Economic perspectives

Is fiscal decentralisation good for growth?

Graeme Roy, Department of Economics University of Strathclyde

1. Introduction

The relationship between fiscal decentralisation and economic growth is an important but highly controversial issue. Increased revenue autonomy for the Scottish Parliament is seen by many as a key tool to improve the performance of the Scottish economy – see for example, Hallwood and MacDonald (2006) and Steel (2006). In contrast, others such as Ashcroft et al. (2006) are concerned about the possible economic and political risks involved and have argued strongly against such a move.

This paper contributes to this discussion by providing an objective evaluation of the existing theory and evidence on the link between fiscal decentralisation and economic growth and its relevance to the Scottish case[1].

Our interpretation of the literature in respect of improving economic growth is that it fails to deliver a clear outcome either in *favour of* or *against* greater revenue autonomy for the Scottish Parliament. Overall, the evidence on the relationship between fiscal decentralisation and economic growth is mixed. On the positive side, the literature identifies a number of avenues through which fiscal decentralisation can assist economic development such as exploiting dynamic allocative efficiencies and encouraging public sector efficiency. However, theory also alludes to potential negative effects from possible increased macroeconomic instability, regional inequalities, distortion of market forces and high administrative costs. As we demonstrate, the lack of hard and robust empirical evidence from cross-country and single country case studies does little to lessen the uncertainty on whether the positive or negative effects dominate.

In short, increasing the Parliament's fiscal powers does have the potential to bring significant long-term benefits to Scotland's economy however, it is important to recognise the risks involved. It is also important to be aware that while the current devolved fiscal structure has a number of advantages, it too suffers from weaknesses. Ultimately, recognition of the potential net benefits and an understanding of mechanisms whereby these net benefits might be secured, or even increased, is an important next step for the debate in Scotland.

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The structure of the paper is as follows. In Section 2 we provide an introduction and overview of the concept of fiscal decentralisation and seek to clarify the often confusing concepts used in the literature. This is essential as apparently similar terminology can mean different things to different people. In Section 3 we highlight and discuss the mechanisms through which fiscal decentralisation can impact on economic growth and as we demonstrate, there is no single all-encompassing model linking the two. Economists have instead identified a number of key transmission mechanisms through which fiscal decentralisation is thought to influence economic growth. In Section 4, we provide a summary of the empirical evidence while Section 5 concludes.

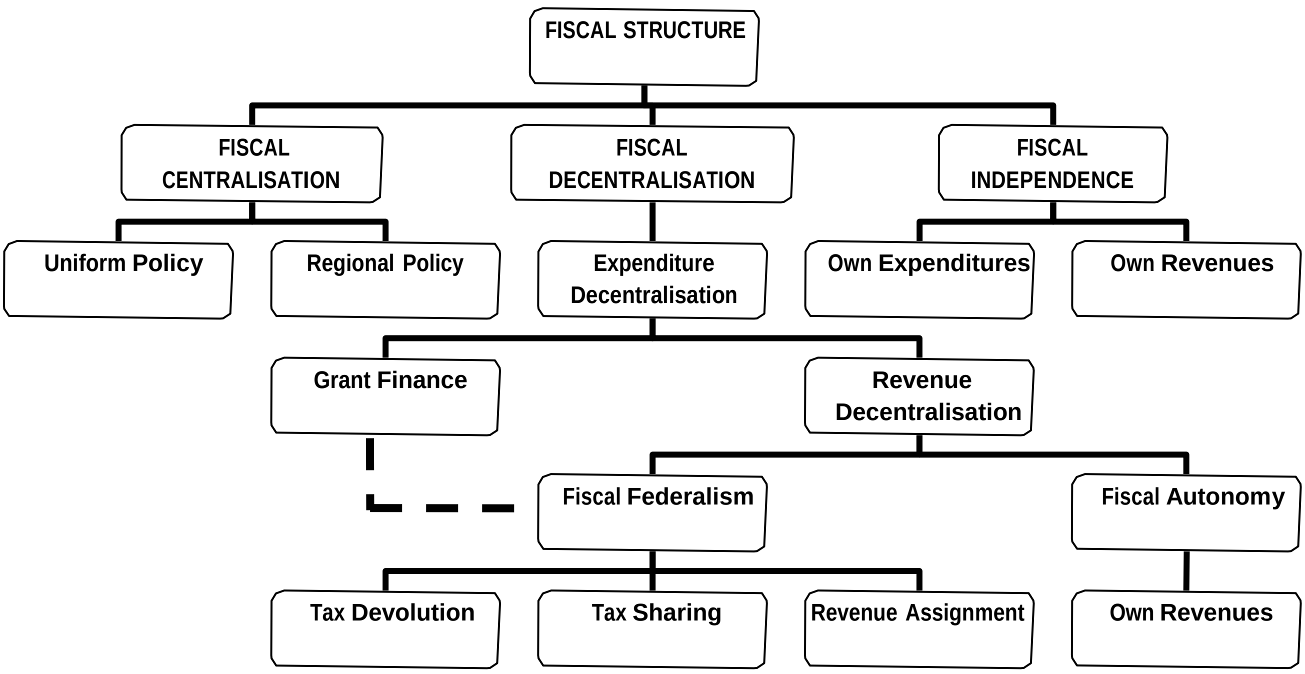
2. Fiscal decentralisation: a summary

In many instances what an author means by 'fiscal autonomy', 'fiscal decentralisation', 'fiscal federalism' and 'fiscal independence' can be confusing as they are terms often used interchangeably. Failure to establish a consensus of terminology between academics, politicians and commentators does not bode well for attempts to achieve a consensus on substance! In this section we propose a consistent terminology for future reference.

Fiscal decentralisation refers to the granting of fiscal powers and responsibilities to sub-central levels of government. In recent years, there has been a growing international trend towards fiscal decentralisation. In a survey of 75 countries, Ebel and Yilmaz (2002) found that all but 12 have embarked upon some form of fiscal decentralisation within the last decade. However, as discussed in Darby et al. (2003), there is no consensus on the appropriate form of fiscal decentralisation. Countries have chosen to differ not only in the extent of decentralisation but also in the particular expenditures and revenues which have been affected.

Chart 1, provides a summary of the key types of fiscal structure which are in place in other countries. While fiscal centralisation and independence are largely self-explanatory, fiscal decentralisation is more complicated.

Chart 1: Fiscal structures:



As identified in Darby et al. (2003), historically, fiscal decentralisation has centred upon government expenditures. A primary economic justification for expenditure decentralisation is the belief that by tailoring the supply of public goods to local tastes and circumstances, improvements in allocative (consumer) efficiency can be obtained; the 'decentralisation theorem', Oates (1972).

Sub-central government expenditures can be financed from two sources; intergovernmental transfers (i.e. central government grants) or 'own-source' revenues (i.e. revenues generated and raised within the respective constituency). Economists refer to this latter method as revenue decentralisation. As discussed in IMF (1997), every country in the OECD adopts a mixture of both grants and revenue decentralisation.

Grants can take the form of block transfers (i.e. a lump-sum allocation with no strings attached), specific transfers (grants specifically allocated for a certain purpose, e.g. free school meals) or matching transfers (top-up revenues for a particular purpose). Typically, grant finance offers little revenue autonomy for sub-central governments and this feature can be criticised for fuelling a dependency culture – see The Economist (2006) and Hallwood and Macdonald (2006). Grants do however provide an important fiscal equalisation mechanism in terms of regional revenue raising capabilities and in the face of asymmetric shocks across regions.

The Scottish Parliament's reliance upon grant finance is balanced to a certain degree by substantial expenditure autonomy. As pointed out by Ebel and Yilmaz (2002), centrally imposed targets, guidelines and minimum standards significantly reduce the de-facto autonomy of sub-central governments. The lack of such central directives in the Scottish case is largely unrivalled in the OECD. However, the lack of revenue autonomy is also extreme. As discussed in Darby et al. (2002), no other sub-central government with comparable levels of expenditure responsibility has such little revenue authority.

We decompose the second category, revenue decentralisation, into 2 further categories, fiscal federalism and fiscal autonomy.

We define fiscal autonomy as a situation whereby all or the vast majority of sub-central revenues, are controlled independently by sub-central legislatures. Importantly and in contrast to grants, which require transfers from the centre to the sub-centre, fiscal autonomy implies a transfer in the opposite direction in respect of payment toward national public goods such as defence and foreign affairs. In its truest form, fiscal autonomy implies no national fiscal equalisation mechanisms both in terms of inter-regional transfers and national automatic stabilisers. Stabilisation policy is the sole responsibility of the sub-central government. In this scenario, the degree of sub-central autonomy, accountability and incentive effects will be at their highest.

We define fiscal federalism as a combination of limited sub-central revenue autonomy coupled with a degree of central government control[2]. This sub-heading can be further divided into tax devolution, revenue assignment and tax sharing.

Tax devolution involves the granting of responsibility for certain taxes, such as income or property taxation to sub-central governments while the centre retains control over the remaining taxes. In most countries, with devolved taxes, sub-central governments are typically free to set either the tax rate or base, subject to centrally imposed guidelines. The remaining vertical imbalance is financed by grants. An important issue is the selection of taxes to decentralise. In practice, there are few 'good' sub-national taxes. A "good" tax system is one that provides for equity, limits distortions, is cheap to collect, is income elastic and generates a stable source of funds. As argued by McLure (1995), in order to satisfy these principles, most taxes are best left centralised and those that can be decentralised generally yield only small amounts of revenue.

With revenue assignment, sub-central governments receive the entire amount of revenue collected within their jurisdiction but have no control over the setting of the tax rate or base. Control is instead retained by the centre. With full or even partial revenue assignment, sub-central politicians face strong incentives to boost the tax base/economic growth within their jurisdiction. Policies and innovations which improve the tax base within their region (for example policies which encourage inward migration, innovation, foreign direct investment, business creation etc) increase the revenues they receive. On the other hand, policies which harm the tax base lead to a reduction in revenues. Against this however, the degree of equalisation and insurance is relatively limited[3].

Tax sharing occurs when two or more tiers of government split the total national tax yield from a particular tax[4]. For example, a national (UK wide) income tax whereby the central government (Westminster) receives 75 per cent of the total tax returns within a region and sub-central governments (Scottish Parliament) the remaining 25 per cent. 'Overlapping' or 'piggy-back' taxes are also common, especially in Scandinavia. Here sub-central governments are permitted within limits to revise the tax rate set by the centre[5].

With tax sharing it is possible for central governments to retain at least some horizontal equalisation between rich and less well off regions and stabilisation remains largely a central responsibility. At the same time, by allowing sub-central control over taxation at the margin, tax sharing can provide positive incentive effects. Furthermore, the considerable role played by the centre in such systems maintains the prospect of central government involvement during asymmetric regional shocks, though to a lesser degree than under centralisation or grants.

3. Fiscal decentralisation and economic growth: the theory

More than a decade ago, a leading authority on fiscal decentralisation Wallace Oates argued "there is no formalised theory of a relationship between fiscal decentralisation and economic growth"[6]. Unfortunately, this situation has not changed!

It is important to realise that fiscal decentralisation itself does not improve or hinder economic growth. Instead, fiscal decentralisation influences the fiscal and political environment within a region and through this channel it ultimately feeds through to regional/national growth. Surprisingly, despite its political importance, there has been only limited formal analytical analysis of the relationship between fiscal decentralisation and economic growth although it has become a fast developing area of research in recent years.

In this section we identify and discuss the key avenues through which fiscal decentralisation is thought to influence economic growth.

Regional economic policy and dynamic allocative efficiency
In the regional economic development literature, two important strands of thought have risen to prominence in recent years: endogenous growth and new economic geography models. Endogenous growth models (EG) stress that investment in physical and human capital together with technological progress has the potential to fuel sustained periods of economic growth (Aghion and Howitt (1998)). At the centre of the new economic geography (NEG) (Krugman 1991) is the belief that the concentration of economic resources and activity is also endogenous with businesses choosing to locate in areas where there are specific agglomeration benefits, such as transportation links, networks, economies of scale and a skilled labour pool. Both EG and NEG theories stress the importance of government activity and policies in shaping decisions and ultimately economic outcomes. Growth and economic concentration within a region is influenced not only by direct fiscal policies such as the tax environment and the presence of subsides, but also by policy outcomes such as the education and skills possessed by the local workforce.

It follows that fiscal decentralisation has the potential to boost economic growth by granting sub-central politicians the opportunity to shape the regulatory framework, the taxation environment and the supply side of the economy to exploit any comparative advantages of the region, to address any specific skills shortages, to build upon and correct any infrastructure strengths and weaknesses and to encourage agglomeration in particular industries. In contrast, a uniform 'one-size fits all' policy cannot perform such tasks[7]. Potentially, these effects can be significant. For example, Brueckner (2005) demonstrates that countries with different endowments between regions have the potential to ceteris paribus develop at a faster rate under fiscal decentralisation than fiscal centralisation.

In the context of Scotland, these arguments imply that despite the Executive's considerable supply side expenditure remit, without control of taxation or the regulatory environment, the full range of fiscal powers, and arguably the most important ones, cannot be used to advance the Scottish economy. From this perspective, greater fiscal decentralisation has the potential to improve economic growth in Scotland[8].

However, by forcing sub-central governments to be more self-sufficient, fiscal decentralisation, especially on the revenue side, will necessarily place less well off and/or more remote regions at a disadvantage vis-à-vis resource rich regions when competing for investment, job creation and new business start ups. Sub-central governments within less well off regions naturally have a smaller resource endowment to finance public investment and to offer subsidies and they have less elbow room to cut taxation. Therefore, faced with an inability to compete with larger regions, fiscal decentralisation may harm disadvantaged regions and lock them into permanently lower levels of economic development. The success of Ireland, a relatively small economy on the periphery of the EU, would suggest that such disadvantages can be countered.

Lower taxation
A particular facet of the fiscal decentralisation debate in Scotland concerns the link between taxation (primarily corporation tax) and economic growth. It is important to note that increased revenue decentralisation in whatever guise and lower taxation are two distinct policies. An Executive with the power to alter corporation tax rate may choose to increase taxation. Furthermore, given Scotland's estimated fiscal position it is debateable whether a cut in corporation tax could actually be financed without significant cuts in public services.

A lower corporation tax rate in Scotland relative to the rest of the UK has the potential to boost economic growth by not only increasing the profitability of companies already located in Scotland but also, and arguably more importantly, encourage outside businesses to relocate to Scotland. Economists generally believe that corporation tax rates that are too high reduce incentives to take risks, discourage businesses to accumulate capital and discourage individuals and organisations to engage in entrepreneurial activity[9].

Within a regional context however, it is difficult to accurately assess the potential impact of a reduction in corporation tax on one region's economy, without taking into consideration the spill-over effects on the rest of the country and more importantly, the reaction of central and/or other sub-central policymakers. Counterfactual policy analysis in such instances is inherently difficult. For example, in response to a reduction in the Scottish corporation tax rate, the UK government, faced with the potential relocation of businesses from England, Wales and Northern Ireland to Scotland may choose to follow suit by lowering UK corporation tax or increase subsidies and tax breaks. This would erode the potential competitive advantage effects and the anticipated boom in the Scottish economy. In general, economists have often been concerned about the possible negative effects of regional tax competition and the development of a Bertrand 'race to the bottom'; a self-defeating strategy of spiralling tax cuts as each sub-central government tries to undercut their rivals - see for example, Wilson and Wildasin (2004).

Competitive federalism: efficiency, accountability and policy innovation

In spite of concerns over harmful tax competition, fiscal competition between sub-central governments does have a number of positive aspects which may boost economic growth. By opening up sub-central governments to competition for valuable resources with other regions, fiscal decentralisation can improve public sector efficiency. Ceteris paribus, inefficient governments will be less successful in attracting investment and enterprise and residents faced with the choice to locate within a number of jurisdictions will 'vote with their feet' (Tiebout (1956)) and locate in constituencies which provide their favoured allocation of public good efficiently. Furthermore as discussed by Oates (1999), in an effort to obtain an advantage over their rivals, fiscal competition can encourage sub-central governments to actively search for innovations in the production and supply of public goods, potentially reducing costs and improving quality. This process, known as 'laboratory federalism', can generate positive spill-over effects with the duplication of successful policy innovations and rejection of less successful ones. Improved public sector efficiency not only has the potential to boost short-run economic growth but by freeing up resources previously employed in less efficient tasks it can fuel long-term economic growth. Finally, by bringing government closer to the people, de Mello and Barenstein (2001) argue that both political accountability and monitoring of government performance are higher under fiscal decentralisation and the greater likelihood of 'good' policies to promote economic growth and development.

A number of economists question the validity of such arguments. Tanzi (2001) and Prud'homme (1995) dispute the claim that efficiency and accountability are higher at the sub-central level arguing that central governments in general attract politicians of higher quality and competence while Rodden and Rose-Ackerman (1997) argue that local protectionist interest groups wishing to limit external competition often dominate at the regional level. Besley and Coate (2003) and Stumpf (2002) argue that contrary to the concept of 'laboratory federalism', policy innovation may be lower under decentralisation than centralisation. Both papers argue that faced with uncertainty of re-election, risk-averse sub-central governments have an incentive to free-ride on policy innovations, mimicking the performance of their contemporaries for fear of providing a level of service lower than that of another jurisdiction. Consequently, this 'yardstick competition' reduces the level of innovation in a decentralised setting.

The empirical evidence on these issues fails to favour one side of the argument. In practice, measuring government efficiency, political accountability and policy innovations is extremely difficult. The most developed branch of this literature has been the exploration of a link between fiscal decentralisation and government size. The 'Leviathan hypothesis' as suggested by Brennan and Buchannan (1980) argues that horizontal and vertical competition among different tiers of government will punish politicians who run inefficient and by implication large governments and therefore, one should expect to observe a negative relationship between fiscal decentralisation and government size. The empirical evidence is however mixed and some studies have even found evidence of a positive relationship, i.e. fiscal decentralisation is associated with larger governments – see Oates (1999) for a survey.

Overall, the link between fiscal competition and economic growth is unclear. The effects, if any, are most likely to be keenly felt in Federal countries with a large number of competitive sub-central governments and not within the UK.

Political incentives

Another possible link between fiscal decentralisation and economic growth is through the positive incentive effects of growth promotion within a particular region. In general, grants provide few incentives to promote economic growth, and in fact, grant systems based upon 'needs assessment' criteria can provide opposite incentives; Midwinter (2002). The reliance upon grants to finance current expenditures is arguably the greatest weakness of the current fiscal arrangements in Scotland. Hallwood and MacDonald (2006) argue that the Scottish Executive face few direct incentives to boost economic growth in Scotland "since the benefits of that improved growth, in terms of increased tax revenue, accrue to the exchequer in London"[10]. Ashcroft *et al.* (2006) argue that the political system will act as a sufficient incentive mechanism; if voters demand higher economic growth they will vote for it. However, in reality, aiming for economic growth is likely to be less politically popular than socially attractive alternatives. Without an explicit link between government actions and revenues, politicians are shielded to a certain degree from taking tough political decisions. With grants, the budget constraint faced by sub-central governments is not as strong as that faced under systems of greater revenue decentralisation. While the budget constraint is tight in the sense that total spending is fixed by the amount of grants allocated by the centre, there is no incentive to spend less than that level. This hypothesis, known as the 'fly-paper effect' is supported by strong empirical evidence (see Hines and Thaler (1995) and Rodden (2002 & 2003)) and suggests that sub-central fiscal policy may not be efficient if financed by grants. Furthermore, with shared responsibility for economic development, it is often easy for politicians to blame poor outcomes on the 'other' tier, see Anderson (2006). From the perspective of a voter in Scotland, who is responsible for the performance of the Scottish economy, Westminster or Edinburgh? Fiscal autonomy, where accountability is much more obvious has the potential from this perspective, to be more efficient.

In addition to these potential positive effects of fiscal decentralisation on economic growth, the literature also identifies a number of potential shortcomings and it is to these we now turn.

Single Market Distortions

Perhaps the most obvious negative effect is the potential for fiscal decentralisation especially revenue decentralisation, to distort the workings of the national single market. We argued above that diversified fiscal strategies may improve economic growth. However different regulations, tax rates and subsidies may themselves erect barriers, segment the national economy and raise costs for businesses operating on a national level. Such policies would also appear to work against the growing trend of the harmonisation of economic policies at an international level.

Policy Externalities

In practice, policies implemented by one particular sub-central government can have significant spill-over effects (i.e. externalities) on other regions. For example, investments in transportation infrastructure within one particular region will reap benefits for consumers and firms in surrounding regions and investments in human and physical capital will benefit the nation as a whole. Welfare economics suggests that faced with such positive externalities there will be an under provision of such goods relative to a centralised policy setting. Sub-central governments tend to focus only on the internalised benefits rather than the overall national benefits. Therefore, policies which fuel economic growth at the national level, such as investments in human and physical capital and research and development, will tend to be underprovided in a decentralised setting – see Wilson (1999). Similarly, policies that generate negative spillovers will be overprovided. The implication being that by myopically focussing upon regional effects, national economic growth and ultimately regional growth will be lower in a decentralised framework. While such externalities undoubtedly exist in the current fiscal framework, without appropriate remedial action one can expect these to increase in line with the level of revenue decentralisation.

Macroeconomic Instability

One of the greatest concerns with higher levels of fiscal decentralisation is the possible impact on macroeconomic stability. Macroeconomic stability is widely thought to be an important pre-requisite for economic growth – see Barro and Sala-i-Martin (2003).

Fiscal decentralisation, by limiting both the economic and political authority of the central government, necessarily reduces the instruments available at the centre to protect the economy from unforeseen shocks. In addition, sub-central governments have fewer incentives and/or possibilities to act counter-cyclically, especially in a co-ordinated fashion. Sorensen et al. (2001) and Wibbels and Rodden (2005) find that in heavily decentralised countries, sub-central revenues and total budgets tend to be highly pro-cyclical over short and medium term horizons and therefore fail to provide stabilisation. Even without ‘shocks’, there is no guarantee that the policies of respective tiers of government are consistent with one another. For example, one tier may favour fiscal expansion while the other, fiscal contraction. Triesmann (2002) argues that during periods of adjustment or economic reform such policy conflicts can be costly. However, using a dataset of OECD countries we show in Darby et al. (2005) that fiscal decentralisation has not necessarily limited the ability of a country to implement successful fiscal reforms.

Finally, in practice sub-central governments often face a ‘soft-budget constraint’ in that they realise that any significant structural fiscal imbalance will ultimately be financed by a central government handout with the cost of such a ‘bail-out’ shared across the nation as a whole. The fiscal crises in Argentina and Brazil were largely due to this moral hazard behaviour. Rodden and Wibbels (2002) found that countries whose sub-central governments rely heavily upon central transfers are more likely to run larger deficits and have higher inflation rates than in countries with greater sub-central autonomy. This result suggests that the current fiscal arrangement in Scotland may in fact be less favourable for macroeconomic stability than a system of greater revenue decentralisation.

Fixed Costs

There are fixed costs involved with running and controlling sub-central governments. Costs such as increases in Civil Servants together with possible increases in bureaucracy and red-tape probably mean diverting resources from more productive tasks. For example, different taxation rates in Scotland relative to the rest of the UK would require a different administrative setup to identify and collect taxation to be allocated to each particular tier of government. Fiscal policies which involve significant economies of scale will be provided less efficiently in a decentralised setting which in turn can divert valuable resources to less productive and growth enhancing tasks.

4. Fiscal decentralisation and economic growth: the empirical evidence

It is clear from the above discussion that from a theoretical point of view the direction and the size of the relationship between fiscal decentralisation and growth is ambiguous. Ultimately therefore, the issue is an empirical one. In recent years there have been a number of empirical studies which have examined the impact of fiscal decentralisation upon economic growth.

Unfortunately, a major weakness in virtually all the existing empirical studies is that they lack formal links to the theory discussed above. The standard approach has been to estimate cross-country or country case study regressions of national growth either via an empirical endogenous growth model following Barro (1990) or a neo-classical/‘ad hoc’ empirical growth model of the form used in Mankiw et al. (1992). After controlling for standard determinants of economic growth such as initial income levels, population growth, human capital stocks and capital investment, the effects of fiscal decentralisation are assessed through the inclusion into these growth equations of some quantitative measure of sub-central fiscal power.

By focussing on these simple regressions no inference is possible on the channels through which fiscal decentralisation impacts on economic growth. Moreover, many of the channels theory identifies as potentially linking decentralisation with economic growth involve roles for human capital investment, technological progress and private capital investment which are themselves included as conditioning variables in the growth regressions. Consequently it is difficult to appropriately attribute the direct effects of fiscal decentralisation on economic growth. A more appropriate methodology would be to focus on the various transmission mechanisms directly using measures of policy innovation, macroeconomic stability, human capital investment and so forth. One attempt to move in this direction is Thieβen (2003) who assessed the impact of fiscal decentralisation on capital formation and productivity in the OECD. While he found no significant relationship, this study is an important first step toward an improved empirical methodology.

Nonetheless, even without explicit identification of any transmission mechanisms it is useful to assess whether a clear consensus emerges from the existing empirical studies. It has been common to estimate cross-country and/or panel data regressions. In addition to using annual data, some authors have in an attempt to capture long run effects estimated 5 and 10 - year averages (for example, Davoodi & Zuo (1998) and Woller & Phillips (1998)). Estimation techniques have been relatively standard with country fixed and time fixed effects used to control for country/region specific time invariant characteristics.

From the cross-country studies, Davoodi & Zou (1998), Woller & Phillips (1998), Matinez-Vazquez and McNab (2005) and Feld and Dede (2005) all failed to find evidence of a significant relationship between fiscal decentralisation and economic growth. In fact, Davoodi & Zou (1998) found evidence of a significant *negative* relationship in developing countries, that is, greater fiscal decentralisation is associated with lower economic growth. In an effort to capture the impact of recent decentralisation reforms, Iimi (2005) re-estimated this relationship using data only for the late 1990's and found significant evidence of a *positive* relationship; that is fiscal consolidation is associated with higher economic growth. However, the sensitivity of this result which was based upon a very short time span (4 years) is questionable.

There is similarly no strong message in results from individual country studies. Initial results from Zhang and Zou (1998) for the effects of decentralisation in China pointed to an apparent significant *negative* relationship. However, when re-estimating the relationship using Zhang and Zuo's dataset and an improved econometric methodology, Jin et al. (2005) found evidence of a significant *positive* relationship. A similar significantly *positive* relationship is reported in Lin and Liu (2000). For the US, Xie et al. (1999) found no significant relationship but Akai and Sakato (2004) and Stansel (2005) both found evidence of a significant *positive* relationship. However to be more precise, Akai and Sakato (2004) only found a significant positive relationship between *expenditure decentralisation* and economic growth. *Revenue decentralisation* and *revenue autonomy* were found to have an insignificant impact on regional growth in the US. The results of Stansel (2005) should also be treated with caution as the measure of decentralisation is not strictly speaking the extent of fiscal decentralisation but the number of governments within an area[11].

While there are clearly a whole host of possible explanations for the lack of consensus including differences in estimation methods, sample periods, control variables and measures of fiscal decentralisation used, it is clear that the existing empirical literature does not provide unequivocal evidence of a strong relationship between decentralisation and economic growth in either direction. Unfortunately, this lack of consensus currently sheds little light on the fiscal debate in Scotland.

In addition, these studies suffer from a number of weaknesses which again suggests caution should be taken against putting too much faith in a particular set of results. By relying upon budget data as a measurement of fiscal decentralisation, the aforementioned studies often fail to take into account the various dimensions of fiscal decentralisation. Consequently, the classification of countries according to their degree of decentralisation is often highly inaccurate. As mentioned above, most studies measure fiscal decentralisation as the percentage of total government expenditure or revenue spent/raised at the sub-central level[12]. However, an accurate measure of decentralisation would take into account a range of factors such as:

i. The extent of expenditure decentralisation
ii. The 'type' of expenditures devolved
iii. The reliance upon intergovernmental transfers and grants
iv. The nature of these transfers (i.e. lump-sum vs. specific grants)
v. The extent of central government targets and directives
vi. The extent of revenue decentralisation
vii. The degree of revenue autonomy
viii. The structure of the tax system and extent of tax sharing
ix. The extent of autonomy with 'overlapping' and/or devolved taxes
x. The degree of sub-central government borrowing autonomy
xi. The degree of sub-central political autonomy

An additional weakness with most of the aforementioned empirical studies is that they do little to establish the direction of causality. In practice it is useful to ask, 'Does fiscal decentralisation lead to higher economic growth?' or 'Does higher economic growth lead to greater fiscal decentralisation?' Bahl and Linn (1992) have argued that economic development facilitates fiscal decentralisation and that there is a relatively high threshold level of economic development at which fiscal decentralisation becomes attractive. Such a threshold level can be explained not only with the fixed costs of decentralisation but also by the fact that at a relatively low per capita income level, the demands for public goods and services may be concentrated on very few goods and have a small variance. Thus at a low-income level it may not be difficult for a central government to have all information necessary to make the right decisions regarding local public goods. With economic growth, Bahl and Linn argued that the demands for public goods and services will likely increase as will their variance. As the preferences of people become more heterogeneous the demand for fiscal decentralisation increases. From this perspective, economic development comes first while fiscal decentralisation follows and this may explain the recent trend toward greater decentralisation especially in developing and transition countries. Failure to account for endogeneity biases the empirical results and the true effects of fiscal decentralisation on economic growth will not be accurately captured. Matinez-Vazquez & McNab (2005) tested for endogeneity, however the test they used suffers from a well documented low power. Iimi (2005) attempted to account for endogeneity by employing Instrumental Variables, however the instruments used (lagged values of the independent variables) do not fully circumvent the problem. By failing to properly address this issue of endogeneity it is questionable how much faith one can place in the empirical literature.

Furthermore, most empirical studies test for the existence of a linear relationship between decentralisation and economic growth. In reality, it is far more likely there will be an 'optimal' level for each country (depending on various economic, political and social factors). As argued by Thieβen (2003), a country may have 'too much' or 'too little' fiscal decentralisation and a 'medium' level of decentralisation may be more appropriate. Thieβen (2003) found strong support for a 'hump-shaped' relationship between expenditure decentralisation and economic growth suggesting that moving from a highly centralised system could bring significant benefits initially but that beyond a particular threshold of decentralisation, these benefits are lost. However, the econometric methodology used by Thieβen is relatively crude and the robustness of these results is as yet unclear. An additional limitation with current cross-country studies is that by focusing on measures of national economic growth they have ignored the spatial impacts of fiscal decentralisation and whether certain regions benefit more than others.

Finally, the applicability of these studies to the Scottish case is questionable and one should be careful not to attach too much weight to their findings. For example, in most cases decentralisation is measured only in terms of the level of expenditure decentralisation. In contrast, the debate in Scotland now centres on revenue decentralisation and revenue autonomy[13]. Furthermore, studies of the experience of single countries have focussed on Federal countries such as the USA which have quite different fiscal and political institutions, laws, sizes of sub-central authorities and preferences. Moreover, no country has yet implemented a system of full sub-central fiscal autonomy and therefore it is impossible to fully ascertain from empirical evidence the likely impact of such a reform in Scotland. In essence, using existing studies to infer the likely impact of revenue decentralisation in Scotland involves extrapolating the interpretation of their empirical results beyond breaking point.

To summarise, it is difficult to ascertain the extent to which the existing empirical literature can inform the fiscal decentralisation/fiscal autonomy debate in Scotland. Before a definitive conclusion can be reached more robust empirical evidence taking into account the nuances of the Scottish case should ideally be sought.

5. Conclusions

It is clear that fiscal decentralisation can influence economic growth in a number of directions. On the one hand the inter-governmental competitive environment, coupled with the granting of fiscal and economic powers to sub-central governments who are then able to shape policy to best capture the subtle distinctions of their jurisdiction, can create efficient and dynamic regions with substantial improvements in economic growth. However, to the extent that poorer regions are put at a disadvantage and competition generates negative spillovers between regions, fiscal decentralisation may harm economic growth.

Unfortunately, the current empirical literature does not tell us which effect dominates. Studies that have tested for correlation between fiscal decentralisation and economic growth have for the most part provided conflicting results lacking in robustness. Moreover, it is questionable how much one should trust the results in the empirical literature as they generally lack theoretical foundations and suffer from a number of significant data and methodological limitations. The failure to explicit test the mechanisms through which fiscal decentralisation can contribute to economic growth is a significant weakness of this literature and must be addressed.

In summary, while the theoretical research indicates that there are links between fiscal decentralisation and economic growth it is unclear whether an extension of the current devolved fiscal arrangements in Scotland would bring about the desired long term economic effect.

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Endnotes:

[1] There are many other alleged advantages and disadvantages of fiscal decentralisation such as improving voter participation and social capital. However, the goal of this paper is on the relationship with economic growth

[2] In the US, fiscal federalism refers to the broad topic of finance for sub-central governments.

[3] Since certain revenues are retained at the centre there is the potential that these could be used for equity and stabilisation

purposes but overall this will be less significant than under a grants system.

[4]See Roy (2006) for a survey of the extent of tax sharing arrangements in EU countries.

[5]The 'Tartan Tax' in Scotland is an example of a 'piggybacked' tax.

[6]Oates (1993)

[7]While it is theoretically possible that a central government could vary fiscal policy across regions, economists usually argue that this is unlikely. In practice they are likely to suffer from informational disadvantages and political constraints which prevent them from doing so.

[8]Note, such an outcome does not necessarily require fiscal autonomy. Greater tax devolution or overlapping taxes also provide the opportunity for the Scottish Executive to alter revenues in Scotland in an attempt to boost economic growth.

[9]Lee and Gordon (2005) found that based on the experiences of 70 developed and developing countries, a cut in the corporate tax rate of 10 per cent can on average be expected to increase annual economic growth rate by nearly 2 per cent.

[10]Hallwood and Macdonald (2006) pp. 14-15.

[11]For example, the number of governments in Scotland increased after the re-organisation of local authorities in 1996 but the level of fiscal decentralisation remained constant.

[12]An exception to this is Stansel (2005) who uses a measure of the number of governments.

[13]This is important when interpreting the results of the work of Akai and Sakato (2002) for example