

## Fiscal Decentralization and Economic Development: A Cross-Country Empirical Study

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### Abstract

This study examines the relationship between fiscal decentralization and economic development by using a pooled data set of thirty-four countries from the period 1979 to 1999. There are four hypotheses tested in this study. First, fiscal decentralization allows better efficiency of resource allocation and thus leads to higher economic growth. Second, fiscal decentralization leads to a better public service delivery. Third, fiscal decentralization brings macroeconomic instability. Lastly, fiscal decentralization leads to a more efficient bureaucracy and thus less corruption.

The results show a negative but insignificant relationship between the growth of real per capita GDP and the level of fiscal decentralization. Therefore, no definite conclusion can be drawn in answering the hypothesis whether fiscal decentralization will bring more efficient resource allocation and thus lead to higher economic growth. In terms of the improvement in public service delivery, the results show that fiscal decentralization is negatively and significantly associated. This finding is in contradiction with the argument that lower levels of government tend to work closer with the peoples and therefore, they can provide better public service ( Oates, 1972 )

In terms of macroeconomic stability, the results show that fiscal decentralization policy may not endanger macroeconomic stability. However, since such a relationship is considered insignificant, there is no definite conclusion that can be drawn. Lastly, the study has also proven that fiscal decentralization leads to lower corruption in the government. This result is in accordance with the findings of Fisman and Gatti ( 2002 ) who suggested that similar tendency. This is quite different with the mainstream view that suggests corruption is more prevalent at the local level.

### I. Introduction

Started around the 1980's, the issue of decentralization has been one of the leading issues in the economic field. All over the world, there are growing tendencies of the central government<sup>1</sup> to decentralize some of its authority to the "sub-national" governments<sup>2</sup> or even to the private sector. Virtually, all nations ( regardless Federal or otherwise ) have more than one tier of government ( Boadway, 2001 ) and thus require a mechanism for inter-governmental fiscal transfer.

Decentralization itself is a very complex phenomenon ( World Bank, 1998 ). The decision to

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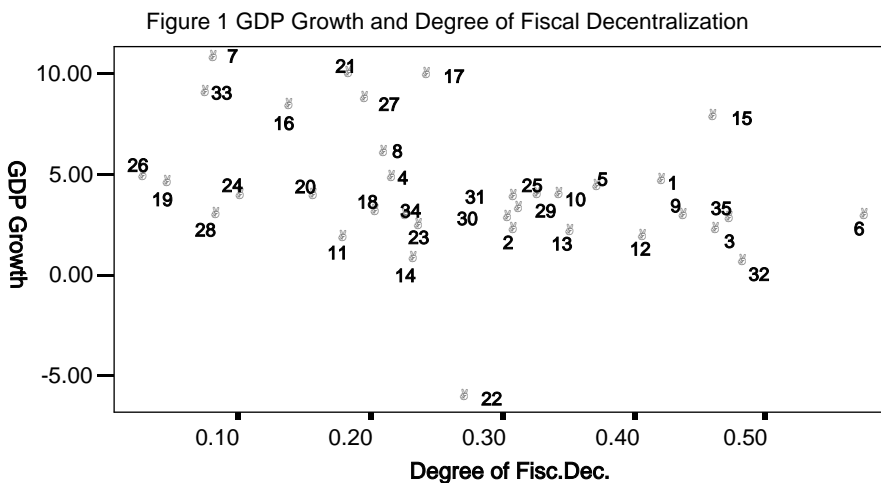
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decentralize will involve not only administrative and political considerations but economic decisions as well. Therefore, this phenomenon can be viewed from many different perspectives, and, consequently, it is almost impossible to determine a single definition regarding decentralization. This is simply because decentralization comes in many dimensions that reflect the origin or the source of need for the dissemination of authority.

Based on this understanding of decentralization, there are several types that need discussion such as administrative decentralization, political decentralization and fiscal decentralization. The last becomes very important, because the previous two cannot be implemented without the presence of fiscal decentralization. Therefore, this paper will focus on fiscal decentralization because of its significant importance.

Despite the many forms and dimensions to decentralization, the most important thing to notice is the fact that the decentralization process ( especially fiscal decentralization ) will bring significant consequences on resource allocation, public service delivery, equity, and macroeconomic stability. In other words, theoretically, decentralization should have an impact on the economic development.

This study will examine the relationship between fiscal decentralization and economic development. In this paper, fiscal decentralization is solely defined as the share of “sub-national” government



**Notes:**

Degree of fiscal decentralization is defined as the share of sub-national government expenditures over total government expenditures and the GDP growth is defined as the annual GDP growth ( USD, constant 1995 )

The Pearson correlation coefficient is -0.340 ( significant at the level of 0.05, 2 tailed )

1=Australia, 2=Austria, 3=Belgium, 4=Bolivia, 5=Brazil, 6=Canada, 7=Chile, 8=Czech Republic, 9=Denmark, 10=Finland, 11=France, 12=Germany, 13=Greece, 14=Iceland, 15=India, 16=Indonesia, 17=Ireland, 18=Italy, 19=Kenya, 20=Luxemburg, 21=Malaysia, 22=Mexico, 23=Netherlands, 24=New Zealand, 25=Norway, 26=Paraguay, 27=Peru, 28=Portugal, 29=South Africa, 30=Spain, 31=Sweden, 32=Switzerland, 33=Thailand, 34=United Kingdom, 35=United States

Source: Author’s calculation based on data from the Government Finance Statistical Yearbook ( IMF, 2001 ) and the World Development Indicators CD ROM ( World Bank, 2002 )

expenditures over total government expenditures.<sup>3</sup> The larger the share, the more decentralization policy is being implemented. On the other hand, economic development will be viewed from several different perspectives. In this case, development will be observed from the point of view of resource allocation, macroeconomic stability, and public service delivery.

A simple correlation analysis using a cross-country data in 1995 shows a significant negative relationship between the degree of fiscal decentralization and economic growth, as depicted in Figure 1. However, the above analysis is only employed as a very simple tool and thus might not represent the whole idea. Therefore, it can only be used as a point of departure in order to examine the relation between these two variables. A more comprehensive analysis will be carried out using a panel data analysis, which includes several controlling variables that are frequently utilized in growth analysis, such as investment and inflation rates ( Barro, 1999 )

In order to ascertain a clearer picture regarding the decentralization process, this paper begins with a literature review regarding the benefits and costs of decentralization. This will be followed by research on studies regarding fiscal decentralization and economic development as well as current trends from the international perspective. The latter part of this paper will explain the methodology, the empirical results, followed by the conclusions.

## II. Benefits and Costs of Decentralization

There are many reasons that have been pointed out as to the rationale or benefits for decentralization, which greatly vary from country to country. In the case of Latin America countries, decentralization is mostly viewed as a deepening process in democracy while in the transitional economies, decentralization is regarded as the correct solution in shifting from a command to a market economy. In some countries such as Indonesia, India, or Bosnia and Herzegovina decentralization is considered as a must due to the problems of geographic dispersion, ethnic diversity, or even religious tensions.

The implementation of decentralization, however, does not always show promising outcomes as mentioned above. On the contrary, the recent history of public sector decentralization in developing countries is primarily a story of disappointing performances or outright failure ( Smoke and Lewis: 1996 )

Although many people believe the positive aspects of decentralization ( such as bringing the authorities closer to the needs of its citizens or the effect on resource allocation ) the actual empirical evidence regarding such propositions is conflicting or non-existent ( World Bank, 1998 ) While many nations in the world are already “jumping” to the never-ending process of decentralization, there is still so little that we know about decentralization.

## II.1 Literature Review

The most common rationale for decentralization is the need to improve public service delivery due to the failure of central governments to provide efficient and effective local services. According to Dethier (1999) decentralization will bring the authorities closer to its citizens and thus will improve the quality of public services. It is also viewed as a solution to the problems of regional disparity as it will bring about a convergence in terms of the living standard in different regions of the same country. Inspired by the Tiebout model<sup>4</sup> in 1956, Oates (1972) followed this with his famous *Decentralization Theorem*, in which he argued that different communities have different demands for types and levels of public goods and services.

All of the theoretical points mentioned above are consistent in the view that in order to achieve the “Pareto-efficiency” of resource allocation, decentralizing the responsibilities to the lower- lever governments is required. This is based on the assumption that the local governments will have a better understanding of local preferences for local public goods. However, according to Breton and Scott (1978) decentralization may bring about some problems in coordination among jurisdictions, which is costly and may cause stabilization (Tanzi, 1996; Wildasin, 1997) and distribution problems (Tresch, 1981) On the other hand, Joseph Lim (1992) suggested that decentralization facilitates the coordination of planning between national and local levels and also allows a two-way feedback so that national goals can be better achieved.

Another rationale for engaging in decentralization is related to equity or redistribution issues. Many scholars have argued that decentralizing some power will disperse the resources from the center to the periphery. Thus, this power will be less concentrated in the center, mobilizing the local people to develop for themselves (Pauly, 1973; Lim, 1992). The opposite view argues that decentralization does not have any relation with equity or redistribution issues because it can only be done at the central level due to the nature of resource mobility and the openness of local autonomy (Buchanan and Wagner, 1971, Wilensky, 1974; Musgrave, 1983; Inman and Rubinfeld, 1997)

Concerning the function of redistribution, most scholars agreed that it should be assigned to the central government. The traditional view that “sub-national” governments cannot perform redistribution functions comes from the fact that factors of production - capital and labor - are mobile (Ebel and Hotra, 1997) However, some recent studies prove that labor is relatively immobile in the short run (Greenwood and Hunt, 1986) while some capital is tied to locality. Therefore, there are still opportunities for “sub-national” governments to engage in redistribution policies to a certain extent.

Another rationale for assigning redistribution functions to the central government is the fact that this kind of policy should be set and implemented by a single level of government. If redistribution policies were made independently by a number of levels of government, then one jurisdiction might attempt to “undo” the redistribution actions of another (Smith, 1985) Actually, this is in accordance

with the Tiebout's analysis ( 1956 ) in which he argued that any attempt to increase tax rates in one jurisdiction would result in migration of its citizens ( "vote with their feet" )

Accordingly, Owens and Panella ( 1991 ) argued that the redistribution functions should be assigned to the central government due to the distortions that would exist if local governments are allowed to conduct their own distributional policies. For example, there is a possibility that rich people will move away from localities with 'heavy' redistribution policies.

Decentralization will also create an atmosphere of competition among local governments. In this case, the local governments tend to do their best to meet the needs of their citizens ( Breton, 1996; Salmon, 1987 ) however, some analysts doubt this idea due to the limited empirical studies that support it ( Kenyon, 1991; Mueller, 1997 ) Moreover, this kind of competitive situation may even create an unhealthy situation with respect to taxation issues; therefore, some scholars look at this situation more as a problem rather than a potential benefit ( World Bank, 1998 ) The idea of creating competition is one way of looking at the issues from a "horizontal" point of view and seems to overlook the problems of "vertical" competition between the central government and the "sub-national" governments.

In many cases, especially in heterogeneous nations such as Indonesia and India, decentralization is also considered as a tradeoff between economic stability and political pressure for regional autonomy ( Treisman, 1998 ) The challenge of ethnic and religious diversity sometimes forces the central government to give up some authority due to the increasing pressure from the local communities. Generally, the needs for decentralization come from the issues of regional disparity that is also worsen by ethnic or religious jealousy. Sometimes this condition even leads to a serious threat to national integration and thus pressure for regional autonomy is finally addressed by means of decentralization.

Despite some positive aspects of decentralization, according to the Souffle Theory ( one of the theories in analyzing the implementation of decentralization ), macroeconomic instability is undoubtedly one of the cost of the decentralization process. Therefore, even though decentralization may deliver more responsive, effective, efficient and sustainable public services, the cost in macroeconomic instability is quite unimaginable ( Prud'homme, 1995; Tanzi, 1996; Ter-Minassian, 1997 ) This is simply because there will be substantial changes to the fiscal structure including changes in taxing authorities as well as the possibility of sub-national borrowing.

Regarding macroeconomic stability, it is often argued that the central government is better equipped in dealing with spillover effects of local spending, pressures of inflation, and cyclical shocks ( Oates, 1972 ) On the other hand, macroeconomic stability requires monetary policy that can be best pursued by the central government. Some analysts argued that macroeconomic stability will be jeopardized if the responsibility of fiscal policy is handed over to the "sub-national" level ( Oates, 1972; Prud'homme, 1995; Tanzi, 1996 )

Davoodi and Zhou ( 1998 ) pointed out that macroeconomic policies should be assigned to the

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central government because certain tax bases are mobile and have a stabilizing effects. On the other hand, some expenditures have large impacts on aggregate demand and price-stabilizing measures are considered as beyond the jurisdictions of sub-national governments.

In conclusion, decentralization appears as a reform process of the state administration by which a set of administrative and financial functions are reassigned and redistributed to the local government. Basically decentralization is implemented as a development strategy to achieve the three basic functions of government: resource allocation, redistribution, and macroeconomic stability ( Musgrave, 1959 )

### II.2 Hypotheses of the Study

Based on the literature review above, this study analyzes the benefits and costs of fiscal decentralization on economic development. As mentioned earlier, economic development will be observed from several different perspectives, especially regarding the impact of fiscal decentralization on resource allocation and macroeconomic stability. Therefore, this study tests four hypotheses based on the most commonly cited relationship between fiscal decentralization and economic development<sup>5</sup> ( Bahl & Linn, 1992; Bird & Wallich, 1993; Oates, 1993, 1999 )

#### *1. Fiscal decentralization allows better efficiency of resource allocation and thus leads to higher economic growth.*

First of all, this study will focus on one of the most important aspects of economic development: economic growth. This is simply because economic growth is often viewed as the main objective of fiscal decentralization. Moreover, economic growth is relatively easy to measure and analyze.

The synthesis that decentralization will bring higher efficiency to the public sector and therefore leads to higher economic growth is not always true in the implementation. A recent study by Zhang and Zhou ( 2001 ) for the case of China has shown opposite outcomes. They discovered a consistently significant negative association between fiscal decentralization and provincial economic growth.

Another study by Davoodi and Zhou ( 1998 ) regarding the impact of fiscal decentralization on economic growth has also shown a similar tendency. They concluded that the common view that fiscal decentralization will increase economic efficiency and thus lead to rapid economic growth is not always true. This study found that the relation is negative for the case of developing countries, while for the developed countries, no relationship was established.

On the other hand, other studies show that fiscal decentralization may give positive contribution to economic growth. Zhang and Zhou ( 2001 ) for the case of India, found that fiscal decentralization is positively, and even statistically significantly, associated with the state economic growth. For the case of Australia, Grossman ( 1992 ) concluded that fiscal decentralization proves a positive correlation with public sector size, though this correlation is not statistically significant.

## *2. Fiscal Decentralization leads to a better public service delivery.*

Secondly, this study tries to observe the relationship between fiscal decentralization and its impact on public service delivery. Many scholars pointed out that public services should be provided by the lower levels of government due to the efficiency rationale. Davoodi and Zhou (1998) argued that generally, the lower levels of government will perform better in allocation functions because they can absorb the preferences of the local community better. According to Stigler (1957) a representative government works best the closer it is to the people. Oates (1972) followed this argument further by stating that public service should be provided by jurisdiction with minimum geographic area so that the local people would be able to internalize the benefits and the costs.

Moving in the same direction, Musgrave argued that sub-national governments should be allowed to differ in order to reflect the preferences of their residences. The underlying reason is the view that the local governments have better information concerning the needs of their residence than the central government.

## *3. Fiscal Decentralization brings macroeconomic instability.*

One of the most widely cited consequences of fiscal decentralization is its impact on macroeconomic stability. This paper will test this hypothesis to find out whether fiscal decentralization endangers macroeconomic stability. Despite many benefits of decentralization, if macroeconomic stability is at stake, the implementation of this policy should always be reconsidered. In this study, the inflation rate will be treated as representative of macroeconomic stability as a whole.

## *4. Fiscal Decentralization leads to a more efficient bureaucracy and thus less corruption.*

Lastly, this paper tries to find out whether the implementation of fiscal decentralization policy creates a better bureaucracy. The indicator for efficiency in bureaucracy is not easily defined. It is almost impossible to find a single indicator that can represent the efficiency of the public sector. Therefore, the leakage in developmental funds (i.e. corruption) will be treated as a proxy of public sector performance. In this case, this study tests whether fiscal decentralization leads to a higher rate of corruption in the public sector. This is very important because it is often said that a decentralization policy will bring decentralization of corruption as well.

## **III. International Trends in Fiscal Decentralization**

In real application, the magnitude of fiscal decentralization is highly variable, not only among countries with Federal systems but among Unitary systems as well. In general, the delegation of functions to the “sub-national” government is higher in countries with federal systems compared to the Unitary countries. In the former, around 40%-50% of the total expenditure has been assigned to the sub-national government, while in the latter it is only between 20% to 30%.

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Although the degree of fiscal decentralization varies from one country to another, there are some common features that can be found in most countries (Boadway, 2001). According to Boadway's study, the first common feature is that the provision of many important public services is decentralized to lower tiers of government. While most of these services are of purely local concern, some of them remain important national concerns, such as education, health, and welfare services.

The second common feature is that transfers from the upper level of government are typically conditional in nature. The recipient jurisdictions are typically required to spend the fiscal transfer in accordance with some objectives of the donor government. It implies that the upper level of government still maintains some interest in the way that lower governments carry out the assigned functions.

The third common feature concerns the equalizing nature of transfers that are basically used to cover the vertical fiscal imbalance (VFI)<sup>6</sup>. In general, more is transferred to those jurisdictions that are less able to carry out their fiscal responsibilities.

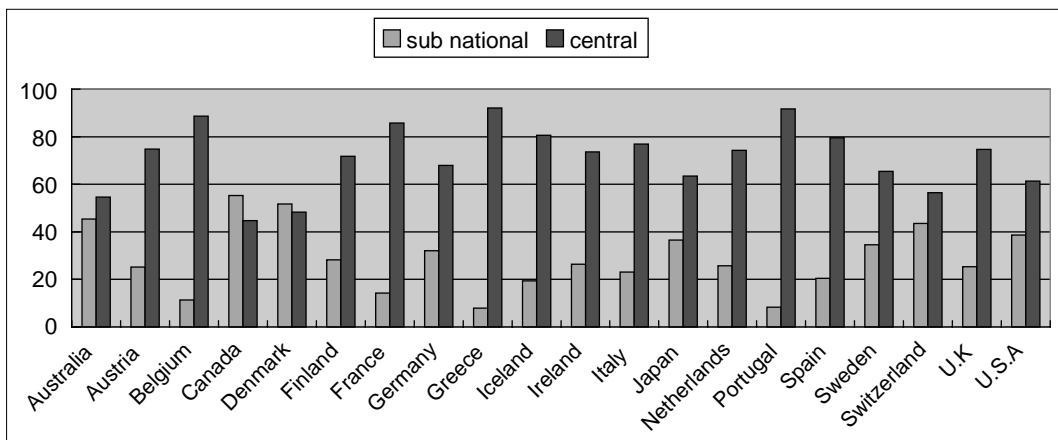
Despite their resemblances, the variation in the implementation of fiscal decentralization is far greater, even among countries within similar categorization (developed countries, developing countries, etc.). Thus, the explanation regarding the international trends in fiscal decentralization will be divided into two: the developed countries, and the developing countries.

In order to obtain a clearer picture regarding the international trends in fiscal decentralization, this section will also explain about the revenue side even though this study will mainly deal with the expenditure side (as mentioned earlier).

### A. Developed Countries

The trends in fiscal decentralization among the developed countries show a tendency to strengthen

Fig. 2 Sub National Expenditure and Central Expenditure



Source: OECD, 1997



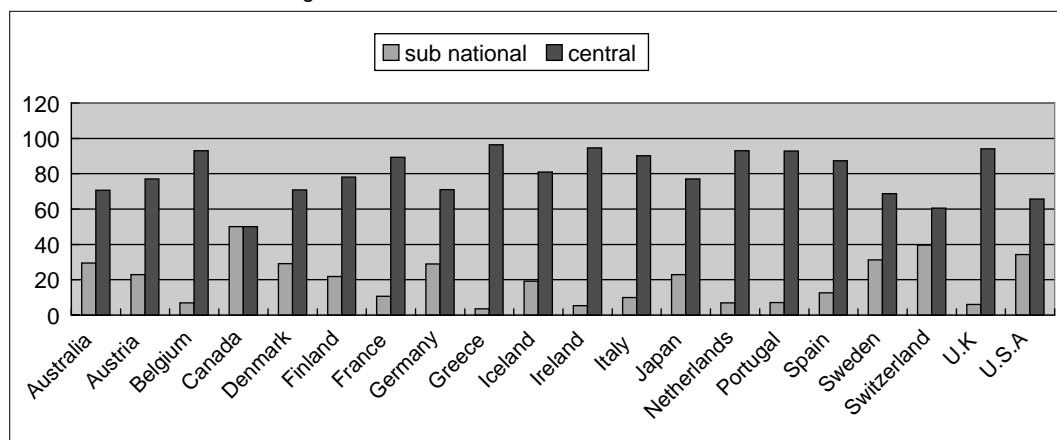
the “sub national” government by giving them more responsibility in terms of expenditure and revenue. However, as shown in Figure 2,<sup>7</sup> most developed countries are still in favor of maintaining a strong central government. With the exception of Canada and Denmark, the central government still plays an exceptionally dominant role. Even in the case of a mature Federal system like United States, the central government still accounts for about two-thirds of total government expenditures ( Blondal, 1999 ) In general, the figure shows that federal countries tend to have a larger share of “sub national” governments in their expenditure assignment.

The delegated function to the “sub-national” governments greatly varies from country to country. In Austria, functions such as housing have been handed over from the central government to the Lander level and the local governments are now engaged more the activities of economic expansion as well as social change.

Canada and Denmark have a larger share of “sub-national” government expenditure because most of the public service functions have been shifted from the central government to the provinces and counties. In the case of Canada, the responsibilities for regulation of inter-provincial and international highway traffic, labor market training, forestry, mining, and even the administration of Criminal Court have been transferred to the provinces. On the other hand, in the case of Denmark, the responsibility for social security was even handed over to the municipalities and the counties are now responsible for regional planning, primary health services, secondary schools, environmental quality, and public transportation.

Even in a strong unitary country like France, the decentralization plan in 1982 gave wider authority to the regions and the *departements* in terms of education, economic support measures, and local transport. Municipalities are now also given the responsibility for primary education; however, most major responsibilities are still kept firmly in the hands of the central government.

Fig. 3 Sub National Revenue and Central Revenue



Source: OECD, 1997

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The experience in United Kingdom over the past 15 years has shown a very interesting phenomenon. While some significant amount of functions have been delegated to the “sub-national” governments, at the same time, there has been some centralization of power in terms of setting national direction, standards and policy frameworks. Therefore, two movements are working at the same time, coming from different directions in the case of United Kingdom.

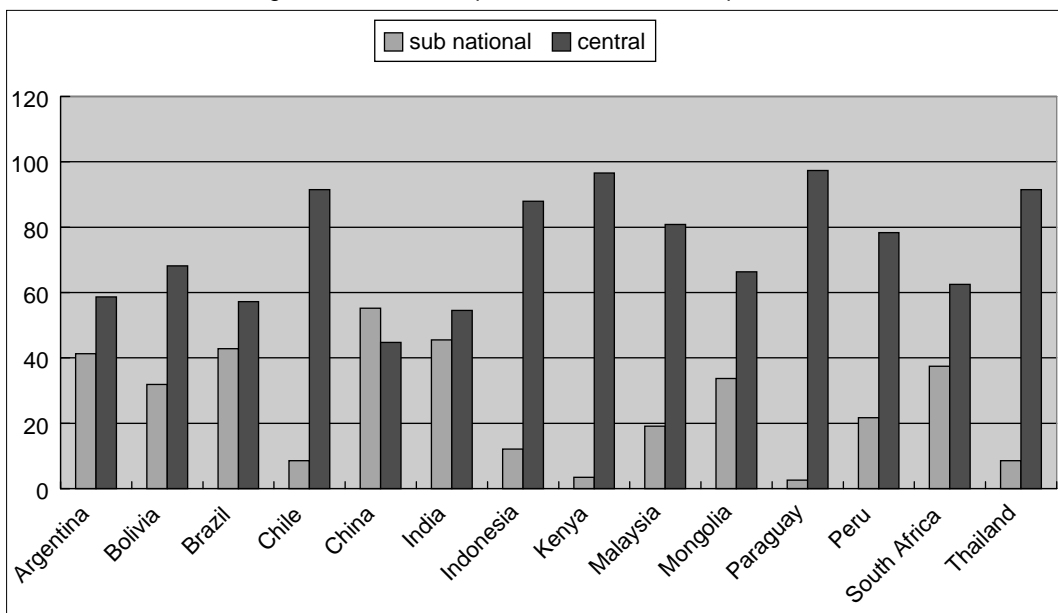
In terms of revenue, Figure 3<sup>8</sup> shows that except for Denmark, the share of “sub-national” governments is even much lower in comparison with the expenditure side. This situation implies that main sources of revenue such as major taxes are mostly still kept at the central level and the “sub-national” governments are left with only some minor taxing authority.

Comparing both the revenue side and the expenditure side, it is obvious that the “sub-national” governments share in total expenditure exceeds their share of revenue. Some countries such as Australia, Denmark, Ireland, Italy, Netherlands and United Kingdom have a very large vertical fiscal imbalance (VFI). On the other hand, countries like Canada, Germany, Iceland, Sweden, Switzerland and United States make relatively low transfers from the central government to the lower level governments.

### *B. Developing Countries*

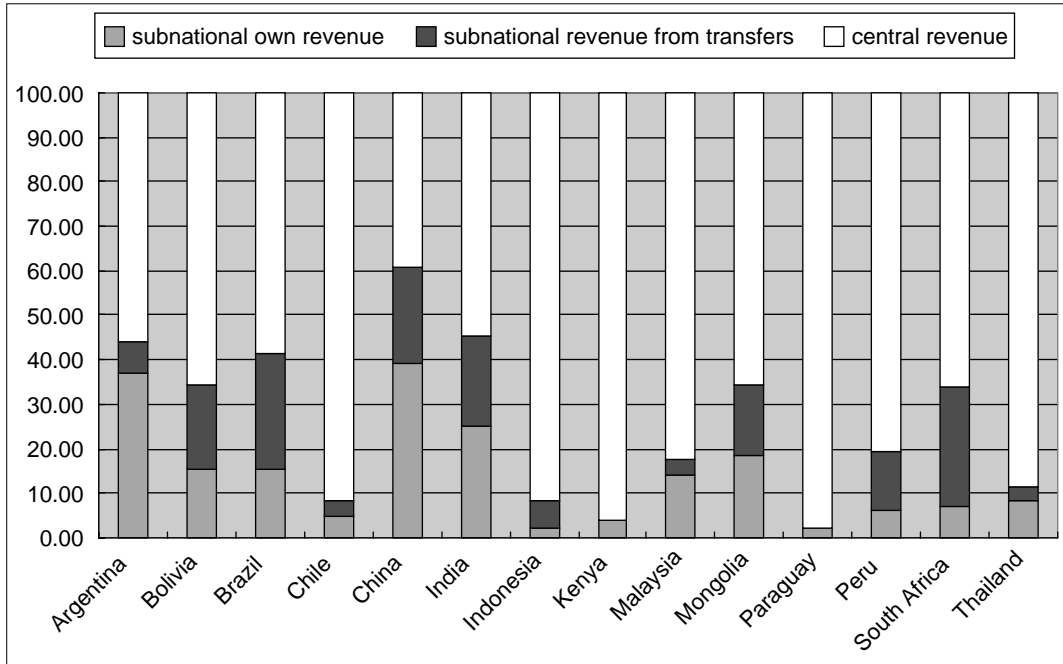
For most developing countries in Latin America, decentralization is often viewed as part of the deepening process in democratization, while in the case of most Asian countries it comes from a need

Fig. 4 Sub National Expenditure and Central Expenditure



Source: IMF, Government Finance Statistics

Fig. 5 Sub National Revenue and Central Revenue



Source: IMF, Government Finance Statistics

to improve public services to large populations in the centralized countries ( World Bank, 1998 )

The degree of decentralization in terms of expenditure assignment greatly varies among developing countries. Some countries such as Chile, Indonesia, Kenya, Malaysia, Paraguay, and Thailand have a strong tendency and a long history of centralization. The countries, except Malaysia, are known as unitary countries and once existed under a strong and centralized military government. On the other hand, other countries like Argentina, Brazil, China, and India have larger shares in the “sub-national” government over total expenditures.<sup>9</sup>

### B.1 Latin America Countries

The structure of local revenue in Latin America Countries is characterized by a great dependency on intergovernmental transfers and very limited own-generated revenues. The share of intergovernmental transfer in the total revenue of local government reached as high as 62.7% in Brazil and 58.1% in Peru ( Table 1 ) While in other countries such as Bolivia, Colombia and Chile there are also relatively high transfers ( more than 40% ) Based on this situation, it is obvious that the local governments in this area have a very limited capability in generating their own revenues.

From Table 1, it is obvious that the local governments basically only act as tax collectors without any discretion in setting the tax base or the tax rates, as the two are exclusively under the authority of the central governments. The main sources of tax revenue for the local governments are from

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Table 1  
Local Revenue Structure in Selected Latin America Countries ( Percentage of Total Local Revenues )

	Brazil	Bolivia	Colombia	Chile	Peru
Transfers	62.7	54.7	47.8	42.7	58.1
Taxes					
Property Tax	8.3	7.4	12.4	12.6	9.1
Commercial Permission			18.1	9.2	2.6
Vehicle Tax	22.3	7.3	3.2	7.4	1.3
Other Taxes		22.8	5.2	3.7	13.0
Total Taxes			38.8	32.9	
User Charges	14.1	4.6	10.4	12.4	13.3
Other Revenues	15.0	17.9	3.0	12.0	15.6

Source: *Case Studies, Regional Project ECLAC/GTZ Fiscal Decentralization in Latin America ( Aghon & Casas, in de Mello and Fukasaku, 1999 )*

vehicle tax and property tax, which are basically minor taxes. Major taxes such as income tax are still kept firmly in the power of the central governments.

In the case of Argentina, with a federal system, the division of functions among levels of government is relatively unspecified in the constitution. Apart from defense and law and order, all other spending functions are left as concurrent jurisdictions within three-tiered governments. However, in general, the central government deals with social security matters while the sub national governments deal with the delivery of most public services such as education and health.

In terms of expenditure assignment, there is much overlapping among different levels of government in Argentina. In this case, the central governments engage in almost every sector of public spending, and for this reason, the share of central government spending to total spending reached as high as 57.13% in the year 1993. On the other hand, the share of provinces was only 35.12% and the share of municipalities was only 7.75% ( Table 2 )

From the revenue side, a similar tendency in centralization is also found. The share of central government revenue over total revenue reached 77.30% in 1993. This is much higher compared to the share of provinces and municipalities, which were only 18.90% and 3.80% respectively. The data shows a notable mismatch between expenditure decentralization and revenue centralization that requires intergovernmental transfers in order to match the imbalances.

Table 2 Vertical Imbalances in Argentina, Brazil and Peru ( 1993 )

	Argentina			Brazil			Peru		
	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local
Revenue Share	77.30	18.90	3.80	66.10	30.10	3.80	95.45		4.55
Expenditure Share	57.13	35.12	7.75	52.20	31.00	16.90	79.04	11.38	9.58
Vertical Fiscal Imbalance	20.17	-16.22	-3.95	13.90	-0.90	-13.10	16.41	-11.38	-5.03

Source: *Rezk, in de Mello and Fukasaku, 1999*

Brazil, compared to other Latin American countries and even to other Federal systems among developing nations, can be considered as the most decentralized federal country ( Shah, 1991 ). However, the 1988 Constitution still does not specify the expenditure assignments among different levels of government, and it only mentions a very broad principle. Therefore, Brazil has no clear distribution of functions across the levels of government in almost every aspect of public service ( health, social security, education, sanitation, housing, etc. ) This condition leads to an obvious duplication of spending assignments ( de Mello, 2000 )

In terms of vertical imbalances, Brazil is characterized by a relatively large fiscal transfer to the local government level. In this case, the “deficit” at the local level reached as high as 13.10% during the fiscal year in 1993. However, at the regional level, this kind of fiscal transfer is not significant. This situation shows that the revenue assignment and the expenditure assignment at the regional level are already balanced.

As a unitary system, Peru has a very strong tendency toward centralization. Despite some recent development in decentralization, the structure of government is heavily influenced by a rigid unitary political and institutional structure. The sub national governments are not equipped with sufficient taxing powers. The main sources of revenue for the local governments are property taxes, while major taxes such as income taxes, sales and consumption taxes, are levied by the central government.

Decentralization in Peru is characterized by a large imbalance at the regional and the local level, which was around 11.38% and 5.03%, respectively. This is simply because more than 95% of the tax revenue is collected by the central government and only less than 5% is decentralized to the sub national governments.

## *B.2 Asian Countries*

In the case of Asian countries, the issue of intergovernmental fiscal relations is one of the main policy issues in the last three decades, especially for the three biggest countries in the region ( China, India and Indonesia ) The countries are experiencing a serious issue in regional disparities due to their immense size and regional diversity ( in terms of ethnic and religious differences ) Apart from India which has a federal system, China and Indonesia have a long history of maintaining a rigid centralized system.

Based on data from Table 3, it is obvious that most of the sub national governments in India, Indonesia, Philippines, and Thailand are very much dependent on the fiscal transfer from the central government. The highest dependency was found in Indonesia where the fiscal transfers accounted for more than 70% of the sub-national revenues. On the other hand, Malaysia, a federal system, has a relatively low portion of fiscal transfer in the structure of their sub-national government revenue. Such conditions show that the vertical imbalance greatly varies among countries.

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Table 3  
Fiscal Indicators for Central and Sub National Governments in Selected Asian Countries ( 1990-1994 )

	India	Indonesia	Malaysia	Philippines	Thailand
Consolidated Central Government					
Overall Deficit or Surplus/ GDP	-6.7	0.4	0.7	-2.1	3.2
Total Revenue & Grants/ GDP	13.7	18.7	28.3	17.5	18.5
Total Exp.& Lend-repay./ GDP	20.5	18.3	27.6	19.6	15.3
Transfers/ Total Expenditure	( 35.1 )	( 20.1 )	( 4.0 )	( 6.9 )	( 2.3 )
State/Provinces/Region/Local Govt.					
Overall Deficit or Surplus/ GDP	-3.0	0.0	-0.9	0.2	0.1
Total Revenue & Grants/ GDP	12.2	2.5	4.7	1.8	1.4
Grants/ Total Revenue	( 44.0 )	( 72.9 )	( 19.7 )	( 45.6 )	( 25.4 )
Total Exp.& Lend-repay./ GDP	15.1	2.5	5.6	1.7	1.5

Source: *Fukasaku, in de Mello and Fukasaku, 1999*

India is often considered as one of the “mature” federations in the Asian region. It has a long experience of managing fiscal relations among different levels of government. Dating back as early as 1919, the Montague-Chelmsford reforms clearly mentioned the separation of responsibilities and sources of revenue between the central government and the provinces.

The current Indian Constitution ( established in 1950 ) clearly mentioned that in terms of taxes, the central government is assigned to deal with income taxes and excises, other than alcoholic beverages and customs duties. The states levied taxes on sales tax, property taxes, excises on alcoholic beverages, vehicles tax, stamp duties, luxuries and entertainment, taxes on trade, professions and callings.

By international standards, the degree of fiscal decentralization in India ( measured by the share of sub national government expenditures over total government expenditures ) is relatively high, ranging between 55% to 65% ( from 1979 to 1999 ) and remained stable. The distribution of functions among levels of government is mentioned in the constitution under three kinds of lists: the Union list, the States list, and the concurrent list ( Zhang & Zhou, 2001 )

The central government in India spent about 30% of its budget on development expenditures, 48% on non-development services and 6.4% on social/ community services. At the state level, most governments spending went to education ( about 25% ) agriculture ( about 20% ) and general public services ( about 15% )

In the case of Indonesia, it is obvious that Indonesia is now relatively more decentralized. From the expenditure side, around 28% of the total national expenditures are currently spent by the “sub-national” governments ( provincial and local governments ) The share is essentially much higher if compared with the situation in other developing countries ( 14% ) although it is still lower than OECD countries ( 32 percent )

The trend in decentralizing expenditure responsibilities also shows a significant increase in the case of Indonesia from time to time. In 1989, the share was only 17% and then it rose to 23% in 1994 and to 28 % in 2001. However, on the revenue side, Indonesia is still relatively centralized. In the year 2001,

only 4% of the total national revenues was collected by the “sub-national” governments. This share is significantly low in comparison with other developing countries ( 9% ), transition countries ( 17% ) and OECD countries ( 19% )

The new decentralization law, implemented in Indonesia from year 2000, also increases the sub national revenues, which comes from the shares of national revenues. At the provincial level, the shares increased from only 8% in 1994 to 25% in 2001, while at the local level the shares rose from 15% to 21%. This is simply because under the new agreement, the central government must distribute a substantial portion of its revenues to the “sub-national” government.

In terms of freedom to spend, there is also a substantial increase of authority given to the “sub-national” government in Indonesia. Five years before the fiscal decentralization was implemented ( 1995 ) only 20% of the total expenditure could be spent under the discretion of “sub-national” government. The situation was not changing so much in the year 1998 and 2000, where only about 36% and 31% of the total expenditure was under the discretion of “sub-national” government, respectively. However, the situation is totally changing now after the implementation of the law, where the freedom to spend by the “sub-national” government reached as high as 96%.

In the case of China, the fiscal decentralization program has been implemented gradually through several fiscal reforms since the end of 1970’s ( Wong, Heady, & Woo, 1993; World Bank, 1996; Zhou and Yang, 1992 ) Most scholars argue that the fiscal system in China is now already much more decentralized.

There are three categories of official government spending in China: budgetary spending, extra-budgetary spending and consolidated spending, which is the total of both previous spending. Based on the calculations made by Zhang and Zhou ( 2001 ) the share of budgetary spending over GDP in 1992 was 18.3%, and this figure was a significant decline compared to 30.8% in 1978. As the result of the reform in 1978, the share continuously declined. In terms of extra-budgetary spending, its shares of GDP only changed a little, from 14.2% in 1982 to 15.2% in 1992. Consolidated budgetary spending as a share of GDP shows an inverted U-shaped. During 1982 to 1986, it rose from 36.4% to 40.4% and then declined during the period of 1986-1992, up to 33.5% in 1992. Overall, the government spending as a share of GDP fell significantly during the reform period.

In terms of the degree of fiscal decentralization, the share of the “sub-national” budgetary spending increased gradually most of the time. In 1978, the share of sub-national government spending was only 16.4% of GDP. This accounts for 53.1% of total national spending ( both by the central and the “sub-national” governments ) These shares became 10.3% and 57.4%, respectively, in 1992. The figures show a minor increase in the budgetary decentralization.

In terms of extra-budgetary spending, the “sub-national” government spent 9.8% of GDP in 1978, which fell to 8.4% in 1992. The share over total extra-budgetary spending declined from 69.1% to 56.4% during the period of 1982-1992. Combining the budgetary with the extra budgetary spending,

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the “sub-national” share of consolidated spending rose from 57.5% in 1982 to 62.5% in 1989, before it fell again to 56.9% in 1992.

From the provincial perspective, the variations among provinces are quite significant. The ratio of budgetary spending to provincial income ranged from only 9% in Jiangsu to 40.5% in Ningxia. During 1978-1992, the average ratio of provincial budgetary spending to central budgetary spending varied from 0.01% in Ningxia to 0.09% in Guangdong. Consequently, the ratio of per capita provincial budgetary spending to per capita central budgetary spending also varied from 0.78 in Henan to 4.31 in Beijing ( the national capital ). In terms of consolidated spending, the ratio between per capita provincial spending to per capita central spending ranged from 0.82 in Henan to 6.67 in Shanghai.

## IV. Empirical Relationship between Fiscal Decentralization and Economic Development

### IV.1 Data and Variables

As mentioned earlier, this paper studies the relationship between the degree of decentralization and economic development. In this case, the measurement for the degree of decentralization is found by looking at the ratio of “sub-national” governments expenditure in total government expenditure, as one of the most widely used indicators for the extent of decentralization ( Pryor, 1968; Oates, 1972; Panizza, 1999 ) The higher this ratio, the country is considered to be more decentralized. The expenditure side is often viewed as a better variable compared to the revenue side because it better reflects the authorities’ decision to exercise their responsibilities in serving the communities. However, it also has a weakness because the “sub-national” expenditure does not always represent the freedom to spend by the “sub-national” government since many of the fiscal transfers from the central government come in the form of specific grants. Nevertheless, due to a lack of data regarding the degree of freedom to spend, the rough figure of sub national government expenditure is considered as the best proxy for comprehending the degree of fiscal decentralization.

On the other hand, economic development will be observed from several points of view which are related to the basic functions of government: resource allocation, public service delivery, and macroeconomic stability ( Musgrave, 1959 ) The expected relation between fiscal decentralization and those three functions is represented in the form of four hypotheses, which have already been explained in the previous section.

All models in this study are specified for the 1979-1999 period, using a pooled data set of thirty-four countries, consisting of both developed and developing countries. The countries are: Australia, Austria, Belgium, Bolivia, Brazil, Canada, Chile, Czech Republic, Denmark, Finland, France, Germany, Iceland, India, Indonesia, Ireland, Italy, Kenya, Luxembourg, Malaysia, Netherlands, New Zealand, Norway, Paraguay, Peru, Portugal, South Africa, Spain, Sweden, Switzerland, Thailand, United Kingdom, and the United States. The countries are selected simply because they already include the statistics for



“sub-national” governments in the IMF’s Government Finance Statistics Yearbook. Therefore, the main source of data for fiscal decentralization is the IMF’s Government Finance Statistics from various years and the source of data for other variables are taken from the World Bank’s CD Rom of World Development Indicators year 2001. As for the data of corruption index, it is taken from the publication of Transparency International ( TI ), which issues an annual corruption perception index based on several surveys by international institution.

In order to capture the differences in the constant term, all coefficients in the model will be estimated using the fixed-effects approach.

## IV.2 Hypotheses Testing

Testing Hypothesis 1: *Fiscal decentralization allows better efficiency of resource allocation and thus leads to higher economic growth.*

For the first hypothesis, the dependent variable is solely focused on one important measurement: economic growth. This is simply because economic growth is viewed as the main objective of fiscal decentralization and also a suitable indicator for macroeconomic stability. Moreover, per capita growth is also relatively easy to measure and analyze.

In this model, the impact of fiscal decentralization on economic growth is tested using an intensive form of production function. The dependent variable is the average growth of real per capita output ( GDP ) while the explanatory variable is the degree of fiscal decentralization ( FD ) measured by the share of sub-national government expenditure in total government expenditure. In order to control the regression model, the most widely used control variables in Barro’s type growth regression model are utilized ( Barro, 1999 ) In this case, there are six control variables: the initial level of GDP ( log IGDP ) the investment rate or the share of investment over GDP ( INV ) the inflation rate ( INF ) the growth of labor force ( LAFO ) the life expectancy ( log LIFE ) and the terms of trade adjustment ( TOT ) Two dummy variables are included in the equation in order to observe different impacts of fiscal decentralization from the point of view of the developmental stage ( developing country vs. developed country or DDEV ) and the form of the state ( federal vs. unitary state or DFED )

The initial level of GDP is denoted in US Dollar ( constant 1995 ) Investment rate is denoted by the ratio of investment ( accumulation of fixed assets and circulating funds ) to GDP. Inflation rate is represented by the overall retail price index in each country. Life expectancy is denoted in a standard life expectancy at birth. The regression equation for the first hypothesis is described as follows:

$$GDP_i = \alpha_0 FD_i + \alpha_1 \text{Log}(IGDP)_i + \alpha_2 INV_i + \alpha_3 INF_i + \alpha_4 LAFO_i + \alpha_5 \text{Log}(LIFE)_i + \alpha_6 TOT_i + \epsilon_i$$

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Testing Hypothesis 2: *Fiscal Decentralization leads to a better public service delivery.*

For the second hypothesis, the dependent variable is the government expenditure on health as a percentage of GDP (HEXP). This variable was chosen because this sector is one of the most important public services and thus it was interesting to discover whether fiscal decentralization has a positive association with the improvement in health expenditure. Consequently, the increasing in health expenditure will be considered as a proxy for a better public service delivery.

The explanatory variable is still the degree of fiscal decentralization (FD) from the expenditure side plus four other controlling variables: the size of the government or the share of government expenditure over GDP (SGOV), the ratio of tax revenue over GDP (TAXG), the ratio of capital/development expenditure to total government expenditure (CAP) and population (log POP). Since all of the controlling variables are often considered to be the determinant of public expenditure (Bahl and Linn, 1992; Fisher, 1996) the associations are expected to be positive. The regression equation for the second hypothesis is described as follows:

$$HEXP_i = \beta_0 FD_i + \beta_1 SGOV_i + \beta_2 TAXG_i + \beta_3 CAP_i + \beta_4 \text{Log}(POP_i) + \epsilon_i$$

Testing Hypothesis 3: *Fiscal Decentralization brings macroeconomic instability.*

In this case, inflation rate (INF) is considered as the most appropriate variable to represent overall macroeconomic stability (Campillo and Miron, 1997) and thus it will be used as the dependent variable in the model. As the explanatory variable is the degree of fiscal decentralization (FD) from the expenditure side and four controlling variables are added: the size of the government (SGOV), the ratio of tax revenue to GDP (TAXG), the investment rate (INV) and real interest rate (RINT). Jin and Zhou (2002, page 277) argued that “because government size may be related to revenue and expenditure assignments, inflation is likely to erode tax revenues and restrain government growth if government revenue collection is not adjusted fast enough to account for the effects of inflation, or if there is a delay in revenue collection in nominal terms”. The regression equation for the third hypothesis is described as follows:

$$INF_i = \beta_0 FD_i + \beta_1 SGOV_i + \beta_2 TAXG_i + \beta_3 INV_i + \beta_4 RINT_i + \epsilon_i$$

Testing Hypothesis 4: *Fiscal Decentralization leads to a more efficient bureaucracy.*

As mentioned earlier, the leakage of development funds (i.e. corruption) will be treated as a proxy to public sector performance. In this case, this study tests whether fiscal decentralization leads to a higher rate of corruption in the public sector. The fact that fiscal decentralization is rarely followed by a clear expenditure assignment, this will increase the possibility of decentralization of corruption to the lower levels of government (Prud'homme, 1995; Brueckner, 2000).

For the fourth hypothesis, the model will be based on the similar model by Fisman and Gatti (2002) with some modification. In this case, the corruption index (CORR) will be the dependent variable, and the explanatory variables are the degree of fiscal decentralization (FD) the size of government expenditure (SGOV) population (log POP) the share of imports over GDP (IMP) and the level of education (SED). Ades and Wacziarg (1997) argued that large countries tend to exploit economies of scale to provide public services and therefore have a low ratio of public service outlets per capita that will “force” individuals to bribe in order to “get ahead of the queue”. For this reason, the size of the government and the country’s population are included in the equation. The degree of openness, as proxied by the share of imports over GDP, is included because trade restrictions produce rent and thus create a favorable environment for corrupt behavior (Ades and Di Tella, 1995; Leite and Weidmann, 1999). The level of education is included in the model by the “presumption that in more educated countries with better information flows the costs of corruption will be better informed and will be socially condemned accordingly” (Ades and Di Tella, 1997, page 1029). The regression equation for the fourth hypothesis is described as follows:

$$CORR_i = \beta_0 FD_i + \beta_1 SGOV_i + \beta_2 \text{Log}(\text{POP})_i + \beta_3 IMP_i + \beta_4 SED_i + \epsilon_i$$

It should be recalled that the higher the corruption index (from Transparency International) it signifies that the bureaucracy is relatively free from corruption.

### IV.3 Empirical Results

The regression results are reported in Table 4. The first column shows the estimates when fiscal decentralization is related to economic growth (First Hypothesis). The result has shown a negative but insignificant relationship between the growth of real per capita GDP and the level of fiscal decentralization. In this case, the results are tested to prove the argument that fiscal decentralization will make the resource allocation become more effective and thus leads to a better economic growth (Oates, 1972). Therefore, in this study, no definite conclusion can be drawn to answer the hypothesis whether fiscal decentralization will bring more efficient resource allocation.

In terms of initial GDP, the neoclassical model predicts a negative coefficient when it enters the system in the logarithmic form (Barro, 1999). Accordingly, this study has shown a negative but insignificant coefficient, which is actually in accordance with the conditional rate of convergence. Since the association is considered insignificant, it is too early to conclude that in the long run there will be conditional convergence as believed by most neoclassical economists.

The other controlling variables such as investment and inflation rates have shown the expected positive and negative signs respectively. However, only the investment rate has proven to have a

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significant relationship with economic growth. On the other hand, the coefficients of the labor force, life expectancy and terms of trade are showing the expected sign of positive but the association is insignificant, except for the coefficient of labor force. Both dummy variables ( the Developing Country Dummy and Federal dummy ) also show an insignificant relationship and thus no definite conclusion can be taken regarding their relations with fiscal decentralization.

The second column shows the estimation when fiscal decentralization is related with the aspect of public service delivery ( Second Hypothesis ) The results show that fiscal decentralization is negatively associated with the improvement in public service delivery. This finding is in contradiction with the argument that the lower levels of government tend to work closer with the people, and

Table 4 Estimation Results

Independent	Dependent	GDP	HEXP	INF	CORR
FD		-0.868173	-0.531272	-4.157074	1.950082
		<i>-0.512609</i>	<i>-3.806290<sup>c</sup></i>	<i>-1.192045</i>	<i>2.761106<sup>c</sup></i>
Log IGDP		-0.268503			
		<i>-2.065386</i>			
INV		0.156414		-7.64E-12	
		<i>2.928680<sup>c</sup></i>		<i>-2.977253<sup>c</sup></i>	
INF		-0.002028			
		<i>-1.655563</i>			
LAFO		7.79E-09			
		<i>2.388138<sup>a</sup></i>			
Log LIFE		1.505784			
		<i>1.865401</i>			
TOT		1.55E-13			
		<i>1.067424</i>			
DDEV		0.866040			
		<i>1.700264</i>			
DFED		-0.097576			
		<i>-0.223388</i>			
SGOV			0.202391	-0.693544	-0.183991
			<i>13.87077<sup>c</sup></i>	<i>-4.810290<sup>c</sup></i>	<i>-2.577470<sup>b</sup></i>
TAXG			0.044663	-0.535485	
			<i>4.265204<sup>c</sup></i>	<i>-5.358075<sup>c</sup></i>	
CAP			0.009062		
			<i>2.024337<sup>b</sup></i>		
Log POP			2.654562		-7.665439
			<i>7.794140<sup>c</sup></i>		<i>-4.073852<sup>c</sup></i>
RINT				-0.170573	
				<i>-3.060780<sup>c</sup></i>	
IMP					-0.107880
					<i>-3.902844<sup>c</sup></i>
SED					0.011513
					<i>1.888843</i>
R Square		0.687380	0.996969	0.587563	0.996836
Adjusted R Square		0.578643	0.996464	0.551741	0.991388
S.E of regression		0.925835	0.286682	17.28060	0.207637
Number Of Obs.		32	267	464	50
Number of Countries		34	34	34	34
Fixed Effects		-	included	included	included

*t statistics are written in italics.*

<sup>a</sup> Indicates a significance level at 10%

<sup>b</sup> Indicates a significance level at 5%

<sup>c</sup> Indicates a significance level at 1%

therefore, they can provide better public service ( Oates, 1972 )

On the other hand, the variables of government size, the ratio of tax revenue over GDP and the ratio of capital expenditure over total expenditure show the expected sign of positive and the coefficients are significant. This simply means that the size of government expenditure will influence the provision of public service and the improvement in tax revenue will also provide a better public service for the community. The other variable, population, shows the expected sign of positive and the association is also very significant. Therefore, it means that the larger the population, the government tends to allocate more funds for the provision of public service.

The third column shows the estimation when fiscal decentralization is associated with macroeconomic stability ( Third Hypothesis ) The results show that there is a negative but insignificant relationship between fiscal decentralization and macroeconomic stability. Therefore, fiscal decentralization policy may not endanger macroeconomic stability. Nevertheless, since the association is insignificant, no definite conclusion can be drawn.

The other controlling variables such as the size of government, the ratio of tax revenue to GDP, the investment and real interest rate support the expected outcomes while the coefficients are significant. These results are in accordance with the argument of Jin and Zhou ( 2002 ) that the inflation rate is negatively associated with the size of the government and tax revenue.

The last column shows the estimation when fiscal decentralization is related with the efficiency of bureaucracy ( Fourth Hypothesis ) The results show that fiscal decentralization, have a positive and significant relationship with the corruption index. Since a higher corruption index signifies a better and “cleaner” bureaucracy, it is obvious that fiscal decentralization tends to lower the corruption in the government. This result is in accordance with the findings of Fisman and Gatti ( 2002 ) that suggested a similar tendency. However, this is quite in the contrary with mainstream views that argue fiscal decentralization will have a negative impact on the efficiency of bureaucracy because it tends to widen the possibility of corruption by the government officials ( Brueckner, 2000 )

The size of the government, and the degree of openness have shown the expected signs of being negative and significant. This simply means that the smaller and efficient government tends to have a better bureaucracy, while the openness of the economy is significantly important to reduce corruption. Regarding the variable of population, the result shows that a less-populated country tends to have lower corruption issues compared to countries with a large population. It appears from the data that countries with larger population tend to have larger sizes of government, which seem to have higher degree of corruption. On the other hand, the variable of education level is positively associated with corruption index although this is not significant.

## Conclusions

Regarding the first hypothesis, the result has shown a negative but insignificant relationship

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between the growth of real per capita GDP and the level of fiscal decentralization. Therefore, in this study, no definite conclusion can be drawn to answer the hypothesis whether fiscal decentralization will bring about more efficient resource allocation and thus lead to higher economic growth. The result ( although insignificant ) strongly contradicts the decentralization theorem by Oates ( 1972 ), which pointed out that the closer the government is to its people, it tends to achieve better efficiency of resource allocation and thus leads to higher economic growth ( Tiebout, 1956; Oates, 1972, Musgrave, 1983 )

In terms of the improvement in public service delivery, the results show that fiscal decentralization is negatively and significantly associated. This finding is in contradiction with the argument that the lower levels of government tend to work closer with the people, and therefore they can provide better public service ( Oates, 1972 )

In terms of macroeconomic stability, the results show that fiscal decentralization policy may not endanger macroeconomic stability. However, since the association is considered insignificant, at this moment, no definite conclusion can be taken from this study.

Lastly, the study has also proven that fiscal decentralization leads to a lower corruption in the bureaucracy. This result is in accordance with the findings of Fisman and Gatti ( 2002 ) that suggested a similar tendency although this is quite different with the mainstream view that argues the local government is relatively “fragile” to corruption ( Brueckner, 2000 )

### Suggestion for Further Research

The research outcomes concerning fiscal decentralization and economic development are proven to be quite in the contrary between one study and the others. This possibly derives from the fact that most studies are carried out using cross-country data that is obviously weak in capturing the country-specific issues. Since each country is specific, especially in terms of the rationale for implementing fiscal decentralization, a single-country analysis might capture a better understanding concerning the impact of fiscal decentralization on economic development. Therefore, in order to get a clearer picture regarding these relationships, it is strongly urged that a single-country analysis be conducted. A country such as Indonesia, which has implemented a major and “ambitious” decentralization policy in year 2000, would be an interesting case to explore.

### Notes

1 . By definition, a central government includes all governmental departments, agencies, offices and other bodies that are instruments of the central authority of a country. In several countries, considerable portions of central government operation are carried out by decentralized agencies. The degree of authority and accountability of these decentralized agencies varies significantly from nation to nation ( Owens and Panella: 1991 )

- 2 . “Sub-national” governments refer to all governments other than that at the center. This will include the “state/province/lander” governments as the intermediate level of government and the “local” governments as the third tiers in the federal systems or the second and third tiers in unitary systems ( municipalities, regions, counties, etc. )
- 3 . This paper is solely focusing on the expenditure side because in many countries the relative size of “sub-national” revenue collection is not a good indicator of fiscal decentralization. This is simply because most tax revenues were imposed by the central government although they were mostly collected by the “sub-national” governments. Therefore, they might not represent sub national tax autonomy because even though they were collected locally, most of them were not spent locally.
- 4 . Charles Tiebout in his article “A Pure Theory of Local Expenditures” argued that people will move from one jurisdiction to another jurisdiction to search for local services and taxes that maximizes their utility. In other words, he argued that individuals “vote with their feet”.
- 5 . From the four hypotheses mentioned, there is a possibility of an interrelationship among them, especially between hypothesis one and three as well as between hypothesis two and four. Theoretically, economic growth will be influenced by macroeconomic stability while on the other hand, a better public service delivery is always associated with a lower corruption in the bureaucracy as well as the efficiency of bureaucracy itself. Therefore, the test results of these hypotheses are most likely dependent on each other.
- 6 . A common feature in most nations is that the central government raises more revenue than it needs and transfers the excess to the regions ( Boadway, 2001 ) The regions need this kind of transfer in order to close their fiscal gap or the difference between expenditures and own-source revenues. This kind of fiscal gap is also known as *vertical fiscal imbalance ( VFI )* Basically, there are two main reasons for the existence of vertical fiscal imbalance. The first one is because in most cases, decentralizing expenditures to the regions is not followed by a proper decentralization of revenue-raising power. The second reason is that the central government needs to fulfill its responsibility for achieving efficiency and equity within its territory.
- 7 . The data used in Figure 2 is taken from OECD Publication ( Managing Across Level of Government, 1997, Page 35 ) Actually, there are three classifications in the original data: Central Government Expenditures, “Sub-National” Expenditures and Social Security Spending. It should be noted that in this figure, social security spending will be included as part of Central Government expenditures.
- 8 . For Figure 3, the data for the revenue side is also taken from OECD Publication ( Managing Across Level of Government, 1997, Page 35 ) and treated similarly as the expenditure side. In this case, social security revenues will be included as part of Central Government revenue.
- 9 . The data used in Figure 4 and Figure 5 is taken from the IMF’s Government Finance Statistics ( various years ) In Figure 5, the data for the revenue side is already divided between “sub-national” revenue from transfers and sub national own revenue. By looking at this classification, the gap between revenue share and expenditure share can be noticed more clearly.

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