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FISCAL DECENTRALIZATION AND ECONOMIC GROWTH: EVIDENCE FROM SELECTED MUSLIM COUNTRIES

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Abstract

Since 1970 era, the discussion about fiscal decentralization becomes an important subject. A recent World Bank study found that of the 75 developing and transition countries in the world with populations greater than 5 million, all but 12 claim to be embarked on some transfer of fiscal power from the central to sub national governments. This is a revolution of how people think fiscally. The subject has also attracted many researchers to explore the decentralization system. As such many researchers mainly try to focus that fiscal decentralization would have a significant effect on economic growth. Empirically, these researchers also prove that the decentralization approach of a nation's fiscal structure is an effective strategy to promote economic growth. The central structure of fiscal decentralization is the degree that creates growth-promoting decentralization systems that distinguish decentralization system capabilities in promoting economic growth to a greater or lesser degree. Hence, this paper will provide the empirical evidence for selected Muslim countries where these countries adopt the differences approaches in fiscal decentralization, i.e., transition countries versus countries with a well-functioning fiscal system.

JEL classification: H7; O4
Keywords*: fiscal decentralization; economic growth*

INTRODUCTION

Beginning in the early 1970s, most developing and transitional countries have been either embarked upon or stated their intention to embark upon some type of fiscal decentralization initiative. A recent World Bank study found that of the 75 developing and transition countries in the world with populations greater than 5 million, all but 12 claim to be embarked on some transfer of fiscal power from the central to sub-national governments.

As a result, there has been many of policy discussions on the application and influence of fiscal decentralization.[1] However, the focus is descriptive in nature, concentrating on describing the various types of decentralization programs in different countries or on analyzing the motivations for or implications of these programs. Consequently, most of the findings are based on rather vague, and sometimes, dubious or biased information.

In contrast, the empirical evidence quantifying the effects of fiscal decentralization has been limited to examine the impact of fiscal decentralization on economic growth. The samples are limited to a group of countries, for example developed and developing countries (e.g. Jin and Zao (2002)) or a single country for example United States (e.g. Akai and Sakata (2002))

[1]Refer to world bank's website, publications.worldbank.org

and China (e.g. Zhang and Zou (1998). The results are also mixed. There is no such empirical evidence used the data in Muslim countries, although the fiscal decentralization was introduced in the Muslim era during the early days.

Hence, this paper is an attempt to examine the effects of fiscal decentralization on economic growth in selected Muslim countries. Using an econometric analysis of a panel of 4 Muslim countries, we try to demonstrate how the allocation of fiscal revenues and expenditures between the national government and sub-national governments affect economic growth. The study is motivated by combining countries with different approaches and degree of fiscal decentralization. We find that expenditure decentralization leads to smaller economic growth.

The remaining discussion of this paper is organized as follows. The second section will discuss the theoretical background. Then, the model, data sources and description will be explained in section three. The stylized facts about the fiscal decentralization in the selected Muslim countries are discussed in section four. The regression results are reported in section five. Section six is produces the conclusions and suggestion for further research.

THEORETICAL BACKGROUND

A common question in the literature on economic growth is whether all fluctuations are alike. However, the current studies (among others Barro (1991), Mankiw, Romer and Weil (1992), and Fatas (2000)) show that the differences in economic growth across countries provide a good benchmark to test the predictions of alternative theories of the cause of economic fluctuations. Nelson and Plosser (1982) argue that the output fluctuations are driven by aggregate demand (such as monetary disturbances). However, other researchers consider to include domestic and foreign capital (see, Balasubramanyam, Salisu and Sapsford (1996)); inflation rate (see, DeGregorio (1992), Fischer (1993)); and financial development (see, Greenwood and Jovanovic (1990) and De Gregorio and Guidotti (1995)); as an additional explanatory variable or as a test of individual variable such as export (see, Balassa (1978), Feder (1982), and Frankel and Romer (1999)); population (see, Kapuria-Foreman (1995) and Darrat and Al-Yousif (1999)). The inclusion of these variables are to ascertain the differences in growth rates across countries.

A few researchers such as Barro (1991) and Fisher (1993) add the size of the government sector as an important factor to economic growth. However, the failure of centralized economies worldwide has reinforced faith in the vitality of market-driven economies. Hence, advocates of an expanded role of government are in retreat.

The government's role is largely important to provide the environment through which profit-maximizing firms can respond swiftly to consumer needs. Therefore, there is a need to assess the effects of the general flow of government services on the productivity of the private sector of an economy and more specifically, the impact of public sector investment on private decision-making.

Here, government activity may indirectly increase the total output of a country through its interaction with the private sector. It provides that public goods and services such as legal and social framework which enhance the voluntary exchange relationship and productivity of society through the enforcement of property rights. Additionally, government has authority to remove or regulate negative externalities. A government can provide the economic infrastructure to facilitate economic growth and improve resource allocation. Government transfer payments can help to maintain so-

cial harmony and improve labor force productivity. Government can also prevent foreign exploitation and its military defense can improve capital security and government expenditure on health and education can improve labor force vibrancy and productivity. Finally, subsidies to targeted export industries can improve trade balance and accelerate economic growth.

Therefore, lately, many economists such as Martinez-Vazquez and McNab (2001) and Jin and Zou (2002) have suggested the effectiveness of the government's role in public service provision and created a presumption in favor of reducing the size of the public sector by giving more power to sub-national governments. Hence, fiscal decentralization is seen as a mechanism to control the growth of the public sector. Both also argue that the increased interest on fiscal decentralization appears to be fueled by their belief that fiscal decentralization is an effective tool to produce an efficient governance, macroeconomic stability, and adequate economic growth. In addition, the rush to decentralize can also be seen as a reaction to the failure of many centralized economies in developing and transition countries. Here, decentralization is seen as a way to break the central government's grip on the economy by shifting fiscal authority to sub-national governments.

The growing interest in fiscal decentralization has encouraged many researchers to produce an empirical works for different sample of countries. The empirical works are limited to examine the impact of fiscal decentralization on economic growth. The results are also mixed. The recent empirical evidences focusing on those relationships include Zhang and Zou (1998), Davoodi and Zou (1998), Woller and Phillips (1998), Lin and Liu (2000), and Martinez-Vazquez and McNab (2001). These studies produce many arguments to channel the effect of fiscal decentralization on economic growth. In the first channel, they use the production function with two inputs: production capital and public spending. The introduction of public spending by different levels of government would create a potential link between fiscal decentralization (i.e. differential effects of spending by the two levels of government) and growth.

In the second channel, they believe that government spending would increase economic efficiency, since sub-national governments are better positioned to deliver public services and goods that match local preferences and needs than the national government. Over time, efficiency gains lead to fast sub-national as well as national economic growth.

However, the provision of public goods and services may encourage the sub-national government to increase taxes. Then, taxation may distort economic incentives towards savings and investment which later may not generate the economic growth.

METHODOLOGY

Following Xie et al. (1999), and Akai and Sakata (2002), the model that relate the fiscal decentralization and growth can be written as:

$$g_{i,c} = \alpha_0 + \alpha_1 D_{i,c} + \alpha_2 X_{i,c} + e_i \quad \text{..... (1)}$$

where i and c refer to state i and country c; g represents the annual growth rate of per capita gross state product; D represents indicators of fiscal decentralization in state i; X is control variables comprising state characteristics; and e is an error term.

In this study, we use three different measures of fiscal decentralization as suggested by Akai and Sakata (2002), i.e., the ratio of sub-national government revenue to total government revenue (revenue indicator, RI), the ratio of sub-national government expenditure to total government expenditure (production indicator, PI), and the production-revenue indicator (PRI), i.e., (PI+RI)/2.

We also include a large number of country economic characteristics in the empirical model to capture all the relevant economic effects on growth after controlling for differences across countries. Following Romer (1987), we simplify the growth model that can be explained by either growth of labor or growth of capital and the residual. Within this framework, we will investigate the residual by looking at the role of various economic policies that a number of the "new" growth theories have identified as potential determinants of economic growth. We will provide a brief summary here.

Inflation. Appropriate use of monetary policy is thought to promote a stable financial environment necessary for economic growth by maintaining a low inflation rate. We use, as suggested by DeGregorio (1992) and Fischer (1993), the rate of inflation as our indicator of the effects of monetary policy and macroeconomic stability.

Openness. The role of international trade in economic growth has been debated for over two centuries. The studies of Balassa (1978) and Frankel and Romer (1999) have included an indicator of export performance in explaining economic growth. They produce a proposition that more outward-oriented economies tend to grow faster. This proposition has been tested extensively and the majority of the evidence tends to support this proposition.[2] A measure frequently used is the share of trade (export plus import) in GDP. We believe that this to be a preferable measure of openness; economies that adopt more outward-looking policies will experience faster growth in this ratio.[3]

Financial development. Since the pioneering contributions of McKinnon (1973), the relationship between financial development and economic growth has remained an important issue of debate. In recent years, a number of authors (among others, Bencivenga and Smith (1991), Greenwood and Jovanovic (1990), and De Gregorio and Guidotti (1995) have dealt with different aspects of this relationship at the both the theoretical and empirical levels. The indicator that they choose when reporting results from cross-country regressions was the log of domestic credit.

Since the estimation for equation (1) uses the panel data and relate to individual country, so there is subject to be heterogeneity in these countries over time. In order to take such heterogeneity explicitly into account in our estimation procedure, several assumptions about the error term have to be made. Therefore, in our estimation, three different errors are assumed, i.e., fixed, random and time effects.

All countries that are included in our study have data for at least two levels of government in the International Monetary Fund's *Government Financial Statistics* (GFS). Based on the availability of data, primarily at the sub-national level, we end up with 4 out of 57 countries (refer to www.sesrtcic.org or the list of OIC member countries). These countries are Indonesia (from 1976 to 2000), Kazakhstan (from 1996 to 2000), Kyrgyzstan (from 1996 to 2000), and Malaysia (from 1973 to 2000).

STYLIZED FACTS

Table 1 provides some descriptive statistics on government sizes for each country. On average, public sectors at sub-national and national for the selected countries stand at 5.3% and 21.0% respectively. Moreover, sub-national government size varies less significantly compared to national government size as indicated by the standard deviation (1.3% versus 2.1%). The descriptive statistics of each countries show

[2] For most recent overview and empirical testing of this proposition, see Frankel and Romer (1999).
[3] This finding is supported by Balasubramanyam, Salisu and Sapsford (1996)).

that in selected Muslim countries, sub-national government size varies from 2.7% of GDP in Indonesia to 7.2% in Kyrgyzstan. Over the same time period, the national government size ranges from 17.4% of GDP in Kyrgyzstan to 24.5% in Malaysia.

As indicated earlier, three different variables are used to proxy the level of fiscal decentralization: revenue indicator (measured as the ratio of sub-national government revenue to total government revenue), production indicator (measured as the ratio of sub-national government expenditure to total government expenditure), and production-revenue indicator (measured as half of the sum of revenue and expenditure indicators). Table 2 summarizes the descriptive statistics of these fiscal decentralization measures for each country. Generally, revenues are 0.1% more decentralized than expenditure as shown by the mean values. In addition, transition countries (Kazakhstan and Kyrgyzstan) are more decentralized than others (Indonesia and Malaysia) in both revenues and expenditures (32.9% and 18.1% for transition countries versus 2.7% to 14.3% for others). Production-revenue indicator is larger in the transition countries than in other countries (i.e, 31.0% and 21.4%, and 6.4% and 15.0%, respectively).

Table 1: Descriptive statistics of government sizes for each country

Country	Sub-national government size				National government size			
	Mean	Max	Min	S.D.	Mean	Max	Min	S.D.
Indonesia	0.027	0.035	0.021	0.004	0.194	0.237	0.161	0.021
Kyrgyzstan	0.072	0.084	0.063	0.008	0.174	0.183	0.164	0.008
Kazakhstan	0.052	0.069	0.035	0.024	0.228	0.242	0.214	0.020
Malaysia	0.059	0.098	0.035	0.016	0.245	0.375	0.182	0.034
Average	0.053	0.072	0.039	0.013	0.210	0.259	0.180	0.021

Table 2: Descriptive statistics of federal decentralization measures for each country

Country	Revenue indicator				Production indicator				Production-revenue indicator			
	Mean	Max	Min	S.D.	Mean	Max	Min	S.D.	Mean	Max	Min	S.D.
Indonesia	0.027	0.037	0.016	0.006	0.101	0.125	0.055	0.021	0.064	0.081	0.036	0.013
Kyrgyzstan	0.181	0.266	0.146	0.049	0.247	0.266	0.234	0.012	0.214	0.266	0.190	0.030
Kazakhstan	0.329	0.351	0.291	0.025	0.291	0.345	0.209	0.066	0.310	0.345	0.250	0.045
Malaysia	0.143	0.179	0.106	0.022	0.157	0.216	0.108	0.026	0.150	0.176	0.107	0.019
Average	0.170	0.209	0.137	0.025	0.202	0.245	0.152	0.030	0.186	0.221	0.146	0.019

REGRESSION RESULTS

Table 3 reports the regression results on how fiscal decentralization affects economic growth using the fixed-, random- and time-effects approach. These results are based on three different types of indicator for fiscal decentralization. By comparing the P-values of Hausman tests, we could conclude that the fixed-effects produce better results.

The empirical findings can be stated as follows. The primary finding is that the estimated coefficients on fiscal decentralization (rows 2, 3 and 4, Table 3) are negative and statistically significant at the 5% levels. This finding provides evidence that fiscal decentralization contributes to smaller economic growth. It is important to note that this finding is not consistent with the results in previous studies. Moreover, it should be emphasized that production and production-revenue indicators, which are similar to Akai and Sakata (2002), are negatively signed and statistically insignificant in a regression with an unbalanced set of data. However, our data set has the advantage that variations between observations are relatively small, which facilitates adjustment for country-specific effects.

Concerning the estimated coefficients of other country characteristics, some conclusions appear from the results in Table 3. While some variables significantly affect economic growth, others have insignificant coefficients. Detailed discussion follows.

First, we have controlled for the roles capital by using variable i.e., the ratio of gross fixed capital formation to GDP or growth of capital, respectively. The growth of capital has the expected positive effect, which is statistically significant in regressions that include production indicator (column 3, Table 3). This result means that the variable represents the real benefit of capital formation for the effect on economic growth.

Second, the estimated coefficient of the ratio of the sum of imports and exports to GDP is negative and significant at the 1% level in all regression models. This means that the degree of openness isn't an important determinant of economic growth on that selected countries.

Third, the estimated coefficient of bank credit is positive, as expected, and significant at the 1% level in all regressions (row 6, Table 3). The results support the hypothesis that the effects of financial intermediation on growth, as indicated by most of the literature, are primarily transmitted through an increase in the bank credit of the banking system. Finally, significant coefficients were observed for inflation rate.

Table 3: Decentralization and economic growth (fixed effects)

Explanatory variable	Dependent variable: per capita growth rate		
	Coefficients	Coefficients	Coefficients
Revenue indicator	0.5713 (0.1804)*	–	–
Production indicator	–	-0.0759 (0.0727)	–
Production-revenue indicator	–	–	-0.0674 (0.1160)
Ratio of gross fixed capital formation to GDP	0.6081 (0.0246)*	0.4196 (0.0183)*	0.6078 (0.0220)*
Ratio of the sum of imports and exports to GDP	-0.1669 (0.0100)*	-0.0534 (0.0050)*	-0.1281 (0.0082)*

CONCLUSIONS

This paper is an attempt to examine the effects of fiscal decentralization on economic growth in some selected muslim countries. Using an econometric analysis of a panel of 4 selected muslim countries, we find that revenue decentralization leads to economic growth. The expenditure decentralization leads to smaller economic growth and the production-revenue indicator also leads to smaller economic growth. Controlling for country variables, the analysis show that fiscal decentralization plays an important role in the selected countries. As indicated, the results also indicate that several other factors, i.e. the degree of openness and bank credit affect economic growth. Finally, it is important to note that, although the results of this paper provide evidence of a contribution to economic growth. Further researches that look at the legal system in these countries are worth to be explored. Because the central structure of fiscal decentralization is the legal system that creates growth-promoting decentralization systems that distinguish decentralization system capabilities in promoting economic growth to a greater or lesser degree. From this perspective, a well-functioning legal system will facilitate the operation of both government and fiscal decentralization that improves the efficient allocation of resources and economic growth.

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