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Fiscal Decentralization and Economic Growth in Central and Eastern Europe

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Fiscal Decentralization and Economic Growth in Central and Eastern Europe

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Abstract

The majority of the literature on fiscal decentralization has tended to stress that the greater capacity of decentralized governments to tailor policies to local preferences and to be innovative in the provision of policies and public services, the greater the potential for economic efficiency and growth. There is, however, little empirical evidence to substantiate this claim. In this paper we examine, using a panel data approach with dynamic effects, the relationship between the level of fiscal decentralization and economic growth rates across 16 Central and Eastern European countries over the 1990-2004 period. Our findings suggest that, contrary to the majority view, there is a significant negative relationship between two out of three fiscal decentralization indicators included in the analysis and economic growth. However, the use of different time lags allows us to nuance this negative view and show that long term effects vary depending on the type of decentralization undertaken in each of the countries considered. While expenditure at and transfers to subnational tiers of government are negatively correlated with economic growth, taxes assigned at the subnational level evolve from having a significantly negative to a significantly positive correlation with the national growth rate. This supports the view that subnational governments with their own revenue source respond better to local demands and promote greater economic efficiency.

Keywords: Fiscal decentralization, economic growth, efficiency, devolution, Central and Eastern Europe

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Fiscal Decentralization and Economic Growth in Central and Eastern Europe

1. Introduction

In recent decades, there has been a growing interest among development specialists, multilateral development agencies, economists, and governments on fiscal decentralization as a primary tool for promoting economic growth (United Nations, 1991; Oates, 1994; Bruno and Pleskovic, 1996). Out of seventy-five developing and emerging economies with populations greater than five million, all but twelve claim to have embarked on some type of transfer of power to local governments (Dillinger, 1994). During this period the World Bank has also embraced it as one of the major governance reforms on its agenda (World Bank, 2000; Burki, Perry, and Dillinger, 1999).

The basic economic arguments in favour of fiscal decentralization rest on two assumptions: (1) that decentralization will increase economic efficiency as local governments are capable of providing better services due to proximity and informational advantages, and (2) that competition and population mobility across local governments for the delivery of public services will ensure the right matching of preferences between local communities and local governments (Tiebout, 1956). Despite this dominant view, there is however little empirical support to substantiate the claims of the economic benefits of fiscal decentralization (Rodríguez-Pose and Bwire, 2004). Overall, the literature on decentralization and economic growth in the context of development is still in its infancy (Bardhan, 2002). Many empirical studies on fiscal decentralization and economic growth show that decentralization has seldom, if ever, lived up to expectations (Rodden, 2002), while others find that the

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effects of fiscal decentralization are different in developed and in developing countries. This is the case of Davoodi and Zou (1997), who conclude that fiscal decentralization is negatively correlated to economic growth in developing countries, but has no significance in developed countries.

This paper discusses the relationship between fiscal decentralization and economic growth in Central and Eastern Europe (CEE). In CEE decentralization has been an essential part of the democratic progression from discredited central governments to elected governments operating under new Constitutions. Using a panel data sample of 16 countries in CEE over the time span 1990-2004, we test the relationship between a decentralized fiscal structure and economic growth rates at national level. Three indicators are used as proxies for fiscal decentralization: subnational expenditure and tax as a percentage of national expenditure and tax respectively, and thirdly, transfers from central government as a percentage of subnational government revenue.

Central and Eastern Europe is particularly interesting for this topic because when communism collapsed in 1989, these countries embarked on a transition from highly-centralized, planned systems to more decentralized market-dominated economies. They have faced many challenges in meeting the necessary requirements to ensure a successful implementation of fiscal decentralization reforms (Prud'homme, 1995). Persistent macroeconomic instability, the legacy of forty years of central planning, and the presence of weak legal systems represented important hurdles for the design of effective decentralized systems. The result has been the implementation of fiscal decentralization processes often criticised for their lack of transparency and of a clear division of powers between the different levels of government. While throughout the region subnational governments have been given greater fiscal responsibilities, in many cases their own revenue sources are still limited. This dependence on revenue either through shared taxes or money transfers from the central government, reduces the incentive for local governments to act in an economically efficient manner (Rodden, 2002).

This paper is organized as follows: section 2 briefly reviews the literature on the link between fiscal decentralization and economic growth; section 3 looks at trends in economic growth rates and fiscal decentralization in Central and Eastern Europe, taking examples from the 16 sample countries; section 4 introduces the methodology, data, and model applied in this study; section 5 presents the regression results and a discussion of the empirical findings. The last section concludes.

2. Fiscal decentralization and economic growth

The rapid growth in the autonomy and responsibilities of subnational governments¹ is one of the most noteworthy trends in governance in recent decades, especially in developing and transition economies (Rodríguez-Pose and Gill, 2003). Fiscal decentralization tends to be a relatively recent phenomenon in transitional and developing countries. In these countries the two main reasons for the emergence of decentralization are either the failures in economic planning by central governments, and/or the changing international economic and political conditions (Smoke, 2001). In these circumstances decentralization has been sold as a means to achieve economic gains, rather than the more traditional objective of decentralization of delivering a better setting for ethnic, religious, cultural, or historical differences within nation-states (Rodríguez-Pose and Gill, 2005). The process of decentralization in transition and in developing countries has resulted in a large variety of devolved systems, with varying degrees of fiscal, administrative, and political powers awarded to subnational governments.

What is the relationship between fiscal decentralization and economic growth? There is no clear cut answer to this question. While most of the theories on fiscal decentralization argue for a positive association between both variables, the empirical evidence is inconclusive, with an increasing number of studies showing a negative correlation between decentralization and economic performance. The

¹ In this paper, the term 'subnational government' includes all levels of government below the national level.

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majority of the empirical studies highlighting a positive association between both factors concern developed countries. Piriou-Sall (1998) and Thießen (2003) find a positive correlation between both variables in the cases of the United States and the OECD, respectively. Piriou-Sall even concludes that “while decentralization is no panacea, it has many virtues and is worth pursuing” (1998: 3). Many studies even indicate that the success of decentralization processes is a consequence of not only the design of the decentralization model but, perhaps more importantly, of country characteristics, and especially of the existence of strong effective institutions at all government tiers (Dabla-Norris, 2006). This could be one explanation why fiscal decentralization seems to have better outcomes in developed countries and less success in developing ones.

Overall, the literature on the link between fiscal decentralization and economic growth can be aligned into two opposing camps: those that tend to highlight the positive connections between both factors and those that dwell on the negative aspects.

Arguments in favour of fiscal decentralization, originally centered around the works of Tiebout (1956), Musgrave (1958), and Oates (1972), claim it promotes higher efficiency, better public service, greater transparency and, eventually, economic growth. First, it is often argued that decentralization increases economic efficiency because local governments are better positioned than the national government to deliver public services as a result of proximity and informational advantage (Klugman, 1994). This proximity is particularly important in low-income countries or emerging markets where, in the absence of market opportunities, vulnerable populations rely heavily on state action for their survival (Besley and Burgess, 2002). Second, decentralized expenditures may lead to greater ‘consumer efficiency’ (Thießen, 2003). As demands are different in each territory, resources can be saved by diversifying governments’ outputs in accordance with local demands (Martínez-Vázquez and McNab, 2003). Population mobility and competition among local governments for the delivery of public services ensure the matching of preferences between local communities and local governments (Tiebout, 1956). Local

governments are thus considered to be better equipped to provide a more adequate service to the local population than central governments (Tiebout, 1956; Ebel and Yilmaz, 2002). Decentralization may thus improve not only the potential for achieving Pareto efficiency, but also for achieving greater economic equality across territories (Ezcurra and Pascual 2008). Third, decentralization is likely to instigate horizontal and vertical competition (Tiebout, 1956) at a local and regional level, forcing governments to concentrate on the efficient production of public goods and services, and limiting the capacity of bureaucrats to act as revenue maximizers (Brennan and Buchanan, 1980; Breton, 1983; Thießen, 2003). More recently, some have argued that decentralization may also serve to preserve and promote the development of markets. Weingast (1995) and McKinnon (1997) suggest that appropriately structured intergovernmental fiscal arrangements may create sufficient incentives for subnational governments to foster markets. Moreover, if the central government is a source of policy inefficiency, decentralization may improve resource allocation, foster market development, and, in turn, promote economic growth (Martínez-Vázquez and McNab, 2003). Finally, fiscal decentralization is frequently seen as a means of increasing democratic participation in the decision-making process (Dabla-Norris, 2006), allowing for greater transparency and accountability (Putnam, 1993; Azfar et al, 1999; Ebel and Yilmaz, 2002).

In contrast to these arguments, a wide range of studies show that decentralization has seldom, if ever lived up to expectations (Morgan 2006 and 2007). Some studies even consider it harmful, especially in the case of developing and transition economies (Rodden, 2002). This scepticism is fuelled by problems often associated with decentralization, such as increasing deficits, lower quality of government decisions, corruption, increased influence of interest groups, and greater interregional inequalities, which may result in lower overall economic growth (Prud'Homme, 1995).

It is often the case that carefree subnational governments have built up unsustainable deficits and called upon central governments to assume their liabilities and in some cases provide special bailout transfers, as has been the case in Brazil (Rodríguez-Pose

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and Gill, 2003). In rapidly decentralizing countries like Mexico, Spain, and South Africa, subnational deficits have increased at an alarming rate (Rodden, 2002). Recent studies have tended to find that increasing subnational deficits lead to higher central government expenditures and debt along with higher inflation rates (Treisman, 2000). This is especially a concern in the case of the fast implementation of decentralization in parts of Central and Eastern Europe. It is also difficult for governments to implement macroeconomic stabilization in decentralized frameworks, because of the considerable economic 'leakage' associated with local expenditures (Martínez-Vázquez and McNab, 2003). The information and accounting mechanisms for monitoring public bureaucrats are also weaker in low-income countries (Illner, 1999). As local democracy and political accountability tend to be vulnerable in developing and transition economies, the delivery of resources and public services is considered to be at greater risk of corruption and opportunistic behaviour at lower levels of government. Fiscal decentralization can also reinforce regional inequalities to the detriment of overall economic growth (Rodríguez-Pose and Gill, 2004). Decentralization can make it less likely that certain regions benefit from sharing of best practices and economies of scale and as in many less developed regions the level of training of staff in local government is lower than elsewhere, even managing basic tasks such as accounting and record-keeping can become problematic (Odero, 2004).

Given these caveats, it is often argued (e.g. Prud'homme, 1995) that fiscal decentralization is fundamentally suitable for developed countries. Decentralization is thus regarded as a superior good (Martínez-Vázquez and McNab, 2003): only at relatively high levels of per capita income does it become 'attractive' to taxpayers, who can exploit its benefits without experiencing the problems that tend to be associated with it in lower income countries (Bahl and Linn, 1992). Prud'homme (1995) argues that there appears to be a critical mass of income, population, and economic activity above which the benefits of decentralization can be realized.

While the nature and extent of decentralization to date has been shaped in large measure by political, historical, and ethnic realities, its effectiveness is influenced by

the institutional design and capacities at all tiers of government. The successful implementation of fiscal decentralization requires the presence of a comprehensive institutional framework and, in emerging and developing economies, where institutions are still in the early stages of development, designing successful decentralization policies has proved difficult. In the case of Central and Eastern European countries the combination of efforts aimed at achieving macroeconomic stabilisation after the collapse of Soviet-communism, together with fundamental structural changes in the economy, and political and ethnic conflicts, has created an extremely complex setting for fiscal decentralization. A main challenge for these transition economies has been to reap the economic benefits of decentralization while maintaining control over public expenditures and borrowing, restoring growth, and improving the accountability of local governments.

3. Fiscal decentralization in Central and Eastern Europe

Since the beginning of the 1990s countries in Central and Eastern Europe have undertaken comprehensive reforms of intergovernmental fiscal systems. For example the 'Fiscal Decentralization Initiative'² currently operated by the OECD, the World Bank, the Council of Europe, the Open Society Institute (Budapest), the UNDP, and USAID, together with smaller country specific organizations (OECD, 2002), has the designated task of implementing fiscal decentralization across CEE. In retrospect, decentralization throughout the region has mainly been motivated by both antipathy to the former centralized communist system and by a desire to improve the prospects of joining the EU with all its promised economic benefits at a regional level.

When Soviet-imposed communism collapsed in Eastern Europe in 1989, Central and Eastern European countries began the transition from their highly-centralized, planned economies to market-dominated decentralized ones. The centralized state

² The Initiative is a grant program designed to assist this region in carrying out governmental and management reforms aimed at fiscal decentralization. For further information visit www.oecd.com

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lost a great deal of legitimacy in the region because of its many previous failures, and decentralization by contrast seemed to promise a range of benefits (Bardhan, 2002). This was supported both by theoretical arguments of economic benefits, as outlined in the previous section, and by the perceived evidence of successful decentralization reforms in parts of the EU. Notably for CEE the political factor of accession to the EU has shaped attitudes towards fiscal decentralization reforms, especially in the Baltic states, the Czech Republic, Poland, and Hungary. The prospect of participating in European regional programmes and becoming integrated with the transnational European structures of inter-regional cooperation has incentivized some CEE countries to design its regional structures in compatibility with those in Western Europe.

The nature and pace of reforms across countries has however been uneven. CEE countries have decentralized at different paces and to different levels. These different degrees of decentralization as well as scope of intergovernmental fiscal reform in the region reflect, among other things, historical, political, ethnic, geographic, and demographic differences (see Table 1). For instance, countries with larger populations or geographic areas, such as Russia and Poland, are likely to require a greater decentralization of public service provision to subnational governments than smaller countries, such as Estonia, Latvia, or Moldova (Alesina and Spolaore 1997; Panizza 1999; Arzaghi and Henderson, 2005). Similarly, overall wealth, economic growth, and the degree of democratization (Arzaghi and Henderson, 2005) and population growth and urbanization (Wallis and Oates, 1998) are considered to influence the level of decentralization. And traditionally more ethnically diverse countries, such as Russia and Croatia, may have a greater need for fiscal decentralization than other ethnically more homogeneous transition economies, such as Poland (Arzaghi and Henderson, 2005; Dabla-Norris, 2006).

Table 1 Country Characteristics and Structural aspects of fiscal decentralization, 2001

Country	Population (in million)	Area (1000s of sq km)	Ethnicity (No of ethnic groups)	No of Subnational governments	No of Top Tiers	Population Average (regions)	No of Lowest Tiers	Population Average (Municipalities)
Albania	3.3	27.4	6	3	12	275.000	374	9.000
Azerbaijan	7.5	86.6	5	2	71	107.000	-	-
Belarus	10.3	207.5	5	3	7	1.454.000	133	58.000
Bulgaria	8.4	110.6	7	2	9	921.000	255	33.000
Croatia	4.8	55.9	6	3	20	230.000	423	10.900
Czech Republic	10.3	77.3	7	3	14	740.000	6.292	1.700
Estonia	1.5	42.3	6	2	15	96.000	247	6.000
Hungary	10.2	92.3	6	2	7	3.200	3.177	3.200
Latvia	2.5	62.1	6	3	33	71.527	541	2.219
Lithuania	3.7	64.8	5	2	10	371.000	56	66.000
Moldova	4.3	33.0	7	2	11	390.000	911	4.300
Poland	38.6	304.4	4	3	16	2.419.000	2.483	16.000
Romania	22.7	230.3	9	2	41	548.780	2.948	7.632
Russian fed	147.0	16.880.0	8	3	89	1.652.000	2.337	63.000
Slovak Rep	5.4	48.1	9	3	37	145.1	2.834	1.900
Slovenia	2.0	20.1	5	2	-	147	13.600	-
Maximum	147.0	16.880.0	9	3	89	2.419.000	13.600	66.000
Minimum	1.5	20.1	4	2	7	145.1	56	1.900

Source : IMF country economists: Dunn and Wetzel. 2000: Dabla-Norris. 2006

In order to underline this diversity we now focus on the general trends in the evolution of three of the main fiscal decentralization indicators in CEE countries: subnational expenditure, subnational tax, and transfers from central governments.

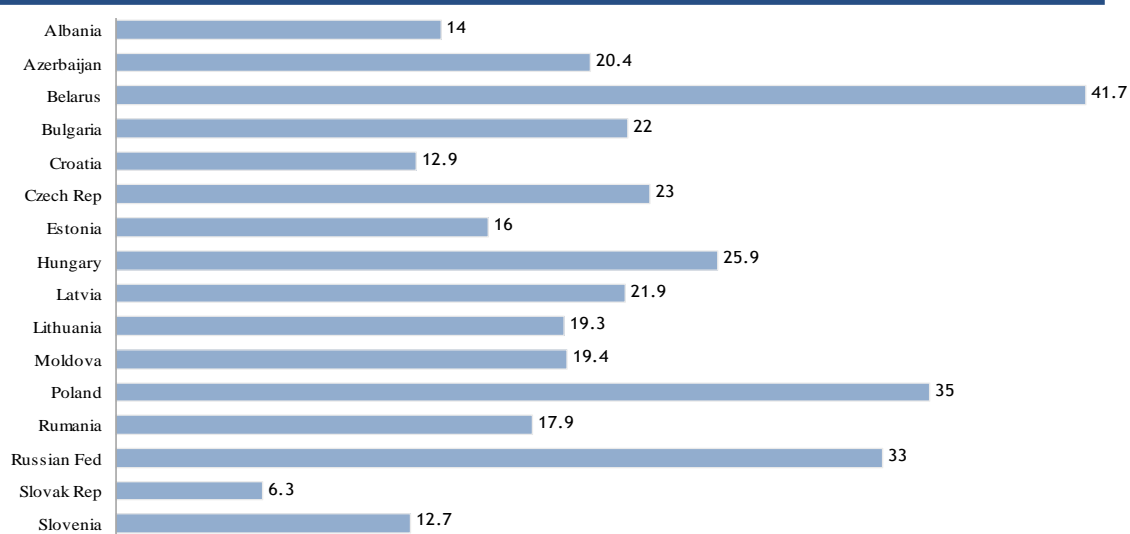
3.1. Subnational expenditure assignment

In CEE subnational governments account for a growing share of public sector responsibilities for many services formerly provided by the central government (Bird et al, 1995a). This rise has not only been significant, but often also very rapid. Local government expenditures as a percentage of consolidated government expenditures in Hungary, for example rose from 22.3 percent in 1988 to 30.4 percent in 1993. This percentage however had decreased to 26 percent by 2000. As illustrated in Figure 1, there is a wide variation across the country sample, ranging from more than 42 percent in Belarus to 6 percent in the Slovak Republic. Considering the different country characteristics presented in Table 1, the low values for Albania, Croatia, Estonia, or Slovenia match expectations of relatively centralized fiscal systems.

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Similarly, the size and greater diversity of Russia is partially reflected in a more decentralized system of government. However, the level of fiscal decentralization does not always match expectations, with Belarus – a relatively small and homogeneous country – having, at least on paper, the highest level of fiscal decentralization and Poland – the most homogeneous country in the sample – following suit. In contrast, the ethnic diversity of the Slovak Republic is not reflected in a high fiscal decentralization.

Figure 1 Subnational Shares of General Government Expenditures in %



Source: Data from IMF International Financial Statistics, 2000

The growth in subnational expenditure capacity has not come without problems. In many countries there has been a lack of clear formal rules of expenditure assignment. While some of the countries with more advanced devolved systems (called advanced reformers in Table 2), such as the Czech Republic, Hungary, Poland, Estonia, and Lithuania, have managed to minimise the problems of overlap in competences between different tiers of governments, in most other countries this is far from being the case (Dabla-Norris, 2006).

Table 2 EU Membership and status of reform

Sample Countries	EU Application	EU Membership	Status of Reform
Albania	2003	-	Intermediate
Azerbaijan	-	-	Slow
Belarus	-	-	Slow
Bulgaria	1995	2007	Intermediate
Croatia	2003	-	Intermediate
Czech Republic	1996	2004	Advanced
Estonia	1995	2004	Advanced
Hungary	1995	2004	Advanced
Latvia	1995	2004	Advanced
Lithuania	1995	2004	Advanced
Moldova	-	-	Intermediate
Poland	1995	2004	Advanced
Romania	1996	2007	Intermediate
Russian Federation	-	-	Intermediate
Slovak republic	1995	2004	Advanced
Slovenia	1995	2004	Advanced

Source: UN website. Status of Reform Dabla-Norris 2006

Even in some of the advanced reformers, the efficiency of service delivery is often compromised due to the excessive fragmentation of municipalities, especially in countries such as Hungary and the Czech Republic (see Table 1), where very small local governments are required to provide a broad range of services³.

Furthermore, effective expenditure autonomy at the subnational level has been limited in most transition economies. In a number of countries, such as Albania, Moldova, Romania, and Russia the distribution of spending responsibilities remains unclear (Dabla-Norris, 2006). In Russia, for instance, the ambiguity in the assignment of the authority to regulate spending assignments has compromised subnational budgetary positions (Rodden et al., 2003) and constrained the authority of subnational governments to adjust current expenditures. In Bulgaria, 90 percent of actual local expenditure in 1999 was not under the control of local authorities (McCullough et al., 2000). This is in contrast to the situation in Hungary, Poland, Estonia, Latvia, and the Czech Republic, where the law grant subnational governments greater flexibility in service delivery (Dabla-Norris, 2006).

³ The average population of Hungary's municipalities is 3,200 and over half of the municipalities have a population below 1,000 (Wetzel and Papp, 2003). 86 percent of the municipalities in the Czech Republic have fewer than 1,500 inhabitants, and 42 percent have fewer than 300 inhabitants (Do Carmo Oliveira and Martínez-Vázquez, 2001; Dabla-Norris, 2006).

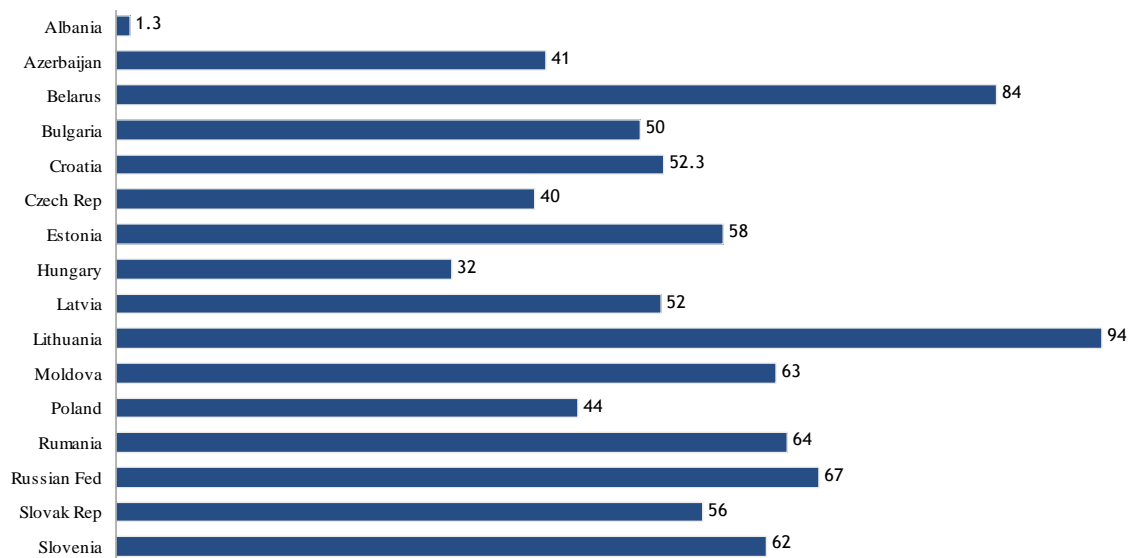
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A sound and efficient fiscal decentralization design requires a close correspondence between responsibilities and decision-making authority. However, in general, the lack of clarity and stability in expenditure assignments have detracted from accountability at all levels of government (Dabla-Norris, 2006). As illustrated in Figure 1, subnational governments have in general significant expenditure responsibilities, however while the amount of subnational expenditures are likely to persist or even increase, central governments have frequently tried to hold back on transfers and authority to limit the capacity of subnational tiers of government to impose local taxes (Dabla-Norris, 2006). As a consequence, the source of revenue at the subnational level will become even more crucial in the design of fiscal decentralization.

3.2. Subnational tax assignment

In the realm of subnational taxation, as a consequence of the need to redesign the public sector revenue system during the transition from command to market economy, central governments have also tried to reduce money transfers while increasing local revenue sources, such as taxes, in an effort to create more self-sufficient subnational governments.

However, the degree of tax efficiency depends largely on the real autonomy of subnational governments in determining their own tax base. As seen in Figure 2, assigned tax revenues range from as high as 94 percent in Lithuania and 84 percent in Belarus to 1.3 percent in Albania. However, subnational governments in the former countries have little spending autonomy (Dabla-Norris, 2006).

Figure 2 Subnational Taxes as a percentage of Subnational Revenues

Source: Data from IMF International Financial Statistics, 2000

In CEE the financing of local governments is mainly achieved through tax sharing⁴ and transfers from other levels of government (Table 3). Only the advanced reformers have devolved some revenue autonomy to subnational governments, although they still rely on the central government for the main part of their revenues (Dabla-Norris, 2006). For example in the Czech Republic, the Slovak Republic, Hungary, and Poland the share of 'own' revenue (over which they have policy control and collect themselves) ranges from 33 to 40 percent.

⁴ The formal basis for setting tax sharing rates is the central government estimates of each region's 'minimum' expenditures needs. This practice has had negative effects, through the customised and yearly changing sharing rates, and compensations, through non-transparent transfers to fill the subnational budget gaps (Dabla-Norris, 2006)

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Table 3 Degree of tax sharing vs own financing of subnational governments, most recent year

	Own taxes as % of total SNG revenue	Own non-tax revenue as % of total SNG revenue	Own revenue as % of total SNG revenue (excl. grants)	Sub-national tax revenue as % of total SNG revenue tax	Distribution of SNG revenues	Distribution of SNG revenues	Degree of autonomy	Degree of autonomy
					Sharing	Own	Set Base	Set Rate
Albania	0.0	1.6	1.6	35.7	100.0	0.0	None	None
Azerbaijan	-	8.0	-	-	55.0	45.0	None	None
Belarus	6.0	4.1	10.1	96.0	93.8	6.2	None	Some
Bulgaria	-	11.9	-	72.9	90.0	10.0	None	None
Croatia	-	-	-	55.8	85.0	15.0	Limited	Limited
Czech Rep.	3.9	36.3	40.2	47.7	91.7	8.3	Limited	Limited
Estonia	6.3	9.1	15.4	62.0	89.2	10.8	None	Some
Hungary	6.3	17.0	33.3	18.0	67.4	32.6	None	High
Latvia	0.0	16.1	16.1	55.2	100.0	0.0	None	None
Lithuania	0.0	4.8	4.8	-	-	-	None	Some
Moldova	15.4	12.4	27.8	80.4	80.9	19.1	None	None
Poland	10.6	24.6	35.2	40.0	57.7	42.3	None	High
Romania	-	12.6	-	73.3	75.0	25.0	None	Some
Russian Fed.	34.4	9.1	43.5	86.0	60.0	40.0	None	None
Yugoslavia	-	-	-	71.5	8.0	92.0	None	None

Source: : IMF country economists; Dabla-Norris, 2006

While the most advanced reformers (see Table 2), such as Hungary (33 percent), appear to have fairly high shares of 'own' revenue (Dabla-Norris, 2006), the generally low level of revenue autonomy, particularly among the intermediate and slow reformers, reflects weak subnational administrative capacity, political constraints, and central limits on subnational tax rates.

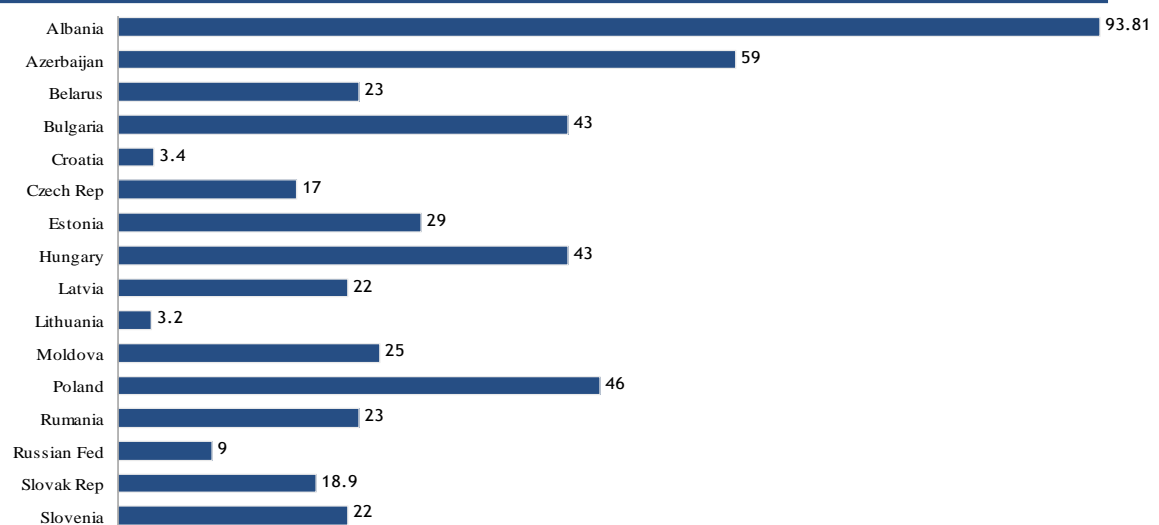
As mentioned earlier, the independence of subnational governments, in terms of revenue (taxes), is likely to create greater accountability and efficiency in healthy institutional and regulatory frameworks. However, with the inadequacy of subnational 'own source' revenues that seem to characterize the region, subnational governments are likely to remain dependent on shares of central taxes (or transfers) for years to come (Dabla-Norris, 2006). While subnational spending accounts for more than 40 percent of total public sector in many of the countries (see figure 1), national tax reforms have not been successful yet in taking into account the fiscal needs of subnational governments (Bird et al, 1995b). This disparity between expenditure responsibilities and the subnational tax base, and its potential negative effects, have important implications for the design of decentralization.

3.3. Transfer assignment

Transfers from central to subnational governments remain a key part of local financing in meeting expenditure responsibilities. As the gap-filling nature of the transfers compensates for the low levels of local governments' own tax revenue, transfers can in effect create negative incentives for subnational governments to mobilize own revenue. This is because the increase in own revenues or budgetary savings could trigger reductions in the level of transfers – examples of this practice have been observed in Albania, Bulgaria, Belarus, Moldova, and Ukraine (Dabla-Norris, 2006).

The level of transfers as a percentage of subnational revenue varies greatly among countries (Figure 3). They represent 90 percent of subnational government revenue in Albania, but less than 5 percent in Croatia and Lithuania. The countries where the central transfers to subnational governments remain large, as in Albania and Azerbaijan, not only reflect the centre's reluctance to give up a tool for controlling subnational governments, but also the failure of subnational governments to strengthen their control over their own revenues (Dabla-Norris, 2006). Even though most transfers continue to be negotiated, a growing number of the countries in CEE are taking a new approach to intergovernmental transfers, whereby grants are distributed by formula rather than on a discretionary basis (Bird et al., 1995b).

Figure 3 Transfers from other levels of Governments as a percentage of Subnational Revenues



Source: Data from IMF International Financial Statistics, 2000

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Countries in Central Europe and the Baltics generally have relatively sound equalization transfer systems (Dabla-Norris, 2006). However, the transfer system used has often been criticised for being unstable and non-transparent (Wetzel and Dunn, 2001). These authors state that the equalization transfer system suffers from weaknesses preventing a reduction in the gap of fiscal revenue per capita between municipalities. In fact, a significant problem discussed in decentralization literature is the inclination of subnational governments to borrow money in order to fill the fiscal gap. This has been a problem in the cases where subnational governments borrow from either other levels of government or private lenders assuming that they will be bailed out by the central state. As noted by Rodríguez-Pose and Gill (2004), the decentralization of resources can contribute towards both large central deficits and galloping regional debts, where the former are due to the decentralization of resources and the latter to the moral-hazard problem of central governments effectively underwriting the expenditure of regions. Even though this has not yet become a serious problem in CEE countries, it could pose a potential threat, especially in light of the extended exposure to financial markets in connection with EU accession.

4. Data and method

As we have seen, since the demise of communism CEE countries have embarked on a process of decentralization, often as a reaction to the planned systems of the old regime. CEE countries have, however, followed very diverse paths towards decentralization. Whereas in some cases central governments have tended to keep a relatively tight control, in others subnational governments are starting to enjoy substantial powers in order to set up their own autonomous policies. These differences in autonomy among subnational governments are often reflected in the sources and levels of financing, with lower levels of governments in certain countries still fundamentally relying on transfers, while in others, the capacity to raise 'own' revenue through taxation is more widespread.

The question we address in the following two sections is whether this drive towards decentralization has yielded the ‘economic dividend’ that a large part of the literature on fiscal decentralization predicts, and whether differences in the degree and financing of autonomy have had an impact on the economic trajectory of countries in CEE. We aim to test the relationship between a decentralized fiscal structure and economic growth rates at the national level. The focus on CEE is highly relevant, as fiscal decentralization has been regarded as a primary instrument in promoting economic development in this region. Since many of the post-communist countries of CEE share a similar political, economic, and social background, this could furthermore reduce problems of data comparability.

In order to test this relationship between levels and forms of decentralization and economic performance in CEE, we use a regression model based on those of Levine and Renelt (1992) and Woller and Phillips (1998). The model adopts the following form:

$$y = \alpha + \beta_y x + \beta_z z + \varepsilon \quad (1)$$

where y is the GDP per capita growth rate, x is a set of six control variables that are found to be significant in almost all economic growth studies (Levine and Renelt, 1992; Sala-i-Martin, 1997), z is a vector of the variables of interest – in this case, the fiscal decentralization measures. As in Woller and Phillips (1998), we derive y by taking the log first-difference of PPP-adjusted real GDP per capita, thus creating the dependent variable GROWTH.

Our control variables (x) include: 1) Population growth (POP); 2) Initial level of GDP per capita (GDP90); 3) Ratio of investment to GDP (INVEST); 4) a growth deflator (DEFLAT); 5) Number of computers per 1000 inhabitant (IT); and 6) Human capital accumulation measured by illiteracy (ILLIT). Secondary school enrolment was also considered as a proxy for human capital, however the data for this variable has missing observations from 1993-1996, and when running preliminary regressions illiteracy proved to be more significant. The control variables are all covered over the period 1990-2004 and are taken from the IMF’s International Financial Statistics,

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UNESCO, and World Bank indicators. These control variables have been frequently used in the growth literature for their tendency to be strongly associated with economic performance (e.g. Mankiw, Romer and Weil, 1992; Levine and Renelt, 1992; Barro and Lee, 1996; Sala-i-Martin, 1997),

The fiscal decentralization variables (z) consist of three different variables: 1) subnational expenditures, as a percentage of total expenditures (FDEXP); 2) tax revenue as a percentage of total subnational revenues and grants (FDTAX); and 3) transfers to subnational governments from other levels of government as a percentage of total subnational revenues and grants (FDTRANS). Using data from the IMF's International Financial Statistics, we also tested the regressions including two other indicators: subnational revenues (FDREV) as a percentage of total revenues and vertical imbalance (FDIMBAL) or the degree to which subnational governments rely on central government revenues to support their expenditures. However, because of problems of multicollinearity, these two indicators had to be eliminated from the final analysis. As shown in Appendix A, FDEXP and FDREV are extremely highly correlated, as is the case between FDTRANS and FDIMBAL. Even though the empirical results in this study will not explain the impact of FDREV and FDIMBAL, it is worth mentioning that the strong multicollinearity also shows resemblance in that when replacing e.g. FDTRANS with FDIMBAL the results have almost same significance and coefficient signs. (See Table 4 for list of variables with explanations and sources).

Table 4 – Variables and Data Source

VARIABLE	DEFINITION	DATA SOURCE
GROWTH	Log first-difference of GDPCP	
GDPCP	Constant domestic currency GDP per capita Converted to constant dollars and adjusted For purchasing power parity deviations	IFS
POP	Log first-difference of population	WB
EDU	Gross secondary school enrolment ratio with	WB
ILLIT	Illiteracy rates as percentage (aged 15+)	UNESCO
INVEST	Ratio of gross fixed capital formation to GDP	IFS
DEFLAT	Log first-difference of implicit deflator	IFS
IT	Personal computers per 100 population (Log first-difference) - (ITU estimates)	UN
FDEXP	Subnational expenditure as percentage of total national expenditure	GFS
FDREV	Subnational revenue as a percentage of total revenue	GFS
FDIMBAL	Vertical imbalance, intergovernmental transfers as a share of subnational expenditures	GFS
FDTAX	Tax revenue as a percentage of total subnational revenues and grants	GFS
FDTRANS	Transfers from other levels of Government as a Percentage of total subnational revenues and grants	GFS
EIU	Economist Intelligence Unit Online	
IFS	IMF International Financial Statistics Online	
GFS	IMF/WB Governmental Financial Statistics Online	
WB	World Bank Indicators Online	
UN	United Nations Online	
UNESCO	Unesco measures Online	

For the fiscal decentralization measures there were a few gaps in the data, especially between 2000 and 2004. In order to have a complete set of data for these variables, we have regressed the existing data on a time-trend and trend squared for each country and used the predicted values in place of any missing values. Pagan (1984) argues that this yields consistent parameter estimates.

The dataset consists of annual observations of 16 CEEs (as categorized by the UN) over the years 1990-2004. The specific choice of the countries and period for the study were determined largely by the availability of fiscal decentralization measures in these countries. The fiscal flows to, from, and among different levels of government can be used to assess aspects of fiscal decentralization. The variables used as measures for fiscal decentralization were collected from the IMF's Government Finance Statistics website.

According to the Hausman test results, the model is best tested using fixed effects (see Appendix B). We include a dummy variable for the effect of a country negotiating to become an EU member (EU). Some countries started negotiations with the EU in the beginning of the 1990s, eight of them applied for membership in 1995 and became members in 2004 (see Table 2). These countries are therefore prone to experience fluctuations in the variables. We therefore also include a time dummy in

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'EU' from 1995-2004. Furthermore, we tested the regressions using different country dummies checking for the behaviour of possible country outliers, however these variations did not show as significant.

We have used a dynamic model, following Rodríguez-Pose and Fratesi (2004), where different annual lags between the dependent and explanatory variables have been tested in order to show the evolution of the coefficients in time. Eight annual lags are included.

5. Regression results and analysis

The results of the empirical analysis are presented in Table 5. In the following pages we first discuss the results for our control variables, prior to concentrating on the impact of our fiscal decentralization indicators on economic growth.

Table 5 Result of Baseline and Decentralization Regressions – Annual Observations

GROWTH	No lag	Lag 1	Lag 2	Lag 3	Lag 4	Lag 5	Lag 6	Lag 7	Lag 8
FDEXP	-0.0029 (-2.11)**	-0.0168 (-2.93)***	-0.0179 (-2.88)***	-0.0191 (-2.87)***	-0.0214 (-3.01)***	-0.0226 (-3.01)***	-0.0240 (-3.02)***	-0.0237 (-2.59)**	-0.0215 (-1.99)**
FDTAX	-0.0028 (-2.80)***	-0.0049 (-1.30)	-0.0027 (-0.64)	0.0005 (0.12)	0.0047 (1.02)	0.0067 (1.42)	0.0077 (1.59)*	0.0074 (1.47)	0.0085 (1.53)*
FDTRANS	-0.0015 (-1.54)	-0.0151 (-4.42)***	-0.0136 (-3.56)***	-0.0118 (-2.94)***	-0.0093 (-2.24)**	-0.0087 (-2.05)**	-0.0080 (-1.76)*	-0.0079 (-1.60)	-0.0069 (-1.25)
POP	0.1439 (5.23)***	0.2934 (9.42)***	0.3017 (8.97)***	0.3159 (8.68)***	0.3333 (8.58)***	0.3430 (8.43)***	0.3506 (8.05)***	0.3389 (6.97)***	0.3293 (5.81)***
ILLIT	-0.0121 (-4.69)***	-0.0862 (-10.08)***	-0.0897 (-9.60)***	-0.0915 (-9.02)***	-0.0953 (-8.76)***	-0.1023 (-8.75)***	-0.1125 (-8.56)***	-0.1130 (-7.09)***	-0.1089 (-5.52)***
INVEST	0.1949 (1.09)	0.9098 (1.59)	1.1096 (1.78)*	1.2602 (1.94)*	1.4120 (2.10)**	1.4264 (2.08)**	1.6338 (2.25)**	1.2575 (1.62)*	1.1837 (1.36)
GDP90	0.0000 (-3.64)***	-0.0001 (-3.53)***	-0.0001 (-3.46)***	-0.0001 (-3.39)***	-0.0001 (-3.48)***	-0.0001 (-3.76)***	-0.0001 (-3.74)***	-0.0001 (-3.19)**	-0.0001 (-2.35)**
DEFLAT	-0.0224 (-2.48)**	-0.0361 (-1.70)*	-0.0312 (-1.42)	-0.0514 (-2.08)**	-0.0818 (-3.13)***	-0.1040 (-3.94)***	-0.1160 (-4.28)***	-0.1039 (-3.70)***	-0.1067 (-3.32)**
IT	0.0001 (0.69)	-0.0004 (-0.94)	-0.0004 (-0.92)	-0.0003 (-0.76)	-0.0003 (-0.64)	-0.0002 (-0.50)	-0.0001 (-0.30)	-0.0002 (-0.52)	-0.0004 (-0.84)
EU	0.0185 (0.61)	0.2692 (1.58)*	0.2838 (2.93)**	0.2927 (2.91)**	0.3051 (2.93)***	0.3204 (2.91)***	0.3283 (2.58)**	0.3176 (2.27)**	0.2886 (1.86)*
CONST	0.4284 (3.71)	1.7599 (4.41)	1.6086 (3.57)	1.3853 (2.91)	1.1507 (2.32)	1.1622 (2.28)	1.2007 (2.14)	1.2810 (2.01)	1.0399 (1.41)
Obs	231	213	197	181	165	149	133	117	101
R-Squared	0.2534	0.6296	0.6182	0.6150	0.6252	0.6688	0.6807	0.6649	0.6494
F-Statistics	8.81	37.04	32.74	29.76	28.36	27.86	26.01	21.03	16.67

Note: Standardized coefficients reported; t-statistics in parentheses

***** significant at the 1% level; ** significant at the 5% level; *significant at the 10% level**

5.1. Control variables

All baseline regression factors, except IT, have what can be considered as the expected significant coefficient signs. Population growth POP, human capital proxied by illiteracy rate ILLIT, initial wealth measured by GDP per capita in 1990 adjusted for purchasing power parity, and log first-difference of implicit deflator DEFLAT are all significant when controlling for annual lags between GROWTH and the baseline regressors. Only in case of two year lag is DEFLAT not significant. POP has the expected positive correlation to GROWTH and is significant at the 1 percent level for all annual lags. ILLIT has the expected negative correlation to GROWTH – higher illiteracy rates are associated with lower growth rates in GDP per capita. When including the secondary school enrolment rate EDU instead of illiteracy in the regression, EDU was significant in the eight potential EU members but not significant for the other countries. One potential explanation is that the non-EU countries have lower levels of human capital, so that illiteracy rate has greater importance than secondary school enrolment.

The investment rate INVEST becomes positive and significant at the 10 percent level after two year lag and significant at the 5 percent level from four to six year lags. This seems to suggest that the investment rate does not have an instant effect on the growth rate, but rather after two years, at which point the higher the investment rate, the higher the growth. The deflation rate DEFLAT has the expected negative sign, showing that the deflation rate decreases as the growth rate increases. As discussed in section 3, CEE struggled with sharp fluctuations in the deflation rate in the beginning of the 1990s due to liberalization and macroeconomic and political instability. Initial wealth GDP90 is negatively correlated to growth indicating some degree of convergence in accordance with neoclassical growth theories.

IT is not significant, despite arguments that computers per inhabitant is a tangible and good measure for a country's technology level and despite the fact technology accounts for at least 50 percent of country productivity differences (Caselli and Wilson, 2004). In contrast, the EU dummy conforms to expectations, showing that

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perspectives of EU accession and membership are positively correlated with growth over time. Controlling for the annual lags, the EU dummy becomes significant after one year and increases its significance after two (Table 5).

5.2 Fiscal decentralization

Fiscal decentralization is negatively correlated with growth in CEE during the period of analysis. The fiscal decentralization measures, subnational expenditure FDEXP and subnational tax FDTAX, start significant and negatively correlated to economic growth. Transfers from other levels of government FDTRANS are negative but not significant in the year when the transfer takes place. The trend over the eight annual year lags is particularly interesting as the relationship between the different decentralization measures and growth evolves in opposite directions. The results for the three fiscal decentralization indicators are now presented separately.

Subnational expenditure as a percentage of total expenditure is one of the most common indicators for fiscal decentralization. This measure is significant at the one percent level and negatively correlated to growth throughout the eight time lags (Table 5). Considering this finding only, the results show a direct negative correlation between fiscal decentralization and economic growth for the sample countries; the higher the share of subnational expenditure out of total expenditure, the lower the national growth rate.

This finding relates to the problems discussed earlier of lack of clarity in expenditure assignment combined with overall underdeveloped financial systems and weak institutions in many of the countries. While regions have been assigned great expenditure responsibilities, they do not have the proper resources to fulfil their assignments. This not only leads to fiscal imbalances but also takes away incentives for subnational governments to behave in an economic efficient manner. When local governments do not have the real autonomy to determine their expenditures, the efficiency and delivery of public services to the different regions are compromised

and left to the determination of local power elites or central governments that may favour some regions over others.

In many cases, central governments do not take into account whether subnational governments actually have sufficient financial resources to meet their assigned expenditures. This poses a problem especially for countries where financial markets are underdeveloped and where local governments do not have easy access to local finance. In the more advanced reformers – such as Hungary, Poland, and the Baltic states – subnational governments have been more successful with privatization and the contracting out of service provision, but for other countries with limited private sector capacity and a weak legal and institutional environments, the private sector response has been minimal (Dunn and Wetzel, 2000). For some countries, accession to the EU has widened the scope of financial opportunities. However, in light of problems with borrowing autonomy, a potential threat from subnational governments dealing with money lenders and investors independently is an increase in subnational deficits, and consequently a weakening of national economic stability.

Sound and efficient decentralization requires a close correspondence between responsibility and decision-making authority. This is far from reality in CEE where effective expenditure autonomy at the subnational level has been limited in most countries. As regulations regarding the quality and scope of service provision are determined by central governments, the authority of subnational governments to adjust current expenditures is constrained (Dabla-Norris, 2006). Even in the countries where legal conditions for political decentralization are in place, different elements of the fiscal system limit the real autonomy of subnational governments (Gooptu, 2005). The results of inadequate resources, insufficient technical expertise, and conflicts in political interests mean that local governments are unable to enforce regulations throughout their regions, which paralyses the subnational governments' ability to respond to local demands.

Similarly to subnational expenditure, higher shares of transfers from other levels of governments are negatively correlated with economic growth (Table 5). Large transfers from the centre are a clear indicator of a high degree of dependence and a

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sign of weakness in terms of subnational resources. The transfer coefficient starts insignificant and negative, however already after one year transfers from other levels of government become significantly negative and remain so in time. This indicates that the higher the dependence on transfers between levels of governments, the lower the national growth rate. This finding supports the results of previous studies (e.g.: Bird et al., 1995b; Dunn and Wetzel, 2000).

As discussed in section 3, the main problem of transfers across different levels of government is the non-transparent measures that are used in the transfers from central to subnational governments. The lack of a transparent system of intergovernmental transfers, except perhaps in Hungary and Poland, creates incentives for subnational government to revert to central regulation and control of their fiscal decisions (Dabla-Norris, 2006).

While a significant number of countries in the region have moved towards the use of formula based transfers – meant to improve transparency – the volume of equalisation transfers generally still accounts for a limited share of total transfers. For instance, as described by Dabla-Norris (2006), given the relatively large fiscal disparities existing in Russia, the on-going level of funding for equalisation transfers (1.1 percent of GDP in 1998) appears insufficient to bring about a significant level of equalisation. This provides disincentives for subnational governments to mobilize local revenue and cost savings through increased efficiency in delivery of services. Hence the negative effects on economic growth associated with transfers in CEE countries may be both the result of the fiscal dependence of local and regional governments on higher levels of government and of a poorly designed and administered transfer systems. In both cases, the quality, or lack thereof, of institutions is a key factor in this outcome.

The most interesting result from the decentralization indicators is the behaviour of subnational taxation. As in the case of the two other FD indicators, subnational taxation is initially significantly negatively correlated to growth (see Table 5 first column). But this negative association is short-lived. After one year, the relationship becomes non significant and the coefficient gradually shifts from negative to

positive, culminating in a positive and marginally significant association from year 6 onwards (Table 5). The interpretation of this development is that forms of decentralization based on locally imposed taxation are positively correlated to economic growth in the long run. Although it is debatable whether six to eight years are long term, the point is that the results differ greatly from zero to six year lags, and forms of decentralization based on transferring taxation responsibilities to subnational governments in CEE are more likely to have a medium to long-term positive influence on growth than those based on transfers and grants from the central government, which inevitably seem to have a detrimental and lasting effect on economic performance.

This trend represents a noteworthy departure from the overall negative picture of the economic impact of decentralization in CEE derived from the analysis. Firstly, overall fiscal decentralization does not necessarily need to be negatively correlated to economic growth, as predicted by the expenditure assignment indicator, and secondly, this finding supports the idea that fiscal responsibility at subnational level yields greater economic returns, as taxes charged at the local level are likely to increase the efficiency with which the money is spent. The higher the degree of local governments' own taxes – and independence from transfers from other levels of government – the more likely a country is to have self-sufficient and economically efficient subnational governments.

These results bode well with recent analyses by Dunn and Wetzel (2000) and Dabla-Norris (2006), who find that local taxation and capacity to collect own revenue are crucial steps towards efficient decentralization. If local services are financed through local taxes and local authorities have greater control in determining factors such as the rate or the base, there is a greater likelihood that decentralization may turn out to be efficient.

Although, the findings above support this form of fiscal decentralization, there are problems in the design of locally imposed taxes in CEE. The current lack of stable and uniform revenue assignments between the centre and subnational governments in a number of countries can create perverse incentives for subnational governments,

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leading, for example, local governments to hide locally mobilised revenue sources in extra budgetary funds, as discussed by Dabla-Norris (2006). Furthermore, subnational governments could benefit from a wider range of tax revenue sources. For instance property tax is considered an important source of finance for local governments, but is underutilized in case of CEE mainly because of lags in regulating property markets as a basis for taxation (Dabla-Norris, 2006). Overall, the apparent benefits that lie in local taxation could become even greater if rules and regulations were more clearly defined and backed by strong institutions.

The design of fiscal decentralization is a crucial factor for the successful implementation of decentralization in a country. The success of fiscal decentralization requires a clear and effective delegation of functions by central government, with revenue assignments that are transparent, explicit, and commensurate with subnational governments' expenditure responsibilities. It also requires transfers that are based on firm principles and specified by legal formulas that support hard budget constraints.

A measure of autonomy for subnational governments on both the expenditure and revenue side is crucial for realizing the efficiency gains of decentralized government and supporting macroeconomic stability. However, one difficulty in comparing the degree of decentralization across the countries is that fiscal decentralization is determined not only by the assignment of expenditure and revenue responsibilities among different levels of government, but also by the extent of subnational autonomy and accountability, as discussed above. The level at which expenditure is being made can be misleading, in cases where that level does not have expenditure autonomy and is largely responding to central ministerial directives.

The problems in the transition countries mainly relate to weak institutions, which contribute to foster a reluctance by central governments to assign appropriate levels of autonomy to local governments in order to achieve the potential efficiency of decentralization. While overlapping and poorly defined governmental roles in countries, such as Belarus and Azerbaijan, create unpredictability and instability to the system of intergovernmental relations, other countries, such as Hungary, the

Czech Republic, and Poland, have pioneered reforms in the legal and institutional framework required for decentralization (Dabla-Norris, 2006). However, as discussed in section 3, small governments in these countries and a lack of municipal associations has hindered local governments' ability to co-ordinate their efforts and demand greater delegations of power from central governments (Orlowski, 2001).

5.3 Potential limitations and caveats of the analysis

A series of estimation issues need to be borne in mind when assessing the robustness of our findings. These concern issues of omitted variable bias, endogeneity, and the problems relating to the measurement of fiscal decentralization.

Omitted variable bias and endogeneity are well-known problems in growth analyses and not always easy to address. As stated by Sala-i-Martin (1997), growth theories are not explicit enough about what variables belong in the 'true' regression. Excluding some necessary control variables across countries over time may result in a biased conclusion that a statistically significant relationship exists between growth and fiscal decentralization. More importantly, tackling endogeneity and causality in order to explain the actual impact on economic growth through sufficient uncorrelated explanatory variables is particularly problematic. While the country fixed effect in this study provides an easy, but partial, remedy to the endogeneity problems of country heterogeneity, it does not solve the problem of reverse causation, as mutual interactions can exist between economic growth and fiscal decentralization.

A more specific problem of this analysis is related to the difficulties of measuring fiscal decentralization. As mentioned earlier, decentralization is multidimensional and there is no unique or best measure for fiscal decentralization. Even if the share for subnational general expenditures or tax revenues is greater in one country, it could be the case that a second country is more decentralized overall because its subnational government has higher discretion over tax rates, more autonomous

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sources, or greater freedom in how to make expenditure decisions. In many countries local 'own-source revenues' are subject to substantial central control, which might be difficult to capture with traditional proxies. The IMF data that we use fails to capture these subtleties as they do not make a difference between sources of tax and non-tax revenues, intergovernmental grants and other grants, and do not disclose what proportion of intergovernmental transfers are conditional or discretionary, providing thus only a partial picture of the real autonomy of subnational governments (Ebel and Yilmaz, 2002, pp 6-7). Yet, the alternatives are limited, as researchers often disagree on the 'true' level of decentralization. Alternative indices of fiscal and political decentralization generated by a host researchers from different fields present significant discrepancies and are often limited to one year or a limited period of time. Resorting to IMF data may thus be the 'lesser evil' until available data better deal with the multi-dimensionality of fiscal decentralization. This could be done through quantifying better the minimum conditions for effective fiscal decentralization, such as the rating of effective institutions, democratic elections, etc., and assessing the specific actions and feasibility of approaches that are needed in the future on a country-by-country basis.

Finally, it must not be forgotten that fiscal decentralization is only one factor of decentralization which may not lead to devolution and the empowerment of local citizens and institutions if not accompanied by administrative and, above all, political decentralization; fiscal autonomy with limited accountability may just simply empower local elites to pursue their own particular interests, often at the expense of the common good (Shah, 2000; Bardhan and Mookherjee, 2005; Rodríguez-Pose and Sandall, 2008).

6. Conclusion

Taking the above caveats into account, this study has tested for the effect of fiscal decentralization on the rate of economic growth across a sample of 16 Central and Eastern European countries for the years 1990-2004. Our findings suggest that fiscal

decentralization is operating in the opposite direction than what is predicted by the 'economic growth through fiscal decentralization' hypothesis. The results conclude that expenditure at, and transfers to, the subnational level have had negative correlation with national growth rates in CEE, while locally imposed taxation has achieved some mildly positive economic benefits over time.

In terms of subnational expenditure and transfers, our results are in line with the findings of other empirical studies on fiscal decentralization and economic growth, such as Zhang and Zou (2001), Rodden (2002), Thießen (2003), and Rodríguez-Pose and Bwire (2004). Although decentralization is often associated with increased degrees of policy innovation, greater transparency, and better capacity of governments to adapt policies to local needs, it can be difficult to connect these factors with increased economic performance. Especially in countries lacking the appropriate institutions, legal systems, and human capital, economic growth rates are unlikely to rise as a direct result of fiscal decentralization. Indeed the opposite case is more likely to happen with decentralization having a detrimental effect on the overall economy of a country.

However, while subnational expenditure assignments and dependence on transfers have negative implications for economic growth, locally imposed taxes may begin to exert, in the medium term (after six years in Table 5), a positive influence on growth. This supports the claims that when subnational governments have a greater share of own revenues and are more responsible and accountable for their expenditures, there is a greater likelihood of achieving the economic efficiency predicted by the majority of the literature on fiscal decentralization. The ability for local governments to generate their own revenues may promote fiscal responsibility and incentivize them to meet expenditure obligations in a more transparent manner. Although subject to local competencies, an important challenge and implication for fiscal decentralization reforms seems therefore to be to adjust locally generated revenues to local expenditure responsibilities.

The positive correlation between local tax and economic growth at the national level shows, however, a more nuanced picture of fiscal decentralization in CEE. Namely,

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the ability for local governments to create their own revenue, fiscal responsibility and incentives to meet their expenditure responsibilities can bring about medium-term economic benefits, and are hence important implications for the design of fiscal decentralization. This is a very relevant outcome in the case of CEE, as most of the countries are still in the early stages of extensive programmes aimed at restructuring government which began in the 1990s. In many regions, local accountability is not in place and local governments are often at the mercy of power elites who use local and regional government as a further opportunity to promote their own private, rather than collective interests. This means not only that fiscal decentralization has, in order to be economically effective, to be accompanied by serious attempts to change the existing structures of power within communities (Shah, 2000; Bardhan, 2002), but also that the potential benefits from further reforms, both in terms of strengthening institutions and promoting fiscal decentralization can, in time, have better implications for economic growth. Hence for fiscal decentralization to yield the benefits touted in the literature, the fiscal architecture must be appropriately designed: local governments must have a significant degree of real autonomy, adequate accountability to local populations whose preferences local officials are supposed to be responding to, and sufficient capacity to respond to local demands.

National fiscal and tax reforms have taken place in a weak macroeconomic context, and the lack of experience and capacity in raising local own-source revenue has hindered the necessary exercise of local fiscal discretion that is called for in fiscal decentralization. As most countries in the region have only just completed the process of transition, the idea of rapid transition to fiscal decentralization may be over-ambitious. In terms of economic growth, the CEE countries are attempting to fast-track what has been a relatively slow process elsewhere in Europe and North America (Gooptu, 2005). The list of problems that CEE countries have faced to date with fiscal decentralization seems to lend weight to arguments for slowing the process, at least until there is greater demand from below for decentralization and laws and enforcement mechanisms are fortified through stronger institutions

Overall, fiscal decentralization is a multifaceted process and the inverse relationship between growth and subnational expenditure assignment and fiscal transfers, and the, in time, positive correlation between growth and subnational taxation, as implied in this study, is just one facet to consider. Within the fiscal sphere, all the fiscal decentralization indicators examined in this study are intertwined. Meaning that if one of these elements is poorly designed, the entire fiscal structure may be compromised. As indicated by Bird (2000), the design of each pillar of the intergovernmental system must be very well linked to broader decentralization reform goals and intergovernmental fiscal policy objectives. The importance of this study is therefore not only to isolate the significant influence of any individual fiscal decentralization indicator, but also to underline the complex nature of the interaction between different indicators and the importance of understanding this interaction when undertaking further reforms towards fiscal decentralization.

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The United Nations Development Program (UNDP)

The Economist Intelligence Unit Online

Appendix

APPENDIX A - Correlation between Fiscal Decentralization Variables					
Correlations	FDEXP	FDTRANS	FDTAX	FDREV	FDIMBAL
FDEXP	1	-0.141	-0.297	-0.909	-0.091
FDTRANS	-0.141	1	0.065	0.164	-0.941
FDTAX	-0.297	0.065	1	0.113	0.188
FDREV	-0.909	0.164	0.113	1	0.04
FDIMBAL	-0.091	-0.941	0.188	0.04	1

In examining the effect of fiscal decentralization on economic growth through a series of panel regressions, we used the Hausman test in order to test the difference between fixed and random effects. This tests the null hypothesis that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. If they are insignificant (P-value, Prob>chi2 larger than .05), then it is safe to use random effects. However, with a significant P-value one should use fixed effects in the regressions (Data and Statistical Services, Princeton University Library).

RESULT: Prob>chi2 = 0.0028. As chi2 is significant, fixed effects should be used in the analysis.

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

	Fixed (b)	Random (B)	Difference (b-B)	sqrt(diag(V_b-V_B)) (S.E.)
FDEXP	-0.0077	-0.00285	-0.00484	0.002503
FDTAX	-0.0025	-0.00276	0.000259	0.000808
FDTRANS	-0.00355	-0.00149	-0.00207	0.001258
DEFLAT	-0.01683	-0.02244	0.005616	0.007385
POP	0.127234	0.143943	-0.01671	0.00676
IT	5.51E-05	9.68E-05	-4.2E-05	5.34E-05
ILLIT	-0.04164	-0.0121	-0.02954	0.009013
INVEST	-0.17154	0.194877	-0.36642	0.181601
EU	0.046571	0.018504	0.028066	0.016313

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