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# The Economic Case for Fiscal Federalism in Scotland

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## **Abstract**

In this paper we consider the case for assigning tax revenues to Scotland, by which we mean that taxes levied on Scottish tax bases should be returned to the Scottish budget. The budget, however, would continue to be supplemented by transfers from the Westminster budget. This arrangement differs from the current situation whereby public spending is largely financed by a bloc grant from Westminster. Our suggestion falls short of full fiscal federalism for Scotland, meaning that Scotland had control over choice of tax base and of tax rates, and fiscal transfers from Westminster would be minimal. We use propositions drawn from the theory of fiscal federalism to argue for a smaller vertical imbalance between taxes retained in Scotland and public spending in Scotland. A closer matching of spending with taxes would better signal to beneficiaries the true costs of public spending in terms of taxes raised. It would also create more complete incentives for politicians to provide public goods and services in quantities and at qualities that voters are actually willing to pay for. Under the current bloc grant system, the marginal tax cost of spending does not enter into political agents' calculations as spending is out of a fixed total budget. Moreover, the Scottish electorate is hindered in signaling its desire for local public goods and services since the size of the total budget is determined by a rigid formula set by Westminster.

At the present time we reject proposals for full fiscal federalism because in sharply reducing vertical imbalance in the Scottish budget, it is likely to worsen horizontal balance between Scotland and the other UK regions. Horizontal balance occurs where similarly situated regions enjoy the same per capita level of public goods and services at the same per capita tax cost. The complete removal of the bloc grant under full fiscal federalism would remove the mechanism that currently promotes horizontal equity in the UK. Variability in own-source tax revenues creates other problems with full fiscal federalism. Taxes derived from North Sea oil would constitute a large proportion of Scottish taxes, but these are known to be volatile in the face of variable oil prices and the pound-dollar exchange rate. At the present time variability in oil tax revenue is absorbed by Westminster. Scotland is insulated through the bloc grant. This risk sharing mechanism would be lost with full fiscal federalism. It is true that Scotland could turn to financial markets to tide itself over oil tax revenue downturns, but as a much smaller and less diversified financial entity than the UK as a whole it would probably have to borrow on less favorable terms than can Westminster. Scotland would have to bear this extra cost itself. Also, with full fiscal federalism it is difficult to see how the Scottish budget could be used as a macroeconomic stabilizer. At present, tax revenue downturns in Scotland - together with the steady bloc grant - are absorbed

through an increase in vertical imbalance. This acts as an automatic stabilizer for the Scottish economy. No such mechanism would exist under full fiscal federalism. The borrowing alternative would still exist but on the less favorable terms - as with borrowing to finance oil tax shortfalls

**Journal of Economic Literature Classification:** E62, H1, H61, H7, H87

**Keywords:** Barnett formula, bloc grants, devolution, fiscal federalism, local public goods, oil taxes, regional economics, Scottish economy, soft budget constraint, tax assignment, UK economy, UK fiscal system.

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# THE ECONOMIC CASE FOR FISCAL FEDERALISM IN SCOTLAND<sup>1</sup>

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## EXECUTIVE SUMMARY

There is currently an active debate in the UK about regional funding. It would seem that both internal (from within Scotland) and external (from other regions and, perhaps, Her Majesty's Treasury) pressures will be brought to bear to move to a system which is seen as more equitable and puts all regions of the UK on an equal footing. It therefore seems a most timely moment to consider what alternatives exist to replace the current funding model. In this paper we make the economic case for fiscal federalism in Scotland. It is worth stressing that we do not set out to prove the fiscal federalist case, rather our point is that the fiscal federalist case provides a better balance than the alternatives of the status quo or that of full fiscal autonomy. Our objective in this pamphlet can be neatly summarized using the following quote from the leading textbook on public finance:

"Our task...is to extend the economic principle of efficient resource use to the public sector. Some believe this to be a hopeless task and hold that the determination of budget policy is a matter of politics only, not amenable to economic analysis, a view that is unduly pessimistic. Budget policy has a difficult task and will hardly realize a perfect solution. But not all feasible policies are equally good. Efficiency of resource use, here as in the private sector, is a matter of degree, and economic analysis can help us in seeking the best answer. The task is to design a mechanism for the provision of social goods which operating in a democratic setting will be as efficient as feasible."

Musgrave and Musgrave (1989, page 41)

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<sup>1</sup> The authors are grateful to Wendy Alexander, Jo Armstrong, Brian Ashcroft, Tam Bayoumi, Diane Coyle, Dhammika Dhamapala, David Heald, John McLaren and Arthur Midwinter for their very helpful comments on an earlier version of this paper. The usual disclaimer applies: we are responsible for any remaining errors of omission or commission and for the views expressed in the paper.

Our main recommendation is that a fiscal federalist solution for Scotland should involve the assignment and partial devolution of tax revenues. This means that a considerable proportion of taxes raised in Scotland would be directly returned to Scotland. The key taxes included in the assignment would be income tax, VAT and corporation tax, with income tax and a package of other taxes being devolved. We argue for this on the basis of the economic theory of fiscal federalism.<sup>2</sup> The argument that impresses us the most is that tax assignment would help better to align decision-making by the Scottish Executive and Parliament with the preferences of the Scottish electorate. There are, at least, two reasons for this. First, the voice of Scottish politicians is louder in Edinburgh compared to Westminster, and, second, Scottish politicians based in Edinburgh have to think more carefully about the tax cost to their local electorate.

We look at it this way, the present bloc grant system leaves Edinburgh the choice, within any administrative constraints set by Westminster, of how to spend the grant across the spectrum of public goods supplied by government. The whole of the grant is spent as there is little or no obvious benefit to Scotland of returning an unspent portion to Westminster. This system gives the Scottish Executive and Parliament little incentive to choose the right balance – as they would if they had to think about it, between the supply of private goods and the supply of public goods in Scotland. That is, to get the relative size of the private sector in Scotland right. This is surely a matter of importance. Some in Scotland argue that the public sector is too large and stultifies private enterprise. Others would argue for a larger public sector. However, the present public sector funding system in Scotland largely makes this

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<sup>2</sup> The UK is usually defined as a ‘unitary’ rather than a ‘federal’ state. However, it is often recognised that almost any degree of fiscal devolution in a unitary state creates some federal characteristics.

important debate moot. What would be the point of having such a debate when Westminster under the rigid Barnett formula largely sets Scottish public spending?

In terms of taxes raised by assignment, we propose what we refer to as a *balanced tax assignment*. The idea here is that taxes raised by assignment should as far as possible be sufficient to match identifiable expenditure in Scotland. This is important since we believe that economically rational decisions are most likely to be adopted when decision-makers have to balance the benefits of particular spending decisions with the costs of these decisions. Indeed, such rational decision making is most likely to occur at the margin and in order to give politicians the incentive to make appropriate decisions at the margin we propose a *marginal tax rule*: for any given fiscal settlement for Scotland, the ability to increase expenditure in one particular area has to be paid for either by a reduction in spending in another category or an increase in taxes. How quickly and to what extent economic rationality penetrates decision-making by the polity is, perhaps, debatable. However, it is a basic tenet of economics, indeed, of social science in general, that rational decision-makers will sooner or later come to compare costs with benefits - and the sooner the better!

Under the present bloc grant system there is little connection between spending decisions taken by the Scottish Executive and Parliament and decisions on how and from whom to raise the necessary revenues. Pressure for more government spending in Scotland can always blame Westminster and the Barnett formula for squeezing Scottish public funds. Thinking about government spending in Scotland would change dramatically if the Scottish polity had also to consider the revenue side of its political calculus. We argue that the main problem with financing public spending by Edinburgh - governed as it is by the Barnett formula, is that it is almost entirely concerned with equity – or horizontal balance – in the UK, to the detriment of

efficiency. Nor is it achieving its declared objective of equalizing Scottish per capita public spending with the rest of the UK; and there is concern in Scottish political circles that funds from other sources, such as Objective One money from the European Union, are the net additions to the Scottish budget as they are intended to be.

Introducing a harder budget constraint than exists at present could have beneficial advantages for Scotland. First, and most simply, improved alignment of decision-making by the executive with the preferences of the electorate should improve the use of financial resources – this represents a static improvement in efficiency. Second, Edinburgh does not at present have strong incentives to use tax revenues to raise economic growth in Scotland because increased tax revenue from a faster-growing tax base would be paid to Westminster and not re-channelled back to Edinburgh – an improved growth performance would represent a dynamic improvement in efficiency. The present incentives for greater efficiency in public spending – that is, cutting the costs and raising the productivity of public services such as health and education – are also probably deficient (although, of course, there are other ways in which public sector efficiency could be improved – see Crafts, 2004).<sup>3</sup> While it is true that under the bloc grant, cost saving in one area of public spending can be used for greater spending in another, it is broadly true that cost savings will not show up as lower taxes. There is of course the ‘tartan tax’ that could indeed be cut to reflect lower expenditure needs, but the amount of variability is not great. This is why we propose greater variability in the tartan tax, increasing it from plus/minus 3 percent to, say, plus/minus 7 percent, or, even doing away entirely with any bounds limitations.

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<sup>3</sup> See The Economist, 9 April, 2004, for a recent discussion of this issue.

We emphasise that in moving to a system of tax assignment that a trade-off is involved between efficiency and equity. The last paragraph summarises some potential ways in which efficiency could be improved by assigning taxes raised in Scotland to Scotland. However, what of equity in the UK as a whole – that is, similarly situated individuals in the UK receiving similar publicly financed benefits? We assume that – and provide economic arguments in favour of, the current constitutional settlement – Scotland as a member of the UK, in which case equity considerations in public spending in Scotland *vis a vis* the rest of the UK remain relevant. It is true that public spending per head in Scotland is greater than in most other parts of the UK – we believe in part because of greater Scottish needs. But with tax assignment, fiscal transfers from Westminster may decline. This though is not certain as fiscal transfers to meet greater Scottish needs for public spending would have to be negotiated in any construction of fiscal federalism in the UK. However, the potential decline in revenue for Scotland is at the heart of the trade-off that exists in the move to a fiscal federal solution and is the one we emphasise in this paper. The potential advantage of a fiscal federal system is that even if transfers did decline in the short-run Scotland could still be better off in the longer term. A fiscal system that promotes economic growth will potentially deliver greater tax revenues – which would not have to be handed over to Westminster, and could be used to support higher levels of public spending and/or lower taxes in Scotland in the long run.

Economic theory, with empirical support, has suggested a further possible advantage of fiscal federalism in terms of the creation of cohesive social capital. The argument runs that when a people have greater responsibility for their own welfare they will indeed become more responsible. Of course, achieving the potential advantages of fiscal federalism depends on the correct institutional structure being in

place. If it is not, and if the Scottish polity turn out persistently to make sub-optimal decisions, the result of increased fiscal decentralisation could be detrimental to Scotland in both the short- and long-run. But we think that we are suggesting a financial structure that is most likely to induce something on the lines of economically sensible decision-making – at least ‘eventually’.

We emphasise that our fiscal federalist proposal in a sense lies between the current bloc grant *status quo* and what we refer to as the “straw man autonomy position” of full fiscal federalism whereby Scottish public spending would be supported only by Scottish-sourced taxes. The greatest disadvantage of ‘full fiscal federalism’ is that it gives up on the matter of social equity within the UK. In other words there would no longer be common social security benefits and pensions within the UK, nor an objective of attempted per capital public spending equalization as under Barnett.

It would also leave Scotland vulnerable to adverse economic shocks because macroeconomic stabilization would be harder to achieve without the *automatic* stabilizer of cyclically sensitive net transfers from Westminster. At present net transfers increase when Scottish-sourced revenues decline (as, for example, with a decline in oil taxes) relative to those in the UK as a whole.

Our balanced tax assignment proposal has risks for Scotland because public finance revenues would not be as cushioned as they are under the present system. However, variability in revenues may be cushioned through a variety of public sector borrowing mechanisms that we discuss. Besides, cushioning under full fiscal autonomy would be a good deal less than with our balanced tax assignment. As to the status quo, that has risks too. In particular, it does little to promote either static or dynamic economic efficiency, so leaving Scotland the poorer for it.

In embarking on a fiscal federalist system a needs assessment exercise would have to be conducted in order to tie down the size of any bloc grant provided by the centre. We also argue for some form of transition mechanism that minimises the amount of disruption in the system and maintains the level of revenue initially available to the Scottish Parliament at a time of significant change. We are also of the opinion that any legislation creating tax assignment for Scotland should allow scope for further modification of the Scottish fiscal system – much as on the lines of the Spanish system where regional finances under the law are reviewed every five years. For one thing fiscal federalism is currently evolving worldwide, and in several countries is being allowed to pass through several phases. For another thing, it is very hard to get it absolutely right first time – something that we believe the Scotland Act (1998) failed to achieve.

To flesh out the tax assignment idea a little bit, our thinking is that a good tax system for Scotland would be one that stimulates efficiency in public spending which, in turn, will improve social cohesion and economic growth in Scotland and the UK as a whole. This would be achieved by a system that:

- assigns a portion of an agreed range of tax revenues to Scotland – such as taxes on personal income, corporations and expenditures;
- allows partial devolution of income tax;
- devolves in entirety a further range of taxes such as stamp duties, betting and gaming duties and vehicle excise duties.

This system would also keep a meaningful equalization grant to provide for equity considerations, something that is in line with standard practice in the rest of the European Union and much of the rest of the world.

We argue that there is little scope for wholesale devolution of the main taxes – personal income tax, corporation tax and VAT, both because differences in tax rates or definitions of tax bases, especially if they became large, would introduce tax distortions within the UK. This would be especially so given that contiguous English regions have no political institutions through which beneficially to adjust to changing tax conditions in Scotland. Moreover, changes in the rate of a ‘Scottish VAT’, if it were possible, would run against the grain of expenditure tax equalization in the EU as a whole. However, despite this we argue that some form of limited tax devolution is important, especially for expenditure decisions made at the margin, and to address this we propose what we refer to as the marginal tax rule.

Aside from the devolution of taxes, however, even the assignment of tax revenues to Scotland - without Scottish control over either tax rates or bases, could substantially help in raising efficiency by aligning public spending and taxing by the Scottish Executive and Parliament. That the amount of tax revenues coming to Scotland would in part depend on the health of the Scottish economy should create an incentive to politicians to be growth friendly in their public spending decisions. Devolved taxes would have a similar, perhaps even stronger, effect.

But let us not be naïve: the beneficial effects of tax assignment that we emphasise depend on the response of Scottish politicians and electorate to the new incentive structures. If they think that they are getting a free lunch – freed from the bloc grant they can have an enhanced tax-and-spend regime, they will be sadly disillusioned. The benefits of greater efficiency in public spending and faster economic growth will come only if the Scottish polity comes to realize that their budget constraint has been toughened, not relaxed. If it acts on the latter assumption public spending will not become more efficient, the tax burden in Scotland will grow,

Scottish economic growth will not improve, and Scottish public sector indebtedness will most probably grow - perhaps unsustainably so. Our idea of tax assignment and partial tax devolution will ultimately benefit the Scottish standard of living only if it is accepted that greater tax responsibility introduces a harder budget constraint into the public spending decisions. As it happens, evidence from other countries supports the idea that transferring fiscal responsibility downwards from central government does indeed promote economic welfare.

We realize that the design of a fiscal federalist structure for Scotland depends to some extent upon the development of fiscal federalism in the rest of the UK. At the political level, at least to us, it does not seem to be viable for Westminster to develop fiscal federalism for the English regions, assigning or devolving some tax powers to, say, London, without also doing so for Scotland. Also, what is economically rational to assign or devolve to Scotland, depends in part on what one day might be passed down from Westminster to the English regions, especially the North of England. For example, we could possibly support devolution of corporation tax rates to Edinburgh (as in Canada's regions), if a North of England 'regional authority' had similar powers. It might then be possible for the adjacent regions to reach an equilibrium in corporation tax rates – again much as in Canada today, something that would not be possible without the development of fiscal federalism in England. This, again, is why we argue for the introduction of rolling five year reviews of fiscal federalism in Scotland and, for that matter, in the UK as a whole.

### ***Outline of the pamphlet***

In the Introduction we make a case for using economics to argue for changes in the financing of public spending by the Scottish Executive and Parliament. Our main

argument is that the current large gap between spending and taxes raised through Edinburgh – something known as “vertical imbalance” - is inefficient because it does not provide sufficient incentives for Edinburgh to make the most efficient use of its public finances.

In Part I we flesh out the economic theory of fiscal federalism that supports the case for greater vertical balance between Scottish public spending and the financing of this spending. The thrust of this body of theory – which comes in two flavours, ‘traditional’ and ‘new’, is that decision-makers (the Scottish electorate and its agents the Scottish Executive and Parliament) will make more efficient decisions concerning the use of public money if they have to face the full opportunity costs involved. This means that public spending by Edinburgh needs to be more closely aligned with taxes raised in Scotland, and less reliant on a bloc grant from Westminster. If so, the true tax burden of public spending will become more apparent, and decision-making should be better informed.

In Part I we also consider the benefits that Scottish trade and employment gain from Scotland being a part of the UK monetary union – sharing a single currency with the rest of the UK. We also discuss the implications for decentralised fiscal policy in Scotland that follows from continuing to use the pound-sterling as its currency. In particular, we argue that while most macroeconomic stabilisation for the UK can be performed as it is now through Westminster, there may be some room for the Scottish budget being used to share this burden. Indeed, as we point out in a later section, several countries use internal stability pacts between their regions and central government as a matter of ‘macroeconomic risk sharing’ – using borrowing by regional governments to help stabilise the national economy.

Part I also contains an overview of the recent literature on social capital and fiscal federalism. The key argument is that decentralised fiscal policy, by bringing government closer to the people, can be a key element in strengthening social capital. To quote one specialist in this field, social capital is ‘the trust, norms and social networks that foster mutually beneficial cooperation in society’. The basic idea is if more fiscal responsibility is given to a people the more economically and socially responsible they will become. The benefits of this are many, and we emphasise that there will be a tendency for efficiency in public policy to increase. In turn, this will improve economic growth and welfare in the long term. Supporting evidence for this is reported.

In Part II we consider the features of devolved fiscal policy in ten other countries besides the UK. The main point is that the UK stands out as the country with the least devolution of powers over regional taxation – that is, the UK has the most extreme degree of vertical imbalance. We think that the UK has a lot to learn from these other countries, and that it should join in with the international learning process that is now going on between countries.

In Part III we first consider the present fiscal arrangements in Scotland and then sketch out how fiscal federalism might look in Scotland based on the various economic criteria discussed in this paper. We argue for the introduction of a system of tax assignment - that Scotland retains a portion of the taxes raised in the country – and limited devolution of taxes. This is different from the current system where taxes raised in Scotland go into the consolidated fund and Westminster in effect decides what will be the level of public spending in Scotland. We argue for tax assignment and devolution because it brings home to the Scottish electorate and politicians the true tax burden of Scottish public spending, and in this way should raise efficiency in

the use of public money. The devolution of taxes is also important because it forces decision-makers carefully to consider spending decisions at the margin – our marginal tax rule.

We also make a case *against* ‘full’ fiscal federalism in Scotland – meaning Scotland retains all of the taxes raised in Scotland and uses only these taxes to finance public spending by the Scottish Parliament. We have three main arguments against full fiscal federalism. First, there are theoretical, constitutional and practical reasons why all taxes should not be devolved to the Scottish Parliament. Secondly, with the Westminster budget cut out of providing direct macroeconomic stabilisation for Scotland – something that it largely does now - the Scottish economy may well become more volatile. Thirdly, without fiscal transfers in the UK, it will be more difficult, if not impossible, to promote equity – that is, fairness in the distribution of public goods and services, in the Union. Also there is likely to be a loss of the economies of scale in the provision of social security if it were to be partitioned on a regional basis. These kinds of difficulties in implementing full fiscal federalism are presumably why we do not observe it in practice in any other nation state. In particular, regions or states within a unitary or federal system have mutual obligations which are essentially the price of access to shared services. A concluding section further summarises the main findings of the paper.

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## **Introduction**

Since the establishment of a Scottish parliament in 1999, there has been considerable debate regarding the issue of fiscal federalism for Scotland. This debate, prominent in the Scottish media, is usually along political lines. The case for fiscal federalism is often argued to be synonymous with full political independence for Scotland, while the argument against fiscal federalism is generally cast as inconsistent with the political union of the UK. In this paper we try to move the debate about fiscal federalism away from the highly contentious discussion that links fiscal federalism with political independence towards an economic analysis of the case for fiscal federalism.<sup>4</sup> We take the existing constitutional settlement in the UK as given and seek out arguments based on economic theory relating to the matter of greater devolution of economic powers from Westminster to Edinburgh.<sup>5</sup> Our objective is to spark a debate on fiscal federalism which focuses on objective economic criteria rather than emotional considerations.

The nub of the argument in this pamphlet is that for any devolved or federal system to function effectively it must address the following key issues:

- How to assign expenditure responsibilities between the respective levels of government;

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<sup>4</sup> Previous papers focussing on the economics of fiscal federalism for Scotland include Bell and Christie (2002) and Darby, Muscatelli, and Roy (2002).

<sup>5</sup> In particular, we use the 'traditional' and 'new' fiscal federalism literatures, the optimum currency area literature, and draw on time consistency issues from the macroeconomic literature to make the case for fiscal federalism in Scotland.

- Define how those expenditures are financed in terms of tax and revenue raising by the different levels of government;
- Specify the nature of intergovernmental transfers;
- Address the ability of sub-national governments to borrow.

The first of these issues was essentially settled with the establishment of the Scottish Parliament and this represents a significant step towards fiscal federalism. However, the other issues have not so far been properly addressed in a Scottish context and this pamphlet addresses these issues in the light of experience to date.

At present the Executive has the power to change personal income taxes by plus or minus three pence in the pound, the so-called tartan tax, and to set and raise non-domestic rates - the proceeds of which accrue to local government - in addition to setting a range of user charges such as the student tuition fees. However, as has been widely noted, the ultimate effect of this in terms of its revenue raising powers is likely to be limited, as are its effect on incentives.

The phenomenon of central government having greater power to obtain income than it actually needs for the exercise of its authority, while the sub-central level has less power to raise income than it needs, is referred to in the fiscal federalism literature as '*vertical imbalance*' or 'fiscal mismatch'. An imbalance should be resolved if the sub-central level of government is able to exercise its authority properly. One of the anomalies in the current UK system is that this vertical imbalance has been partially resolved<sup>6</sup> for the lowest tier of government – local authorities - who can tax, spend and borrow, but not for the Scottish parliament.

However, an exclusive focus on vertical imbalances could result in '*horizontal imbalance*', in terms of transfers from the centre being inappropriate to deal with the

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<sup>6</sup> It has not been fully resolved since 80% of local government revenues are in the form of a direct grant from the Scottish Parliament. Council tax, which is under control of the local authority only contributes

*principle of equalisation* of resources based on needs at the regional or local level.

Needs equalisation exists in all systems. The question is the extent to which this equalisation occurs. In all real world cases intergovernmental grants from central to sub-central government range from a low of 22% in Canada to approximately to 80% in Scotland. Some equalisation is inevitable to finance common services. This equalisation mechanism may be directed to a specific service, such as health, education or social security – or, as in the case of Scotland, the overall bloc grant.

In essence the challenge now facing Scotland is to find the most satisfactory trade-off between equity and efficiency objectives. Achieving this will require improving the vertical and horizontal balance on the revenue side. Scotland's current financing system is characterised by a high level of equalisation and a high level of vertical imbalance. Hence the choice is: *How much horizontal balance and, therefore, needs equalization with the rest of the UK, is Scotland willing to give up in exchange for more self-financing and so a reduction in vertical imbalance?*

At the heart of the design of an appropriate fiscal system at the central or sub-central level of government is finding an appropriate mix of the three key economic roles of government, namely:

- the allocation, or, efficiency role;
- the equity, or, income equality function;
- and the macroeconomic stabilisation role.

In designing a fiscal system there is inevitably a trade-off between these three functions. As we shall see, in Scotland there is little scope for the devolution of a macroeconomic stabilisation role for fiscal policy. Our analysis of trade-offs will therefore focus mainly on allocative efficiency and equity considerations.

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20 per cent of revenues and non domestic rate income is harmonised and pooled centrally and

At the moment the allocation of additional revenues to Scotland is based on an unconditional grant known as the *Barnett formula* (discussed in more detail below). This formula is widely regarded as favouring Scotland since it delivers a higher per capita level of revenue to Scotland than to most other regions of the UK (with the exception of Northern Ireland). The argument that Scotland requires higher per capita spending relative to the rest of the UK is based on the perceived greater needs in Scotland due, for example, to its poorer health record and the sparsity of its population.<sup>7</sup> In essence the current arrangements for financing the Scottish Parliament trades-off efficiency in favour of equity.

Moving to a fiscal federalist structure in Scotland would mean moving the trade-off in the opposite direction: sacrificing some equity in favour of potentially greater efficiency. This could produce fluctuations in income categories that would not have occurred under the current system. However it could produce an improved allocation of resources in the longer run and the opportunity potentially to incentivise growth and ultimately generate additional revenues for spending functions. Two points should be noted. First, superior allocative efficiency on the spending side, or on the matching of costs and benefits across expenditure categories, is not inevitable, and secondly, a reduction in horizontal balance is likely to reduce resources in the short term. On the first of these points, increased efficiency depends largely on how politicians react in the new revenue and tax environment; and they are more likely to respond positively the greater is transparency and accountability in the system.

There are other arguments for fiscal federalism in Scotland which, although related to the economic argument, are more to do with democratic, or political,

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redistributed in the bloc grant.

<sup>7</sup> The Barnett formula was first applied in 1978. In 1979 the Treasury conducted a needs assessment exercise which generally favoured Scotland (and Northern Ireland) and despite the fact that Barnett was

accountability. We note two such arguments. David Heald (1990) eloquently expressed one aspect of the democratic accountability view:

‘Such an arrangement [a fiscal federalist arrangement] is essential for the constitutional accountability of a Parliament which would possess extensive legislative responsibilities and expenditure programmes. Moreover, there would be much stronger incentives to fiscal responsibility under a financial arrangement whereby a Scottish Executive must justify to a Scottish Parliament, electors and taxpayers, its chosen trade-off between services and taxes’.

The last sentence of this argument is similar in spirit to the economic case for fiscal federalism that we make.

A second argument in this vein relates to the constitutional settlement in the UK and, in particular, the possibility of a political party of one colour being in office in Westminster and a different party in Edinburgh. Since under the current settlement, funding for the Scottish parliament is essentially at the behest of the political party in office at Westminster, a constitutional crisis could arise if there was disagreement between the two parties over the bloc grant allocation. To avoid such a potential conflict the Edinburgh parliament should have appropriate tax and spending powers to minimise the scope for unilateral rewriting of the financial dimensions of the settlement.

We believe that these arguments are in themselves powerful ones in favour of some form of fiscal federalist solution for Scotland. However, the main focus in this pamphlet is the argument for fiscal federalism in terms of the economic trade-off between equity and efficiency mentioned above.

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supposed to act as a convergence formula (equalising per capita spending across the regions in the UK)

## **Part I. The Theory of Fiscal Federalism**

The ‘traditional’ case for fiscal federalism considers the provision of goods financed by taxes at the regional level as well as the appropriate revenue collection system at this level of government. In what follows we take the ‘regional’ level as the relevant decentralised tier of government. We will sometimes use ‘sub-central government’ (SCG) for level(s) of government below that of ‘central government’ (CG). In this part we consider the economic case for fiscal federalism. This comprises:

- How best to provide public goods and services at the regional or federal level;
- Hard and soft budget constraints and needs equalisation;
- The role of fiscal federalism in stimulating economic growth;
- The link between fiscal federalism and the monetary union in the UK.

### **I.i The provision of public goods at the regional or federal level**

#### *Efficiency*

The basic principle in the traditional theory of fiscal federalism is that SCG should have the ability to provide goods and services that match the particular preferences and circumstances of their constituents. The key presumption of fiscal federalism is that the provision of public services should be located at the lowest level of government encompassing geographically the relevant costs and benefits. In that way efficiency and economic welfare can be increased above that generated by a more uniform allocation mechanism.

This ‘benefit rule’ is standard theory in the field of public finance. Rational decisions are much more likely to be made when people in a ‘benefit region’ have to face up to the costs as well as enjoying the benefits of public expenditure. In terms of this kind of argument, goods which are ideal candidates for centralised provision, because their benefits extend nationwide (or there are economies of scale) are foreign

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it has in fact simply enshrined the favourable differential that existed in 1979.

affairs, defence and interregional infrastructure such as transport and telecommunications. But many other public goods have benefits that are locationally circumscribed – such as the local fire department, street infrastructure, and spending on health and education to name a few. Of course the efficient provision of these goods or services may also be ensured in a system where private sector companies have to enter a competitive bidding process for their provision.<sup>8</sup> Indeed, if a single private sector company is providing goods or services across a large enough number of sub-central groupings they may be able to benefit from economies of scale.

De Mello (2000) has a nice general statement of some of the benefits of fiscal federalism:

“The performance of the public sector can be enhanced by taking account of local differences in culture, environment, preferences and needs, endowment of natural resources and economic and social institutions. A better match between the supply of public goods and local demands requires information on local preferences and needs; this information can be extracted more cheaply and accurately by local rather than by central governments. This is because local governments are closer to the people and hence more identified with local causes, more sensitive to local problems and more responsive to local demands. Fiscal decentralisation consists in this respect, of shortening the informational difference between the providers and recipients of public goods and services so as to reduce information costs and boost public sector efficiency in service delivery.”

This argument supports the devolution of the spending function of government to Scotland as in theory her residents are better able to express their preferences for public goods and services through Scottish politicians in Edinburgh than through Westminster where Scottish representation is diluted. But the Scotland Act did not devolve the necessary tax powers so that Scotland could operate as an effective ‘benefit unit’.

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<sup>8</sup> See Tanzi, 1999.

The idea of a benefit unit encompassing decision-making over both costs as well as benefits has a long lineage in economics. As long ago as 1956 Charles Tiebout argued that the idea of a benefit unit applied even, perhaps, especially, when households and firms could vote with their feet. That is, mobile households and firms could choose the particular benefit unit that supplied the public goods and services that they most wanted. The distribution of households would be rational as long as each paid the full cost of the goods and services supplied. This benefit unit argument – paying for what you get (in a world of either geographically mobile or immobile households and firms) is important for two main reasons. First, because the quantity of public goods and services supplied will be neither too large nor too small. When the cost and benefit of the last few items of a public good produced are equal production is at the right level. If the cost of the last few units (i.e., marginal cost) is greater than marginal benefit, the provision of public goods is too great. When marginal costs is less than marginal benefit there is a case for expanding provision. It is for this reason we argue in favour of some devolution of taxes to facilitate a marginal tax rule (discussed below). Secondly, tax costs are properly apportioned to benefits, taxes are non-distortionary in that they do not adversely affect the locational decisions of households or firms. Moreover, if costs vary between regions the case for fiscal federalism is strengthened. Where interregional cost differences exist a SCG can take advantage of this to improve welfare – providing more of the public goods that have low costs and less of those with high costs.

However, other factors moderate the case for fiscal federalism. For example, where important spillovers exist or there are economies of scale in public provision, the theoretical presumption is that CG should either supply these public goods or that the tax system should reflect these effects (we consider this below).

### *Macroeconomic stabilisation and income distribution*

As we have seen, the fiscal federalism literature contends that public goods and services whose benefits extend nationwide should be provided by the centre (examples of these would be defence, social security and international relations). The theory also contends that functions of macroeconomic stabilization and income redistribution should also be left with central government. With high capital mobility, a fixed exchange rate and a unitary interest rate, fiscal expansion in a single region within a country would spillover into other regions. Even so, coordination of fiscal policy at the regional level is not impossible, especially if orchestrated through CG. Redistribution at the local level is hampered by the mobility of households. For example, the provision of more generous social security in one region will likely lead to an influx of poor and an exodus of higher income individuals who have to bear the tax burden. Should fiscal federalism prevail, Scottish politicians should remember this simple fact – using SCG budgets to perform income and benefits redistribution could well have serious adverse consequences. In many cases the well-off can easily move their primary residence out of Scotland.

We return to a discussion of these issues from the revenue perspective in section II and also in the context of our proposals for Scotland in Section III.

#### **I.ii Hard and soft budget constraints**

In Part II we discuss the kind of taxes and grants that would be required to match expenditure in Scotland. As we shall see, grants are needed in any fiscal federalist solution in order to ensure that the objective of needs equalization is satisfied.

However, the principle of equalisation, effected by a bloc grant raises the moral hazard issue caused by the lack of a hard budget constraint on public spending in

Scotland. If a region knows that the size of the bloc grant it receives is related to the size of its fiscal imbalances, the incentive to reduce its fiscal imbalance is compromised: the region in effect faces a soft budget constraint. Relevant to what we are talking about is the so-called “flypaper effect”: namely that ‘money sticks where it hits’. Money received in the form of a bloc grant from the central fiscal authority will be spent, rather than used for regionally focussed tax cuts, by the regional fiscal authority.<sup>9</sup> Equally a cut in the size of grants from the centre leads to lower expenditure at the devolved levels.<sup>10</sup>

The ‘new fiscal federalism’ (Oates, 2004) takes a public choice perspective. This contends that politicians and civil servants are not seen as necessarily behaving to maximize the welfare of the electorate; rather they are concerned with their own utility – and for reasons of personal satisfaction, having control over a large budget is better than a small budget. This public sector as a monolith (Leviathan) argument is now influential and implies that fiscal federalism acts as a constraint on the behaviour of a revenue-maximizing government.<sup>11</sup> At issue is how to align more closely the decisions of politicians and bureaucrats (the agents) with those of the electorate (the principal). From this public perspective horizontal tax competition between regions has the dual benefits of stimulating private enterprise and reducing the scope for wasteful government spending and therefore increased fiscal decentralization should limit the size of the public sector. Further, given this combination of benefits, increased tax competition between jurisdictions need not mean reduced provision of public goods.

However, the ability of intermediate tiers of government in the UK to compete on their respective fiscal packages is limited to the extent that it is only the Scottish

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<sup>9</sup> See Hines and Thaler, 1995

Parliament which currently has the ability to change taxes and many of the significant UK regions, such as the North of England, do not have an elected assembly which could compete on taxation and expenditure. Competing tax jurisdictions don't exist in the UK. And even if they did, factor mobility, particularly labour mobility, is known to be limited in the UK, and so it is unlikely that tax competition would have its desired effect. Furthermore, empirical studies testing the 'Leviathan' hypothesis have produced conflicting results.<sup>12</sup>

Cooperative federalism' (coordination of tax regimes between federal units) can serve governmental interests rather than those of their citizens.<sup>13</sup> Generally, the constitutional expert Ronald Watts (1996) comes out against excessive cooperative federalism as there is some 'democratic value in competition among governments to serve their citizens better' (page 55). Indeed, Canada's Representative Tax system (RTS) that allows provinces to obtain the same fiscal revenues when they levy the same tax creates perverse tax incentives in entitlement receiving provinces.<sup>14</sup> Since the formula is based on tax bases there is no incentive for a receiving province to cut its tax rates to attract inward investment, thereby increasing its tax base because its entitlement under the RTS system would be correspondingly reduced. Also, tax rates in receiving provinces might be set too high because there is no financial penalty for reducing the tax base – any lost revenues caused by relocation of producers avoiding the high tax rates is offset by the entitlement payments.

An example of the soft budget constraint in Scotland might be that poor Scottish standards of physical health are used as an argument for more public spending on health in Scotland supported by a commensurately larger grant from

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<sup>10</sup> Stine, 1994.

<sup>11</sup> See Buchanan and Brennan, 1980.

<sup>12</sup> See, for example, Oates (1985), Grossman (1989) and Ehdaie (1994).

<sup>13</sup> Breton quoted by Watts, 1996.

Westminster. However, with a hard budget constraint on public spending the Scottish Executive and Parliament might be encouraged to treat poor health in Scotland differently, by moving further towards preventative measures within health spending. Relevant fiscal measures might include public education through the schools of the causes of poor health, and higher taxes on health-compromising consumables

However, the benefits of moving to a harder budget constraint might be lost unless central government can credibly commit to its budget constraint. This is a so-called “time inconsistency” issue. Unless central government can credibly commit not to rescue an over-spending SCG or distance itself from political pressures from SCG to raise spending limits, spending by sub-central government is unlikely to be contained. The issue of time consistency has for some time now been regarded as a key element in effective anti-inflation policies of central banks around the world. We would argue that the concept of time consistency should also be a key element in the design of a fiscal federalist system in the UK and we see this as an important part of the institutional framework which ensures the credibility of such a system. One way of achieving time consistency is to have a 'no-bailout' clause<sup>15</sup> in the financial settlement with Westminster. The exact nature of such a clause is at this time difficult to foresee. However, such a clause could be backed up with legislation that prevents a bailout in pre-defined circumstances, and it is even possible to make members of the Scottish Executive personally liable if a bailout did occur. It could also be further reinforced by ensuring that any debt issued by Edinburgh was its liability and not Westminster's.

What might be compromised in a move to a harder budget constraint – the closer matching of spending and taxing in Scotland - is the insurance function played

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<sup>14</sup> This is the argument of Smart, 2001.

by central government. Regions affected by adverse asymmetric economic shocks may be supported by transfers from CG – but this is likely to be more difficult when SCG spending and taxes are closely matched. Such asymmetric shocks could well occur if Scotland was, say, overly reliant on North Sea oil tax revenues, known to be quite variable over time. The trade-off between risk sharing and moral hazard is problematic for the design of a system of fiscal federalism.<sup>16</sup> One way around the issue might be for central government to insure individuals (e.g., as with unemployment insurance) thereby guaranteeing benefits to welfare recipients and senior citizens.<sup>17</sup> The discussion here reinforces the point made earlier that in designing a fiscally federated structure for Scotland, care has to be taken in balancing the vertical and horizontal aspects of a fiscal system. We return to the issue of risk sharing below.

### **I.iii. Fiscal federalism and economic growth**

Although fiscal federalism is not the central mechanism which creates economic growth, there are nonetheless a number of arguments which suggest that there may in fact be an important link. Here we consider these arguments and also the extant empirical evidence which explores the links between fiscal federalism and growth. The key economic argument in favour of fiscal federalism, that it improves efficiency in the use of resources (“allocative efficiency”), should also apply in a dynamic – economic growth – framework.<sup>18</sup> For example, the ability of local politicians to better reflect local preferences on education, innovation, private capital and the infrastructure could have an important influence on growth.

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<sup>15</sup> See Oates (2004) and references therein.

<sup>16</sup> See Perrson and Tabellini (1996) and Oates (2004).

<sup>17</sup> See Perrson and Tabellini, 1996.

<sup>18</sup> See Oates, 1993.

A second argument, and one which we believe may be of considerable importance for Scotland, is that the current devolution settlement for Scotland does not give local politicians an incentive to improve economic growth in Scotland. At present the Scottish Parliament is given a lump sum, based on the Barnett formula, which is spent on public services and goods and politicians have little incentive to spend much of the budget on improving economic growth since the benefits of that improved growth, in terms of increased tax revenue, accrue to the exchequer in London. Giving politicians in Scotland an incentive to improve economic growth would effectively reward Scotland with the benefits of growth – thereby increasing the incentives to promote it.

A third argument, which is related to the previous one, is that fiscal federalism might not only provide incentives for local politicians to consider local preferences but also to spend time searching for innovations in the production and supply of public goods and services which could result in their costs and prices being lower.

A fourth argument in the theoretical literature is that by lessening the concentration of political power and promoting some tax competition, fiscal federalism loosens the grip of vested interest groups on public policy and this promotes democracy and (longer term) economic growth.<sup>19</sup> That said, achieving allocative efficiency in practice has two dimensions: the incentivising dimension, associated with greater revenue powers discussed above – and also improved productivity on the spending side. Devolution has to provide the opportunity to realise greater efficiency on the spending side – but many feel the potential has not been fully grasped. For fiscal federalism to work the appropriate institutional framework has to be in place including a willingness on the part of the local politicians to abide by the

rules of a hard budget constraint.<sup>20</sup> In this regard, one particular aspect of the Scottish scene is that there is some evidence to suggest that Scotland is more producer orientated and resistant to competition, particularly in public services, so undermining the potential gains in allocative efficiency.

There have been a few empirical studies of the growth – fiscal federalism link. Oates (1985), for example, showed, in a study of a mix of 43 industrialised and developing countries, that the average share of central government spending was 65 per cent for the industrialised countries and 89 per cent for the developing countries: industrialised countries therefore seem to have much more fiscal decentralisation than developing countries. Therefore countries with high per capita income, which have enjoyed sustained periods of economic growth to reach their current income levels, have greater levels of fiscal decentralisation than low growth/ low per capita income countries. But the key question here is: is fiscal decentralisation a cause or consequence of growth? The evidence on causality is inconclusive.<sup>21</sup> More recent studies, based on regression analyses,<sup>22</sup> report that there is a statistically significant relationship between fiscal decentralisation and growth but, intriguingly the relationship is often negative: increased fiscal decentralisation is associated with slower growth.<sup>23</sup> However, in general these studies are unsophisticated in the way they treat causality and it is possible that the negative result is spurious. At best, it seems, that the empirical evidence on the fiscal federalism - growth link is ambiguous.

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<sup>19</sup> Various statistical studies support the notion that fiscal federalism promotes growth. These include Oates, 1985, Bahl and Linn, 1992, Thieben, 2003, and Mankiw, Romer and Weil, 1992.

<sup>20</sup> See Tanzi, 2001.

<sup>21</sup> See, for example, Oates, 1999, and Bahl and Linn, 1992.

<sup>22</sup> See, for example, Davoodi and Zou, 1998, Xie, Zou and Davoodi, 1999, Zhang and Zou, 1998, and Thießen, 2003.

<sup>23</sup> Thießen's study shows that in moving from a low to medium per capita income level there is a positive association between fiscal decentralisation and growth, while the move from a medium to high level of per capita income level produces a negative association.

#### **I.iv. Fiscal federalism and social capital**

Recently a number of researchers have argued that decentralisation of fiscal policy, by bringing government closer to the people, may strengthen social capital. Although this literature probably has greater import for developing and transitional countries, it is worth briefly outlining here. To quote De Mello (2000) again:

‘...social capital is a multidimensional concept, broadly defined as trust, norms, and networks that foster mutually beneficial cooperation in society. It involves civic virtue, interpersonal trust, social cooperation and cohesiveness, and associational engagements among social groups’.

A somewhat narrower definition defines social capital *as informal norms that promote cooperation between individuals*.<sup>24</sup>

Knack and Keefer (1997) try to extract a common element from the various definitions of social capital:

‘all concepts of social capital have in common the idea that trust and norms of civic cooperation are essential to well-functioning societies, and to the economic progress of these societies’.

A number of researchers have associated social capital with growth. Growth can be improved in countries where social and political institutions protect property rights and discourage non-productive activities aimed at grabbing a large share of the social product (i.e., what economists call 'rent seeking behaviour'). Such an environment creates a pro-investment climate and fosters entrepreneurship, thereby stimulating growth. Social capital can also stimulate growth by lowering the transaction costs associated with formal mechanisms, such as formal legal contracts and bureaucratic rules.<sup>25</sup>

Although there are a variety of determinants of social capital, from religion, education and ethnic polarization, a number of researchers have argued that the

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<sup>24</sup> See Fukuyama (1999).

vertical structure of government is an important determinant of social capital.<sup>26</sup> There are a number of reasons why the devolution of fiscal policy may improve social capital.<sup>27</sup> First, the basic economic (or, 'allocative') efficiency argument of the traditional fiscal federalism model should imply that a government's actions are more easily monitored by the local community and this should help to foster transparency and accountability in public sector actions. Hence the decentralisation of fiscal policy should reinforce the perception of citizens that local governments respond to their needs and preferences faster and more effectively. That said this theoretical gain can only be realised if there is also a focus on allocative efficiency on the expenditure side.

Second, the decentralisation of fiscal policy should lead to stronger links between community groups and between the community in general and government. With devolved policy making, local citizens are encouraged to take on more responsibility for social and economic development and discussions between the government and local communities tend to be greater. Again it is easier to enforce social norms and contracts in smaller jurisdictions yet as devolution demonstrates it is not clear that local societal norms are more favourable to securing allocative efficiency, than those favoured by central government. The strengthening of these ties is likely to promote social cohesiveness, civic virtue, facilitate interactions among communities and discourage self interest.

Third, closer government encourages community-wide participatory initiatives, such as the formation of groups, associations, and social/cultural activities among community members. Such civic cooperation can improve allocative

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<sup>25</sup> The following authors stress the link between social capital growth: Abramovitz, 1986, Rodrick, 1998, and Knack and Keefer, 1997.

<sup>26</sup> See La Porta, 1997) on religion, Heliwell and Putnam, 1999 on education, and Fox, 1996, on ethnic polarization.

efficiency if the total benefit to society of acting in a cooperative fashion outweighs the total cost of non-cooperative actions. Fostering this civic level playing field diminishes the payoff for citizens to engage in free-riding behaviour and illegal or illegitimate activities, such as tax evasion, dishonesty and corruption.

De Mello (2000) seeks to test the link between fiscal federalism and social capital. He uses three social capital indicators: confidence in government, civic cooperation and associational activity for 29 market economies.<sup>28</sup> He 'explains' the level of these indicators using five measures of the degree of fiscal federalism. These are two revenue-based indicators – SCG tax and non-tax autonomy, two expenditure based indicators – the size and expenditure share of SCG, and vertical imbalances in intergovernmental fiscal behaviour (which measures the gap between SCG expenditures and own-revenue).<sup>29</sup>

The strongest and most significant relationship occurs for the vertical imbalances indicator which exhibits the appropriate relationship with respect to the different measures of social capital<sup>30</sup>; other indicators of fiscal decentralisation prove to be statistically insignificant across all three measures of social capital.<sup>31</sup> The findings are taken to support the subsidiarity principle of public finance, which in the traditional theory of fiscal federalism is justified in terms of allocative efficiency, that social capital can be boosted when local differences in needs and preferences are taken into account by policy makers.<sup>32</sup> For example, confidence and trust in government improves when the vertical imbalance is reduced. Since, as we have

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<sup>27</sup> The discussion here draws on de Mello (2000).

<sup>28</sup> The data was originally collected by the World Values Survey for the period is 1980-81 to 1990-91.

<sup>29</sup> The estimation is conducted by regressing the three different measures of social capital onto the fiscal decentralisation indicators and a set of control variables.

<sup>30</sup> It is negatively related to both Confidence in Government and Associational Activity and positively related to Civic Cooperation.

<sup>31</sup> The econometric results are shown to be robust to a sensitivity analysis.

noted, there is an important vertical imbalance in the structure of fiscal policy in the UK this would seem to reinforce the case for fiscal federalism in Scotland.

The above are some of the key theoretical considerations that face Scotland in designing an appropriate fiscal structure. Some commentators have argued that these kinds of arguments can best be addressed by moving to a system of complete independence. One implication of the latter would presumably be that Scotland would leave the UK monetary union. We therefore believe that it is important to consider the issue of monetary independence in the context of a discussion of fiscal federalism, since monetary and fiscal policy are, in a macroeconomic sense intertwined, and indeed consideration of monetary union issues strengthens the case for fiscal federalism.

#### **I. v. Optimal currency area issues and the case for fiscal federalism**

So far we have looked at a number of efficiency and equity arguments for fiscal federalism. Another possible reason for the decentralisation of fiscal policy in the UK is already of the monetary union that exists within the UK. The theory of so-called optimum currency area literature suggests a number of criteria that should be satisfied for a country or region, like Scotland, relinquish control over its monetary policy. If these criteria are not satisfied, or are only partly satisfied, then decentralised fiscal policy can act as a substitute. Of course, if the criteria are not satisfied then this begs the question of whether Scotland should in fact be part of the UK monetary union. In this section we consider the implications of the optimum currency area literature for fiscal federalism, issues of macroeconomic risk-sharing within a monetary union and the economic implications of Scotland leaving the UK monetary union.

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<sup>32</sup> Of course, these findings are suggestive rather than conclusive since the author has a limited data set

### **I.v.a. Monetary union, trade creation and exchange rate behaviour**

We believe that it is strongly in Scotland's interest to maintain the currency union with the rest of the UK – i.e., continue to use the pound sterling, or, if the UK joins the euro, then to adopt that currency. We argue for this because if Scotland did not have the same currency as the rest of the UK it would face enormous strains on its trade and investment linkages with what is easily its largest trade partner - the rest of the UK.<sup>33</sup> A floating exchange rate might impart unwelcome macroeconomic shocks onto Scotland, trade with the rest of the UK might fall, or would be under strain as the exchange rate floated, and costs would be incurred in restructuring Scottish trade away from the rest of the UK.<sup>34</sup>

The logic of having a common currency between two regions is that by simultaneously reducing transaction costs, currency risk and the opacity of relative prices encourages trade. Studies looking at countries which have *left* a currency union find that trade integration with the remaining members falls by about one-half from the level associated with monetary union in the year or so immediately following exit.<sup>35</sup> Accordingly, if Scotland were to leave the UK monetary union, it might experience a large and rapid fall in its trade with its largest trade partner – the rest of the UK.<sup>36</sup>

A possible scenario is that even outside the UK monetary union, Scotland's trade intensity with it remains high for many years, but in the meantime Scottish business is caught between the costly effects of exchange rate volatility on its trade

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in terms of its cross sectional and time series dimensions and also because the measures of social capital are rather crude and do not capture broader aspects of social capital.

<sup>33</sup> Evidence for this, though not directly based on Scottish data, is found in MacDonald, 1999 and 2000, Buiters, 2000, Layard *et al.*, 2000, Glick and Rose, 2002, and Artis and Ehrmann, 2000.

<sup>34</sup> Besedes and Prusa, 2003, show how difficult it is for countries to create new trade partners.

<sup>35</sup> See Glick and Rose, 2002.

<sup>36</sup> In the most recent year for which there is data, 2000, 51.3 percent of Scottish exports were to the rest of the UK, the remainder being to the rest of the world.

with the remaining members of the UK monetary union, and incurring the costs of finding new trade partners in the EU and elsewhere. We draw the conclusion that the trade adjustment costs that Scotland would incur over the long-term from leaving the UK monetary union would be drawn out and might be unacceptably high. Indeed, given that much of Scottish trade is in the financial services sector, and that this sector trades almost exclusively with the rest of the UK, it is highly probable that this sector would rapidly shift its operations over the border to avoid the vagaries of a flexible exchange rate that would almost inevitably follow Scotland's exit from the monetary union.<sup>37</sup>

This brief overview suggests that it is in the interests of Scotland to maintain its links with the UK monetary union. Given this, does the monetary union within the UK constitute an optimum currency area and what are the implications of the monetary union for fiscal federalism?

#### **I.v.b. The optimum currency area criteria and the case for fiscal federalism.**

In a monetary union a region gives up two instruments of macroeconomic management - the exchange rate and monetary policy. This may not matter from a macroeconomic point of view - maintaining full employment and a stable price level, given one of two conditions: either macroeconomic shocks are symmetric with the rest of the currency area, or, if asymmetric, labour is mobile between regions.<sup>38</sup>

Although labour mobility is high within the UK, there are a number of related issues worth noting. First, although labour may be willing to migrate, it may

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<sup>37</sup> Another interesting aspect of Scotland's choice of currency area is the finding of Frankel and Rose (2000) that the beneficial effects of a currency union work *only* through trade creation and not through macroeconomic influences or the tying of monetary policy to a non-inflationary trade partner

<sup>38</sup> The relevance of inter-regional labour mobility to the optimum currency area question was first discussed by Mundell (1961). Kenen (1969) argued that the more industrially diversified a country, the less asymmetric would be shocks – something that we take up later in this section. McKinnon (1963) argued that a high degree of openness - such as with Scotland's trade with the rest of the UK, suggested a fixed exchange rate because changes in nominal exchange rates could not affect the real exchange

not have the necessary skills to do so and it may take a considerable time for people to retrain. Therefore, a region could suffer a prolonged period of unemployment. Also, it is not entirely clear in the context of the UK that labour mobility is always going to be the best shock absorber. Although it is difficult to cost, to the extent that people move to the already congested parts of the UK it will contribute to the rather unbalanced economy and housing market in the UK. Also, Scotland's well known demographic imbalance suggests it is worth discouraging movement out of Scotland and, indeed, attract new talent in.<sup>39</sup>

Significant theoretical work has been done on the symmetry of macroeconomic shocks at the regional level. Research on business cycle correlation suggests that correlation is higher within countries than between countries.<sup>40</sup> There is not much difference between UK regions; the average correlation coefficient is approximately 0.7.<sup>41</sup>

The high regional business cycle correlation in the UK suggests that the role of macroeconomic stabilisation should largely be left to CG. Indeed risks are pooled or co-insured in a monetary union: if Scotland suffers an adverse shock relative to the rest of the UK its payments to the centre fall while its receipts from the centre increase. The type of risk can also be shared in a monetary union through highly integrated capital markets which are usually associated with a high level of monetary integration.<sup>42</sup>

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rate due to an absence of money illusion. With its high dependence on export industries Scotland is clearly an 'open' economy.

<sup>39</sup> See Joshi and Wright, 2004.

<sup>40</sup> See de Grauwe and Vanhaverbeke, 1993, Forni and Riechlin, 2001, Barrios *et al.*, 2001, Clark and van Wincoop, 2000.

<sup>41</sup> See Barrios *et al.* 2001. See also Clark and Wincoop, 2000, for a broader international perspective that finds a similar level of correlation. Rose and Engel, 2000, find that membership of a currency union usefully raises business cycle correlation.

<sup>42</sup> Kalemli-Ozcan *et al.* point out that with highly integrated capital markets, such as between Scotland and the rest of the UK, there is a high degree of consumption risk-sharing. A region suffering an adverse shock being able to borrow from the other regions.

It might be tempting to conclude that reduced financial market integration with the rest of the UK – following exit from the UK monetary union – would reduce the degree of specialization of the Scottish economy. That would allow Scotland to provide its own insurance against economic shocks. However, it seems plausible that:

- (a) As capital market integration of Scotland with the rest of the UK and/or the rest of the world will remain high, that leaving the UK monetary union will have little effect on the degree of specialization of the Scottish economy.
- (b) That even if capital market integration did fall, the degree of industrial specialization would change only slowly so leaving Scotland's specialized macroeconomy open to asymmetric shocks.
- (c) Less specialization in the Scottish economy following leaving the UK monetary union, even if it did occur, would be undesirable because it would represent the unwinding of the allocative benefits of specialization according to comparative advantage.

We conclude that Scotland breaking its link with the UK monetary union would have an adverse effect on its trade and investment. But there are grounds for using regional fiscal policy for the purposes of economic stabilisation– especially as continued outward labour migration might be undesirable both for Scotland and the rest of the UK. There is a quite high correlation between regional business cycles in the UK, but this does not completely rule out a local stabilisation role for fiscal policy. There is some scope for stabilisation from the periphery as well. Hence the question arises as to whether it is best to leave all of the stabilisation role to the centre?<sup>43</sup> We return to this question of the stabilising role for fiscal policy in Scotland in Section III.

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<sup>43</sup> This is essentially the view articulated by Krugman, 2003.

We also point to the role played by sub-central government in macroeconomic stabilization in several federal systems.

## **Part II: Objectives of an Effective Financing System: Principal Characteristics and the Experience in Other Countries**

In this part of the paper we consider the key objectives of an effective devolved fiscal system, its principle characteristics and the experience in other countries of fiscal federalism. The key objective of fiscally devolved system can be stated as:

- An optimal system of financing will seek to achieve appropriate horizontal and vertical balance; that is, balance equity and efficiency considerations, without undermining macro economic stabilisation objectives.

The principle implications for Scotland in moving to such a system involve:

- Trading off some equity in favour of stimulating greater allocative efficiency, with anticipated knock-on benefits for growth.

The principal characteristics of such a system may be summarised as:

- a. Expenditures and revenues are well matched through the assignment, devolution and sharing of an agreed range of taxes
- b. Appropriate intergovernmental transfer mechanisms are in place to ensure equity considerations are not sacrificed
- c. Provides for an agreed regional borrowing capacity

We now consider these characteristics in more detail.

### **II.i. The characteristics of a fiscalfederal solution.**

Within the current devolution settlement many public goods are provided at the Scottish level and therefore their provision may already reflect the differing preferences within the Scottish community vis-a-vis the rest of the UK. However, appropriate instruments to match this expenditure are not devolved. Currently local spending in Scotland is not generally tied to the taxation decisions of a Scottish Parliament. The Scottish parliament has limited income tax-raising powers which

have so far not been utilised. The essence of the fiscal federalism argument is that there should be a link between the benefits of public goods and services and their price in the form of the tax raised to finance them. Since most key economic decisions are taken at the margin, we believe that one key element in any successful fiscal federalist solution is that it should have taxation at the margin as an important component. This simply means that for any given fiscal settlement for Scotland, the ability to increase expenditure in one particular area has to be paid for either by a reduction in spending in another category or an increase in taxes. We refer to this as the **marginal tax rule** and discuss this in more detail in a Scottish context in Part III. Here we focus on a theoretical discussion of tax related issues. First it is useful to set out some nomenclature relating to taxation.

#### **II.i.a. The assignment, devolution and sharing of an agreed range of taxes**

An *assigned tax* is one whose proceeds are either shared between the different levels of government on the basis of derivation (i.e. tax revenue is attributed to a particular geographical area where it was generated) or equalization tax revenue is allocated (on the basis of needs or resources)<sup>44</sup>. A devolved tax is one for which the sub-central level of government possesses the power to vary the base and/or rate at which that tax is levied. As we saw earlier, the key idea underlying a tax system in which revenue is either assigned or devolved to the SCG level is that it communicates to households and business units the cost of consuming different levels of local public goods and services. Theoretically, this should result in a more efficient allocation of these goods. The concept of needs equalisation is also worth defining at this stage.

Needs equalisation

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<sup>44</sup> Heald (1990) notes that assigned revenues can contribute a sense of ‘creating entitlement’ to the revenues which he regards as ‘very important aspect to the fiscal psychology of the relationship between devolved Parliaments and the UK Treasury’.

‘involves the attribution of tax revenue (and explicitly public expenditure) to particular geographical areas or units of government on the basis of criteria other than derivation’ (David Heald, 1990).<sup>45</sup>

The *tax assignment problem* refers to the determination of the vertical structure of taxes within a fiscal federation. There is vertical imbalance when revenues raised by SCG are considerably less than expenditure – requiring some form of subsidy from central government, as with the bloc grant received by Scotland from Westminster.

The key point in designing a vertical tax structure is to attempt to match revenue raising to expenditure levels. However, some areas have higher taxable capacity – and so can provide more services for lesser tax levels – and as we noted in Part I difficulties in designing a tax system arise where economic units are mobile. Moreover, the mobility of economic agents, increases the more local the level of government. A good example of this in the Scottish context would be the number of households who use the services, such as art galleries and music, provided by Glasgow city council but to avoid the (property) taxes levied to pay for these services choose to live outside the city boundary.

At a Scottish level the ability to implement different expenditure taxes could produce important distortions. For example, a higher rate of VAT in one region may lead to locational inefficiencies which can show up in various ways, such as agents engaging in unproductive travel costs to purchase the taxed items in lower-tax regions.

#### *Income tax*

The distorting nature of differential regional taxes, combined with labour mobility, on the face of it suggests that the Scottish Parliament should perhaps avoid

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<sup>45</sup> ‘Derivation involves the attribution of tax revenue to particular geographical areas or units of government on the basis of where that revenue was generated’ Heald (1990)

the differential taxation of labour – that is, personal income tax should not be devolved. However, this is not necessarily correct. Rather, the Parliament should avoid taxes on mobile households or firms which are not linked to any benefits, while taxing economic unit for the benefits they receive from public services. By communicating to taxpayers the cost of consuming local public goods should result in an efficient allocation of these goods. So some devolution of income tax may well be appropriate, as is indeed the case at the moment in Scotland. We return to a fuller discussion of this point in Part III.

#### *Corporation tax*

This point equally applies to capital: levy benefit taxes on capital to the extent that the government provides local inputs to business which increase the productivity of capital. However, the broad thrust of the fiscal federalism literature is that the ability to alter corporation tax should usually be left with the centre. The main argument for this, as in the case of labour, is that of mobility: tax increases would simply lead to relocation of the business elsewhere. Although tax competition in terms of lowering taxes may seem appealing for a small open economy such as Scotland,<sup>46</sup> the overall effect of such beggar your neighbour tax competition within the UK could be to reduce total revenue available. But this is not necessarily the case. It is possible to argue during the early years after a region introduces a lower rate of corporation tax that these lower taxes attracts capital and firms to that region resulting in higher taxes in other regions. However, if investment in the low tax region successfully promotes R&D that causes positive productivity spillovers, all regions can enjoy lower tax rates in later years. This argument is similar to that of giving tax incentives to promote

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<sup>46</sup> For example, the experience of the Republic of Ireland, where corporation tax revenue has increased even as tax rates were reduced, has often been cited as an example that Scotland could follow. However, whether cuts in corporation tax would indeed produce the correct incentive mechanism for Scotland is contentious. See Alexander (2003), Krugman (2003) and McGregor and Swales (2004).

enterprise but cast in a regional fiscal framework.<sup>47</sup> However, the problem with this argument in the UK context is that not all regions have devolved parliaments and there would not be able to compete on corporation tax. This is why an attempt by the Scottish Parliament to engage in corporation tax competition would probably be to the disadvantage of neighbouring regions, such as the North of England.

#### *Natural resource taxes*

Natural resource taxes are usually not seen as a suitable candidate for a local government tax since the base for these is usually unevenly distributed across regions. It has also been argued that the extraction of profits (or ‘economic rent’), from natural resources should be the prerogative of the nation state and for the benefit of the whole nation.<sup>48</sup> Perhaps the most convincing argument against having a devolved natural resource tax in the Scottish case is the potential volatility of revenue from its key natural resource, namely North Sea oil. We discuss this in more detail in Part III.

#### *Customs and excise and local purchase taxes*

Customs and excise taxes and local purchases taxes are usually not regarded as suitable for devolution, because it is undesirable to have rates differing dramatically between regions which for one thing can produce the travel inefficiencies problems referred to earlier.

#### *Minor taxes*

Other minor taxes such as betting tax, stamp duty, vehicle license, business license taxes, TV taxes and various types of user fees for local services could all potentially be devolved to the Scottish Parliament (as they are in some other countries). Property taxes are also well-suited for devolution and they, of course, have also been already devolved in the case of non-domestic rates to the Scottish

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<sup>47</sup> This argument is based on Hoyt and Jensen, 1999.

Parliament<sup>49</sup> and in the case of Council tax to the lowest tier of SCG, local government across the UK.

So the gist of the above discussion is that there should be limits on discretionary and differential tax changes on highly mobile economic units, especially capital, in a decentralised fiscal system. That is, there are important issues relating to the suitability of devolving the major taxes. On the face of it, this would seem to limit the possibility of addressing the vertical fiscal imbalance which currently exists in the UK. However, there is no reason why the key taxes discussed in this section should not be *assigned* to the SCG and this could represent the major revenue source for the Scottish parliament. But it is important, for the operation of the marginal tax rule – that increased spending at the margin should be matched by increased taxes or reduced expenditure in other areas - that some form of tax devolution occurs. We return to these points below.

#### *Non-benefit taxes*

When the CG or SCG levies taxes that are designed to reflect the benefits derived from a public good or service, they are referred to as benefit taxes. Non-benefit taxes are necessary for the redistribution of income but these should be set at the national level. Non-benefit taxes can be distorting because SCG ignores the effect on the rest of the system. These inefficiencies include the exporting of tax burdens, external congestion effects and equity issues that are associated with a regressive pattern of tax incidence. If local levels of government levy non-benefit taxes they should be in the form of resident-based taxes rather than source-based taxes as this is seen as lessening tax-induced distortions by reducing the scope for tax exporting. There is also a presumption for taxation of relatively immobile economic units. Since

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<sup>48</sup> See Norregaard, 1997.

land is the most immobile economic factor and in inelastic supply, unimproved land has been suggested as a source of tax as it would not produce locational inefficiencies. Such taxes will simply get capitalised into local land values.<sup>50</sup>

### *Tax Base Issues*

Although it is an alternative way for an SCG to raise revenue, there is a general presumption in the fiscal federalist literature against allowing SCG units control over the tax base. The traditional arguments against devolution of the tax base is that there are significant costs of administration, significant fixed start up costs and also that it is likely to impart a distortionary bias into the overall national tax structure. On the cost aspect it may well be that the IT revolution has reduced (perhaps greatly) the costs of administration, although the start up costs are indeed likely to be significant.

Furthermore, it is not entirely clear to us that the distortionary aspects of different tax bases are any different to the potentially distorting effects of different rates of tax.

Experience in the US certainly suggests that tax base devolution can be made to work.

However, this is clearly a highly technical issue and although it should not be ruled out as a potential source of revenue further consideration of the costs and potential distortions are required before it can be recommended in the UK context.

### **II.i.b. Intergovernmental transfer mechanisms**

Intergovernmental grants can have three roles in a federated tax system:<sup>51</sup> fiscal equalisation across regions, improving the functioning of the overall tax system and, thirdly, internalising the spillover effects to other regions. The theory suggests that to limit spillovers from one region to another, *conditional* grants should be used to finance a proportion of the SCG expenditures. Conditional grants can take the form of

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<sup>49</sup> In particular the non-domestic rate is set uniformly by the Scottish parliament and pooled centrally across Scotland to equalise for different tax bases.

<sup>50</sup> For more details on these particular matters see Gordon, 1983.

<sup>51</sup> See for example Oates, 1999.

matching grants, non-matching grants for specific purposes and bloc grants.

Conditional grants are designed to alter local priorities to take account of central government preferences and there is a literature which shows that the optimal degree of matching grant rate is the one which induces the SCG to provide the socially optimal level of service.<sup>52</sup> Such conditional grants are currently not part of the fiscal set-up in the UK, although it would be necessary if components of expenditure with important spillover effects were to be devolved.

The objective of fiscal equalisation ('horizontal equity') is usually thought to be best achieved through the use of *unconditional* grants. These transfers are usually based on the 'fiscal need' and the 'fiscal capacity' of each region, so that regions with a high fiscal need-capacity ratio will receive a large transfer from the centre. Scotland may have a higher fiscal need due to its poorer health record and the greater geographical dispersion of its population compared with the rest of the UK.

Unconditional grants are thought to produce a higher level of utility because this kind of grant simply increases regional income without affecting local spending priorities (which are determined by local preferences). The theoretical literature suggests that unconditional grants should be lump sum in nature and not influenced by the actions of recipient governments. Otherwise the system can degenerate into a system of 'gap filling' (grants made simply to meet the deficits of SCGs) which conflicts with the objective of disciplined expenditure policies. However, this literature does not give any indication of the appropriate size of these grants and how they are formulated.

Matching grants have also been advocated for the achievement of the objective of fiscal equalisation. For example, if the objective of the tax framework is to equalise taxable capacity, the centre may decide to supplement the revenue of the poorer

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<sup>52</sup> That is, where the marginal social cost is equal to the marginal social benefit (Boadway and Hobson,

region by matching the revenues raised in that region by some stated percentage. The big advantage of this kind of system is that it allows all regions to raise the same tax per capita for a given tax rate (irrespective of the size of their tax base)<sup>53</sup>.

The equalisation of intergovernmental grants from central to regional government is not a necessary feature of fiscal federalism.<sup>54</sup> For example, such transfers inevitably have the perverse effect of transferring some income from poor individuals who are located in the wealthy region to wealthy individuals located in the poor region. Equalisation grants play a major role in a number of countries that have a form of fiscal federalism (for example, Australia, Canada and Germany) but not in others (for example, the United States).

A further issue is whether there is also efficiency as well as equity arguments for fiscal equalisation. For in the absence of such grants, richer regions can use their position to promote continued economic growth, some of which comes at the expense of poorer ones.<sup>55</sup> In this context, fiscal equalisation creates a level playing field for the different regions. It can be argued however, that such grants can impede efficiency because they prevent necessary adjustment occurring at the regional level.<sup>56</sup> In particular, they are seen to impede the development of the poor region by preventing the necessary resource flows – especially of people, taking place.

We judge the equalisation principle to be one of equity. Since voters both in the Scottish and the UK parliamentary elections voted for parties which subscribed to the equalisation principle, we take it that this must be an important component of any policy recommendation.

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1993).

<sup>53</sup> In the US this has been used to achieve equity across states for school finance and is referred to as ‘power-equalisation’.

<sup>54</sup> As stressed for example by Oates, 1999.

<sup>55</sup> Oates, 1999.

<sup>56</sup> This argument is made by McKinnon, 1997.

### **II.i.c. Borrowing capacity**

We noted above that there are important arguments for having the redistribution and macroeconomic stabilisation roles of government left at the centre and this means that not all revenues should be devolved to the regions otherwise the Central Government would have insufficient tax raising powers and there would be reversal of the current vertical imbalance in favour of the SCG.

One way in which regions can supplement their revenue is by borrowing.

There are four models of how SCG debt accumulation is disciplined: market discipline, ‘collegiate’ administrative discipline, rules based discipline and borrowing targets set by CG.<sup>57</sup> As we shall see in section II.ii.c., none of these are perfect. In the meantime we turn to a discussion of the experience of taxation and borrowing in other unitary and federal states.

### **II.ii The fiscal federal experience in other countries.**

In this section we present a brief overview of the fiscal federalism experience in other countries. First, we look at how the issue of the vertical imbalance of fiscal policy is addressed in other European countries and then we go on to look at how fiscal federalism works in federal countries.

#### **II.ii. a. Sub-central government in other countries**

About 60 per cent of public expenditure in Scotland already has been devolved to the Scottish Executive. The devolution of expenditures on health, education, housing and community amenities, social security and welfare, and general public services to SCGs is common in many EU countries – though not all together in any single

country<sup>58</sup>. As many of these expenditure categories have also been devolved to Scotland, in broad outline, the division of expenditure responsibilities is not so controversial.

This, however, cannot be said of the division of taxing powers between SCG and CG in the UK - a division that differs a good deal from that in many other EU and non-EU countries.

It has been pointed out that:

“there has in recent years been a growing literature on the arrangements in individual countries and on comparisons between them, and the resulting exchange in ideas produced by this literature has itself played a part in the evolution that can be observed in several countries” (OECD, 2002, page 12).

So what can the UK learn from international practices?

Table 1 shows the composition of SCG revenues in eight EU countries – divided into own-tax, non-tax and grant revenues. Most striking is the heavy reliance – almost three-quarters of total revenues - that the UK has on grants to SCGs as their main revenue source. SCG own-taxes in the UK amount to only 14 percent of SCG revenues (these figures are UK wide). Leaving aside the Netherlands, *vertical imbalance is greatest in the UK.*

**Table 1: SUBCENTRAL GOVERNMENT REVENUES: LATEST YEAR - PERCENTAGES**

	Tax revenues	Non-tax revenues	grants
Belgium	79	3	19
Denmark	51	8	40
France	47	19	34
Italy	34	14	53
Netherlands	10	14	76
Spain	37	9	54
Sweden	75	6	20
UK	14	13	73

Source: OECD (2002, Table 3.3). Percentages may not add to 100 due to rounding.

<sup>57</sup> This characterisation is based on Ter-Minassian and Craig, 1997.

<sup>58</sup> OECD, 2002, table 3.6.

Table 2 classifies SCG taxes by tax base. The almost total reliance on property taxes in the UK is striking. This is in contrast to six of the other seven countries. SCG taxes on income rather than property account for almost all of SCG tax revenues in both Denmark and Sweden, for over 50% in Belgium, and over one-quarter in Spain. Table 2 also shows data on revenues raised through taxes on goods and services – expenditure taxes - at the level of SCG. In the UK no such revenue is raised, but about one-tenth of SCG tax revenues are raised from this tax base in France, in Italy over one-quarter, and over one-third in Belgium (state level), Netherlands and Spain. Accordingly, table 2 shows that *at the SCG level the UK is alone among the eight EU countries in heavy reliance on grants from CG together with an almost total dependency on property taxes as the single source of tax revenue.*

**Table 2: CLASSIFICATION OF SUB-CENTRAL GOVERNMENT TAXES BY TAX BASE, PERCENTAGES (1999)**

	Belgium	Denmark	France	Italy	Netherlands	Spain	Sweden	UK
Income and profits tax	55	93		8		26	100	
Taxes on payroll and work force			4					
Taxes on property	6	7	52	22	63	36		99.7
Expenditure taxes	39		11	26	38	35		
Other taxes			34	45		3		0.3
	100	100	100	100	100	100	100	100

Source: OECD (2002, Table 3.4). Percentages may not add to 100 due to rounding

Table 3 gives a somewhat more detailed picture of SCG taxes in the eight EU countries. In Belgium, following the Lambertmont agreement of 2001, income tax is regarded as a joint tax between the federal and regional governments. The regions operate “on the margins”, meaning that they have power to alter the personal income tax rates by plus or minus 6.75%, but may not change the tax base. The regions have both tax base and tax rate autonomy over a large number of other taxes including gambling and betting, real estate tax, the radio and TV fee, and the vehicle registration tax.<sup>59</sup> The OECD (2002), summarizes: “the regions now enjoy complete autonomy over 40% of their revenue (regional taxes) and they have rate autonomy over the remaining 60% (personal income tax). The Belgian regions however are required to avoid double taxation with other jurisdictions, and not to engage in unfair tax competition. Moreover, they have no autonomy in the levying of VAT or corporation tax.

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<sup>59</sup> See Gerard, 2001.

**TABLE 3: SUB-CENTRAL GOVERNMENT TAXES: 8 EU COUNTRIES.**

	Characteristics of SCG powers of taxation	Constitutional position
Belgium	The regions have almost complete autonomy over 40% of their revenues (regional taxes) and rate autonomy – but not tax base autonomy, over the other 60%.	A federal country
Denmark	Income tax covers about 90% of SCG tax revenues. Each SCG has tax rate autonomy, but the tax base is set by central government. The setting of tax rates is at budget time, so tax and spending decisions are concurrent. Municipalities tax rates range from 13-22+%. Upper and lower limits are constrained by CG	A unitary state with substantial subsidiarity to politics in 275 municipalities and 14 county councils
France	SCG does not control tax bases. Communes, departments and regions vote independently on tax rates. Limits on rates are set by CG	Regions have some legislative powers comparable to federal states
Germany	The Lander regions have control over 63 per cent of tax revenue and 31 of expenditure taxes. Property tax is only a minor component of the total revenue of the SCGs, Which is perhaps surprising given that theory suggests it can have an important role to play in a devolved tax system. (discuss meaning)	A Federal Country
Italy	From 1992 tax responsibility transferred to SCG. From 2001 grants replaced with VAT sharing – SCG can vary the tax rate within limits set by CG. The tax base of the Regional Tax on Productive Activities is the value of production less costs in each region.	Regional authorities have some powers comparable to federal countries
Netherlands	SCG's choose which taxes to levy within relevant Acts, and can vary tax rates.	Decentralized unitary state. 12 provinces and 548 municipalities
Spain	Tax sharing with central government, and SCGs can set their own income tax rates but not tax bases.	Regional authorities have some powers comparable to federal countries
Sweden	SCG tax revenue is from a single tax base – personal income. Freedom to set tax rates but not rates.	A unitary state with Constitutional protect of the rights of local self government to levy taxes and determine tax rates
UK	Council tax on imputed capital value paid by all tenants, with discounts for single householders, direct to local government; non-domestic rate set by Scottish and UK parliaments, respectively – bases also vary between Scotland and the rest of the UK. Scottish Parliament can also alter the basic income tax rate within specified margins but not tax bases. Size of bloc grants take into account level of local taxes raised.	Unitary state of four nations. In Scotland 32 local authorities. In 1999 Westminster administrative powers transferred to the Scottish Parliament.

Source: extracted from OECD (2002).

In Denmark the SCGs largely control their own income tax rates, though not income tax bases - which are defined by CG. Income tax rates can and do differ between SCG tax jurisdictions in Denmark – lying between 13 percent and more than 22 percent (CG sets limits aimed at preventing very large disparities).

The combination of tax rate control by SCG and tax base control by CG is also a strong feature in France (mainly property taxes, expenditure taxes and other taxes),

Italy (property taxes and other taxes), Netherlands (property taxes and other taxes), and Sweden (income taxes).

In Spain the new law implemented in 2002 allowed for the regular review of Financing the Autonomous Communities.<sup>60</sup> In 2001 the Autonomous Communities (ACs) were granted increased financial independence from central government – and more is expected following the recent Spanish general election. Currently, each AC shares in the yield of the personal income tax according to the amount of tax raised in that jurisdiction. The share will gradually increase from 15 percent to 30 percent.<sup>61</sup> Additional taxes ‘ceded’ to the ACs include those on net wealth, inheritance and gifts, property transfer, stamp duties and the gambling tax. The tax system is different in the Basque country and Navarra. These ACs receive all revenue from central taxes raised in their areas and then return a portion to the central government.

The Spanish Autonomous Communities are also able to introduce new taxes as long as they do not duplicate taxes already in existence. Given that Spanish central government has already introduced a range of taxes on most sources of revenue, this has led to the emergence of imaginatively titled taxes such as ‘green taxes’ which are on closer scrutiny simply traditional taxes presented in an imaginative way.<sup>62</sup>

### **II.ii.b Some federal countries**

In this section we consider the extent of fiscal decentralisation in some key federal countries. In summary, what the evidence from these countries shows is:

- Federal countries exhibit a mixture of tax sharing, assignment and devolution of tax bases;

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<sup>60</sup> See, for example, Gali, 2002.

<sup>61</sup> See OECD, 2002.

<sup>62</sup> On occasion these taxes have been challenged in the Spanish law courts.

- there are common patterns in federal countries in terms of the types of taxes that are typically reserved, assigned and devolved;
- practically all countries (the main exception is the United States) have extensive equalisation systems – typically by transfer grants.

Table 4 shows the structure of state revenues in three non-European federal countries. In each case there is substantial reliance on at least two tax sources. Income taxes are major sources of tax revenue in Canada and the USA. Expenditure taxes on goods and services are important sources of tax revenue in all three countries. Australia is a little different from the other three federal countries in that there is no state tax revenue from income taxes while there is quite heavy reliance on property taxes – two features also found in the case of Scotland. The Australian states have heaviest reliance on expenditure taxes – as do the states in the USA, and to a lesser degree in Canada.

**TABLE 4: STRUCTURE OF STATE TAX REVENUES AND GRANTS AS A PERCENTAGE OF STATE INCOME IN 3 FEDERAL COUNTRIES**

	Income tax (as % of total tax income)	Property tax (as % of total tax income)	Expenditure taxes (as % of total tax income)	Other taxes (as % of total tax income)	Grants as a percentage of State government income
Australia	0	30	41	29	59
Canada	43	4	40	13	22
USA	37	4	56	3	29

Source: Norregaard (1997), table 3, based on IMF *Government Finance Statistics Yearbook*.

One striking feature of Table 4 is the importance of grants from the centre to the sub-central tier of government even in well developed federal systems – it ranges from 22 to 59 per cent. The figure of 22 per cent is in fact the lower bound internationally (for example from Table 2 we note that in the Netherlands where they do have fiscal decentralisation, the bloc grant component is 76 per cent) and indicates

that in any new fiscal settlement for Scotland there will always be a Barnett, or bloc grant, component. As we noted in Part II, theory has clear prescriptions about how that bloc grant should be defined. Canada uses the overlapping income tax – CG sets the tax base while SCG sets its own tax rate, which is similar in form to the so-called ‘tartan tax’. The USA goes a step further, allowing the states to vary the tax base using various tax reliefs. Coordination between SCG and CG is practiced in Canada but not in the USA. Also, with an eye to keeping overall personal income tax rates as low as possible, in the USA state income tax is deductible from federal income tax. The downside of this is the moral hazard that SCG electorates do not necessarily bear the full opportunity cost of their spending decisions because the reduction in federal income tax payments is tantamount to tax exporting.

The tying of SCG expenditures and own-revenues more closely together in many countries goes some way to imposing a hard budget constraint on SCG. This is expected to be helpful in promoting rational resource allocation by SCG by eliminating the moral hazard caused by the exclusive use of CG grants, especially when local polities assess true regional needs than is the CG.

One interesting aspect of the federal tax structure in Canada is that corporation tax rates are allowed to vary across provinces. Corporation tax rates weighted by sector vary from a low of about 9 percent in Quebec to a high of 17 percent in Manitoba. Nine of Canada’s ten provinces have rates in the 13–17 percent range. There is an inverse relationship between changes in corporation tax rates and inter-provincial differences in the growth rate of reported corporate profits. That is, cutting provincial corporate income tax rates results in faster provincial profits growth.<sup>63</sup>

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<sup>63</sup> These findings are drawn from Robson and Poschmann, 2001.

An inverse relationship between the cost of capital (including corporation tax) and capital accumulation has also been found.<sup>64</sup> Taken together these findings suggest that a province can increase its rate of capital accumulation by reducing its rate of corporate income tax.

But does competition in corporate income tax rates causes a ‘race to the bottom’? While it seems that rate competition exists between Ontario and Alberta, and there is weaker evidence that Quebec competes, there is no evidence that the Atlantic provinces do.<sup>65</sup> Competition in corporation tax rates between provinces may be weak because provinces also compete to attract capital and productive labour through the supply of public goods that have to be financed through taxes. However, the Canadian experience is at odds with the experience in some other countries and the success of the policy in Canada is probably a reflection of the size of the Canadian regions and is unlikely to be successful in federal systems where the regions are much smaller in terms of their physical size.<sup>66</sup>

The OECD (2002) reports the results of a questionnaire on the extent of base control in a number of OECD countries. Unfortunately, the results are difficult to interpret since control over the tax base and 100 per cent tax devolution are usually conflated, but where the separation is clear it would appear that control over the tax base is limited in other countries.

### **II.ii.c. Borrowing by regions in other countries**

One way in which regions can supplement their revenue is by borrowing. Here we consider the borrowing behaviour of SCGs in other countries. There are four models of how SCG debt accumulation is disciplined: market discipline, ‘collegiate’ administrative discipline, rules based discipline and borrowing targets set by CG.<sup>67</sup> None of these is perfect.

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<sup>64</sup> See Gendron, Anderson, Mintz, 2003.

<sup>65</sup> See Robson and Poschmann, 2001.

<sup>66</sup> See Norregaard, 1997.

<sup>67</sup> This characterisation is based on Ter-Minassian and Craig, 1997.

A few high-income countries allow SCG borrowing disciplined by-and-large by capital markets. These include Canada, Finland, Portugal and Sweden. Four conditions are necessary for effective market discipline. Markets must not be required to treat governments as privileged borrowers, there should be adequate information flow to lenders on SCG financial and economic conditions, bailout should be excluded – to prevent moral hazard, and borrowers should have in place institutional arrangements that promote adequate response to deteriorating credit ratings should these occur.<sup>68</sup> Given the high level of development of UK financial markets, one might think that such a system could work here. But there are dangers: even in such a highly developed market economy as Canada, market discipline has not been tight when judged by the rapid increase in provincial indebtedness and deterioration in provincial credit ratings. Only with a lag of more than a decade have the most indebted provinces acted meaningfully to contain growth in their indebtedness.<sup>69</sup> There is a warning here in that the efficiency gains expected from tax devolution may not appear very rapidly, and this is an extra argument against full fiscal federalism.

Rules based systems – where the rules are specified in laws - are in place in the USA, Spain and Japan. Thus, borrowing at some levels of SCG is limited to the estimated debt service capacity of a SCG or to some other indicator of creditworthiness. A rules based system also has the advantages of transparency and evenhandedness. The main disadvantage of this system is that SCG may attempt to circumvent the rules by, for example, reclassifying current spending as capital spending or moving some spending off balance sheet.

In a collegiate administrative system the centre and the region agree what is thought to be reasonable borrowing limits within dimensions such as the perceived

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<sup>68</sup> See Ter-Minassian and Craig, 1997.

needs of SCG, the overall fiscal balance and macroeconomic condition. There is an obvious political dimension in the bargaining process that may promote short-term political interests at the expense of excessive borrowing by SCG. Indeed, the Australian system of administrative controls – whereby the federal and state governments agree borrowing limits in the Loan Council, has been supplemented with efforts to introduce some market-type discipline.<sup>70</sup>

A fourth debt management arrangement is that of direct control of SCG borrowing by CG. This is the system in effect in the UK whereby CG annually approves borrowing limits for local authorities and restriction may be placed on the loan characteristics including the term and type of loan.<sup>71</sup> Inflexibility is a possible disadvantage of this method of control, especially given informational advantages on local needs that SCG may possess in comparison with CG.

In sum, the main message from Part III is that the vertical fiscal imbalance that we observe in the UK is at odds with the experience elsewhere in Europe and in non-European countries with federal arrangements. *In particular, other countries place much greater reliance on addressing vertical fiscal imbalances using expenditure and income taxes, rather than relying almost exclusively on property taxes.*

### **Part III. Fiscal Federalism: A Scottish Perspective**

In this section we turn to a more detailed discussion of the implications of fiscal federalism for Scotland and the rest of the UK. We start by giving a brief overview of the current picture with respect to taxation and spending in Scotland. We then go on to present a sketch of what a fiscal federalist system might look like for Scotland, based on the arguments made in previous sections. We follow the pattern of Part II

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<sup>69</sup> See Ter-Minassian and Craig, 1997, and Krelove, Stotsky and Vehorn, 1997.

and discuss the choices for Scotland around the three key dimensions highlighted there, namely:

- revenue raising issues;
- the design of a grant system;
- and the borrowing options.

First, though, we set the scene in terms of the current Scottish position.

### **III.i The Scottish position**

Under the Scotland Act (1998) various expenditure functions have already been devolved to Scotland, mainly in the areas of education, health, agriculture, economic development and transport, environment, law and home affairs and social work and housing. Reserved matters are retained by Westminster and include defence, employment, financial and economic matters, social security and international relations. In terms of our previous discussion, this division appears to be rational in that expenditures on reserved items yield UK-wide benefits and might also enjoy economies of scale. Moreover, the benefits generated by devolved expenditures are probably more localized, and as we have argued in Part I local polities are likely to be better placed to identify potential benefits than is distant central government (CG). It is economically rational that sub-central government should be in charge of these expenditures.

In the period 2001-02 so-called identifiable spending (that is, spending which can be identified as having been incurred on behalf of the population of a particular country or region) in Scotland was £31.6 billion; the break-down of this expenditure is given in Table 5, with the figure for the amount of devolved expenditure recorded

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<sup>70</sup> See Craig, 1997, and Ter-Minassian and Craig, 1997.

in brackets. The breakdown of non-identifiable expenditure, which totalled £4b, in 2001-02, is also given in Table 5 and this is calculated using Scotland's share of UK GDP. To obtain Scotland's total expenditure in this period, other items of expenditure (namely, the sum of Local Authority and Central government debt interest and other items £3.8b) are added to the sum of total identifiable and non-identifiable expenditure to get an overall expenditure figure of £39.4b. In terms of identifiable expenditure, it is clear that the Scottish Executive already has control over the majority of spending units with the exception, of course, of social security.

	Identifiable (total) £m	Non-identifiable(Total) £m
Defence		2,069
Overseas services		432
Education	4,992 (4,992)	1
Health and personal social services	7,266 (7,266))	19
Roads and transport	1,159 (985)	1
Housing	1,151 (1,151)	-
Other environmental services	1,703(1,656)	1
Law order and protective services	1,754 (1,541)	1
Trade, industry, energy and employment.	1,225 (766)	243
Agriculture, fisheries, food and forestry	1,351 (595)	45
Culture media and sport	643(454)	-
Social security	10,163	663
Miscellaneous expenditure	225 (202)	551
Total	31,632(19,607)	4,026

Source: GERS (2003). Numbers in brackets refer to identifiable expenditure by the Scottish Executive.

The revenue side of the picture, excluding oil, is given in Table 6. As the GERS report recognises, these numbers are imputed and are open to some debate and historically fiercely contested by the SNP, although less so recently<sup>72</sup> However, a debate about the validity of these numbers is beyond the remit of this paper and we take the official figures as those most relevant for our discussion (this is the view of

<sup>71</sup> See Potter, 1997.

<sup>72</sup> See Jones, 2002, for an excellent overview of this debate.

other independent commentators – see Jones, 2002). In any case, the actual size of the deficit or surplus does not affect the underlying principles.

Income tax (after tax credits)	7,490
VAT	5,160
Social Security contributions	5,230
Local Authority Revenues	3,060
Corporation tax (ex North Sea Oil)	2,380
All other revenues	8,040
Total receipts	31,360
Source GERS (2003)	

The gap between expenditure and revenue implies a non-oil deficit for Scotland in 2001/2 resulting in net borrowing of £8b, or a deficit of 10.3 per cent of Scottish GDP. However, if all of the revenue from North Sea oil were to be apportioned to Scotland the gap between revenues and expenditure falls to £2.8b (or 2.8% of GDP). Alternatively, if 33% of North Sea Oil is included the deficit is £6.4b, or 7.4 per cent of GDP, while if 70% is included the deficit falls to £4.4b or 4.7 per cent of GDP (see GERS, 2003)<sup>73</sup>. We return below to some issues relating to the inclusion of oil revenues as part of the revenue base for a fiscally devolved settlement for Scotland.

The current formula for spending allocation in Scotland is based on the Barnett formula.<sup>74</sup> This formula only relates to the expenditure items currently devolved to the Scottish Parliament and this therefore means that approximately 40 per cent of identifiable public expenditure in Scotland falls outside the remit of Barnett. The formula is a way of sharing changes (not the level) of public spending plans between the participating countries of the Union. Scotland receives a population-based share approximately 10 3/80ths per cent of the total changes in planned spending on analogous programmes in the Union. The Barnett formula, developed in the late 1970s and used for the first time in 1978, was intended to deliver gradual convergence of the higher level of per capita spending in Scotland towards a

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<sup>73</sup> These numbers are calculated using an oil price of \$18 per barrel.

equal per capita expenditure in each of the regions – this is the so-called Barnett squeeze. The bloc grant formula is regarded as reflecting ‘Scotland’s fair share based on her relative needs’ – HM Government, 1993. However, since the formula itself is based on population shares, it does not necessarily take into account or reflect spending needs.

The Barnett squeeze arises because increases in funding are calculated on a per capita basis, rather than the current baseline level of spending. Because the devolved parliaments have higher per capita spending than England, a given percentage increase in public spending in England would produce a smaller percentage increase in Scotland.<sup>75</sup> In practice, though, there have been a number of ways of by-passing the formula and protecting the initial higher levels of spending per capita in favour of Scotland. Indeed the original expenditure bias in favour of Scotland has been protected automatically by the fall in the population of Scotland relative to the rest of the UK and which has tended to offset the squeeze.

There are also anomalies in Barnett relating to expenditure which is outside the remit of the formula (House of Lords Select Committee, 2002-2003). For example, there may be some form of shock which arises in Scotland or in the rest of the UK, such as foot and mouth disease, which requires compensation and funding from outside existing budgets (otherwise there would be major disruption to other services) and a claim on the UK Reserve. But as House of Lords (2002) notes, at present the Treasury determines how such funds will be paid and it also retains control over the criteria by which it makes its decisions. A similar set of issues arises with respect to EU funding for Scotland. For example, in the past Scotland has been in

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<sup>74</sup> See Edmonds, 2001, and McGregor and Swales, 2003.

<sup>75</sup> For example, if per capita spending in England is equal to 100 units and if public spending increases by 5 units public spending will have increased by 5 per cent. If per capita spending in Scotland is 120,

receipt of Objective One funding from the EU. This was initially channelled through Westminster and concern has been expressed about whether all, or any, of this funding has in fact been passed on to the devolved parliament (House of Lords 2002). The UK government is also supposed to add to original funding – the so-called additionality in spending – and it is unclear if this has in fact taken place.

The Barnett formula is not a good platform on which to base a future fiscal federalist structure for Scotland. Barnett is an unconditional grant and is one which focuses almost exclusively on the equalisation function at the expense of the kind of allocative issues discussed earlier. It is therefore not a good mechanism for addressing issues of allocative efficiency. As we have seen it does not reflect changing needs assessment either, other than by arbitrarily protecting the initial spending share for Scotland. We now turn to a discussion of some alternatives.

### **III. ii. Fiscal federalist alternatives to the Barnett formula**

What does the forgoing theoretical analysis and comparative study suggest would be a sensible degree of fiscal federalism in Scotland? Our discussion here is by no means intended as the last word on this issue. Rather it is meant to contribute to the debate over the most suitable federalist package for Scotland based on economic criteria.

#### **III. ii. a. The full fiscal autonomy model and a critique**

One advantage of a more fiscally federated structure is that by trading off some of the equity aspects of the current arrangements greater allocative efficiency, of the type discussed earlier in the pamphlet, may be achieved. Some, like the SNP, argue that full fiscal autonomy must also be accompanied by ending the monetary union that is the UK – this is a position of independence or sovereignty. Others argue merely for full fiscal autonomy, trading off any equity considerations in favour of a revenue base

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the per capita increase of 5 only translates into a percentage increase for Scotland of approximately 4

entirely based on own revenues. This case for full fiscal autonomy has been made by a variety of commentators and has received prominence in the *Scotsman* newspaper.<sup>76</sup> Some in the Liberal Democrats and Tories have also proposed full fiscal autonomy for Scotland, although it is unclear how the equity/ efficiency trade off is to be addressed in their models. Indeed, there appears to be no desire for equalisation in this model and, in essence, what is being proposed is a sovereignty position with no shared services or obligations. Although some crave this within a federal or unitary structure in the real world it does not exist for two key reasons. First, the most efficient way to implement the kind of sophisticated social security systems which exist in most countries today is at the national or central level rather than at the sub-national level and, second, macroeconomic stabilisation should, for reasons noted earlier, be conducted mainly at the centre. In essence what the full fiscal autonomy approach amounts to is devolving the three economic functions of government – allocative, equity and stabilisation – to the Scottish Parliament. We refer to this model as the ‘straw man’ autonomy position. We regard the full fiscal federalist position as a straw man since it does not currently exist in any unitary or federal country.

In this ‘straw man’ model all tax raising levers - income taxes, expenditure taxes, corporation tax, North Sea oil tax revenues etc – are devolved to Scotland and the Executive then becomes responsible for all of Scotland’s public spending needs, including a payment to Westminster for reserved services.<sup>77</sup> The ‘straw man’ view of the impact of fiscal federalism seems close in spirit to the recent theoretical literature on fiscal federalism, discussed in Part I in which the interaction of a hard budget constraint and the need for credible commitments may produce huge public sector savings/ economies by reducing the scope for wasteful spending and stimulating

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per cent.

private enterprise and by altering priorities, say, in spending towards preventative healthcare, for example.

### *Equity versus efficiency*

In going for full fiscal autonomy, the objective of equity has been abandoned in favour of a policy which theoretically may maximise efficiency. Indeed, there is an important contradiction in this model between efficiency and equity. For example, there can be little doubt that the implementation of these policies would lead to a significant reduction in spending in areas which had previously been regarded as important for needs. This shortfall would be met by an unconditional lump sum grant (which we note is what the theory in Part I deems as appropriate) in a less than fully decentralized system. However, the proponents of the full fiscal autonomy view eschew the use of such grants. Doubtless proponents of this view would argue that in the longer run the potential success of the policy would then enable a level of expenditure which was commensurate with needs. However, it is unclear how long that process would take and, in the meantime, the issue of equity could not be addressed. The failure of the full fiscal autonomy model properly to address the equity issue is one important reason why we do not in practice observe the full fiscal autonomy model in any nation state.

### *Macroeconomic stabilization*

A second important issue concerning the full fiscal federalist position relates to the macroeconomic stabilization role of fiscal policy. At present, this is a Westminster function and in most discussions of fiscal federalism the stabilization role is classed with defense and foreign affairs as items which should be controlled from the centre. In moving this function to the regional government ways would have

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<sup>76</sup>The latter's position can be seen as an elaboration of Cross *et al*, 2001.

to be found to supplement tax revenue so that recessionary induced budget deficits could be financed. Scotland could do this by issuing its own marketable public debt, in much the same way that the UK Treasury does, and as the states in the US do; or for Scotland to have a line of credit in a pre-defined 'time of need' from UK budgetary sources. However, this would, in turn, create tensions, having implications for the UK-wide public sector borrowing requirement, and may interfere with central government macroeconomic policy.<sup>78</sup> According to the IMF to prevent this happening internal stability pacts need to be negotiated between the different levels of government.<sup>79</sup>

In Germany, where SCG has significant borrowing powers, each level of government is responsible for avoiding an excessive public deficit. A centralized agency, the Financial Planning Council, issues recommendations on budgetary policy and facilitates discussions aimed at agreeing internal consistency. In Italy, since 1999, targets are set for sub-central government deficits and if a target is missed fines will be levied should Italy itself be sanctioned under the Maastricht Treaty. Similarly, in Austria, targets are set for sub-central government borrowing with fines for Lander and local governments that do not meet these targets. Even with these mechanisms it can be argued that the management of fiscal policy in federal systems is more complicated than in unitary systems: deficit targets for SCG can introduce a pro-cyclical bias into spending at that level of government.<sup>80</sup> It is important to note that these conditions described the IMF relate to financing systems that balance both equity and efficiency considerations as well as securing a reasonable vertical and

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<sup>77</sup> See Heald, 2003, for a further discussion of this.

<sup>78</sup> A classic example of mis-managed sub-central government spending and borrowing interfering with central government macroeconomic policy is that of Argentina during the period of its currency board, 1991-2001. See Cuevas (2003).

<sup>79</sup> See IMF, 2003.

<sup>80</sup> See IMF, 2003.

horizontal tradeoff. In short these countries do not have full fiscal autonomy. In any full fiscal autonomy scenario the above potential tensions would be exacerbated and it is highly likely that, the Scottish government would only be able to borrow on less favourable terms than those available to and from the UK Treasury. There are also, of course, the costs of setting up a bond market.

However, perhaps the most compelling argument against devolving the stabilization role to the Scottish Executive relates to the close correlation between the regional business cycles within the UK, - noted in Part I. Given that many of the shocks hitting the UK regions are closely correlated it does not seem efficient or cost effective to have a separate macroeconomic stabilisation function for Scotland.

Pursuing a stabilization policy which is out of synchronization with the rest of the UK would be sub-optimal because in a small open economy many of the benefits of the policy would spillover into the rest of the UK. A centralized stabilization policy effectively internalizes these spillovers and offers an important level of insurance to regional governments.

#### *The key revenue sources and fiscal autonomy*

A third important issue relates to the suitability of devolving the key sources of revenue, such as North Sea oil, VAT, corporation tax and income tax. Consider, first, North Sea oil. Although there is certainly some independent academic support for the view that the vast bulk of North Sea oil lies within ‘Scottish waters’ it is not clear that this would be a particularly reliable source of revenue for the Scottish parliament. For example, recent research has divided the North Sea into Scottish and rest of the UK territories (UKR) using the principle of equidistance, that has merit on the grounds of ‘equity, legality and precedence’.<sup>81</sup> In the period post-1977 over 90 per

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<sup>81</sup> See by Kemp and Stephen, 1999.

cent of offshore UK oil production has occurred in Scottish waters. However, we noted in section 2 that the fiscal federalism literature indicates that revenue from natural resources are not a good basis to build a tax base at the regional level. For North Sea oil this conclusion is reinforced because of the variability of the price of oil. It has been shown that the Scottish share of the total tax revenues from North Sea oil varied from 61 per cent in 1977 to a high of 98 per cent in 1982<sup>82</sup>. The fickleness of oil revenues is also reinforced by the fact that it is priced in terms of the US dollar: a depreciation in the value of the dollar, relative to sterling, decreases oil revenues and the recent sharp fall in the dollar suggests that this effect can be quite dramatic. The volatility of oil prices, combined with currency volatility, leads us to discount using oil revenues as a component of the tax base for the Executive. We would argue that these are better channeled through central government, which with its access to a wide range of debt instruments, is better able to offer insurance against the volatilities in revenue that would arise from unanticipated currency and oil price movements. Of course, this would not rule out the Executive having access to a bloc grant from the centre which in effect represents the smoothed revenue stream from oil.<sup>83</sup>

VAT is also probably not well suited to devolution. For one thing the tendency within Europe is towards the harmonization of VAT and this would preclude much, if, any variation within a national state and also from a practical perspective, because it is a multi-stage tax, the devolution of VAT would be an ‘administrative nightmare’ (David Heald, 1990). The devolution of both corporation tax and income tax would in principle be feasible (however, there are considerable difficulties in

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<sup>82</sup> See Kemp and Stephen, 1999. This is because the (fixed) costs of exploration and development are incurred in Scottish waters and offset against tax liabilities.

<sup>83</sup> Davis, et al. (2003) consider that ‘oil funds’ aimed at accumulating assets to be used to insulate fiscal policy from fluctuations in oil tax revenues, in practice have a poor record. And, while Stancke (2003) points to the successful operation of Norway’s Petroleum Fund, that experience may not be transferable

unravelling the former) although the fiscal federalist literature indicates that care should be taken in the variation of such since they are taxes on potentially highly mobile units and this is especially true for differential taxes on capital.

So there is a degree of complexity and uncertainty, particularly with respect to the issues of equity and stabilization, in the extreme case for full fiscal autonomy.

This hypothetical model turns out as going too far in trying to address the efficiency function of fiscal policy at the expense of the equity and stabilization aspects. This is presumably why we do not observe the full fiscal autonomy model operating currently in any nation state.

### **III. ii. b. A proposal for tax assignment**

Recognising the above problems, what might a fiscal federalist system look like for Scotland? We are guided by the fiscal federalist experience of other countries, noted in Part II, to propose a mid-way approach between the two extremes of full autonomy and the current status quo. In other words we try to seek a balance between the trade off between allocative efficiency and equity.

An optimal system for the future will be one that delivers:

- A better balance between the horizontal and vertical aspects of fiscal policy;
- Trading off some equity in favour of stimulating greater allocative efficiency;

The improvement of allocative efficiency relates to the matching of the costs and benefits of different expenditure categories and also efficiency gains in public spending.

This will be achieved by a system that:

- extends the assignment of an agreed range of taxes and the devolution of a further range of taxes;

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to Scotland given that Scotland may well run an oil tax inclusive fiscal deficit that would preclude building up a large stabilization fund.

- preserves a significant equalization grant to ensure equity considerations are not sacrificed, in line with good practice across the globe;
- provides for an agreed regional borrowing capacity.

This paper is not intended to be the final word on this given the complexities involved in designing such a system. Rather it is intended as focusing the debate on some of the important economic issues which should underlie the further evolution of the current financial settlement. Below we try to sketch out the parameters of the choices for Scotland and the UK against each of the dimensions outlined above.

### *Vertical imbalance*

How may the vertical imbalances which exist within the UK be addressed? In trying to answer this question it is worth at the outset listing the full spectrum of choices available:

1. Devolving a particular tax, which gives the devolved authority the ability to vary the base and the tax rate;
2. Devolving a particular tax, which gives the devolved authority the ability to vary the base but not the tax rate;
3. Devolving a particular tax, which gives the devolved authority the ability to vary the tax rate but not the base;
4. Assign a share of a tax on a derivation basis and give the devolved authority the right to vary the base and the rate;
5. Assign all or a share of tax on a derivation, or other basis, and give the devolved authority the right to vary the rate but not the base;
6. Assign all or a share of tax on a derivation, or other basis, and give the devolved authority the right to vary the base but not the rate;

7. Assign all or a share of taxes and equalise on a population, expenditure needs or tax capacity basis, without right to vary the tax rate or base.

In trying to address the vertical imbalance that exists within the UK one important constraint is the relatively small amount of regional autonomy that exists elsewhere in the UK, particularly in England. For example, if all of the regions – say the north, midlands and south – had access to devolved taxes it would be easier to devolve a tax such as corporation tax because lowering corporation taxes in Scotland could potentially be matched by lower corporation taxes in the North of England and one would not have to take account of the beggar-thy-neighbour aspect of tax changes.

#### *Assigning and devolving taxes*

We have argued previously that there is only limited scope for the *devolution* of the main sources of tax revenue. However, even assigning more tax revenues, without any actual devolution of either tax rates or bases, would in itself represent a substantial step in hardening the budget constraint faced by the Scottish Executive and Parliament. The fact that the revenue share was coming to Scotland would create an incentive to politicians to engage in policies which are growth friendly, especially if the tax take is related to the income in Scotland. This would of course be reinforced if taxes were also devolved and we have argued for this in terms of the marginal tax rule.

Taking the main taxes in turn, we have argued that North Sea oil is not a good tax revenue base for Scotland and therefore we do not believe it should be devolved or assigned. Although we have also argued that VAT in Scotland should not be devolved, there is nothing to prevent the revenues raised from VAT being assigned to the Scottish Executive. Heald (1990) notes four alternatives for the assignment of

VAT. The proportion assigned could depend upon Scotland's proportion of vat-able final consumption, or upon a regional analysis of where the value added accrued. Alternatively, assignment could be on the basis of a uniform per capita or per adult basis. The advantage of the latter proposals is that they would assist equalisation between the regions. Heald (1990) opts for a per capita basis because it is simple to implement and would involve fewer technical controversies than the first pair. We, however, favour linking VAT to final consumption since that would provide a link between tax revenue and economic activity: the higher is economic activity the more revenue is generated for the local polity.

Income tax seems equally suited to assignment and also has the potential to be devolved. Indeed, under the current devolution settlement there is already the possibility to alter income tax by +/- 3 per cent. So far this has not been used, although on the principle of making households pay for the benefits of higher levels of public expenditure, tax rises could be used to satisfy the demand for higher levels of public expenditure. Some commentators have argued that the amount is essentially insignificant because it represents a very small proportion of total expenditure and taxes. We would argue on the basis of the experience in other countries, particularly Belgium and Denmark, that a wider discretionary band would be more appropriate. In particular, the kind of variability of income tax, in Belgium, where the regions are allowed to vary their rates by approximately plus/ minus 7 per cent would be more appropriate or perhaps the even more bold option of no bounds on the bands should be the objective. As we have argued previously although labour is usually thought of as a mobile economic unit, there are reasons why variations may be advantageous.

Upward variation of income tax gives the Executive scope to, say, communicate the benefit-cost trade off mentioned earlier to the electorate: if

households in Scotland want to spend more on, say, health and do not want to reduce spending on other areas they have to pay for this in terms of higher taxes. This is our marginal tax rule. Although there may be some outward migration of labour from Scotland as a result of this, the point is if this is the policy choice of the electorate they should have that choice. However, we believe in the UK case the outward migration of labour as a result of not too great tax increases is likely to be relatively small. For one thing labour, in contrast to capital has ‘emotions’. There would appear to be a strong sense of belonging, or home bias, in the regions of the UK. This shows up in people in Scotland, and indeed other regions of the UK, wanting to stay near their family/ roots rather than moving to some other region where taxes are more advantageous. Of course this argument would only apply to those in employment or who have their aspirations satisfied in their current job.

Another possibility – that takes account of the possible failure noted above of the Scottish polity quickly to latch on to the link between designing an efficient tax system, faster economic growth and a growing tax base, is to have an asymmetrical tax-variation band. For illustrative purposes, this could be plus 3 per cent (as with the ‘tartan tax’) with no downside limit at all. We see the upside limit a restraining a possible future Scottish government from an over-exuberant tax-and-spend, or borrow-and-spend policy.

The ability to cut income taxes could also be used for a policy of matching benefits and costs but we think there is likely to be an important asymmetry in the case of a tax cut with respect to the movement of labour. This is because tax cuts may well attract expatriate Scots back to Scotland if similar jobs are available in Scotland compared to their current location. This kind of policy may help solve, at least in part,

the population deficit that Scotland currently faces and its implications for economic growth.

In principle, corporation tax is similar to income tax and would therefore seem a natural candidate for assignment. An argument can also be made for devolving corporation tax powers as well, along the lines of current UK policy within the EU. Clearly, though, for a small open economy, and given the mobility of capital, tax movements in an upward direction would lead to a rapid movement of capital (presumably in the form of locational headquarters) from Scotland to the rest of the world. Some commentators have argued that, as in the case of income taxes there may be an important asymmetry here, in the sense that cuts in corporation tax could lead to an inflow of capital which, in global terms, would be minimal, but in Scottish terms could be highly significant. The evidence from the Canadian provinces, suggests that such a policy can be successful within a federal structure and that such tax competition does not produce a race to the bottom. However, most commentators would argue that the reason it works in Canada is simply a function of the physical size of the regions – they are very large, able to absorb the differentials and, of course, all have the ability to alter corporation taxes.<sup>84</sup> Although this policy would seem to have been pursued successfully in Ireland, and the new EU members Estonia, Hungary, Latvia, and Poland all have corporation at less than 20 per cent, there exists a debate about the suitability of such a policy for Scotland.<sup>85</sup> And since other regions in the UK do not have the ability to change corporation tax, tax cuts in Scotland could produce a beggar-thy-neighbour outcome. So although corporation tax is well-suited to assignment it is not clear that there is much scope for the devolution of this tax.

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<sup>84</sup> Norregaard, 1997.

<sup>85</sup> See Alexander, 2003, and Krugman, 2003. New EU members: see the *Economist*, “Dancing an Irish jig”, April 15th, 2004.

Customs and excise duties are usually not regarded as suitable for devolution, because it is undesirable to have rates differing dramatically between regions which for one thing can produce travel inefficiency problems. However, these kinds of taxes are likely to be amenable to assignment. Taxes which are better suited for devolution are likely to be betting tax, stamp duty, vehicle license, business license taxes, TV taxes and various types of user fees for local services. Property tax, already devolved, is also likely to continue to be a good source of devolved revenues. In sum, our approach to the devolving of tax powers to the Scottish Executive is one which emphasises assignment rather than full devolution. However, we do recommend devolution for income tax (for all rates) and a package of the minor taxes. In terms of the former tax, the experience of other countries suggests that it would be worth giving consideration to the devolution of tax bases as well. Table 7 summarises the assignment and devolution aspects of the various taxes.

**Table 7. A summary of the assignment and devolution of taxes**

Type of tax	Assigned	Devolved	Reasons against (assigning or) devolving
Income	Yes	Possibly	Feasible, but potential problems due to mobility of tax source.
Corporation	Yes	Possibly	Feasible, but difficulties in unravelling tax source. Also potential problems over mobility of source. Easier if English regions get devolution.
VAT	Yes	No	Goes against EU harmonization. Practical administrative complexities.
Stamp Duty	Yes	Yes	-
Customs+excise	Yes	No	Can result in travel inefficiency problems (border shopping)
Other duties	Yes	Yes	In particular where these relate to user fees for local services
North Sea Oil	No	No	Highly volatile and regionally

			unevenly distributed
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As we saw in Part II, assignment of taxes is quite common in other federal systems and this generally involves assigning some proportion of the tax raised in a particular region. Here we suggest some proportions which help to illustrate the amount of revenue that would be generated on the basis of the 2001-02 GERS figures. The choice of these proportions is not intended as definitive. In broad terms, we believe it important to have a matching, or balance, between identifiable expenditure and assigned (total) tax revenue and our chosen proportions are one way of achieving this. We refer to this as a *balanced tax assignment*. Since economically rational decisions are most likely to be adopted when decision-makers have to balance the benefits of particular spending decisions with the costs of these decisions, we believe that balanced tax assignment is an important element in achieving this, while at the same time recognising that Scotland has to contribute to expenditure made by Westminster, on items such as social security and defense. We recognize that there may be other ways of matching revenue with spending and so in that sense we would not defend our chosen weights as being the last word. Assuming that 50 per cent of revenue raised in Scotland for both income and corporation tax was assigned to the Executive, this would produce revenue streams of £3745m and £1190m, respectively (on the basis of the GERS 2003 figures discussed above). Using a 75 per cent proportion for VAT produces an additional income £3870m and applying the same percentage to the sum of the duties on fuel, tobacco, and customs duties produces £1770m. Taking a package of minor taxes (namely Stamp duties, Betting and Gaming

duties and Vehicle excise duties) results in a further £900m of revenue.<sup>86</sup> This produces a grand total of £11,475 which represents almost two thirds of the total identifiable expenditure made by the Executive in 2001-02 (£19,607). This kind of general approach would go a long way to addressing the vertical imbalance that currently exists in the relationship between the Scottish Executive and Westminster.

However, although the assignment of taxes is an important step towards fiscal decentralization we believe that it is important from any initial starting point that Scottish policy makers are challenged in their marginal spending decisions. So from a starting point where some proportion of taxes have been devolved and a bloc grant has been issued (see below) some mechanism has to be in place which forces the policy makers to operate a cost- benefit analysis with respect to additional expenditure and the method we propose is our marginal tax rule, introduced earlier: if the policy maker decides to spend an extra £100m on, say, health either expenditure has to be cut elsewhere or taxes have to rise. We believe the devolution of certain taxes – namely income tax and a package of minor taxes – will achieve this.

It is likely that any fiscal settlement based on tax assignment/ devolution would produce a fiscal deficit (i.e. an excess of expenditure over revenue) for Scotland. In order to deal with the horizontal imbalance resulting from this assignment we would recommend an unconditional lump sum bloc grant which is determined on the basis of a needs assessment exercise at the time of the move to a fiscal federalist system. This is the kind of financing arrangement recommended in the fiscal federal literature discussed in Part I. However, experience in other countries suggests that this is not a straightforward exercise and it is likely to be an especially tricky issue in the UK context since it is the first time such a decentralization of fiscal

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<sup>86</sup> Of the minor taxes mentioned earlier these are the only ones for which revenue data is available

policy has taken place. One way of addressing this issue, which would have a smoothing effect around the transition, would be to have a lump sum bloc grant derived at the time of the changeover to the new system set at a level derived to achieve total revenues equal to Barnett and which could then converge to the new needs assessment level over time. We also believe that, at least in the short-run, there should be some mechanism in place to protect the lump sum grant if the Scottish polity does indeed succeed in raising economic growth/efficiency and the overall tax take. The idea being that in order a) to promote greater tax efficiency; and b) *to reward Scotland for taking on more risk*, Westminster would need to realize that in the longer-term the UK budget benefits from tax devolution to Scotland and that it needs to leave an incentive in place for the Scottish polity to create greater tax efficiency in Scotland (and hence the UK, Scotland being a part of the UK) – i.e. Westminster should not, at least in the short run, cut the lump sum grant as Scotland becomes more efficient in raising tax. In this regard it may be advantageous to follow the Spanish system and review the fiscal structure on a regular basis (five yearly in the Spanish case). If there still existed a fiscal deficit in Scotland after the application of a bloc grant, further attention might have to be focused on how to raise additional tax revenues. If surcharges on existing income and expenditure are ruled out, study of practices in other countries would be fruitful, especially a study of how control of the tax base may be used to increase total tax revenue. We noted in Part II that there are important technical issues relating to devolution of the tax base and although we do not view these as insurmountable, they do need further consideration before a hard and fast recommendation can be made.

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through the 2003 GERS statement. This figure could therefore be larger if other minor taxes were included and also if changes in the rates of these taxes were permitted.

In our particular variant of the fiscal federal model, we propose that overall macroeconomic stabilization would remain with the central UK government. With a centralized social security system there is already an automatic stabilization effect: a recession in Scotland relative to the UK is attenuated by reduced transfers from Scotland to the centre and increased transfers from the centre to Scotland (this is the risk sharing aspect of stabilization from the centre). Could there be an additional discretionary role for the local government to stabilize the economy? The correlation between regional business cycles in the UK is not perfect. Paul Krugman (2003) has suggested that this would not be a useful way of using fiscal federalism in Scotland, essentially because it does not seem to have worked in other countries such as the USA. However, in the USA the constitutional arrangements by-and-large require states to balance their budgets on an annual basis which may explain why regional countercyclical policies have been unsuccessful. Although we recognize that the management of a limited counter-cyclical policy represents a serious challenge for a small open economy operating within a monetary union, we do think having the flexibility to engage in such a policy could be useful, especially in the presence of asymmetric shocks which are known to be temporary in nature. Clearly such a policy would not be well suited to dealing with permanent shocks. Allowing a role for some stabilization, and given the move in the fiscal federalism case away from equity to efficiency, might also mean the Scottish Executive would wish to generate alternative sources of revenue.

One source would be borrowing. One of the anomalies of the current devolution settlement is the fact that local authorities seem to have a greater degree of fiscal autonomy than the Executive. They have a facility to borrow in times when they face temporary falls in revenue. One possibility for Scotland would be some kind of

Scottish Loans Fund (which would essentially entail borrowing from central government). Additionally, or alternatively, the Executive could also borrow from the commercial banking system. Borrowing could also be envisaged for capital investment through a Scottish Loan Fund, and from issuing securities for which there are precedents in other countries, such as Canada.

While we are convinced that tax devolution would work in the direction of improving efficiency in the fiscal system - so promoting allocative efficiency, a degree of caution should be exercised. It has to be recognised that how quickly the benefits from addressing this vertical imbalance appear rather depends on how the politicians in Edinburgh respond to their new budget constraint. If they quickly come to recognise a strong inter-relationship between spending and taxing, allocative efficiency may also quickly improve. However, this is not guaranteed because in practice politicians may either not understand or strongly discount the effect of their spending decisions on the level of taxes. If so, the effect of the new budget constraint on government spending will be slow in appearing. In the former case - insightful politicians - the efficiency-equity trade off is likely to be rapid, with some equity being given up in exchange for greater efficiency in spending and taxing. However, if politicians take years, perhaps decades, to recognise the new budget constraint, some equity will have been given up without much, if any, increase in efficiency. In a sense, therefore, success in the efficiency-equity tradeoff in part depends on educating a majority of the Scottish polity into understanding the spending-taxing implications of a budget constraint of having to raise the bulk of tax revenues in Scotland. Tanzi (2001) emphasizes the importance of having the relevant institutional framework in place before the process of decentralisation actually takes place:

‘...the conclusion must be that, if decentralization is an important political objective for a country and if that country can establish institutions that will make

decentralization work with a reasonable degree of efficiency (institutions related to tax administration, expenditure management systems, budgets, and so forth, but especially institutions that allow the central government to transfer resources to subnational governments with some assurance that these resources will be used effectively for the purposes for which they are passed on, and without creating expectations for the local governments that if they spend more, they will be bailed out by the national government), then fiscal decentralization can be a good policy.’

The above position contrasts with that held by some World Bank experts who argue that once decisions have been made to engage in greater fiscal decentralization, the sub-national government will be stimulated to create the needed institutions and to modify the existing incentives for policy makers to ensure the policy of decentralization is a success.

#### **Part IV Conclusions**

In this pamphlet we have considered the economic case for a fiscal federalism in Scotland. Our discussion, and especially our proposal for fiscal federalism, is not intended as definitive or the last word on this topic. Rather we hope to have raised the key economic issues which are at the heart of any debate on an appropriate fiscal federal system for Scotland, in the context of the current constitutional settlement in the UK. In other words our focus in this pamphlet is intended to define the terms of debate on this issue.

Our specific fiscal federal proposal involves the assignment and devolution of tax revenues to Scotland. We mean by this that a considerable proportion of taxes levied on Scottish tax bases should be returned to the Scottish budget. We have argued for a balanced tax assignment, which is one that seeks to broadly match identifiable expenditure in Scotland with assigned taxes. The key taxes included in the assignment would be income tax, VAT and corporation tax, and income tax and a package of other taxes would be devolved.

The Scottish budget, however, would continue to be supplemented by transfers from the Westminster budget. This arrangement differs from the current situation whereby public spending is largely financed by a bloc grant from Westminster. Our suggestion falls short of full fiscal autonomy for Scotland – either in the sense of independence with no shared obligations or in the sense of Scotland only making an sovereign contribution for access to shared services without any equalization mechanisms for areas such as social security – meaning that Scotland had control over choice of tax base and of tax rates, and fiscal transfers from Westminster would be minimal. We use propositions drawn from the theory of fiscal federalism to argue for a smaller vertical imbalance between taxes retained in Scotland and public spending in Scotland. A closer matching of spending with taxes would better signal to beneficiaries the true costs of public spending in terms of taxes raised. It would also create more complete incentives for politicians to provide public goods and services in quantities and at qualities that voters are actually willing to pay for. One important feature of our recommendations is what we have labeled the marginal tax rule, by which we mean that for any agreed fiscally devolved package, a decision by policy makers to raise expenditure in one area has to be matched by an equi-proportionate fall in expenditure elsewhere or by an equi-proportionate rise in taxes. Since from an economic perspective decisions at the margin are crucial for allocative efficiency, we regard this as an essential feature of a fiscal federalist solution for Scotland and believe this would be achievable through our recommended devolved taxes.

Under the current bloc grant system, the marginal tax cost of spending does not sufficiently figure in political calculations by the Executive and the Parliament as spending is out of a fixed total budget. Moreover, the Scottish electorate is hindered in signaling its desire for local public goods and services since the size of the total

budget is determined by a rigid formula set by Westminster. In embarking on a fiscal federalist system a needs assessment exercise would have to be conducted in order to tie down the size of any bloc grant provided by the centre. We are also of the opinion that any legislation creating tax assignment for Scotland should allow scope for further modification of the Scottish fiscal system – much as on the lines of the Spanish system where regional finances under the law are reviewed every five years.

At the present time we reject proposals for full fiscal federalism because in sharply reducing vertical imbalance in the Scottish budget, it is likely to worsen horizontal balance between Scotland and the other UK regions. Horizontal balance occurs where similarly situated regions enjoy the same per capita level of public goods and services at the same per capita tax cost. The complete removal of the bloc grant under full fiscal federalism would remove the mechanism that currently promotes horizontal equity in the UK. Variability in own-source tax revenues creates other problems with full fiscal federalism. Taxes derived from North Sea oil would constitute a large proportion of Scottish taxes, but these are known to be volatile in the face of variable oil prices and the pound-dollar exchange rate. At the present time variability in oil tax revenue is absorbed by Westminster. Scotland is insulated through the bloc grant. This risk sharing mechanism would be lost with full fiscal federalism. It is true that Scotland could turn to financial markets to tide itself over oil tax revenue downturns, but as a much smaller and less diversified financial entity than the UK as a whole it would probably have to borrow on less favorable terms than can Westminster. Scotland would have to bear this extra cost itself.

A further issue relating to the full fiscal federalism position is that it is difficult to see how the Scottish budget could be used as a macroeconomic stabilizer. At present, tax revenue downturns in Scotland - together with the steady bloc grant - are

absorbed through an increase in vertical imbalance. This acts as an automatic stabilizer for the Scottish economy. No such mechanism would exist under full fiscal federalism. The borrowing alternative would still exist but on the less favorable terms - as with borrowing to finance oil tax shortfalls.

In sum, we argue that at the heart of the design of an appropriate fiscal system at the central or sub-central level is finding an appropriate mix of the three key economic roles of government, namely: the allocation, or, efficiency role; the equity, or, income equality function; and the macroeconomic stabilisation role. Given the current constitutional settlement in the UK it is our view that these three functions can only be appropriately addressed in a fiscal system which falls short of the full fiscal autonomy position.

Finally, any fiscal federalist proposal will clearly only work if the relevant institutional framework is in place, and what is especially important is that the Scottish polity respond positively to a new form of (hard) budget constraint, designed to ensure time consistent behaviour. Clearly, it is impossible to predict *ex ante* how the local polity will react to a changed fiscal environment. However, we do not regard this uncertainty as a sufficient argument against addressing the important vertical fiscal imbalance that currently exists within the UK. The latter implies for the Scottish Parliament that it does not have sufficient power at its disposal to implant a core element of its business effectively.

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## GLOSSARY OF KEY TERMS

*Allocative efficiency*: a combination of efficiency in production and efficiency in consumption. ‘Efficiency in production’ means that goods are produced at least possible cost. ‘Efficiency in consumption’ means that consumers are able to obtain the goods that they want in the combinations they prefer. Technically, allocative efficiency is achieved when for any pairs of goods the ratio of marginal cost is equal to the marginal rate of substitution (or ratio marginal utilities).

*Assigned tax*: taxes paid by and returned to the tax jurisdiction in which they were raised. Our usage differs from that of some other writers who define an assigned tax as being assigned to the jurisdiction of a SCG.

*Balanced tax assignment*: The tax revenue associated with the assigned taxes should broadly match identifiable expenditure.

*Barnett formula*: “Put simply, the Barnett Formula sets percentages of changes in comparable expenditure in Great Britain. This is to say, it would be 85 for England, 10 percent of expenditure for Scotland and 5 percent of expenditure for Wales. This is exactly what the Barnett Formula is”. (Edmonds, 2001, page 9). These shares are based on population proportions in the Union as a whole. As public expenditure as a share of GDP is greater in Scotland than in England, equal rates of public spending growth over time is said to narrow per capita public spending between Scotland and the English regions.

*Benefit taxes*: taxes that match benefits received by taxpayers. For example, residents of a local school district paying the full cost of its school system. Thus, residents ‘pay for what they get’. See non-benefit taxes.

*Bloc grant*: an annual grant from Westminster to Edinburgh currently used to finance devolved expenditures.

*Central government*: the government of the UK based in Westminster.

*CG*: see central government.

*Conditional grant*: a grant from central government to sub-central government that is conditional on some action by the latter – very often to encourage sub-central government to spend money for a designated purpose, such as education. One purpose of conditional grants is to take account of spillover benefits from one tax jurisdiction to another. This is known as ‘internalizing an externality’. As the spillover is a benefit not paid for by the receiving region, the sending region will tend to under-invest in it. The condition grant gets around this problem.

*Devolved expenditure*: expenditure classes devolved to Edinburgh under the Scotland Act (1998) – such as spending on Scottish health and education.

*Devolved tax*: A tax, such as income tax, over which sub-central government has some decision-making responsibility – such as setting the tax rate or the tax base

*Economies of scale* occur when the average (or, per unit) cost of production falls with the size, or, scale, of operations.

*Equity or distributive justice* occurs when the distribution of goods between people in a society is thought to be 'fair' by the electorate.

*Fiscal*: of public spending and the taxes needed to finance such spending.

*Fiscal equalization*: see horizontal equity.

*Fiscal federalism*: in a strict legal sense fiscal federalism exists when a country's constitution grants rights to SCG over public spending and taxes. These powers cannot be removed by CG without an amendment of the constitution. Examples of such federal systems include the USA, Canada and Germany. In this sense the UK is not a federalism system, rather it is a unitary state. However, the term 'fiscal federalism' is widely used in a looser sense to describe situations where SCG has powers over spending and/or taxing that derives from CG that is not constitutionally protected. In this sense, Scotland is already part of a 'federal' system but with rather limited fiscal powers, especially over taxation.

*Hard budget constraint*: where the financial constraint on spending is binding – a SCG has to live within its means without expecting relief from CG.

*Horizontal balance* occurs when per head public expenditure is similar between regions at similar per head tax burdens. See also horizontal imbalance.

*Horizontal equity* what is judged to be 'fair' in taxing and spending between regions. See also fiscal equalization.

*Horizontal imbalance* when per head regional tax burdens differ markedly for similar levels of per head public spending. Horizontal imbalance is reduced if some tax revenue raised in high income regions is transferred to a low income region. See also horizontal balance.

*Local public goods and services*: their benefits are enjoyed within a restricted geographic area, e.g. schools, hospitals, fire service.

*Macroeconomic stabilization*: see 'stabilization function of government'.

*Marginal tax rule*: for any given fiscal settlement for Scotland, the ability to increase expenditure in one particular area has to be paid for either by a reduction in spending in another category or an increase in taxes.

*Matching grant*: see conditional grant.

*Moral Hazard*: Initially used in relation to the insurance industry. An individual takes out insurance and then acts differently once they are insured. For example, somebody with property insurance takes less care to secure their property.

*Needs equalization*: money transferred from central government to sub-central government on the basis of ‘need’ – usually to balance the per head supply of public goods at similar local tax burdens. Without needs equalization poorer regions would have a greater tax burden for the same supply of public goods.

*Non-benefit taxes*: taxes not necessarily related to benefits received from public spending in a region – such as taxes raised to redistribute income between high and low income households. See also benefit taxes.

*Public choice theory*: a branch of economics that views government as being run by self-interested agents. Thus, politicians and bureaucrats in acting in their own best interests do not necessarily act in the best interests of the electorate.

*SCG*: see sub-central government.

*Soft budget constraint*: when a SCG is aware that should it breach its spending or borrowing limits it can expect relief from CG.

*Source based tax*: a tax levied where an income stream is generated or at the point where spending on goods and services takes place.

*Stabilization function of government*: the use of the public finances to even out fluctuations in national production and employment. For example, in a recession increasing public spending and cutting taxes so as to stimulate the economy.

*Sub-central government*: a regional government, for example, the Scottish executive and parliament based in Edinburgh. See also central government and CG.

*Tax assignment problem*: determination of the ideal balance between taxes raised locally and total public expenditure in a region.

*Time consistency*: a commitment made today, because it is rational to make it today, that is still rational to execute when the time comes to do so. Thus, to constrain possible SCG over-spending, CG commits to a ‘no bailout’ clause. The commitment is time consistent if SCG later threatens default on its debts and it is still rational for CG to let it happen. If at this time of a threatened default it is not rational to let the default occur, the original commitment was not time consistent. Commitments that are known not to be time consistent are likely to be ineffective in governing behavior.

*Unconditional grant*: a grant from CG to a SCG that is not conditional on a pre-defined performance by the latter. See also conditional grant.

*Vertical balance in the tax structure* is the relationship between taxes raised in a region and a region’s public spending. High vertical imbalance means that taxes raised in a region cover only a small part of local public spending.

*Vertical imbalance*; see vertical balance.