					
Log Income per Capita	.27 (1.13)	.27 (1.26)			
Openness to Trade	.6e-2 (.76)	.01 (1.36)			
Freedom	.03 (.12)	-.11 (-.63)			
Ethnic	.1 (1.73)	.63 (1.0)			
Origin Law English	-.08 (-.15)	.33 (.68)			
Relig. Fraction Catholic	-.46e-2 (-.99)	-.36e-2 (-.67)			
LAC Dummy	-.3 (-.52)	.02 (.04)			
AFR Dummy					
EECA Dummy	-.5 (-1.26)	-.59 (-1.66)			
Constant	1.33 (.89)	.02 (.02)			
N. Obs.	27	27			
Adj. R Square	.45	.5			

White corrected *t*-statistics in parenthesis.

Table 8: Fiscal Decentralization and Efficiency in Resource MobilizationDependent Variable: *ERM*: Efficiency in Revenue Mobilization (CPIA -18)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)	Expenditure Dec.(Fraction Subnational expenditures)	Revenue Dec. (Fraction Subnational revenues)	Federal Dummy
Fiscal Decentralization	-.03 (-.29)	.07 (.50)	.09 (.09)	.06 (.06)	
Federal Dummy					-.06 (-.19)
Log Income per Capita	.67 (3.61)	.66 (3.43)	.32 (2.5)	.32 (2.47)	.42 (3.78)
Openness to Trade	-.17e-2 (-.38)	-.28e-3 (-.06)	.42e-2 (1.42)	.42e-2 (1.42)	.4e-2 (1.49)
Freedom	-.09 (-.53)	-.19 (-.99)	.22 (1.45)	.22 (1.47)	.11 (.94)
Ethnic	.80 (1.38)	.78 (1.35)	-.44 (.78)	-.44 (-.78)	-.31 (-.79)
Origin Law English	.29 (.84)	.44 (1.17)	.54 (1.64)	.54 (1.64)	.42 (1.44)
Relig. Fraction Catholic	.36e-2 (1.13)	.49e-2 (1.34)	.98e-3 (.31)	.94e-3 (.31)	.56e-3 (.21)
LAC Dummy	-1.0 (-2.49)	-1.02 (-2.5)	.08 (.15)	.08 (.16)	.01 (.03)
AFR Dummy	-.60 (-1.28)	-.71 (-1.48)	-.25e-2 (-.00)	-.7e-2 (-.01)	-.03 (-.05)
EECA Dummy	-.24 (-.92)	-.29 (-1.07)	.17 (.64)	.17 (.65)	.1 (.54)
Constant	-1.15 (-.89)	-1.21 (-1.0)	.54 (.52)	.56 (.52)	.11 (.14)
N. Obs.	27	27	50	50	59
Adj. R Square	.54	.54	.47	.47	.48

White corrected *t*-statistics in parenthesis.

Table 9. Fiscal Decentralization and Prudent Use of Tax Monies

Dependent Variable: *TE*: Tax Effectiveness (World Markets Research Center) Rescaled as $TE' = 6 - TE$; where 5 represents the highest level of tax effectiveness and 1 the lowest.)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)			
Fiscal Decentralization	.08 (1.39)	.15 (2.28)			
Federal Dummy					
Log Income per Capita	.48 (7.36)	.49 (6.27)			
Openness to Trade	.26e-2 (.96)	.43 (1.37)			
Freedom	.19 (1.78)	.12 (1.08)			
Ethnic	.01 (.03)	-.14 (-.46)			
Origin Law English	.36 (2.19)	.53 (2.87)			
Relig. Fraction Catholic	.13e-2 (.66)	.16e-2 (.64)			
LAC Dummy	-.90 (-3.01)	-.77 (-2.85)			
AFR Dummy	-.11 (-.39)	-.12 (-.47)			
EECA Dummy	.64e-2 (.04)	-.04 (-.28)			
Constant	-1.11 (-2.35)	-1.70 (-4.02)			
N. Obs.	33	33			
Adj. R Square	.89	.90			

White corrected *t*-statistics in parenthesis.

Examining the effects of fiscal decentralization on Government Spending

Two indicators of government spending patterns were examined: i) total government spending, and ii) budget balance.

The effects of decentralization on *government spending* were examined by the following estimation:

$$(1) GS = \alpha + \beta_1 DEC + \beta_2 LINC + \beta_3 LP + \beta_4 URB + \beta_5 TR + u$$

$$(2) GS = \alpha + \beta_1 DEC + \beta_2 LINC + \beta_3 LP + \beta_4 TRADE + \beta_5 AREA + \beta_6 REG + u$$

where:

GS: Government Spending: Overall Government Expenditure as a percent of GDP.
Source: IMF-GFS.

LINC: Log of Initial Gross Domestic Product per capita.

LP: Log Total Population

URB: Fraction of population living in areas defined as urban.

TRANS: Transfer Percentage of State-local general revenues that comes from grants. Source: IMF-GFS.

Specification (1) draws on a specification used by Oates (1985)⁵ results are reported in table 8. Alternative variables used in specification (2) have been also used in empirical analysis of government size by Rodden (2003)⁶.

⁵ Oates, Wallace (1985) Searching for the Leviathan: An Empirical Study. *The American Economic Review*, 75 (4) 748-753.

⁶ Rodden, Jonathan (2003) Reviving the Leviathan: Fiscal Federalism and the Growth of Government. *International Organization* 57, Fall 2003, pp+ 695–729

Table 10. Fiscal Decentralization and Growth of Public Spending – Taming the Leviathan**Dependent Variable:** Consolidated public expenditures as a percent of GDP

	Qualitative Index (Principal Components)		Qualitative Index (Score Index)		Expenditure Dec.(Fraction Subnational expenditures)		Revenue Dec. (Fraction Subnational revenues)		Federal Dummy	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Fiscal Decentralization	-1.51 (-1.21)	-2.47 (-1.45)	.25 (.16)	.63 (.32)	-7.57 (-.94)	-17.5 * (-2.08)	-6.73 (-.87)	-16.48 * (-2.03)		
Federal Dummy									-7.46 * (-2.34)	-3.28 (-1.11)
Log Income per Capita	2.71 (1.46)	4.92 * (2.83)	1.26 (.8)	2.73 + (1.82)	3.92 ** (3.67)	4.95 ** (6.47)	3.90 ** (3.65)	4.91 ** (6.45)	4.40 ** (4.16)	4.0 ** (6.78)
Log Population	-1.7 * (-2.43)	-.87 (-.56)	-1.52 * (-2.12)	-1.52 (-.92)	-.85 (-1.19)	-.27 (-.31)	-.87 (-1.22)	-.24 (-.27)	-.22 (-.3)	-1.36 + (-1.77)
Urbanization	.16 (1.17)		.20 (1.54)		-.52e-2 (-.06)		-.65e-2 (-.08)		.89e-2 (.11)	
Transfers	15.63 * (2.24)		15.13 * (1.91)		7.10 (1.47)		7.25 (1.5)		5.32 (1.12)	
Openness to Trade		.02 (.32)		.02 (.26)		.03 (1.04)		.03 (1.02)		.03 (1.19)
Area (log square Km.)		-.29 (-.24)		.44 (.36)		.66 (.90)		.63 (.86)		.47 (.80)
LAC Dummy		-5.3 (-1.24)		-7.27 (-1.65)		-7.48 * (-2.02)		-7.55 * (-2.03)		-9.03** (-2.80)
AFR Dummy		3.27 (.49)		-1.52 (-.22)		3.35 (.73)		3.45 (.75)		1.03 (.29)
EECA Dummy		2.26 (.54)		.06 (.01)		6.71 * (2.48)		6.81 * (2.49)		2.49 (.97)
Constant	14.83 (1.0)	.70 (.02)	19.08 (1.27)	18.18 (.65)	9.31 (.70)	-15.85 (-1.05)	9.69 (.73)	-15.63 (-1.03)	-5.49 (-.38)	10.42 (.90)
N. Obs.	24	29	24	29	72	74	72	74	72	128
Adj. R Square	.60	.49	.58	.43	.38	.47	.38	.47	.42	.42

Quantities in parenthesis are the White corrected *t*-statistics. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

Budget Balance

$$(1) BB = \alpha + \beta_1 DEC + \beta_2 GDPG + \beta_3 P65 + \beta_4 INF + \beta_5 FD + \beta_6 DEV + \beta_7 PS + \beta_8 R + u$$

Where:

BB: Deficit/Surplus as a percent of GDP. Source: International Financial Statistics IMF

GDPG: GDP growth Average for years 1990-2000

OPEN: Openness to Trade

P65: Share of Population over 65

INF: Consumer Prices annual growth %

FINDEV: Financial market development level, 'financial depth': The ratio of liquid liabilities of the financial system to GDP. Liquid liabilities (M3) as % of GDP. Liquid liabilities are also known as broad money, or M3. They are the sum of currency and deposits in the central bank (M0), plus transferable deposits and electronic currency (M1), plus time and savings deposits, foreign currency transferable deposits, certificates of deposit, and securities repurchase agreements (M2), plus travelers checks, foreign currency time deposits, commercial paper, and shares of mutual funds or market funds held by residents.

PS: An index of Political Stability was constructed using principal components analysis of the following variables:

GW: Guerrilla Warfare (S17F3)

GC: Government Crisis (S17F4)

Rev: Revolution (S17F7)

Cd: Copus d'etat (S21F1)

MCh: Major constitutional changes (S21F2)

DEV: Development Dummy. Dummy equal to one for high income OECD and Non-OECD countries as defined by the World Bank Development Indicators country categories.

R: Regional Dummy Variables (LAC, EECA, AFR)

Different combination of variables varies for each of the decentralization variables tested, based on Adjusted R squares and F tests of significance.

Table 11. Fiscal Decentralization and Control over Deficits
 Dependent Variable: Budget Balance (Deficit/surplus) as a % of Expenditures

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)	Expenditure Dec.(Fraction Subnational expenditures)		Revenue Dec. (Fraction Subnational revenues)		Federal Dummy	
Fiscal Decentralization	-.45 (-.9)	-.77 (-1.03)	-4.21 (-1.83)	-4.08 (-1.75)	-4.60 * (-2.1)	-4.46 * (-2.01)	-1.01 + (-1.74)	-1.01 (-1.65)
Federal Dummy								
GDP Growth average 1990-2000	.27 * (2.08)	.22 * (2.38)	.27 (2.02)	.29 (2.14)	.27 * (2.04)	.3 * (2.14)	.21 * (2.24)	.20 * (2.04)
Percent Population over 65	.47 ** (3.06)	.50 ** (3.02)	.05 (.29)	-.02 (-1.87)	.05 (.33)	.06 (.37)	-.10 (-1.05)	-.14 (-1.25)
Log Initial GDP Per Capita			.29 (.73)	.16 (.42)	.27 (.67)	.14 (.37)	.69 * (2.6)	.79 * (2.27)
Inflation			-0.2 (-2.01)	-0.2 (-1.87)	-0.02 * (-2.04)	-0.02 + (-1.89)		
Financial Market Development			-.01 (-.72)	-.01 (-.81)	-.01 (-.67)	-.01 (-.76)		
LAC Dummy			-.15 (-.14)	-.06 (-.05)	-.1 (-.09)	-.01 (-.01)		
AFR Dummy			-2.46 (-1.64)	-2.56 (-1.65)	-2.42 (-1.6)	-2.52 (-1.6)		
EECA Dummy			-.12 (-.08)	-.27 (-.18)	-.04 (-.03)	-.2 (-.13)		
Development Dummy	-1.37 (-1.94)	-1.63 (-2.54)						
Political Stability	-.66 + (-1.94)	-.51 ** (-4.34)		-1.61 (-.91)		-.88		-.16 (-1.40)
Constant	-6.6 (-4.03)	-3.81 (-1.94)	-3.68 (-1.42)	-3.01 (-1.10)	-3.54 (-1.36)	-2.9 (-1.06)	-7.66 ** (-4.85)	-8.03 ** (-4.05)
N. Obs.	27	27	62	62	62	62	134	123
Adj. R Square	.26	.30	.23	.25	.25	.26	.12	.13

White corrected *t*-statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

Examining the effects of fiscal decentralization on debt management

$$(1) DGDP = \alpha + \beta_1 DEC + \beta_2 LINC + \beta_3 INF + \beta_4 PS + \beta_5 R + u$$

$$(2) MPD = \alpha + \beta_1 DEC + \beta_2 LINC + \beta_3 INF + \beta_4 PS + \beta_5 R + u$$

where:

DGDP: Total Debt to GDP ratio (IMF-GFS). 1990-2000 average of year values of the ratio total (national plus subnational) debt to GDP.

MPD: Management of Public Debt (External and Domestic) CPIA-3. The index takes into account existence and amount of any arrears; whether and how long the country has been current on debt service; the maturity structure of the debt; likelihood of reschedulings; future external debt service obligations in relation to export prospects and reserves, and future domestic debt service in relation to fiscal balances and GDP.

LINC: Log of Initial Gross Domestic Product per capita.

INF: Consumer Prices annual growth %

PS: An index of Political Stability was constructed using principal components analysis of the following variables:

GW: Guerrilla Warfare (S17F3)

GC: Government Crisis (S17F4)

Rev: Revolution (S17F7)

Cd: Copus d'etat (S21F1)

MCh: Major constitutional changes (S21F2)

R: Regional Dummy Variables (LAC, EECA, AFR)

Results for specification (1) are reported in table 8 and results for specification (2) are summarized in table 9.

Table 12. Fiscal Decentralization and Growth of Public Debt
 Dependent Variable: *DGDP*: Total Debt to GDP ratio (IMF-GFS)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)	Expenditure Dec.(Fraction Subnational expenditures)	Revenue Dec. (Fraction Subnational revenues)	Federal Dummy
Fiscal Decentralization	.02 (.24)	.03 (.56)	.60 + (2.02)	.59 + (2.0)	
Federal Dummy					.14 (1.25)
Log Income per Capita	.16 ** (3.19)	.16 ** (3.5)	.09 + (1.97)	.09 + (1.96)	.02 (.68)
Inflation	.01 (.65)	.01 (.58)	-.51e-2 + (-1.33)	-.51 (-1.32)	-.23e-3 (-.03)
Political Stability	.71 ** (3.51)	.71 ** (3.65)	.35 (1.79)	.35 (1.75)	.05 (.23)
LAC Dummy	-.15 (-.7)	-.15 (-.76)	-.21 (-1.38)	-.21 (-1.42)	-.28 * (-3.11)
AFR Dummy	-.07 (-.37)	-.08 (-.46)	-.06 (-.65)	-.06 (-.68)	.22 (.87)
EECA Dummy	.03 (.2)	.021 (.13)	.05 (.44)	.04 (.37)	-.03 (-.26)
Constant	-.72 + (-1.99)	-.83 * (-2.4)	-.26 (-.88)	-.28 (-.91)	.31 (1.29)
N. Obs.	23	23	55	55	84
Adj. R Square	.43	.44	.31	.31	.08

White corrected *t*-statistics in parenthesis. **, *, +, denote significance at the 1%, 5%, and 10% level respectively.

Table 13: Public Sector Management: Transparency and Accountability

Dependent Variable: Public Sector Management and Institutions (CPIA)

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)				
Fiscal Decentralization	.04 (.63)	.17 (1.45)				
Income per Capita	.98e-4 (1.02)	.1e-3 (1.1)				
Openness to Trade	.36e-2 (.86)	.6e-2 (1.39)				
Freedom	.11 (.81)	-.01 (-.09)				
Ethnic	-.07 (-.2)	-.22 (-.61)				
Origin Law English	.05 (.15)	.26 (.94)				
Relig. Fraction Catholic	.21e-2 (.89)	.33e-2 (1.25)				
LAC Dummy	-.43 (-1.54)	-.34 (-1.26)				
AFR Dummy						
EECA Dummy	-.29 (-1.62)	-.36 (-1.98)				
Constant	2.8 (6.32)	2.39 (6.52)				
N. Obs.	27	27				
Adj. R Square	.42	.48				

White corrected *t*-statistics in parenthesis.

Table 14: Fiscal Decentralization and Economic Growth

Dependent Variable: Growth Rate of Gross Domestic Product

	Qualitative Index (Principal Components)	Qualitative Index (Score Index)	Expenditure Dec. (Fraction Subnational expenditures)		Revenue Dec. (Fraction Subnational revenues)		Federal Dummy
			Lat year available	Average (1990-2000)	Lat year available	Average (1990-2000)	
Fiscal Decentralization	.16 (.44)	.77 (1.01)	-.59 (-.14)	.03 (.01)	1.43 (.30)	1.23 (.25)	
Federal Dummy							-1.34 (-1.28)
Initial Income per Capita	-.18 (-3.38)	-.16 (-3.11)	-.12e-3 (-2.36)	-.1e-3 (-2.04)	-.1 (-2.17)	-.1e-3 (-2.15)	-.8e-4 (-2.19)
Inflation (CPI)	-.19 (-1.8)	-.20 (-1.96)	-.27 (-1.94)	-.08 (-4.93)	-.08 (-4.98)	-.08 (-4.90)	-.2 (-.52)
Openness to Trade	.7e-2 (.43)	.74e-2 (.44)	.03 (2.07)	.03 (2.43)	.03 (2.30)	.03 (2.47)	-.03 (2.44)
Labor Force			5.9e-9 (1.95)	7.34e-9 (2.08)	6.54e-9 (1.81)	6.65e-9 (1.80)	9.31e-9 (4.34)
Latin America Dummy	-3.60 (-3.14)	-3.13 (-3.29)	-.25 (-.17)	-1.02 (-.51)	1.17 (-.57)	-1.14 (-.56)	-.8 (-.51)
Africa Dummy	-1.37 (-1.05)	-1.04 (-.93)	-2.78 (-1.52)	-2.92 (-1.64)	-2.92 (-1.69)	-2.92 (-1.67)	3.02 (1.93)
Eastern Europe Central Asia Dummy			1.91 (1.13)	2.69 (1.62)	2.63 (1.57)	2.61 (1.60)	1.51 (1.19)
Religion Fraction Catholic			-.8e-2 (-.53)	-.3e-2 (-.23)	-.3e-2 (-.21)	-.2e-2 (-.2)	-.4e-2 (-.36)
Latitude			-1.24 (-.30)	-3.22 (-.74)	-3.72 (-.82)	-3.61 (-.82)	1.07 (.36)
Legal Origin English			2.28 (1.88)	2.83 (2.32)	2.84 (2.32)	2.81 (2.32)	1.16 (1.33)
Constant	5.82 (4.3)	2.84 (1.16)	2.73 (1.19)	1.32 (.62)	1.07 (.49)	1.14 (.53)	.39 (.32)
N. Obs.	33	33	50	51	51	51	82
Adj. R Square	.53	.55	.48	.48	.48	.48	.31

White corrected *t*-statistics in parenthesis.