Fiscal Decentralisation and Macroeconomic Stability: The Experience of Large Developing and Transition Economies

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Abstract

Fiscal decentralisation involves re-assigning expenditure functions and revenue sources to lower tiers of government. Efficiency gains, reduction in operating costs, increased public sector performance in service delivery, and hence growth enhancement are the expected positive consequences of fiscal decentralisation. Loss of control over sub-national finances, and ensuing fiscal and monetary disarray at the centre are among its pitfalls. Despite the limitations of the methodology and data used here, the empirical results reported in this paper suggest that, unlike the OECD-country experience, fiscal decentralisation is likely to generate fiscal and monetary imbalances that might impair the growth performance of developing countries. This is of particular importance for macroeconomic stability of large developing and transition economies, such as Brazil, China, India, and Russia. The merits of fiscal decentralisation must be properly weighed against the risks involved in the devolution of spending power to sub-national governments.

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1 Introduction

The recent years have witnessed attempts of varying degrees of success to implement programmes of fiscal decentralisation and devolution of fiscal powers to lower levels of government in both OECD and non-OECD countries [see Blondal (1997) and World Bank (1997), for further details]. Fiscal decentralisation has been motivated by different reasons in different countries and the ensuing consequences in terms of macroeconomic stability and growth have also varied significantly from one country to another.

In the case of the OECD countries, fiscal decentralisation has been advocated on the grounds that central governments have been unable to meet adequately the increasing demand for public goods and services [Tanzi (1997)]. The argument is based on the principle of subsidiarity, in so far as the performance of the public sector can be enhanced by taking account of local differences in culture, environment, endowment of natural resources, and economic and social factors. In addition, local preferences and needs are believed to be best met by local, rather than national, governments, and accountability and allocative efficiency can be enhanced by bringing expenditure assignments closer to revenue sources and hence to the median voter.

Social choice arguments for fiscal decentralisation also find support in public finance. The aggravation of fiscal imbalances and debt-overhang problems have been associated with poor macroeconomic performance, high unemployment and sluggish output growth in a number of OECD countries in recent years. By diverting resources away from growth-enhancing activities to finance current fiscal imbalances and to service the national debt, the management of fiscal policy tends to depress private investment. As a result, fiscal decentralisation is expected to promote sound macroeconomic management through efforts towards streamlining public sector activities, reducing operational and informational costs in service delivery, and stimulating private sector development.

In the developing countries, reforming the fiscal system, including inter-governmental fiscal relations, has also become a crucial policy issue. The key policy challenge is to design and develop an appropriate system of public finance in order to provide local public services effectively and efficiently, while at the same time, maintaining macroeconomic stability[3]. The endeavour consists of giving new budgetary rights and responsibilities to sub-national governments and simultaneously promoting institutional clarity and transparency in budgeting so that spending matches resources at the sub-national level. How much fiscal decentralisation should there be? How should inter-governmental fiscal relations be managed to take into account, on the one hand, the growing need for local public goods and services and, on the other, the importance of preserving fiscal discipline[4].

[3] See, for example, Wildasin (1996) for a concise overview of problems of fiscal decentralisation and macroeconomic governance in a broader context.
[4] There is a large body of literature on this topic in the context of developing countries. As regards Asian developing countries, see, *inter alia*, Agarwala (1992), Asher (1989, 1992), Boadway, Roberts and Shah (1994), Crane (1995),

The interrelationship between fiscal decentralisation and macroeconomic governance is a very complex issue and deserves special attention in the context of developing countries[5]. There is growing recognition on the part of policy-makers and experts that fiscal decentralisation may aggravate fiscal imbalances and consequently endanger overall macroeconomic stability [Prud'homme (1995), Huther and Shah (1996), Ter-Minassian (1997)], unless sub-national governments are committed to fiscal discipline, and the decentralisation package includes incentives for prudence in debt and expenditure management. The imposition of stringent constraints on sub-national indebtedness and effective monitoring of sub-national fiscal positions are additional important elements in fiscal decentralisation. Successful fiscal decentralisation also depends to a large extent on the availability of expertise at the sub-national level and on the ability of sub-national governments to handle an increased volume of resources and to ensure effective expenditure management. Moreover, the devolution of revenue sources has to be matched by a proportional re-assignment of expenditure functions to sub-national governments and efforts to encourage revenue mobilisation at lower levels of government.

Given this background, the objective of this paper is to shed more light on the relationship between fiscal decentralisation and macroeconomic stability in selected developing countries, notably several large developing and transition economies, such as "Big Five" (Brazil, China, India, Indonesia, and Russia). By focusing on macroeconomic, rather than social choice or microeconomic, aspects of the issue, the paper highlights a number of pitfalls of fiscal decentralisation, as well as the relationship between fiscal decentralisation and output growth, on the one hand, and fiscal and monetary policies, on the other. The remainder of the paper is organised as follows. Section 2 analyses a number of fiscal indicators in a sample of developed and developing countries, with the aim to compare and contrast the extent of fiscal decentralisation in different economies and to highlight a few stylised facts. Section 3 deals more closely with the relationship between fiscal decentralisation and macroeconomic performance. Finally, Section 4 presents some concluding remarks and discusses their policy implications.

2 Public Finance Indicators: The Extent of Decentralisation

2.1 Government Size

It is not an easy task to make a cross-country comparison of the size and structure of government expenditures, given the limited availability of comparable financial data on the public sector, including all levels of

ESACP(1991), Kohli (1991), Laffont and Senik-Leygonie (1997), Ma (1995), Manasan (1990), Roy (1995), Shah and Qureshi (1994),Tanzi (1987, 1995), Tanzi and Shome (1992) and Xavier (1996). In the case of Latin America, useful references include Affonso (1996), de Mello (1997), Rezk (1997), Shah (1990, 1994).

[5] See Boadway, Roberts and Shah (1994) and Tanzi (1995).

government[6] and decentralised agencies under government control. This is particularly true in the case of developing and transition economies in which government-directed expenditures of public enterprises play an important role in economic activity. In the case of developing countries, it is even more difficult to grapple with the idea of an optimum size of government expenditures, since the provision of local public goods and services are in chronic shortage in most developing countries.

Some basic fiscal indicators are presented in Table 1 for a sample of 31 developing and OECD countries. A summary of data availability is provided in the Appendix (Table A). With respect to government relative size, in a number of Latin American countries, Table 1 reveals a trend since the 1980s in favour of fiscal decentralisation, measured as a reduction in the GDP share of central government spending and a corresponding increase in that of sub-national governments. This is particularly true in the cases of Argentina after 1986, Chile after 1981, and Brazil after 1989. The Brazilian experience with decentralisation is impressive, with a threefold increase in the average size of sub-national governments after 1989. In these three Latin American countries (Argentina, Brazil, and Chile), there was an improvement in the fiscal position of the central government, except for Brazil, where the deterioration of sub-national finances has put additional strain on the position of the central government [see Shah (1990, 1994) and de Mello (1997), for further details]. Although the size of its sub-national governments is considerably smaller than that of the other two countries, the Chilean experience stands out in controlling sub-national fiscal imbalances in the process of fiscal decentralisation. Moreover, unlike Argentina and Brazil, the Chilean experience was accompanied by an increase in the variance of the average government size, both nationally and sub-nationally, which suggests that the search for an optimum size of sub-national governments is far from complete.

Perhaps most striking from the international perspective is the fact that the average size of central government expenditures tends to be smaller in Asia than in Latin America and in several European member countries of OECD. The variance in government size over time also tends to be lower in Asia than in Latin America and in OECD member countries, particularly at the sub-national level. Among the latter group, the average size of central government expenditures in Belgium, Italy and the Netherlands is well above 40 per cent of GDP. Higher government expenditures in these European countries reflect a substantial expansion, notably in the 1960s and 70s, of the government role in providing a variety of public goods and services, including education, heath care, pensions and social security. Also, non-European Member countries of OECD (e.g., Australia, Canada, and the United States) tend to have much smaller central governments than their European counterparts. Based on historical experiences in OECD countries, Tanzi and Schuknecht (1997) argue that much of the potential social gains from government expenditures could have been realised with smaller governments, with total expenditures in the range of 30 to 40 per cent of GDP[7].

[6] The government can also affect private economic activities through non-financial measures, such as formal and informal regulations, including so-called administrative guidance. This makes international comparison even more difficult.
[7] This measure refers to the size of the consolidated public sector.

Table 1 also reveals that the fiscal system of East Asian economies are highly centralised. In spite of geographical diversity as an archipelago nation with population of over 190 million population, Indonesia's sub-national spending share in GDP is less than 3 per cent. The ratio is less than 2 per cent in the case of the Philippines, another archipelago nation. These ratios have also changed very little over time, given that one standard deviation from the mean ratio spans a range from 2.4 to 3.2 per cent in Indonesia and 1.4 to 1.8 per cent, in the Philippines. On the other hand, India is by far the most decentralised country in Asia, followed by Malaysia, and national and sub-national spending ratios have shown little variation over time. Nevertheless, even in Malaysia, which has a federal political system, the fiscal powers of the states are very limited [Asher (1989)]. The case of Thailand is particularly noteworthy: there was a remarkable improvement in the central government's fiscal position[8] after 1981, accompanied by a significant transfer of spending power away from sub-national governments to the central government. This process of centralisation goes against the general trend in the sample of countries under examination.

2.2 Fiscal Decentralisation Indicators

Turning from government size to alternative fiscal decentralisation indicators, a commonly used measure of decentralisation is the sub-national share (net of inter-governmental transfers) of total government spending (Table 2, column 7).

In Latin America, sub-national spending shares have increased significantly in Argentina, Brazil and Chile since the 1980s, and are in the neighbourhood of 40 per cent in Brazil and Argentina. Despite decentralisation efforts, Chile remains very centralised by the region's standards, with a sub-national share of less than 10 per cent of total government spending. Also, with the exception of India, sub-national spending shares are much lower, on average, in Asia than in Latin America, given the relative centralism of the former region. Sub-national spending shares have also shown smaller variance over time for most countries in Asia. In Thailand, in particular, fiscal centralisation has led to a sizeable fall in the sub-national spending share, as mentioned above. Turning to a different continent, in South Africa, a fall in the sub-national spending share was due to an increase in spending by the centre. In the case of the OECD countries, on average, sub-national spending shares are higher than in other regions under examination, and exhibit significant variation across countries[9], ranging from over 60 per cent of total government spending in Canada, to 12 per cent in Belgium. Canada and Spain have experienced the most drastic changes in average sub-national spending shares over time. In the case of Canada, one standard deviation from the mean spending ratio implies a range from 49 to 73 per cent. In large federations (Australia, Brazil, Germany, India, United States), average sub-national spending shares are in the neighbourhood of 40 per cent of total government spending.

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[8] More recently, fiscal consolidation at the centre was certainly facilitated by buoyant tax revenues associated with strong economic growth since the mid-1980s, but it also reflected the government efforts to curb both operational and development expenditures. (Robinson *et al.*, 1991).

[9] An increase in sub-national spending shares was particularly noticeable in Spain.

However, direct measures of fiscal decentralisation, such as sub-national spending shares, are imperfect indicators of sub-national autonomy. Relative shares highlight the composition of total spending, rather than autonomy of lower levels of government in actual fiscal policy-making and in terms of its impact on macroeconomic governance. For instance, if an increment in sub-national spending is financed through local resource mobilisation (increased local tax revenues, for instance) or met by spending cuts by the central government, no serious fiscal imbalances are expected to arise across government levels. Such imbalances tend to divert resources from the centre, which could finance the provision of goods and services. Inter-governmental imbalances are also likely to put pressure on inter-governmental fiscal relations, aggregate public finances and overall macroeconomic governance.

More importantly, a rise in sub-national spending is expected to increase sub-national dependency and put further strain on the finances of higher levels of government when it drives a wedge between resources mobilised locally and transferred from other levels of government. When additional sub-national spending is financed via inter-governmental transfers, fiscal decentralisation tends to be counter-productive. By driving a wedge between local spending and local resources, and between the costs and benefits of providing public goods and services locally, excessive reliance on inter-governmental transfers discourages resource mobilisation at the sub-national level, and reduces transparency in budget-making and accountability in expenditure management in sub-national jurisdictions.

Fiscal centralism may therefore be characterised *a priori* by the combination of low sub-national fiscal autonomy and high sub-national dependency on inter-governmental transfers. In this case, few local revenue sources are assigned to sub-national jurisdictions and the resources transferred from the centre to sub-national governments are sizeable. The centre is responsible for revenue mobilisation, both locally and nationally, and spending assignments in sub-national jurisdictions. As a result, sub-national policy-making may be limited in scope and state/local governments become agents of the centre’s spending functions.

In the light of the above argument, alternative indicators of fiscal decentralisation are reported in Table 2. Fiscal autonomy of sub-national governments is measured both as the share of tax revenue in the total revenue of sub-national governments (tax, non-tax and capital revenue net of grants) and as the share of non-tax revenue in total sub-national revenue (columns 1 and 3 of Table 2, respectively). Sub-national fiscal autonomy measures the ability of sub-national governments to finance spending in their jurisdictions through local revenue mobilisation. Limited ability to collect tax and non-tax revenue in sub-national jurisdictions implies high dependency ratios, measured as the share of inter-governmental transfers in total local revenue (column 5 of Table 2).

Figure 1 suggests that there is a stable relationship between sub-national fiscal autonomy and dependency. The vast majority of countries is clustered

along the downward slope of the scatter diagram. As suggested above, a downward move along the diagonal line indicates an increase in fiscal decentralisation. For the countries depicted in the upper half of Figure 1, centralism may, however, be primarily administrative or, more importantly, take the form of limited policy-making autonomy at the sub-national level.
Turning to country cases, in Latin America, the degree of fiscal autonomy at the sub-national level, measured as the share of taxes to total local revenue, is particularly low in Peru and has fallen dramatically in Chile, after 1981, despite significant fiscal decentralisation in the period, given the increase in the sub-national spending share (Table 2), and in the size of sub-national governments (Table 1). Given that decentralisation in Chile did not generate significant sub-national imbalances, an increase in sub-national spending was made possible by raising sub-national non-tax revenue (fees, sales, fines, etc.), instead of inter-governmental transfers and/or local tax revenue. In Brazil, on the other hand, the fall in the average sub-national tax revenue share after 1989 was partly offset by an increase in inter-governmental transfers. In this case, local revenue mobilisation was hardly encouraged by the system of transfers put in place, given the modest increase in the non-tax revenue share. In addition, an increase in the volume of compulsory ear-marked transfers have rendered the country's inter-governmental transfer system extremely rigid, thus creating considerable budgetary pressures at the centre. The remaining countries in the sample bar Colombia (Peru, Bolivia and Mexico), with comparable sub-national spending shares, differ significantly as to how sub-national spending is financed. In the case of Peru, emphasis is placed on inter-governmental transfers and non-tax revenue, whereas local tax revenue mobilisation prevails in Bolivia and Mexico. On the other hand, Colombia's sub-national spending share is higher than in the three countries above and sub-national financing is split more evenly between inter-governmental transfers and local tax revenue mobilisation.

In Asia, fiscal dependency and autonomy ratios vary widely from country to country reflecting significant differences in the relative importance of inter-governmental transfers as a revenue source of sub-national jurisdictions. One extreme case is Indonesia. Under a unitary fiscal system, dependency is extremely high; transfers from the centre to state governments are about five times their local tax revenue. Local governments have little administrative or judicial power, and thus rely heavily on financial transfers from the central government [Hill (1996)]. Malaysia represents another extreme case in the opposite direction in which financial transfers from the central government account for roughly 22 per cent of state governments' total revenues. The federal government of Malaysia takes a much larger burden of providing public services, such as primary education and health care, than the central government of three other ASEAN countries, Indonesia, the Philippines and Thailand. Finally, in the case of Thailand, the country's fiscal consolidation effort of the 1980s involved a significant reduction in the sub-national spending share in favour of the central government, as mentioned above. This process of fiscal centralisation also led to a drastic change in the composition of sub-national revenues from inter-governmental transfers towards local taxes, which reflected a move in favour of local revenue mobilisation.

In the OECD area, two basic groups of countries can be identified. In the first group, sub-national governments rely more heavily on tax revenue, while the second group depends primarily on inter-governmental transfers, as a source of income. The first group congregates most federations in the OECD area (Austria, Canada, Switzerland, Germany, United States), whereas the second group, where inter-governmental transfers predominate as a revenue source for sub-national governments, is made up almost exclusively of the European Member countries and Australia[10]. Local tax revenue tends to be in the neighbourhood of 50% of total revenue in the first group.

3 Fiscal Decentralisation and Macroeconomic Performance

3.1 Decentralisation and Fiscal Stance

An important question to be asked is whether fiscal decentralisation leads to a deterioration of sub-national finances and whether such deterioration affects negatively the fiscal position of the central government. Figure 2 shows a negative relationship between government size and fiscal stance, both at the central and at the sub-national levels. The figure supports the intuition that bigger governments tend to be less efficient and hence more prone to fiscal imbalances. On the other hand, as suggested by Figure 3 (Panel A), sub-national government size does not seem to contribute to the deterioration of central government fiscal imbalances. However, such conclusion cannot be inferred if attention is restricted to the sub-sample of developing countries, in which there is a strong negative correlation between sub-national government spending as a share of GDP and the fiscal position of the central government (Panel B)[11].

This negative correlation may be due to the fact that the transfer of spending assignments to sub-national governments has not been matched by an proportional reduction in the spending share of the centre in most countries in the sample. Alternatively, the transfer of revenue sources to sub-national governments, following the devolution of expenditure functions, may have deprived the centre of important income sources. In this respect, the revenue sources that are most efficiently used by the centre may have been transferred to lower tiers of government [Tanzi (1995)], thus generating imbalances at the centre[12]. Because fiscal devolution was carried out rather hastily in a number of countries in Latin America[13], sub-national fiscal imbalances may also be attributed to insufficient expertise building in local and state governments to handle larger resources and to deal effectively with expenditure management. OECD countries, on the other hand, tend to have

[10] Despite being part of a federation, Australian sub-national governments have low taxing power and receive most of their revenue through inter-governmental transfers.
[11] The negative relationship prevails even if the outliers are removed from the sample.
[12] This is precisely the case of VAT taxes in Brazil, which were devolved to middle-tier governments in the late 1980s [Afonso (1996), McLure (1997), de Mello (1997)].
[13] To a large extent, fiscal decentralisation in a number of Latin American countries was prompted by the return to democracy. Authoritarian governments had promoted fiscal centralisation and concentrated overall economic policy-making power in the central government. The gain in political power of sub-national jurisdictions represented in a freer legislature induced a process of fiscal devolution to lower levels of government.

larger average sub-national spending shares and lower fiscal imbalances than most countries in the developing country sample. This may result from more stringent control over sub-national finances or more efficient sharing of revenue sources and expenditure assignments.

Additional evidence of a negative relationship between fiscal decentralisation and the fiscal position of the public sector is provided in Table 3. The simple correlations reported in this table support the arguments above. In particular, a negative correlation was found between the central government's fiscal balance and the share of inter-governmental transfers in total local revenue in the sample of OECD countries. In the case of the relationship between sub-national spending shares and the central government's fiscal position, a negative correlation was found for the OECD sample and a positive correlation was found for the sample of developing countries. In the former, an increase in sub-national spending is hence associated with the removal of budgetary pressures at the central government level and improvement in the central government's fiscal stance, whereas the converse seems to be the case in developing countries.

If the sample of developing countries is disaggregated between Asian and Latin American countries, a strong negative and statistically significant correlation was found between sub-national fiscal autonomy, measured as the sub-national tax revenue share, and the fiscal balance in the Latin American sample (-0.56). The correlation is considerably higher than that for the total sample of developing countries (-0.28). As for sub-national dependency, a positive and statistically significant correlation between the share of inter-governmental transfers and the government's fiscal balance was found for the Asian sample (0.47). The correlation between fiscal stance and the sub-national spending share is also positive and statistically different from zero in Latin America (0.54). The findings might indicate that the bigger the sub-national government in developing countries, the worse the fiscal imbalances at the central government level, as suggested above, unless sub-national spending is financed through local revenue mobilisation. In the case of Thailand, the policy mix of the country's successful fiscal consolidation in the 1980s involved alleviating the budgetary pressures at the centre due to the system of inter-governmental transfers, stimulating local revenue mobilisation and reducing the size of sub-national spending.

3.2 Decentralisation and Monetary Policy

Given that fiscal decentralisation is likely to lead to a deterioration of the government's fiscal position in developing countries, it is also likely to have a bearing on monetary policy, depending on how fiscal imbalances are financed. In the case of sub-national governments, lenient market and/or institutional control over public finances may lead to insolvency problems at the sub-national level, which are frequently transferred to the Central Bank as lender of last resort. In the case of publicly-owned banks and financial institutions, for instance, dubious managerial practices[14] leads to financial

[14] Financial imprudence may be attributed to factors ranging from weak management and careless lending practices (accumulation of sizeable portfolios of non-performing loans, inadequate collaterisation, loan recovery difficulties,

distress and ultimately banking crises, the financial costs of which also tend to revert subsequently to the Central Bank. Depending on the degree of financial autonomy of sub-national governments, the same phenomenon can be observed at lower levels of government. However, Huther and Shah (1996) argue that decentralisation may foster central bank independence and ensure arm's length transactions between governments and the banking sector, by increasing transparency in the assignment of public sector functions, including that of the central bank. In this case, fiscal decentralisation may be conducive to monetary discipline.

With regard to deficit-financing alternatives, the correlation between inflation and fiscal imbalances is strong to the extent that fiscal deficits are financed through money creation. In the case of OECD countries, sub-national dependency, measured in terms of the share of inter-governmental transfers in the total revenue of sub-national governments, is negatively correlated with inflation and statistically different from zero at the 95 per cent level (Table 3). Sub-national dependency may therefore act as a constraint on sub-national spending and hence fiscal imbalances. Also, the sub-national spending share is negatively correlated with money creation in the OECD sample. By reducing budgetary pressures at the centre, a higher sub-national spending share also reduces the need for money creation to finance central government fiscal imbalances.

If the sample of developing countries is disaggregated, a rise in the sub-national spending share is likely to increase fiscal imbalances and to induce money creation in Latin America. The lack of monetary discipline is therefore likely to follow from the central government's fiscal imbalances, which are rooted in sub-national disequilibria. This is particularly true in the case of Brazil before the implementation of the stabilisation plan in June 1994. For the Asian sample, Table 3 reveals that sub-national dependency is positively correlated with the fiscal balance and monetary expansion (M2 growth). Sub-national autonomy (the share of tax revenue in total sub-national revenue) has a strong negative association with money creation and inflation in Asia, where local revenue mobilisation might remove the budgetary, and hence monetary, pressures created at the centre by the system of inter-governmental transfers. In Latin America, on the other hand, an increase in the sub-national spending share is likely to lead to fiscal and monetary imbalances at the centre. Overall, monetary imbalances tend to be caused by the need to finance unfunded transfers in East Asia's centralised systems of inter-governmental fiscal relations and by lack of control over sub-national spending in Latin America's relatively decentralised fiscal system. Both regions illustrate important channels through which fiscal decentralisation may translate itself into fiscal and monetary imbalances in developing countries.

3.3 Decentralisation and Growth

A positive relationship between public investment and growth has become a stylised fact in the growth literature [Ram (1986), Aschauer (1989), Barro

poor credit worthiness assessment, etc.) to the use of such institutions as agents of fiscal policy, and pernicious political interference with lending criteria.

(1990), Easterly and Rebelo (1993)][15]. However, in general, there is very little empirical research on the linkages between public finance, fiscal decentralisation and economic growth [see World Bank (1997), for further details]. Fiscal decentralisation is expected to affect growth positively by transferring spending power to the levels of government that are best equipped to meet local demands adequately, increase the efficiency of service delivery, and reduce operating costs. Accountability in expenditure management and allocative efficiency can be enhanced by bringing expenditure assignments closer to revenue sources and hence to the median voter. An overall increase in the efficiency of public sector spending is therefore expected to be growth-enhancing.

On the other hand, fiscal decentralisation may have a detrimental impact on growth, as suggested by the correlations presented in Table 3. A strong and statistically significant negative correlation between sub-national spending shares and GDP growth was found for the developing countries under examination (-0.80; and -0.77 and -0.91 for, respectively, Latin America and Asia, if the total sample of developing countries is disaggregated), when fiscal decentralisation is defined as the average ratio of sub-national spending to total government spending, while the correlation was found to be positive in the case of the OECD-country sample (0.33).

The negative correlation in the sample of developing countries can be attributed to a number of factors. First, as discussed above, tax instruments that are best used by the central government may be assigned to sub-national governments, whereby reducing the efficiency of such instruments. Second, fiscal decentralisation may be growth-reducing because sub-national governments may assign resources to expenditures that do not generate economy-wide growth-enhancing externalities. This is the case, for instance, when emphasis is placed on current rather than investment spending and when fiscal devolution is accompanied by an increase in the sub-national administrative machinery and local payroll costs [Devarajan *et al.* (1996)]. Even if emphasis is placed on capital spending, the investment component of public expenditure may turn out to be unproductive if financed by instruments that misallocate public spending. Third, growth reduction can also result from fiscal decentralisation if it increases uncertainty over tax policy[16] and leads to a mismatch between national and sub-national policy objectives.

Turning to additional empirical evidence of a negative relationship between fiscal decentralisation and growth, Davoodi and Zou (1997) analyse a sample of 46 countries over the period 1970-89 and conclude that fiscal decentralisation is growth-reducing in developing countries, but no causal link is found in the case of developed countries. Specific evidence for China is provided by Zhang and Zou (1997), who found a negative relationship between post-reform decentralisation and economic growth in a sample of

[15] See also Nagaraj, Varoudakis and Véganzonès (1997) for an interesting case study of India. Their panel-data analysis suggests that targeting public investment towards specific infrastructures - physical, economic and social - might improve regional, as well as nation-wide, growth prospects in India.

[16] See Aizenman and Marion (1993), for further details. Uncertainty also affects the government size. Rodrik (1996) suggests that government size increases with exposure to external risk, given the need to stabilise income fluctuations arising from outward orientation.

Chinese provinces. The particular case of China will be analysed in greater detail below. In the case of Brazil, de Mello (1997) relates changes in per capita growth rates across Brazilian states to changes in their degree of fiscal dependency, after controlling for other growth determinants and initial conditions. His findings suggest a negative impact of fiscal decentralisation on output growth in the case of Brazilian middle-tier governments and show that, on the one hand, state-level public investment is a powerful growth determinant and, on the other, the dependency of sub-national governments on higher levels of government via inter-government transfers clearly has a deleterious impact on growth.

Concerning other large developing countries, there is no direct evidence as to how fiscal decentralisation affects growth performance. A casual observation of Indonesia and India, however, suggests that the difference in a country's fiscal system may have an important bearing on growth performance in the medium term. In the case of Indonesia, the government since 1966 has adopted the "balanced budget" rule as the core principle of macroeconomic management. The Indonesian central government has been running fiscal deficits in a conventional economic sense but has managed to keep them within a small range. To be sure, the "balanced budget" rule can be maintained only because the items financing budget deficits, such as aid and external borrowings, are counted as a part of revenues. Nonetheless, this rule has served effectively to keep the lid on political pressures demanding an extravagant expansion of public expenditures (Hill 1996, pp. 59-60).

On the other hand, India's fiscal adjustment has been inadequate at both central and state levels. While the central government had managed to reduce its fiscal deficit from 8.4 per cent in 1985-89 to 6.7 per cent in 1990-94, the fiscal deficit of state governments had been slashed only marginally, despite the fact that the former can control the borrowing of the latter. In referring to the difficulty of fiscal adjustment in India, Joshi and Little (1996) states:

> "… India's fiscal problem is not insoluble. The extent of soft budgets and hidden subsidies is so large that the required adjustment could be achieved quite rapidly *without compromising efficiency and equity*. Of course, the political constraints are severe. But unless they are overcome, the reform process could grind to a halt. (p.43; *italics* are added.)"

Given the discussion above, it is important to note that the relationship between public finance indicators and macroeconomic performance in terms of fiscal and monetary policies and GDP growth is more complex than is often thought. Nevertheless, despite the limitations of the methodology and data used here, the results reported above suggest that fiscal decentralisation is likely to generate fiscal and monetary imbalances that impair the growth performance of the economy in the sample of developing countries. OECD countries are, however, better equipped to reap the benefits of fiscal decentralisation, while maintaining fiscal and monetary discipline, which appears to be conducive to higher output growth. Our results also imply that the gains from fiscal decentralisation may be grossly exaggerated in the case of developing countries, given the costs involved in the process of decentralisation.

3.4 Decentralisation and Macroeconomic Governance: China and Russia

The experiences of China and Russia are analysed separately here, given the particular characteristics of reform in centrally planned economies and the lack of sufficiently long time series for most of the variables used here. China's economic transition since the late 1970s provides a *unique* case of decentralisation experiments in which the fiscal system has fitfully evolved from one extreme of complete centralised control of fiscal powers in the 1950s to the other extreme of fiscal decentralisation until quite recently. In the case of Russia, fiscal decentralisation was promoted with a view to increasing overall allocative efficiency in the economy. It was hoped that sub-national governments would be able to trim operating costs and, as a result, generate funds to offset the unfunded spending responsibilities transferred to them by the central government [Wallich (1996)]. In fact, sub-national imbalances are lower in Russia than in most other countries with sub-national governments of comparable size. Sizeable imbalances are nevertheless evident in the case of the central government (Table 1).

In the case of China, open-door policy and decentralisation have been the two pillars of economic reform since late 1978[17]. In the Chinese context, "decentralisation" means devolving the power of decision-making from central to local governments, on the one hand, and from planning authorities to state-owned enterprises (SOEs), on the other. In the case of Russia, however, decentralisation also entailed significant public sector downsizing, through the privatisation of SOEs and the transfer of decision-making to the private sector. "Decentralisation" in China is, thus, conceptually different from "liberalisation" in Russia, since the latter implies the removal of government intervention in economic activity *at all levels*, though these two initiatives are often inter-linked in reality. What we have seen in China since the mid-1980s is the emergence of a "decentralised public-ownership economy", according to the terminology used by Fan (1996).

While decentralisation is a key to China's economic dynamism in the post-reform era, it has also brought about serious side effects, that is, making China "inflation-prone" as a result of persisting budget deficits and excessive monetary expansion at local levels[18]. Beijing was losing the control of public finance, as central budget revenue as a share of total government budgetary revenue fell from over 60 per cent in the 1970s to 37 per cent in 1993. At the same time, the total government budgetary revenue also dropped from 31 per cent of GDP in 1978 to about 12 per cent in 1994 (Fan 1996, p.2). In the case of Russia, revenue-sharing arrangements in the post-decentralisation period also led to a fall in the centre's revenues. Revenue sources were devolved to lower levels of government as well as tax collection functions, and funds to be

[17] See Fukasaku and Wall (1994) for a detailed account of China's open-economy reform.

[18] The past two years have seen a successful 'soft-landing' of the Chinese economy with a substantial fall in inflation without disrupting growth. Whether China can sustain stable - but high - rates of growth with low inflation is, however, a matter of debate. This depends crucially on reforms of SOEs and the banking sector in the future.

transferred to the centre were "shared upwards". Lack of transparency in revenue sharing encourages free-riding on the part of sub-national governments, since they seek to take advantage of fiscal powers granted to them without much helping to fund central budget revenues. As is evident from Table 2, emphasis is placed on local taxes as the main revenue source of sub-national governments in Russia, which is in sharp contrast with many developing countries in the sample and, particularly, with large decentralised federations, where inter-governmental transfers are an important revenue source for sub-national governments.

Institutional encouragement to free-riding is also found in the case of Chinese provincial/local governments [Laffont and Senik-Leygonie (1997)][19]. An additional complicating factor in the country's fiscal decentralisation policy is the central government's insufficient access to information on local SOEs. The upshot of fiscal decentralisation in China, as well as Russia, was thus a sharp decline of financial resources the central government can control and manage. In China, it has been argued that the decline of the central government in collecting taxes and allocating financial resources has seriously damaged its ability to redress regional disparity between wealthier coastal provinces and poorer interior provinces[20]. As a result, the central government has been undertaking a new step to increase its share of central budget revenue by *recentralising* resources[21]. However, doubts have been raised over the effectiveness of fiscal recentralisation because of the power struggle between the different levels of government (Laffont and Senik-Leygonie 1997, p.65).

Finally, the movement towards fiscal recentralisation also fails to recognise the new development of local economies and the responsibility for local governments to provide public goods and services to local communities. Fan (1996) points to the increasing importance of "non-standard" revenues in local economies -- he also calls them "extra-extra-budgetary revenues", since these funds are not recorded on official books. These are "funds raised from local sources by local governments and spent on local projects or used to cover local government current expenditures". While the whole scale of "non-standard" revenues has yet to be grasped, some sample surveys show that these funds account for an important share of local government revenues.[22] It has been argued that the growing demand for fiscal autonomy on the part of

[19] The "free-rider" behaviour of provincial/local governments is encouraged by the "taxation practice" that is often referred to as "whipping the fast buffaloes" in Chinese: the fast buffaloes (the fast-growing provinces) tend to be whipped (taxed) most, in other words, the better they perform, the worse they are treated (Laffont and Senik-Leygonie 1997, p.51).

[20] For example, a recent paper by Jian, Sachs and Warner (1995) shows that regional incomes in China have begun to diverge since 1990 following the convergent trend which was observed between 1978 and 1989. They argue that regional convergence in the 1980s was associated with rural reforms and was particularly strong within the coastal regions as a result of foreign trade and investment liberalisation. However, they also argue that the tendency for divergence since 1990 will probably continue between fast-growing coastal provinces and poorer interior provinces if current policies remain unchanged.

[21] Under the new revenue-sharing system announced in 1994, the central government is taking over the administrative function of collecting shared taxes and obtaining a larger share of tax revenues; for example, 75 per cent of value-added tax now goes to the central government, which can decide how much should be transferred to local governments. Ma (1995) also argues that the 1994 revenue-sharing system still suffers from weak institutional arrangements regarding the division of tax bases between central and local governments, which is based on the ownership of SOEs.

[22] According to Fan (1995), the relative importance of "non-standard" revenues varies widely across provinces and townships, for example, from more than 90 per cent of total revenue in some township of Guangdong to about 40 per cent of that of Hunan province.

provinces and municipalities has much bearing on the issue of local democracy as well as on the problem of corruption [Fan (1996)].

In short, recent fiscal developments at the local level pose a fundamental question about macroeconomic governance in China. That is the apparent conflict of interests between different levels of government over the control of financial resources in an extremely decentralised economy. How to design inter-governmental fiscal transfers still remains an open question in China. In Russia, on the other hand, drastic changes in inter-governmental fiscal relations are part of a broader reform package which involves significant changes in the role of the State in the economy, divestiture of public enterprises, comprehensive deregulation and trade and investment liberalisation. In this respect, consolidating the recent improvement in the country's macroeconomic performance depends, to a large extent, on the removal of sub-national budgetary pressures, given their negative impact on public finances at the central government level. More importantly, fiscal adjustment and the alleviation of budgetary pressures at the centre cannot be achieved by simply transferring unfunded spending responsibilities to sub-national governments, and thereby changing the composition of fiscal imbalances in favour of the central government.

4 Concluding Remarks and Policy Implications

Many different countries, both developed and developing, have implemented public sector reform programmes with different degrees of success. An important aspect of such programmes has been the decentralisation of fiscal policy-making to lower levels of government. Fiscal decentralisation consists of re-assigning expenditure functions and revenue sources to lower tiers of government with a view to decentralising fiscal policy-making and implementation across government levels. Efficiency gains, reduction in operating costs, increased public sector performance in service delivery, and growth enhancement are the expected positive consequences of fiscal decentralisation. Loss of control over sub-national finances, and ensuing fiscal and monetary disarray at the centre are among its pitfalls.

By focusing on the three broad groups of countries examined above, this paper highlights a few glaring contrasts. First, in the case of developing countries, fiscal decentralisation is likely to generate imbalances at the sub-national level which may lead to a deterioration of the fiscal position of the central government. As a result, the growth performance of these economies may be negatively affected. Second, the OECD countries have nevertheless had higher sub-national spending shares for a much longer span of time than most developing countries examined here, without significant fiscal imbalances at the centre. In these countries, more stringent control of sub-national finances is believed to have prevented the deterioration of national and sub-national fiscal positions due to decentralisation. OECD countries are therefore believed to be better equipped to reap the benefits of fiscal decentralisation in terms of growth, while maintaining fiscal and monetary discipline, at the same time.

Third, in the particular case of large developing and transition economies, Brazil has gone a long way in fiscal decentralisation, by raising sub-national spending ratios substantially, devolving revenue sources and expenditure functions to sub-national jurisdictions and granting significant autonomy in policy-making at the sub-national level. On the other hand, local revenue mobilisation has hardly been encouraged by the country's system of inter-governmental transfers. India has a long tradition of fiscal decentralisation, unlike most other Asian countries, which have in general been more centralist in fiscal policy-making and implementation. Fiscal centralism is exercised in Indonesia by concentrating revenue mobilisation under the control of the central government and financing sub-national expenditure functions via inter-governmental transfers. The recent experiences with decentralisation in China and Russia suggest that inflation follows from lax monetary policy in the case where fiscal imbalances are financed via money creation.

Overall, evidence reported here provides empirical support for the basic theoretical predictions of the fiscal federalism literature and indicates that the merits of fiscal decentralisation have to be weighed against the risks involved in increasing sub-national spending power at the expense of higher levels of government. This is likely to increase the dependency of sub-national jurisdictions, to reduce their fiscal autonomy, to increase their indebtedness, and to put pressure on sub-national finances and ultimately on good governance at the national level. As a corollary, our results also suggest that imposing fiscal discipline at sub-national levels of government, by market forces or institutional design, is a crucial pre-requisite for successful decentralisation.

Policy implications can be summarised as follows. First, the devolution of expenditure functions should be matched by sensible re-assignment of revenue sources across government levels, without depriving the centre of income sources and the tax instruments which it is best equipped to use more efficiently. Transferring taxes with broad tax bases to sub-national governments severely reduces their efficiency and deprives the centre of important short-run demand management instruments. Second, intergovernmental transfer systems should be designed to impose some control of the centre over sub-national spending and to encourage revenue mobilisation at the local level, without creating extra budgetary pressures at the centre. Monetary imbalances and macroeconomic governance problems are expected to follow, if fiscal decentralisation starves the centre of revenue sources and imposes a rigid system of inter-governmental transfers. Third, avoiding monetary laxity in the presence of sub-national fiscal imbalances helps to insulate the central government from disarray in sub-national finances, thereby preserving overall macroeconomic stability.

Table 1: Public Finance Indicators

Country	*Consolidated Central Government*				*Sub-national Governments*			
	Government Size		Overall Balance		Government Size		Overall Balance	
	Avrg.	St. Dev.	**Avrg.**	St. Dev.	**Avrg.**	St. Dev.	**Avrg.**	St. Dev.
Argentina 1 (1974-85)	**16.1**	2.7	**-5.3**	2.5	**8.1**	1.5	**-2.9**	1.5
Argentina 2 (1986-92)	**12.2**	2.5	**-1.0**	1.3	**9.0**	0.6	**-2.8**	2.1
Bolivia	**16.0**	5.7	**-4.4**	8.1	**3.4**	1.5	**-0.1**	0.3
Brazil 1 (1983-89)	**36.3**	15.1	**-3.8**	2.4	**5.7**	3.5	**-0.7**	0.5
Brazil 2 (1990-93)	**32.5**	5.6	**-5.0**	3.7	**19.0**	0.5	**-2.5**	0.5
Chile 1 (1974-80)	**32.8**	4.4	**-1.6**	5.8	**1.0**	0.2	**0.0**	0.1
Chile 2 (1981-88)	**25.2**	5.3	**0.5**	2.2	**2.6**	0.6	**-0.2**	0.4
Colombia	**13.2**	1.5	**-1.2**	2.1	**5.2**	0.9	**0.1**	0.3
Mexico	**19.4**	5.8	**-5.0**	2.3	**3.3**	0.7	**-0.3**	1.3
Peru	**16.9**	2.1	**-3.2**	2.2	**3.5**	0.9	**0.0**	0.1
India	**15.0**	2.3	**-6.3**	1.7	**12.4**	1.8	**-2.7**	0.6
Indonesia	**20.1**	2.5	**-1.7**	1.6	**2.8**	0.4	**0.0**	0.1
Malaysia	**28.1**	4.0	**-5.3**	5.0	**6.2**	0.9	**-0.8**	0.9
Philippines	**13.8**	4.2	**-1.9**	1.4	**1.6**	0.2	**0.1**	0.1
Thailand 1 (1972-80)	**15.5**	1.5	**-2.9**	1.7	**3.6**	0.6	**0.1**	0.0
Thailand 2 (1981-94)	**17.2**	2.3	**-0.7**	3.8	**1.5**	0.4	**0.1**	0.1
S. Africa 1 (1977-83)	**24.0**	2.7	**-4.6**	1.3	**9.9**	0.6	**-0.9**	0.2
S. Africa 2 (1984-93)	**32.3**	2.6	**-5.6**	2.7	**9.9**	3.7	**-0.4**	0.3
Russia	**25.9**		**-7.6**		**16.2**		**-0.1**	
Australia	**24.8**	3.1	**-1.6**	1.8	**17.1**	2.3	**-1.0**	0.8
Austria	**36.9**	3.9	**-3.8**	1.7	**16.4**	1.6	**-0.5**	0.5
Belgium	**48.5**	6.0	**-7.0**	3.2	**7.1**	0.9	**-0.6**	0.7
Canada	**22.5**	2.1	**-3.2**	2.1	**30.1**	2.7	**-2.2**	1.2
Denmark	**38.4**	4.5	**-0.7**	3.2	**31.7**	2.7	**-0.1**	0.6
Finland	**31.1**	5.9	**-2.6**	4.7	**18.2**	2.4	**-0.1**	0.4
France	**41.1**	4.6	**-2.3**	1.9	**8.3**	1.1	**-0.6**	0.3
Germany	**29.7**	3.0	**-1.4**	1.2	**22.1**	1.4	**-1.4**	0.6
Iceland	**29.5**	3.0	**-3.2**	1.3	**8.0**	2.2	**-0.1**	0.4
Italy	**42.8**	7.3	**-11.2**	1.9	**11.1**	3.4	**-1.0**	0.6
Netherlands	**52.4**	4.4	**-3.7**	2.3	**17.9**	1.3	**-0.9**	1.0
Norway 1 (1972-78)	**36.6**	2.3	**-4.1**	2.6	**22.7**	1.4	**-1.4**	0.4
Norway 2 (1979-94)	**39.8**	2.0	**-0.3**	3.0	**18.8**	1.1	**-0.9**	0.8
Spain 1 (1980-89)	**26.2**	5.9	**-3.3**	2.3	**7.9**	2.8	**-0.4**	0.3
Spain 2 (1990-93)	**28.8**	16.2	**-3.6**	2.5	**12.6**	6.9	**-1.1**	0.8
Sweden	**38.8**	7.3	**-4.6**	4.4	**24.6**	1.8	**-0.8**	0.9
Switzerland	**18.4**	2.8	**0.0**	0.5	**16.2**	8.7	**-0.6**	0.7
U. Kingdom	**37.7**	3.4	**-3.2**	2.6	**13.4**	1.2	**-0.7**	1.1
U. States	**22.1**	1.8	**-3.2**	1.4	**17.5**	1.0	**0.9**	0.4

Note: Government size is defined as the share of total government spending to GDP. Overall balance is the public sector balance as a share of GDP. Countries for which a sizeable discrepancy (over 5 percentage points) in the share of sub-national spending to total public sector spending was observable are presented in two sub-samples.

Table 2: Inter-Governmental Fiscal Indicators

	Sub-national Fiscal Autonomy				*Sub-national Fiscal Dependency*		*Sub-national Spending Share*	
	Tax Autonomy		*Non-Tax Autonomy*					
	Avrg.	*St. Dev.*	***Avrg.***	*St. Dev.*	***Avrg.***	*St. Dev.*	***Avrg.***	*St. Dev.*
Argentina 1	**82.2**	6.8	**17.6**	6.4	**n.a.**		**33.4**	3.2
Argentina 2	**83.3**	12.1	**15.9**	11.4	**n.a.**		**42.7**	4.0
Bolivia	**52.6**	13.8	**35.1**	12.2	**6.8**	4.4	**17.0**	4.6
Brazil 1	**54.8**	4.4	**13.0**	4.0	**31.7**	2.1	**31.7**	2.2
Brazil 2	**48.3**	3.8	**15.9**	3.6	**34.4**	2.1	**37.3**	3.8
Chile 1	**40.7**	8.1	**15.9**	3.6	**43.1**	9.9	**3.2**	0.7
Chile 2	**32.1**	2.7	**36.7**	9.0	**30.1**	8.2	**8.0**	1.0
Colombia	**39.7**	5.0	**8.6**	1.9	**47.8**	4.5	**28.1**	1.8
Mexico	**78.2**	5.6	**15.9**	5.2	**6.0**	4.4	**16.1**	5.8
Peru	**8.7**	2.1	**17.7**	3.3	**72.5**	3.7	**17.7**	4.2
India	**45.8**	1.3	**11.6**	1.3	**42.5**	2.0	**45.4**	1.3
Indonesia	**15.4**	3.2	**5.9**	1.0	**78.7**	3.7	**11.7**	1.5
Malaysia	**n.a.**		**n.a.**		**21.7**	3.9	**18.0**	1.8
Philippines	**35.1**	4.0	**25.2**	3.4	**35.1**	4.0	**10.1**	2.3
Thailand 1	**23.3**	2.8	**5.1**	1.1	**71.5**	3.2	**19.1**	3.2
Thailand 2	**53.5**	13.3	**9.5**	1.7	**35.6**	14.9	**7.9**	1.8
South Africa 1	**16.3**	1.2	**30.9**	2.1	**49.4**	1.1	**28.5**	1.9
South Africa 2	**16.5**	3.6	**25.8**	5.9	**55.7**	8.8	**21.8**	4.5
Russia	**75.0**		**7.7**		**17.3**		**38.4**	
Australia	**32.8**	2.3	**17.5**	3.1	**47.4**	5.0	**40.7**	1.0
Austria	**52.0**	4.0	**20.7**	1.6	**26.3**	3.5	**30.8**	0.9
Belgium	**33.7**	2.8	**7.7**	1.1	**58.6**	3.3	**12.0**	1.1
Canada	**56.1**	4.2	**14.1**	0.8	**28.6**	2.9	**61.0**	12.2
Denmark	**42.9**	3.5	**8.1**	0.6	**47.3**	3.7	**45.3**	1.8
Finland	**47.7**	2.8	**17.1**	2.0	**31.0**	3.3	**39.3**	0.8
France	**42.7**	4.5	**18.5**	2.0	**39.3**	5.6	**17.9**	5.4
Germany	**54.4**	2.5	**21.5**	1.2	**23.1**	2.2	**42.7**	1.9
Iceland	**82.3**	12.3	**13.4**	7.7	**6.7**	0.7	**21.2**	5.3
Italy	**13.2**	7.3	**8.5**	1.3	**77.3**	6.3	**20.6**	2.2
Netherlands	**6.7**	2.4	**13.4**	5.2	**78.5**	5.4	**57.2**	0.4
Norway 1	**46.8**	0.8	**n.a.**		**19.6**	4.7	**38.7**	0.4
Norway 2	**48.1**	4.2	**11.9**	3.9	**39.1**	1.1	**32.1**	0.6
Spain 1	**48.4**	15.1	**15.5**	4.3	**35.1**	18.3	**19.5**	4.7
Spain 2	**31.0**	1.4	**8.5**	0.7	**51.2**	18.3	**38.0**	17.0
Sweden	**58.6**	1.9	**17.3**	15.8	**24.6**	1.9	**39.4**	3.7
Switzerland	**54.6**	1.2	**21.4**	2.2	**23.3**	1.6	**54.4**	2.2
United Kingdom	**25.5**	15.7	**17.3**	3.1	**53.1**	4.4	**26.0**	2.6
United States	**48.2**	1.7	**23.0**	1.9	**31.1**	2.6	**44.1**	1.9

Note: Tax and non-tax autonomy indicators are defined as, respectively, the ratios of sub-national tax and non-tax revenue to total sub-national revenue (tax, non-tax, inter-governmental transfers, and capital revenue net of grants). Sub-national dependency is the share of inter-governmental transfers to sub-national governments in total revenue. Sub-national spending share is the ratio of sub-national spending to total government spending. In the case of Argentina, tax and non-tax revenue figures include inter-governmental transfers.

Table 3: Macroeconomic and Fiscal Indicators:

Simple Correlations

	Central Gov. Fiscal Balance	*Inflation*	*M2 Growth*	*GDP Growth*
Sub-nat. tax autonomy ratio				
All	0.05	0.15	0.16	-0.13
	(0.28)	(0.93)	(0.98)	(-0.78)
OECD	-0.02	-0.48	-0.30	0.17
	(-0.10)	(-2.25)+	(-1.30)+	(0.69)
All developing	-0.28	0.22	0.24	-0.23
	(-1.21)	(0.95)	(1.01)	(-0.99)
Latin	-0.56	-0.03	-0.02	-0.21
	(-1.91)+	(-0.10)	(-0.15)	(-0.60)
Asia	-0.24	-0.61	-0.76	-0.13
	(-1.51)	(-4.76)**	(-3.35)+	(-0.81)
Sub-national dependency ratio				
All	0.17	-0.23	0.36	-0.16
	(1.03)	(-1.42)	(2.33)**	(-0.96)
OECD	-0.33	-0.56	-0.28	-0.23
	(-1.42)+	(-2.79)**	(-1.18)	(-0.96)
All developing	0.09	-0.26	0.30	-0.29
	(0.38)	(-1.09)	(1.28)	(-1.23)
Latin	-0.03	-0.50	0.13	-0.48
	(-0.08)	(-1.63)+	(0.81)	(-1.55)+
Asia	0.47	0.33	0.78	0.21
	(3.29)**	(2.19)	(3.53)**	(1.31)
Sub-national Spending Share				
All	0.02	-0.42	-0.19	-0.16
	(0.15)	(-2.75)*	(-1.14)	(-0.98)
OECD	-0.39	-0.25	-0.38	0.33
	(-1.75)+	(-1.07)	(-1.70)+	(1.46)+
All developing	0.40	-0.35	0.14	-0.80
	(1.82)+	(-1.56)+	(0.60)	(-5.48)*
Latin	0.54	-0.32	0.33	-0.77
	(1.80)+	(-0.96)	(2.14)+	(-3.46)*
Asia	-0.10	-0.40	-0.28	-0.91
	(-0.64)	(-2.66)+	(-0.81)	(-13.45)*

Note: Simple correlations are constructed from period averages using the indicators in Table 2. M2 growth, inflation, and GDP growth rates are available from the IFS dataset, IMF. The numbers in parentheses are two-tail *t*-statistics of the null hypothesis of zero correlation. (*), (**), and (+) denote statistical significance at the 1, 5, and 10 per cent levels, respectively.

Appendix

Table A: Sample Summary

	Central Gov. Size	Central Gov. Balance	Sub-nat. Gov. Size	Sub-nat. Gov. Balance	Sub-national Fiscal Autonomy		Sub-national Fiscal Dep.	Sub-national Spend. Share
					Tax Autonomy	Non-Tax Autonomy		
Argentina	1974-92	1974-92	1974-92	1974-92	1976-92	1975-92	n.a.	1974-92
Bolivia	1973-84 and 1986-95	1973-84 and 1986-95	1984-95	1985-95	1985-95	1985-95	1985-96	1984-95
Brazil	1980-93	1975-93	1983-93	1983-93	1983-93	1983-93	1983-93	1983-93
Chile	1971-88	1972-95	1974-88	1975-88	1974-88	1974-88	1974-88	1974-88
Colombia	1971-93	1971-93	1974-86	1974-86	1975-86	1974-86	1974-86	1974-86
Mexico	1972-94	1972-94	1970-94	1971-94	1972-93	1972-93	1973-93	1972-94
Peru	1973-95	1973-95	1990-95	1990-95	1990-95	1990-95	1990-95	1990-95
India	1974-95	1974-95	1974-93	1974-93	1974-93	1974-93	1974-93	1974-93
Indonesia	1972-94	1972-94	1975-93	1975-93	1975-93	1975-93	1975-93	1975-93
Malaysia	1972-94	1972-94	1972-94	1972-94	n.a.	n.a.	1972-96	1972-96
Philippines	1972-93	1972-94	1978-92	1978-92	1978-92	1978-92	1978-92	1978-92
Thailand	1972-94	1972-95	1971-95	1972-95	1972-95	1972-95	1972-96	1972-95
South Africa	1972-95	1972-95	1977-95	1977-95	1977-95	1977-95	1977-95	1977-94
Russia	1994-95	1994-95	1994-95	1994-95	1994-95	1994-95	1994-95	1994-95
Australia	1970-95	1970-95	1970-95	1970-95	1970-95	1970-95	1970-95	1970-95
Austria	1970-94	1970-94	1970-94	1970-94	1970-94	1970-94	1970-94	1970-94
Belgium	1970-94	1970-94	1978-94	1978-94	1978-94	1978-94	1978-94	1978-94
Canada	1974-94	1974-95	1971-94	1971-83	1971-94	1979-94	1971-94	1971-94
Denmark	1970-95	1970-95	1970-95	1977-95	1970-95	1970-95	1970-95	1970-95
Finland	1972-94	1972-94	1970-90	1970-90	1970-90	1970-90	1970-90	1972-90
France	1972-95	1972-95	1972-95	1972-95	1972-95	1978-95	1972-96	1972-96
Germany	1970-95	1970-95	1970-95	1970-95	1970-95	1974-95	1970-95	1970-95
Iceland	1972-95	1972-95	1972-93	1972-85	1972-85	1972-85	1983-85	1972-93
Italy	1973-94	1973-94	1973-85 and 1985-89	1973-85 and 1985-89	1973-75 and 1985-89	1985-89	1973-75 and 1985-89	1973-75 and 1985-89
Netherlands	1975-95	1975-95	1975-95	1975-95	1975-95	1975-95	1975-95	1975-95
Norway	1972-94	1972-94	1970-94	1970-94	1970-77 and 1980-94	1980-94	1970-94	1972-94
Spain	1970-93	1970-94	1980-94	1980-94	1980-93	1980-93	1980-94	1980-94
Sweden	1970-95	1970-95	1970-94	1970-95	1970-94	1970-94	1970-94	1970-94
Switzerland	1970-84	1970-84	1970-94	1970-84	1970-84	1970-84	1970-84	1970-84
Ut. Kingdom	1970-95	1970-95	1973-95	1970-96	1970-95	1973-95	1970-95	1970-95
Ut. States	1972-96	1972-96	1972-94	1972-95	1972-94	1980-94	1972-94	1972-94

Note: Data source is the IMF's GFS dataset.

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