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Further evidence on revenue decentralization and inflation☆

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Abstract

Results from a panel regression study of 19 OECD member countries suggest that when the measure of revenue decentralization is limited to the revenues over which sub-national governments have full autonomy, its impact on inflation is not statistically significant.

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1. Introduction

Recent papers by King and Ma (2001) and Neyapti (2004) found that revenue decentralization, measured as the proportion of tax revenues accruing to sub-national governments, have a significant negative effect on inflation and that this effect is accentuated by central bank legal independence. Their results are potentially important in that they contrast with much of the literature on fiscal decentralization and macroeconomic stability, which tends to stress the possible problems for macroeconomic policy coordination (e.g., Tanzi, 1995; Ter-Minassian, 1997).¹ The King-Ma-Neyapti results would suggest that

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¹ Empirical evidence on the actual impact of fiscal decentralization on macroeconomic variables is scarce, though Part III of Ter-Minassian (1997) has several interesting descriptive event studies of destabilizing fiscal decentralizations.

☆ The views expressed in this paper are those of the author and should not be attributed to the International Monetary Fund.

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fiscal decentralization, even if it complicates policy coordination, ultimately leads to a more conservative fiscal policy at the level of the consolidated government. However, a potentially serious problem with their estimates is that the measure of revenue decentralization used makes no distinction between revenues from tax sharing that involve little real autonomy on the part of sub-national governments, and these governments’ ‘own-source’ tax revenues, where they exercise some degree of control over the tax rate, the tax base, or both. In this regard, recent surveys of fiscal relations by Joumard and Kongsrud (2003) and Darby, Muscatelli, and Roy (2003) show that limits on the discretion of sub-national governments to determine tax rates and tax bases significantly reduce local fiscal autonomy. In addition, tax sharing arrangements sometimes leave sub-national governments with little or no power to influence the revenues accruing to them individually, and even when they have such powers they are sometimes reluctant to use them. As such, I examine the issue of revenue decentralization and inflation focusing on the share of the revenues of sub-national governments over which they have full autonomy. Results from panel least squares regressions suggest that, when measured in this way, the impact of revenue decentralization on inflation is not statistically significant.

2. Data and methodology

In a recent study, the OECD (1999) showed the degree of revenue autonomy of sub-national governments in 19 OECD member countries in 1995 by calculating the amount of their revenue stemming from the tax rates and the tax base over which they had full discretion. Of the 19 countries, sub-national governments had full discretion over own-revenues revenues in only four of them, in a further nine countries they had full discretion over less than two-thirds of their revenues, and in a further five countries they had full discretion over less than 15% of own-tax revenues. A reasonable annual time series proxy for the own-revenues over which sub-national governments have full discretion can be constructed by weighting annual data on total tax revenues received by sub-national governments (in percent of national and sub-national revenues) by the 1995 share of discretionary revenue. Fig. 1 relates the total tax revenues of sub-national governments to their discretionary revenues calculated in this way for the period 1980–2000. The vertical axis shows the tax revenue received by sub-national governments relative to total taxes and the horizontal axis plots the revenue over which they have full discretion relative to total taxes. The great majority of countries are located in the southwest corner of the figure and are those in which the sub-national governments have the least degree of autonomy. This makes it clear that the King-Ma-Neyapti studies substantially overstate the degree of fiscal decentralization. Against this background, I

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2 These authors do not specify the mechanism by which revenue decentralization impacts upon inflation, which presumably is related to whether it promotes or subdues fiscal dominance.

3 Specifically, the OECD used a classification of sub-national tax revenues ranging from (a) where the sub-national government can set both the tax rate and the tax base, to (e) where the central government sets both the base and the tax rate. Tax sharing schemes are divided into four categories from (d.1) where the sub-national government can determine the revenue split, to (d.4) where the national government can decide the revenue split. The countries included in the study were Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Hungary, Iceland, Japan, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

4 The sample period was ended in 2000 because of fiscal reforms in the late 1990s that changed the degree of autonomy over revenues in several of the countries, increasing it in some and reducing it in others (see Joumard and Kongsrud, 2003).
compare the results from least square panel estimates of inflation in which revenue decentralization is measured alternatively as total tax revenue accruing to sub-national governments, $RD$, and as just those own-revenues over which sub-national governments have full discretion, $RD_{adj}$ (both series in percent of the sum of national and sub-national tax revenue).

The empirical approach largely follows Neyapti (2004), where the dependent variable, $p$, is a linear transformation of the annual inflation rate that scales it down to a range of between zero and one, and there are control variables for government size, $GOV$, which is represented by government spending in relation to GDP, for business cycle effects, $GROWTH$, represented by real GDP growth per capita, and for the openness of the economy, $OPEN$, which is captured by the sum of exports and imports in relation to GDP. The control variable for monetary policy is either an index of legal central bank independence, or adherence to a fixed exchange rate regime. Following Cukierman et al. (1992), legal central bank independence, $CBI$, gives the central bank greater scope to implement an anti-inflationary monetary; and following Gosh et al. (1997), a fixed exchange rate regime, $FX_{fixed}$, should reduce inflation because it is typically associated with lower money supply growth and increased money demand.

The panel comprises the 19 OECD member countries for which data on the degree of revenue autonomy in 1995 was available. Data on the share of sub-national government tax revenue in total tax revenue is from the annual OECD publication *Revenue Statistics*. The index of central bank legal independence is from Cukierman et al. (1992) recently updated by Polillo and Guillén (2005). Data for government size, real GDP growth per capita, and openness are from the Penn World Table (version 6.1), and for inflation is from the OECD main economic indicators database. The fixed exchange rate regime dummy is based on the classification system of Sturzenegger and Levi-Yeyati (2005), with the dummy taking the value of 1 when the country adheres to fixed exchange rate regime and zero otherwise. Data are annual for the period 1980–2000, with the exceptions of the Czech Republic (1993–2000), Hungary
3. Results

The regression results are reported in Table 1. While the coefficient of RD is negative and significant (Eqs. (1), (3) and (5)), as in the King-Ma-Neyapti papers, the coefficient of RD_adj is not statistically significant (Eqs. (2), (4) and (6)). Thus, when properly measured, revenue decentralization does not appear to impact on inflation. The coefficients for most of the control variables are highly statistically significant, with the exception of that for CBI as the monetary policy proxy (Eqs. (3) and (4)), which is not significant; in contrast, the coefficient on the fixed exchange rate regime proxy for monetary policy is negative and significant (Eqs. (5) and (6)). Of the other control variables, real GDP growth and openness are associated with lower inflation, and large governments with higher inflation.

(1991–2000), and Poland (1991–2000). The estimation technique is (unbalanced) panel least squares with fixed country effects.5

5 The choice of the fixed country effects was based on the Haussman (1979) specification test (Chi-square) which consistently favored fixed over random effects for each equation.
4. Conclusions

Recent studies showing a negative and statistically significant relation between revenue decentralization and inflation failed to take account of the extent of the independent taxing powers available to sub-national governments in measuring revenue decentralization. They thus substantially overstated revenue decentralization in practice. The empirical results presented here suggest that when the measure of revenue decentralization is limited to the revenues over which sub-national governments have full autonomy, its impact on inflation is not statistically significant. In light of these results, how should the finding of King and Ma (2001) and Neyapti (2004) of a link between substantial decentralized revenues and low inflation be interpreted? These results suggest not as a reflection of relatively more responsible fiscal policies at the level of sub-national governments given that, on average, there was little effective fiscal decentralization in the majority of cases, with national governments ensuring fiscal discipline at the sub-national level through administrative controls, centrally imposed rules and other formal cooperation mechanisms (Joumard and Kongsrud, 2003). Rather, it appears that countries that shift a large share of revenues to sub-national governments are able to pursue better policies at the national level. A possible explanation is that revenue sharing arrangements in such countries act to reduce competition for fiscal resources between sub-national governments. For example, one strand of the recent literature on the political economy of fiscal policy (e.g., Lane and Tornell, 1996, 1998; Tornell and Lane, 1998, 1999) emphasizes the role of fiscal competition among multiple power blocs—including state and provincial governments—in undermining national fiscal policy objectives, particularly by promoting procyclical fiscal policy. Agreement between national and sub-national governments on revenue sharing arrangements would appear to be one way of eliminating such pressures and facilitating better fiscal policy.

References