

The Fiscal Crisis of the United Kingdom

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by Iain McLean and Alistair McMillan

Abstract

The UK faces a fiscal crisis that has been brewing since 1886. As in most countries, the centre controls most tax bases (yielding 96% of revenue in the UK), but the localities spend. Therefore there must be a vertical redistribution of tax revenue to local spending bodies. Since 1886, the central government has faced two constraints: anti-Unionist politics in the periphery, and the need to spend more per head on government services in poor regions than rich ones, while taking less tax revenue from them. It now faces a third, viz. that, given devolution, the UK Government cannot apply efficiency conditions to the devolved territories.

The UK has developed two sets of formulae, one for the territories that now have devolved government, and one for the regions of England. Their conjunction leads to what Lord Barnett calls 'terrible unfairness'. The Barnett Formula should have led to convergence in spending per head of population, but has only just started to do so. Territories that can credibly threaten exit (Scotland and Northern Ireland) have always had a stronger bargaining position *vis-à-vis* central government than those that do not. Now that convergence has started, it has punished the territory which poses no credible threat to the Union, viz. Wales, while causing justifiable anxiety in Scotland that her favourable spending position is being eroded by a 'Barnett squeeze'. The formula for transferring revenue to local authorities in England may have rewarded inefficiency and has been politically manipulated. Within England, territories with no credible threat have done badly. The Government has announced that it is scrapping the formula, but not what is to replace it.

As most politicians are Downsian maximisers, none of this should be surprising. We model a world in which all politicians except one are Downsian, but there is one disinterested finance minister (DFM) who might adopt a set of measures including:

- reformed regression measures, in which the units to receive grant are not themselves the data sources;
- a territorial grants board making allocations by unanimity rule;
- as a default should unanimity not be achieved, a rule that incremental grant in the next time period will be awarded by an 'inverse GDP' formula.

The only way to meet Lord Barnett's complaint that the present arrangements are 'terribly unfair' is to use the same formulae to distribute grant to both the devolved and the non-devolved territories of the UK.

The Fiscal Crisis of the United Kingdom

1. Introduction

In the 1970s it was fashionable to talk about the fiscal crisis of the state (O'Connor 1973; Brittan 1977). O'Connor on the left exulted and Brittan on the right agonised that the democratic capitalist state had lost the power to tax its citizens to the extent needed to pay for the services that those same citizens demanded. That crisis has subsided. But the United Kingdom faces another fiscal crisis, which has been building up at least since then. Those with long memories may say that it has been building up since 1886, or even since 1707. In brief, the crisis is this. Assignment of tax revenues to the non-English parts of the UK, and around England, depends on two incompatible formulae. One is under severe strain, and the Government has announced the abolition of the other with no clear signal on what will go in its place.

The United Kingdom is more centralised than most states of its population or above. But it is not a unitary state. It is a union state, which Scotland and Ireland joined by treaty in 1707 and 1800 respectively. They were both very unequal treaties, and most of Ireland left again in 1921. But devolution to Scotland and Northern Ireland is still shaped by that ancient history. The Scottish Office dates back to 1885; the Northern Ireland executive to 1920. There is therefore over a century of friction between the UK government (represented principally by the Treasury) and the devolved administrations over the terms of their block grants from the centre. This controversy long predates political devolution, and continued when Northern Ireland had no devolved government. 'And to a lesser extent Wales' is a phrase that occurs in every discussion of UK devolution. The creation of the Welsh Office was an absent-minded commitment of the incoming government in 1964. Wales never had devolved government until 1998.

The financial arrangements for devolution derailed the Home Rule Bill of 1886. A so-called formula (the Goschen formula, or proportion) was introduced in 1888 and its shadow persisted until the much misunderstood Barnett Formula was introduced in 1978. The Barnett Formula has not achieved what its originators wanted it to; and, if it had, the results would have been very unfair at least to Wales and perhaps to all three devolved territories. We show below that Wales has already been a victim, not a beneficiary, of Barnett.

Meanwhile the allocation of grant to the regions of England has been governed by a completely different set of formulae, under two main government departments. Whereas HM Treasury has always been the custodian of Goschen and Barnett, what is now the Department of Transport, Local Government and the Regions is the custodian of the regression-based formula, currently called Standard Spending Assessment, that assigns grant to the local authorities, and the Department of Health of the formula that assigns grant to health authorities. In December 2001 the Secretary of State for Local Government and the Regions announced that SSA would be abolished, but gave no clear signal as to what would replace it (*Hansard*, Commons, 11 Dec. 2001, cols 713-28).

Like almost any modern state, the UK has to solve the problem of fiscal federalism. It is not a federation, but it suffers even more extreme vertical imbalance than most federations. Essentially, the centre taxes, but the localities spend. In 2001, the centre raises 96% of UK tax revenue; local authorities only 4% (Travers 2001, p. 135). Therefore the centre must allocate grant to the localities. The sums of money involved are huge, as they cover a large part of public (revenue and capital) spending. Therefore, the most minute adjustment of the formulae can have huge

distributional consequences. The combined consequence of the two different procedures is an allocation that is very hard to justify, politically, socially, or economically.

- Politically, the ‘losing’ regions ask why they are doing so badly, while the ‘gaining’ territories complain that they are in a ‘Barnett squeeze’.
- It is hard to see what social ends are advanced by such apparently arbitrary inequalities in public spending per head as Table 1 shows. It suggests severe problems of inter-territory equity.
- Neither the Barnett nor the SSA system is incentive-compatible. Neither, that is, gives the territories an incentive to become economically efficient.

Table 1 introduces the problem.

Table 1. Public Spending per head, Regions of the UK, 1999/2000

Region	Public exp/head on ‘devolved’ service	GDP/head	Social security spending/head	Covered by Barnett formula?	With representative government?
South-east	2281	15100	1453	n	n
East	2386	15100	1531	n	n
Greater London	3367	16900	1668	n	y
South West	2395	11800	1680	n	n
West Midlands	2504	11900	1699	n	n
East Midlands	2403	12100	1620	n	n
Yorkshire and Humberside	2481	11400	1743	n	n
North West	2701	11300	1927	n	n
North East	2783	10000	2054	n	n
Wales	3069	10400	1983	y	y
Scotland	3406	12500	1865	y	y
Northern Ireland	3870	10100	2069	y	y

Sources for Table 1: HM Treasury, *Public Spending Statistical Analysis 2001*, derived from Tables 8.6b and 8.12. Column 1 reports (for the Barnett territories) ‘Identifiable total managed expenditure per head 1999-2000, and (for the non-Barnett territories) ‘Identifiable general government expenditure per head, by region and function, 1999-2000’. In each case the total for Social Security, which is a non-devolved function, are deducted from column 1 and reported separately in column 3. Office for National Statistics, *Regional GDP 1999*, summary table.

The first column of Table 1 shows the spending per head on what corresponds, as closely as the source permits, to those domestic services that are devolved functions in the three ‘Barnett’ territories. In descending order of size, the big three such services are *Health and personal social services*, *Education*; and *Law, order, and protective services*. In Scotland, Wales, and Northern Ireland, the allocation of spending within and among these headings is entirely the responsibility of the devolved administrations, except (for obvious reasons) for security spending in Northern Ireland. Although they receive block grant which is determined by the amount spent in England on health, education, and so on, they are under no obligation to split their spending on these programmes in the same proportions as in England. The UK government can also exercise no control over any alterations in their balance of capital and revenue spending.

In England, the UK government can and does exercise tight control over spending in the regions. Not only does the system forbid virement between one service and another, but it encourages

spending bodies (local authorities and health authorities) to stick very closely to UK government priorities.

Social security spending is excluded from Column 1 and reported separately in column 3. There are three reasons for this:

1. Social security is not a devolved programme. Terms and conditions are identical throughout the UK.
2. It is an entitlement programme. The number of people who qualify for, and claim, each entitlement wholly drives spending on it.
3. Relatedly, it is a rough measurement of deprivation. The higher the social security spending per region, the higher the prevalence of poverty, and therefore, *prima facie*, the greater need for government to spend on other programmes.

Another *prima facie* indicator of regional wealth and poverty is Gross Domestic Product per head. The most recent official figures for this are in Table 1, column 2. Cameron and Muellbauer (2000) have shown that until the mid 1990s these data seriously underestimated the disparity between the south-east (regions South East, East, and Greater London) and the rest of the country because the Inland Revenue (the UK department responsible for internal revenue collection) could not correctly allocate a proportion of tax returns. Although they believe that that problem has been corrected, it still has serious policy implications, because poor regions have probably failed to get EU grants they should have had in the past, and because, as shown below, past grant is a very powerful predictor of present grant.

The most casual inspection of Table 1 suggests that something odd is going on. Almost all governments, when they distribute the proceeds of centrally raised taxes for the localities to spend, do so under some sort of equalisation arrangement, so that poor areas get more per head and rich areas get less. There are good reasons both of efficiency and of equity for this, and it is supposed to be built in to the arrangements for transfers within England. Therefore, there should be a strong positive correlation between social security spend per head and other public spending per head, and a strong inverse correlation between GDP per head and non-social-security spending per head.

Table 2 shows the correlations among the three variables.

Table 2. Correlations among GDP, PUBEXP and SOCSEC

		GDP	SOCSEC
PUBEXP	Pearson Correlation	-.157	.654
GDP	Pearson Correlation		-.768

[Figure 1 about here]

The strongest correlation is the inverse correlation between SOCSEC (social security spending per head) and GDP (regional GDP per head). This is as it should be. The correlation between SOCSEC and PUBEXP ('devolved' public spending per head) is weaker.

Another way of looking at the data is graphically. Figure 1 graphs the relationship between PUBEXP and GDP. It shows that the relationship would be reasonably well-behaved if three outliers, namely Scotland, Northern Ireland, and London, were not there. If we remove these three cases from the analysis, the correlation between PUBEXP and GDP becomes -.739.

The structure of this paper is as follows. Sections 2 and 3 explain how the system of vertical redistribution has emerged in, respectively, the territories covered by the Barnett formula and those not covered by it. Section 4 suggests what a benevolent dictator might consider doing to break the present impasse.

2. *The Barnett territories*

When Scotland and Ireland joined the UK, each was relatively poor. So their joining in itself implied some vertical redistribution. Government services had to be delivered to a larger number of people, while the tax base per head of population had gone down. However, until the mid-19th century, most of the goods provided by government were public goods such as defence, foreign policy and two established churches. Not until government started providing private goods would the conflicts of vertical redistribution come into the open. Governments started to provide expensive private goods when they took on responsibility for elementary education, in a series of Acts beginning (in both Scotland and England) in the 1870s. Elected local authorities covered the whole of GB by 1888, and Ireland by 1898. In Scotland, the Crofters Commission dates back to 1886 (see <http://www.crofterscommission.org.uk/history.htm>) and in Ireland, the Congested Districts Board to 1891. These were engines of direct redistribution to the poorest places in the UK, created because of their turbulent politics. The Unionist policy of ‘killing Home Rule with kindness’ after 1886 involved substantial transfers.

Gladstone’s Home Rule Bills of 1886 and 1893 had to tackle the problem of devolved finance. They failed, one of the reasons being Joseph Chamberlain’s objection to the financial clauses (Powell 1977, p 8). But even in defeat Irish Home Rule set possible precedents for Scotland. George Goschen, Chancellor of the Exchequer in the Unionist Government that succeeded Gladstone’s resignation in 1886, first proposed a formula-based treatment of Scotland and Ireland. This made good sense for a Unionist politician. Unionists, by definition, wish to retain the Union of the countries of the United Kingdom. If the peripheral countries feel aggrieved, the Union is at risk. But the peripheral countries contained the poorest regions in the Union, especially those covered by the two boards just mentioned. Therefore a rational Unionist politician needed a device for quiet redistribution: enough to alleviate grievance in the periphery but not to provoke resentment at the centre. Redistribution by formula did the trick.

In fact the Goschen formula was less formulaic than it became. Initially, Goschen proposed only to assign probate duty to the Local Taxation Accounts for England & Wales, Scotland and Ireland in the proportions 80:11:9. Goschen stated that this was ‘in proportion to the general contributions of that country to the Exchequer’ (Hansard 3S: 324, 301, 26.03.88¹). It was not; it gave Ireland more than that proportion, but less than her population proportion.

The Goschen formula was not originally redistributive to Scotland, but it became so. It never governed the whole of Scottish spending, but it became a focal point (cf Schelling 1984, pp. 220-1) for all Scottish Office and Scotch Education Department lobbying of the Treasury. The Education (Scotland) Act 1918 wrote it into the funding formula for schools. It gradually spread to other services, with Scottish politicians and civil servants always insisting that Scotland’s entitlement should be at least 11/80 of that for England and Wales. With a floor of 11/80, service by service, it followed that Scotland’s spending on those services covered by the Goschen formula was higher than 11/80 of that for England and Wales, while Scotland’s relative population declined.

Table 3. Relative populations of England & Wales and Scotland, Censuses 1881-1971

Census	Population, 000s:		Scotland:En gland & Wales=80 (A)	Value of Goschen grants per head in Scotland (England=100) (B)
	England and Wales	Scotland		
1881	25974	3736	11.51	95.59
1891	29003	4026	11.11	99.05
1901	32528	4472	11.00	100.01
1911	36070	4761	10.56	104.17
1921	37887	4882	10.31	106.71
1931	39952	4843	9.70	113.43
1939	41460	5007	9.66	113.86
1951	43758	5096	9.32	118.07
1961	46105	5179	8.99	122.41
1971	48750	5229	8.58	128.19

Source: British Historical Statistics, B R Mitchell (CUP 1988). 1939 mid year estimate
Values in column B are calculated as $(11/[\text{column A value}] \times 100)$.

Table 3 shows that the Goschen proportion gave Scotland a poor deal until 1901, but an increasingly good deal thereafter. If the Goschen proportion had governed grants for all services in Scotland in the 1960s, then spending per head in Scotland would be about 22% ahead of spending per head in England and Wales.

In Northern Ireland, the fiction was maintained that the Province would make an Imperial Contribution to the UK (Bogdanor 1999, pp. 82–9), but the reality was that the UK made an Imperial Contribution to Northern Ireland. The contribution was the price that UK governments were prepared to pay to keep Northern Ireland in the (Empire and) Union.

Thus when devolution in the UK reawoke in the 1970s, spending per head in Scotland and Northern Ireland was far ahead of spending per head in England and Wales. The 1974-9 government introduced a Scotland and Wales Bill to grant devolution to those countries. The reason was purely pragmatic. The Scottish National Party posed a serious threat to the Union. In the October 1974 General Election, it had won 30% of the vote - more than the Conservatives. The electoral system had intervened to preserve Labour's hegemony of Scottish seats, and kept the Conservatives ahead of the SNP (Table 4). But it was common knowledge that, were the SNP to advance just four or five percentage points, the plurality electoral system would flip round from penalising it to rewarding it. On 35% of the Scottish vote, it would have won more than half of the seats in Scotland, in which event it had stated that it would start to negotiate independence. The Government added Wales to the Bill without enthusiasm for consistency's sake.

Table 4. UK General Election of October 1974: seats and votes in Scotland

Party	Vote share, %	Seat share, %
Labour	36.3	56.9
SNP	30.7	15.3
Conservative	24.7	22.2
Liberal	8.3	4.2

The 1974 Labour governments had a tenuous majority in the Commons, and they controlled fewer than half of the seats there from February to October 1974 and from January 1976 until the 1979 General Election. From March 1977 until May 1978 a Lib-Lab pact was in place. But from January 1976 until March 1977, the Government could be defeated by a grand coalition if even one Labour MP voted against it.

The defeat came on a timetable motion on February 22, 1977. By losing the motion, the Government lost the Scotland and Wales Bill. It introduced separate bills for Scotland and Wales (to buy off the Welsh antis) but these fell to a sequence of further wrecking amendments. Formally, they passed, but they were burdened with a high referendum threshold, which failed in March 1979 in both Scotland and Wales. The Government then fell on an SNP confidence motion and the reign of Mrs Thatcher began.

The engine-room of the 1977 rebellion was Tyneside. Four Northern MPs were among the 21 rebels, double the region's relative weight among Labour MPs. The northern 'No' campaign was orchestrated by Tyne & Wear County Council, and it turned on the alleged privilege of Scotland vis-à-vis the Northern region. Scotland and the Northern Region had roughly equivalent deprivation. Each of them had a regional GDP per head of about 84% of the UK average. But spending in Scotland on the services which were to be devolved was, according to the Tyne & Wear lobby, 125% of the UK average per head, whereas that on the Northern region was only 115% of the UK average. Devolution, the lobbyists complained, would merely entrench the Scottish advantage. From a Tyneside perspective, it seemed that the (Labour) government was rewarding the Scots for voting SNP, while failing to reward the Geordies for voting Labour. (Guthrie and McLean 1978).

The government made two short-term moves and two long-term ones to buy off the Geordie protest. The short term moves (sending Jimmy Carter to Newcastle, and forcing the electricity board to place an order in Newcastle for generating sets it did not want) now seem quaint and anachronistic. The long term moves are with us yet. They were the Treasury's Needs Assessment and the Barnett formula. Much blood was shed over the Needs Assessment, mostly between the Treasury and the territorial departments. It did not report until after the 1979 General Election, and only now are its findings being widely noticed. The main finding is in Table 5.

Table 5. HM Treasury 'Needs Assessment', 1979 (data for 1976-7).

	England	Scotland	Wales	Northern Ireland
Relative needs assessment	100	116	109	131
Actual spending levels 1976-7	100	122	106	135

Source: HM Treasury (1979), esp. para 6.5.

Thus, if (a big if) the figures were reliable, Scotland was spending above her 'needs' at the time of the Geordie revolt, and Wales below.

The origins of the Barnett Formula are mysterious and controversial. Joel Barnett, Chief Secretary to the Treasury, applied it from 1978. He has attributed paternity to Sir Leo Pliatzky (Barnett 1999) although in recent years he has understandably basked in the reflected glory of his formula. Its existence was first publicly revealed in 1980; Heald (1980) then pinned the label 'Barnett Formula' on it. Though Barnett has said that he did not initially think his formula would last 'a year or even twenty minutes' (Treasury Committee 1998, evidence Q1), and also that it was intended to be a transitional device until a needs-based formula could be put in place, it has

not only survived but has been embedded in the post-1997 devolution settlement. Both the Scottish and Welsh White Papers (although not the respective Acts) setting up their devolved administrations promised that the Barnett formula would continue to cover the assignment of blocks of spending to the devolved territories. Northern Irish spending is also governed by the formula. Ministers frequently repeat that, although the Barnett Formula is not 'set in stone', yet 'there are no plans to change it'.

2.1 What is the Barnett formula? What problems did it mean to address? Has it addressed them? And why is it still controversial?

The Barnett formula is much misunderstood, often wilfully. Luckily, good descriptions of it are now in print or on the Web (Edmonds 2001; Bell 2001; Bell and Christie 2001; Heald 2001). The Treasury has also published, and put on the Web, its operational manual for applying the Barnett formula to the money the UK government makes available via the three territorial secretaries of state to the devolved administrations (HM Treasury 2000).

The formula originally had two purposes. It was an *anti-rounding-up device*; and a *convergence formula*. Early justifications of it, including Joel Barnett's, concentrated on the first. Now, commentators mention only the second. It has completely succeeded in the first aim and largely failed in the second.

The Treasury wanted an *anti-rounding up* device after its many years of battle with Scottish departments over the Goschen proportion (Mitchell forthcoming, chapter 8). When spending was negotiated with the territorial departments one programme at a time, the territorial department could use the Goschen proportion as a floor. If it could make a special claim for the particular service being negotiated (say, that Scotland had better teacher-pupil ratios or a sparser population), it did; if not, it could refuse to be budgeted below Goschen, and could often call on Ministerial support. In 1923 Stanley Baldwin, then Chancellor, accepted that although the Scotland: England population ratio had dropped below 11:80, the Goschen formula should be retained for its 'rough justice'. As Prime Minister, Baldwin allowed public spending in Scotland to rise *above* the Goschen proportion - on the grounds that 'political unrest was [not] in the interests of the Union' (Levitt 1999, pp. 100--1).

As an *anti-rounding device*, Barnett therefore forced the territorial Secretaries of State to argue for a block, not for programme-by-programme increments, in their annual negotiations with the Chief Secretary. According to the Scottish Office civil servant who was in charge of devolution policy at the time, the formula

reflected the conviction of all Departments other than the Scottish Office and all MPs other than Scottish ones that the Scots had been getting away with murder.... The purpose of Barnett was both to simplify the Treasury's bargaining processes and to ensure that, when increases in Votes were negotiated, the total Scottish increase over all Votes should be no more than a reasonable one. (J. Ross, 1985, quoted in Mitchell 2002, p.5)

As Barnett himself has said, this made the Chief Secretary's life easier; it also placated English spending departments. It has succeeded so well that most commentators have forgotten that that was one of its purposes.

But eighty years of Goschen and credible threats had left Scottish and Northern Irish (although not Welsh) spending per head above what the 1979 needs assessment seemed to indicate. Therefore Barnett was designed to operate also as a *convergence formula*. As such, it works not on absolute public spending, but on increments to public spending. Each time there was an increment in public spending in England on a domestic service that would have been devolved², Scotland, Wales and Northern Ireland were each to get an unearmarked increment in their block grant proportionate to the ratio between their population and that of England.

As all three territories were receiving higher public spending per head (on 'devolved' services) than England when the formula began, the operation of the formula should, in the sufficiently long term, have led to convergence on equal public spending per head in each of the three territories.³ In Scotland, there has been little convergence, as Table 1 and Figure 2 confirm. In Wales, any convergence will have worsened disparities between Wales and England, if the initial numbers in the 1979 Needs Assessment were correct. In Northern Ireland, there seems to have been divergence in the early 1990s, followed by some convergence. All of these trends may be seen graphically in Figure 2.

[Figure 2 about here]

A mechanical reason why there was no convergence in Scotland was that the initial population relativities were wrong. Scotland was assigned too high a share of the GB population. Chief Secretary Michael Portillo made a one-off correction in 1992; the incoming Labour government has rebased it annually since 1997. Another mechanical reason was that until the mid 1980s public expenditure was planned from year to year on a volume, not a cash, basis. On a volume basis, only *real* increases on spending in England (which were few in those days) would trigger convergence in the territories; real decreases would trigger divergence. On the cash basis that has operated since the mid-1980s, *nominal* increases on spending in England lead to the formula being applied, thus producing a smaller real increase (and perhaps a real cut) in the territories.

However, the reasons for non-convergence are political, not mechanical. Even the decision to persist with an incorrect population ratio was probably political. Scotland continued to pose a credible threat to the Union, which any SNP resurgence would bring back to life. As the Conservative & Unionist Party has had the union of the UK in its name and mission since 1886, the Conservative governments were particularly sensitive to this threat. Their Secretaries of State continued to protect Scotland from the full rigour of the Barnett Formula until 1997. In the final Conservative years, indeed, Secretaries of State Lang and (especially) Forsyth boasted about the spending differential in order to warn Scots that devolution would threaten it. To judge by his autobiography, Prime Minister Major was uneasy at this strategy (Major 2000, esp. p. 419).

For obvious reasons, nobody lobbied for faster convergence in Northern Ireland. Any such suggestion could have imperilled the peace process there. However, Wales was the weakest of the three territories. Wales' administrative devolution dated only to 1964. It also presented no credible threat to the Union. Plaid Cymru could not foreseeably win a majority of Welsh seats, and it was not certain that, even if it did, it would open negotiations for independence - Plaid Cymru being primarily a party of cultural protest, whereas the SNP has always been primarily an economic movement. Perversely, therefore, Wales, which remained poor, may have seen spending converge under the Barnett formula, whereas Scotland, whose GDP per head is now almost at the UK average, did not. Evidence on this is at Table 6 below.

The substantial real increases in the Comprehensive Spending Review 2000 were made subject to the Barnett Formula. This has produced what the SNP call a 'Barnett squeeze' on Scotland,

although Figure 2 suggests that in practice it has been little more than a gentle hug. It will take many years before the mechanical operation of Barnett could lead to convergence in Scotland and England. In any case, as argued below, convergence is an inappropriate target for policy.

In the approach to the first elections to the National Assembly for Wales in 1999, the country started to offer a credible threat to the UK government for the first time since Owain Glyndwr. Labour failed to win the majority of the Welsh votes or seats, and Plaid Cymru did far better than predicted, because the Welsh Labour Party was perceived to be under the control of the national Labour Party. After the election, First Minister Alun Michael felt unable to promise extra-Barnett matching spending that was required in order for the Valleys and West Wales to claim EU 'Objective One' funding. This was one of the matters that led to the fall of Michael and his replacement by Rhodri Morgan. In July 2000, Morgan and the Secretary of State for Wales jointly announced that 'the Government has accepted our special case for funding outside the Barnett Formula' on the grounds that the Welsh Objective One areas contained 65% of Wales' population. As no such claim could be made in Scotland, this was the first occasion on which spending in Wales and in Scotland trended in different directions.

Ministers have become less coy about the purposes of Barnett. The most forthright Ministerial statement on it was by the Chief Secretary to the Treasury in July 2001, under questioning from north-east English MPs:

However, for those who have concerns about the Barnett formula, I point out, first, that it is not the formula that is responsible for the inequalities in funding about which people are worried. Those are historic matters which, of course, the Barnett formula addresses. It is a convergence formula--something on which we receive representations from other parts of the United Kingdom (Andrew Smith, MP, *Hansard*, Commons, 19.07.01, col. 425).

But the more Ministers say this to the Geordies, the more the Scots will notice. Led by the SNP, they claim that a 'Barnett squeeze' is in operation on Scotland. They also claim that if Scotland had 'full fiscal autonomy', it would be able to increase, not decrease, public spending (Cross et al. 2001; Macdonell 2001). The former claim is correct; the latter, false, although it depends on highly ingenious use of parliamentary answers elicited by Alex Salmond MP, economist and former leader of the SNP. The Barnett formula has failed to allay resentment in Scotland, because it cannot. It has failed to protect Wales, because it was structurally unsuited to do so. And it has failed to quell resentment in poor regions of England, because the relative spending disparities, especially with Scotland, remain so glaring. To this we must now turn.

3. The non-Barnett territories

The numbers which so agitated Tyne & Wear County Council in 1977 have stubbornly failed to change. In 2000, the Newcastle-upon-Tyne *Journal* started a campaign to draw attention to the stark spending disparities across the Scottish border. The secondary school in Duns (Borders region) had a pupil: teacher ratio of 13:1 and one computer per 5 students. The secondary school in socially identical Alnwick (Northumberland) had a pupil: teacher ratio of 18:1 and one computer per 13 students. Health spending per head, in fiscal year 1998/9, was £692 in Northumberland and £945 in the Borders (McLean 2001a). It is this disparity that Joel Barnett has repeatedly called an 'example of terrible unfairness' (e.g. in the House of Lords debate on his formula, 7 November 2001, *Official Report*, col. 228). Figure 3 shows the trends in identifiable spending, in the English regions, on the services that are devolved outside England. It shows that

London has received much more than any other English region, although its relative advantage is diminishing. Otherwise, the picture is one of trendless fluctuation.

[Figure 3 about here]

The Scots, politicians and academics alike, retort, 'That is nothing to do with the Barnett formula. That is an issue about the distribution of funds within England. If the North of England feels hard done by, it should complain about the way that public spending is allocated within England'. That is a fair rhetorical and administrative point, although a weak political retort. So how does vertical redistribution, from the centre to localities, operate in England - that is, in the 85% of the UK, by population, which is not covered by the Barnett arrangements?

It has a long history. In England as in the rest of the UK, the problem of vertical redistribution goes back at least to the 1880s, although it could be dated as far back as the politics of the New Poor Law (1834) and the Municipal Corporations Act 1835. It has always been true that the centre controls all English tax bases except real estate. Since 1835, it has also been true that localities spend, and that poorer localities have more need to spend. This problem became more acute with each generation - with free primary education beginning in the 1870s, then with the birth of social insurance in 1911, and finally with the NHS and the modern welfare state from the 1940s.

The modern format, for services run by local government, dates back to the 1970s, and has been run by a department whose name and whose other functions have frequently changed⁴, but whose core function of vertical redistribution from the UK government to local spending authorities has not. For convenience, it is labelled by its current acronym, DTLR, throughout this section. DTLR owns the formula, but other spending departments - e.g., the Home Office for police and fire services, and the Department for Education and Skills for schools and colleges - provide the resources for vertical redistribution in their fields. Since the creation of the National Health Service, the job of vertical redistribution in health care has lain with the (current) NHS Executive and Department of Health. Between them, these departments are responsible for the vertical distribution of most⁵ grant to pay for what we call 'devolved' services: that is, of services that, in the three non-English territories, are the responsibility of the devolved administrations. Neither the tax system (apart from the Scottish Variable Rate of Income Tax, not so far used) nor the social security system are devolved. The vertical distribution for the Health Service began controversially and has become less controversial. The vertical distribution for local government spending began controversially and has become more so, with the DTLR conceding the weaknesses that academic critics had been pointing out since the early 1990s.

In health, the first attempt to redistribute on anything other than historical grounds was a Resources Allocation Working Party that reported in 1976 (DHSS 1976). Allocation on historical grounds had led to a huge concentration of resources in areas with political power rather than in areas with poor health. The initial years of RAWP redistribution were therefore painful, but the process has become smoother. The formula currently used derives from work by the Centre for Health Economics at the University of York. It is a regression formula whose main technical properties are:

- the data on 'need' are derived from small area statistics, mostly from the Census. They are *not* derived from the administrative units (health authorities) that receive grants. To derive the data from the same units as receive the grant creates serious problems of perverse incentives, circularity, and ecological fallacy (Smith, Rice and Carr-Hill 2001, esp. pp. 224-7).

- it is a multi-stage model to cope with the problem of ‘simultaneity in the determination of supply’. To derive need from supply is to commit the error mentioned in the previous point. Yet supply may itself reflect need (as well as other stuff). The two-stage method enabled the York group to ‘capture... not only the direct effect of the selected needs variables on utilization but also the indirect effect, to the extent that supply reflects legitimate needs’ (Smith, Rice and Carr-Hill 2001, quoted at pp. 234 and 235).

The York group note that

the Government at the time of implementation [of the hospital services formula] was a Conservative administration, with voting strongholds in the areas that were most likely to lose from the new formula.... [The formula was therefore diluted, with 24% of revenue] distributed on the basis of the age-weighted population alone. The researchers and others questioned this effective dilution of the needs indices.... The then Minister agreed to explore the unweighted 24%, and since then the methods used in this study have been extended to virtually all health care expenditure needs’ (Smith, Rice and Carr-Hill 2001, p.237).

That is a frank (and unusual) statement of a triumph of statisticians over politicians.

The equivalent formula for local government services is now called the Standard Spending Assessment. It is the latest of a set of regression formulae that have controlled the distribution of grant to English local authorities since the 1970s. SSAs were introduced in 1990, which was a particularly fraught time in UK central-local government relations. The poll tax (community charge) was collapsing (Butler, Adonis & Travers 1994; Besley, Preston, and Ridge 1997). The poll tax disaster had two consequences relevant to this paper:

- Local government’s penultimate tax base was lost to the centre. The taxation of industrial and commercial real estate (called in the UK Uniform Business Rate) was removed from local authorities at the start of the saga, and not restored to them at the end. They are left, essentially, with only domestic real estate, called in the UK Council Tax. Local government’s other tax bases are what Sir Robert Peel, in his magnificent 1842 Budget speech, called ‘dribbles’.
- SSA had to meet some very specific political needs. From the wreckage of the poll tax, the governing Conservatives salvaged what they could. They pointed to a small number of Conservative-controlled ‘flagship authorities’, where (they said) the poll tax had worked as intended. Those councils⁶ set low poll tax rates and ran services cost-effectively. The Opposition claimed that the low poll tax rate in the flagship authorities resulted from Government manipulation of the new SSA formula to favour them.

Subsequent academic analysis supports the Opposition claim. Ward and John (1999; John and Ward, 2001) analysed the outcomes of SSA and its predecessors, first for financial year 1994/5, then for the range of years 1981/2 to 1995/6. They point out:

- that all governments have an incentive to maximise their political support by spending money where it will most benefit them;
- that the globalisation of markets in government debt makes the traditional way of doing this (the ‘political business cycle’ in which governments expand current spending before an election and cut it after an election) harder to carry off unnoticed than in past decades;
- that microeconomic ways of manipulating grant are more efficient because they can be targeted on swing voters;

- that SSA might be a formula that was sufficiently opaque to conceal such manipulation, but sufficiently precise to achieve it.

In their first paper, they find that, as well as population and needs, the following factors increased grant to a local authority in 1994/5:

- being a large unitary authority;
- being a shire (i.e., not predominantly urban) county;
- containing marginal Parliamentary seats;
- having been a Conservative flagship authority in 1990;
- being Essex.

All five of these predictors favoured the incumbent Conservatives. The continued significance of the 'flagship' factor suggests that there are lagged effects. As with any time series, grant at t_1 is usually one of the best predictors of grant at t_2 . This could explain the continued significance of the 'flagship' variable four years after the death of the poll tax.

In the final model in their second paper, John and Ward find two sets of political variables significant. One points to a political business cycle, in which the incumbent government spends more on local authorities when a General Election is pending (but, note, the coefficient for Conservative-controlled authorities is negative, indicating that the Government needed to spend less in areas it already controlled). The other points to the same political effects as the earlier cross-sectional model, although marginality of parliamentary seats works only for the period after 1988 (John and Ward 2001, Table 2, Model 3). They conclude forcefully that 'the diversion of resources to marginal constituencies and Tory flagships that we identify represents an abuse of central power... [T]hese resources do not flow to where the need is greatest' (John and Ward 2001, p. 332).

Other analysts concur. The York group designed one of the components of the overall SSA, namely the SSA for personal social services. They report that

the needs element of the new formula resulted in major shifts of assessments, most notably an average 20% reduction in needs assessments in inner London, an 11% reduction in outer London and a 7% gain in other areas... To some extent these shifts were moderated by the introduction of the new area costs adjustment. It is of course a matter for speculation whether the Government would have searched for a revised area cost adjustment with such vigour if the results of the needs analysis had not implied such a marked shift of resources (Smith, Rice and Carr-Hill 2001, p. 233 (source of quotation); Carr-Hill, Rice, and Smith 1999)

Gibson (1998, 1999) is the most radical academic critic of the SSA system. He points out that even before SSA was introduced, Ministers had noticed the circularity, or '[positive] feedback' involved in making spending by local authorities part of the definition of the 'cost' of providing a service. This rewards inefficiency, and as grant at t_2 is mostly a function of grant at t_1 , it goes on rewarding inefficiency as long as a regression-based formula is in force (Gibson 1998, pp.631-5). He finds that the SSA system 'generated at least two issues - the increased role of ethnicity in additional educational needs (and the reduced role of indicators of economic deprivation) and the sudden large increase in the allowance for additional labour costs in London and the South-East' (Gibson 1999). Like Ward and John, he finds naked political manipulation, in this case over the abolition of the Inner London Education Authority in 1988:

[T]he main finding of this study is that there was pure (that is, unadulterated) political manipulation of the Education SSAs by the Conservative government in 1990.... The analysis in this article has indicated that in the case of the large redistribution of Education SSAs in 1990, which, given its survival in the present SSAs, must have a cumulative value of well over £1 billion, the accusation of political manipulation is supported strongly by the evidence (Gibson 1998, pp.645-6).

He argues that a needs formula ought not to allow fully for high costs of providing a service, on the grounds that to do so reduces economic efficiency by encouraging services to be provided in the wrong places: 'equalisation grants to cover geographical cost differences will stop potential resource-saving migration' (Gibson 1999). The implications of taking such a radical view would be severe, especially in London. But it is a view with a distinguished economic pedigree. The Nobel laureate James Buchanan coauthored an influential paper on 'Federal Fiscal Equalization' which argues that

Full equalization of fiscal capacities ... would eliminate resource flows entirely, and would be clearly non-optimal... [M]assive central government grants to urbanized areas in attempting to improve the urban environment ... can aggravate existing allocational distortions by providing still further fiscal incentives for individual migration to the high-income, urbanized sectors (Buchanan and Wagner 1970, quoted at pp. 154 and 158).

Most of the foregoing examples predate the change of UK government in 1997. But the incentives facing any government are identical. It wishes to be re-elected; it must attract the median voter in the median constituency. The analytic task is to establish why the SSAs for local government have proven to be more manipulable than the formula for health spending.

The foregoing suggests five points.

1. Needs are an essentially contested concept. Since there is no objective definition of a need, it is always open to politicians to argue that whatever the median voter in the target constituency lacks is a 'need'.
2. In health, it is reasonably easy to define outcomes (death, morbidity). In local government services, it is much harder, and it is correspondingly easier to confuse outputs (miles of road, domiciliary visits), with outcomes.
3. In local government, it is very difficult to avoid the related hazards of circularity, ecological fallacy (aka feedback), and perverse incentives. Often, the only evidence as to the cost of providing a service is the vector of costs which local authorities have actually incurred in providing it. Also, the cost of providing capital goods is reflected in the vector of local authorities' interest charges. To incorporate these into an index of need is to reward inefficiency. For the charge of circularity, see Audit Commission (1993). For the problem of ecological fallacy, see Smith, Rice, and Carr-Hill (2001), p. 224, and Gibson (1998), pp. 631-5, where it is labelled 'feedback'..
4. Related to the above, the dangers are particularly acute when the predictors in the regression equation come from the same unit as the recipient of grant. The health formula could avoid this by deriving its predictors from small area census data. For local government services, the most convenient reporting unit is often the local authority.
5. Once a historic pattern is frozen into the system of regression equations, it is difficult to break its hold - witness the shadow that the Conservative flagship authorities and continued to cast over SSA for years after the particular circumstances of 1990. From Gibson (1998) we could infer that the Education SSA is no other, than the *Ghost* of the deceased *ILEA*, sitting crowned upon the grave thereof.

The Labour government published first a Green and then a White Paper on local government finance in 2000-01 (DETR 2000; Cm 5237). Buried deep in the second, technical part of the latter was the following Maoist self-criticism:

3.21 Last but not least, the [SSA] formulae rely heavily on the statistical technique of regression analysis against expenditure at the level of an individual local authority. This has the effect of replicating past patterns of spend, rather than looking at the spending pressures which authorities face today. This issue is a particularly important one. It is worth spelling out the arguments here more fully, because they underlie many of the criticisms of the fairness of the SSA system.

3.22 ...[T]here are factors beyond the control of any individual authority, such as regional variations in pay levels, the fact that services such as refuse collection cost more to provide in sparsely populated areas, or the fact the people in deprived areas of the country need more help from a variety of local authority services. SSA seeks to identify this ... group of factors. It assumes that, if there is a strong correlation between the amount that different local authorities spend on a service and a given variable, this suggests that the variable has a real impact on the cost of providing the service.... Unfortunately, this assumption is highly suspect. In 1991, there were many inner city authorities whose high spending levels were attributable to conscious political choice, rather than to the high cost of providing services, and there were a few such authorities with very low levels of efficiency. When regression analysis finds a correlation between (say) population density and the level of spend on a service, it is picking up these factors....

3.24 The Government concludes that:

- There is no reason why we should not continue to use formulae to distribute the great majority of general grant between authorities.
- We need to amend the formulae to make them fairer and more intelligible.
- We also need to recognise that formulae have their limitations....
- We cannot rely on formulae alone. They must be supplemented by other mechanisms.

(DTLR 2001, part II paras 3.21-3.24)

Something has to be done, the DTLR admits, as it concedes all the points made by the academic critics of SSA. But what?

4. *What a benevolent dictator might do*

In the final section of this paper, we attempt an analysis and some prescriptions for a benevolent dictator, or a disinterested finance minister. The political pressures must first be understood. There are multiple veto points over any reallocation of spending. The Barnett territories face their next quadrennial election in 2003, and London in 2004. A UK General Election is due in 2005 or 2006. In 2003-4, it is predictable that all parties other than Labour will blame the UK government for starving their territory of money. In Wales that complaint will be justified. Labour will deny that it has starved them of money. But the Barnett Squeeze is real, so it will find that denial difficult. Meanwhile it will find it difficult to address any apparent overspend on 'devolved'

services in London, especially as (independently of anything discussed in this paper) a long, bruising battle between the UK Government and the Livingstone administration of London over the capital funding and control of London Underground will still be going on.

Meanwhile, the English regions that do poorly out of the SSA system are becoming vocal for the first time since 1977. Urged on by the Government's apparent commitment to regionalism in England, the regions have each formed a Campaign for the (North East/North West/Yorkshire/West Midlands etc), typically headed by a local bishop. Each complains about its region's share of public spending. The painful juxtaposition of Alnwick and Duns is difficult to ignore.

Therefore we begin with the following analytic device. All politicians except one are assumed to be Downsian maximisers of their probability of re-election. A UK incumbent politician should maximise the probability that her party wins the next election by concentrating resources on the median voter in the median seat. The median seat is one of those that would change hands between the incumbent party and its main challenger at a General Election which the incumbents lose. A local politician, analogously, should maximise the resources going to the median voter in the median district (ward) of her territory. If she is from a party other than the one that controls the UK government, she will blame the UK government for failing to guarantee this distribution.

However, there is one politician with the purely disinterested objectives of increasing both the economic efficiency (and hence GDP per head) and the distributional equity of public spending in the UK. Often these objectives conflict, but in the policy domain of this paper they need not. The current arrangements are bad for both efficiency and equity. Call this politician a benevolent dictator, a Rousseauvian Legislator, or a disinterested finance minister (DFM for short). The following section contains analysis and advice for DFM.

4.1 A memorandum to DFM on why and how to replace the Barnett Formula and SSA.

1. ***Why replace the Barnett mechanism?*** Because it has come under fierce criticism for two opposite reasons. In England it is widely perceived, in Joel Barnett's frequently repeated words, as 'terribly unfair' especially because of the relativities between the poorer English regions on one hand, and Scotland (and sometimes London) on the other. In the territories especially Scotland it is perceived as a 'Barnett squeeze' which will, at least in the long run, cut the allocation of spending to the territories to a point below their needs - in Wales it may already have done so. Also, a formula that makes ***D*** (*identifiable spending on the territories*) essentially a function of ***D*** (*identifiable spending on England*) seems incompatible with devolution, properly understood.
2. ***Why not just allow these arguments to cancel out?*** They won't. Both of the main arguments will become more strident. Inter-region discrepancies will be more widely noticed even if convergence makes them less extreme. Meanwhile the accelerating convergence accentuates the 'Barnett squeeze' argument, and may force a territory's spending allocations down too far.
3. ***Why replace SSA?*** Because the Secretary of State for Local Government and the Regions conceded in December 2001 that the academic critics of SSA were right all along, and announced that SSA is to be scrapped.
4. ***Why act now?*** When, as now, public expenditure is going up sharply, no region need suffer an absolute loss from one year to another after a revision of the formula. As redistributive

politics are zero-sum, there are bound to be agonized squeals from the losers (whoever they are) at any other time. You will have to have a replacement for SSA before the next Spending Review; and you must say something about these issues in the forthcoming White Paper on regionalism in England. The suggested replacement of the Barnett and SSA mechanisms would:

- be more transparent;
 - give better accountability of politicians to those who elect them;
 - increase fiscal responsibility;
 - clarify the constitutional relationship between the UK Government and the devolved administrations;
 - improve the performance of the UK economy by removing perverse incentives to be 'needy' and substitute incentives, or at least help, for a territory to become less needy.
5. In the following proposals, the whole of England could be one unit. Or each Government Office Region of England could be one unit. Each unit must be represented in negotiations by a minister (or functional equivalent) - from the government of England (as distinct from the UK) or the Assembly of each region as the case may be.
 6. Two models are suggested below. In Model A, there is a new Territorial Grants Commission, an NDPB staffed by public servants who could be secondees from HM Treasury, the Office for National Statistics, DTLR, or the territorial administrations. The Commissioners would be appointed after consultation among the finance ministers of the UK and all the territories, but would not be territorial representatives. Its constitutional status would be the same as that of the Electoral Commission, and for the same reason: that its operations and recommendations must be insulated from partisan political interference. This commission would make an annual report on territorial 'equalisation' and 'needs' (these terms are defined at paragraph 9) to a joint ministerial council of the UK and territorial governments.
 7. In Model B, there is either no commission at all, or a slim commission that determines an equalisation formula but not a needs formula. The model for the equalisation formula would be that operated in Canada by the PCO and Finance Canada. 'Needs' would be directly negotiated at the joint ministerial meeting.
 8. **Both models would share two essential, and complementary, features:**
 - **any decision by the joint ministerial council must be unanimous, with each territory having one vote;**
 - **in the event of failure to produce a unanimous decision, incremental grants for the next time period would be allocated by predetermined multiplier. We propose that this default multiplier be $1/\text{relGDP}_i$, where relGDP_i denotes (territory i GDP/head)/(UK GDP/head). The mean amount available per head for equalisation would be multiplied, for each region, by $1/\text{relGDP}_i$. This formula is called 'inverse GDP' below.**
 9. Model A is based on the widely admired (and copied) Commonwealth Grants Commission of Australia. Many academic commentators (e.g., Heald 2001, McLean 2000) have commended the CGC model. The UK Commission would apply an 'equalisation' formula, modified for 'needs', using an algorithm similar to the CGC's. 'Equalisation' means 'placing each territory in a position to offer the same mean level of provision of each service, should it choose to do so'. 'Needs' means 'factors that raise the cost of delivering a service and that are beyond the

capacity of governments to alter'. Cold weather, mountainous or indented terrain, and high private-sector wages are examples of 'needs'. Health status (and *a fortiori* current health spending), congestion, and housing costs would not count as 'needs', because

- governments can, and should try to, ameliorate them;
 - factors such as congestion and housing costs will already be embodied in private-sector wages, so it would be double-counting to include them.
10. An objection to Model A is that needs are not merely contested, but what philosophers call 'essentially contested', so that no agreement on what constitutes a need is possible. The history of HM Treasury's 1979 Needs Assessment lends credence to this objection.
 11. In Model B, all the work of the 'needs' component of Model A would fall to the joint ministerial council, and, if they fail to agree, would default on to inverse GDP. Inverse GDP is not a bad surrogate for (an incentive-compatible definition of) needs.
 12. An alternative default that has been suggested is social security spending/head (cf Bell and Christie 2001, p. 142). We prefer inverse GDP because:
 - using an indicator that itself derives from a government programme (albeit a non-devolved one) risks circularity, with elements of the same programme appearing on both sides of the regression equation.
 - GDP/head is not the direct result of government policy, although it is highly correlated with things that governments must try to improve, such as human capital and health status.
 - GDP/head is measured by an independent non-partisan agency (ONS), not by any party to the proposed negotiations.
 - There would not, as now, be perverse incentives to become and remain 'needy'. A good example of the current perverse incentives lies in the 2000 row about Objective One status in Wales. Wales gained from being 'needy', and it will lose (at a marginal tax rate of at least 100%) if and when West Wales and the Valleys cease to be 'needy'. By contrast, if a territory's government improves its GDP/head, then income/head must rise by more than grant/head would fall on an inverse GDP formula, as government spending is less than 100% of GDP. Therefore the marginal tax rate on success would always be less than 100%.
 13. Our recommendation of a unanimity rule combined with an inverse GDP default derives from game theory and a study of UK political history.
 14. In (re)distributive politics, actors with a credible threat do better than those without. In normal times, the territories which pose a credible threat to the Union, or the interests of the governing party, are (in descending order) Northern Ireland, then Scotland, then London, then Wales. No other English region normally poses a credible threat. (February 1977, when a North-east lobby defeated the Scotland and Wales Bill, is an exception). Not coincidentally, the four regions with a credible threat are the four regions with devolved government, which in turn increases their threat potential.
 15. A unanimity rule gives each territory an equally credible threat, and is therefore the only fair rule.
 16. However, a unanimity rule on its own gives each and every territory a veto over change. Any territory that stands to lose from a change from the status quo would veto it.

17. Therefore there must be a default option, and it must be common knowledge among the players before the game starts what the default option is. If there is a Pareto-superior allocation to inverse GDP, rational bargainers will find it. If not, inverse GDP satisfies rough justice and is cheap to calculate.

4.2 The analytic properties of inverse GDP

Table 6 develops Table 1 by showing how much the UK government would have distributed per head for devolved services in each region of the UK if it had used the inverse GDP formula just suggested⁷ rather than the combination of Barnett and SSA that was actually used.

Table 6. Public spending under an inverse GDP formula (12 regions/territories).

Region	Actual Pub exp/head (A)	Index pub exp/head	GDP/head	Index GDP/head	InvGDP pub exp/head (B)	Residual (column A – column B)
South-east	2281	84	15100	116	2349	-68
East	2386	87	15100	116	2349	37
Greater London	3367	123	16900	130	2099	1268
South West	2395	88	11800	91	3007	-612
West Midlands	2504	92	11900	92	2981	-477
East Midlands	2403	88	12100	93	2932	-529
Yorkshire and Humberside	2481	91	11400	88	3112	-631
North West	2701	99	11300	87	3140	-439
North East	2783	102	10000	77	3548	-765
Wales	3069	112	10400	80	3411	-342
Scotland	3406	125	12500	96	2838	568
NI	3870	142	10100	78	3513	357
UK	2729	100	13000	100	2729	0

Source: HM Treasury, *Public Spending Statistical Analysis 2001*, derived from Tables 8.6b and 8.12. Office for National Statistics, *Regional GDP 1999*, summary table.

The rightmost column of Table 6 shows the residuals for each region: that is, the difference between actual public spending per head and the public spending per head that an inverse GDP formula would have delivered. These range from +£1268 for London to -£765 for the North East Region. In other words, London received £1268 per head more, and the North East Region £765 per head less, than they would have received under an inverse GDP scheme.

Some of these differences may be for good reasons - such as, perhaps, that it costs more (even with efficient local authorities) to provide a given level of service in London than in the North. Others may be for bad reasons - such as, perhaps, that London contains more marginal seats, or presents a more credible threat to the Union, than the North, or that the SSA has given too much weight to inefficient high-spending authorities or to former Conservative flagship authorities, or both. To distinguish as best we can between the good and the bad reasons for the variation between the '1/GDP' and the actual spending per head, we plan to perform some analyses with this vector of residuals as the dependent variable. At present such analysis is complicated by a change in the government definition of the English regions which occurred in the mid-1990s; and which prevents the construction of a consistent time-series of regional government expenditure. The next edition of the *Public Expenditure: Statistical Analysis* (PESA), due in early 2002, will include tables of regional expenditure going back to the late 1980s based on the current regional classification. This data will enable a more detailed study of the patterns of regional expenditure.

The issue of the different cost of goods and services across regions can be addressed by adjusting the measure of GDP with a price deflator. The Office for National Statistics has produced figures showing significant regional price differentials; with London and the South East facing the highest costs, and Wales and the North East the lowest (Baran and O'Donoghue, 2002). Using these estimates to adjust the figures in Table 6 allows a simulation of regional government expenditure at purchasing-power parity (PPP). Table 7 and Figure 4 compare the unadjusted and adjusted figures. The analysis suggests that the positive residual associated with government expenditure in London is reduced from £1,268 to £1,125 per head when the regional price level is incorporated in the analysis, and the negative residual for the North East changes from -£765 to an adjusted figure of -£598. The relatively low level of prices in Scotland and Northern Ireland mean that the estimated residual of spending over inverse-GDP projection is even larger when a price adjustment is included in the simulation.

Table 7. Public spending under an inverse GDP formula, adjusted for regional price differentials (12 regions/territories).

Region	Price index compared to UK average ^a	GDP/head at PPP	Index GDP/head	Index GDP/head at PPP	InvGDP pub exp/head	InvGDP pub exp/head at PPP	Unadjusted Residual (from Table 6)	Residual at PPP
South-east	3.1	14732	116	113	2349	2408	-68	-127
East	1.5	14877	116	114	2349	2385	37	1
Greater London	6.8	15824	130	122	2099	2242	1268	1125
South West	-0.7	11883	91	91	3007	2985	-612	-590
West Midlands	-1.2	12045	92	93	2981	2945	-477	-441
East Midlands	-1.7	12309	93	95	2932	2882	-529	-479
Yorkshire and Humberside	-3.4	11801	88	91	3112	3006	-631	-525
North West	-2.2	11554	87	89	3140	3070	-439	-369
North East	-4.7	10493	77	81	3548	3381	-765	-598
Wales	-3.8	10811	80	83	3411	3282	-342	-213
Scotland	-0.9	12614	96	97	2838	2813	568	593
Northern Ireland	-0.2	10120	78	78	3513	3506	357	364
UK		13000	100	100	2729	2729	0	0

^a Data for all units except Northern Ireland are inclusive of housing rents. For NI, relative housing rents are not available, so data are presented exclusive of housing rents. The effect of this is probably to exaggerate the positive residual for NI.

Source: HM Treasury, *Public Spending Statistical Analysis 2001*, derived from Tables 8.6b and 8.12. Office for National Statistics, *Regional GDP 1999*, summary table. Price figures from Baran and O'Donoghue 2002: Table 2.

[Figure 4 about here]

4.3 Inverse GDP versus regression formulae.

The only way to meet Lord Barnett's complaint that the present arrangements are 'terribly unfair' is to use the same formulae to distribute grant to both the devolved and the non-devolved territories of the UK. If grant to the English regions, which at present have no elected governments, is set by formula, then those parts of it that go to local authorities should be determined after the regional total has been set. Grant to the devolved territories will, of course, continue to be assigned without strings.

There is no easy alternative to a regression-based formula. The preceding analysis shows what traps Son of SSA must avoid. Above all, it must not use the units to which grant is distributed as the units from which data as to need are collected. That way lie circularity, inefficiency, and ecological fallacy. If the data are collected either at a level below or at a level above that of the local authority, at least the worst problems will be avoided.

However, if it is to be used for the devolved authorities, a regression-based formula cannot simply be imposed. The specification of the formula would be up to the territorial grants board. But it has to be agreed, and as argued above, it ought to be agreed unanimously, by a joint ministerial council of all the governments affected. A government of England, or governments of the devolved regions of England, must exist for this purpose. In the scheme just suggested, 'inverse GDP' is a default to which the increment in grant will revert for the next period if the joint ministerial council fails to agree either the formula or the outcomes of the formula by the due date.

Like Barnett, inverse GDP would operate on increments of grant, not total grant, and for the same reason. There are perhaps 120 years of rent-seeking built into the present allocations. To move direct to inverse GDP would cause unacceptable disruption. An incremental, convergent, formula would avoid this. There is nothing wrong with convergence, so long as it is convergence on the right thing. Barnett converges on the wrong thing, namely population ratios. If Barnett is allowed to run until full convergence is achieved, then public expenditure per head will be too low in all three Barnett territories. A formula which converges on need, where need is defined in a politician-proof way, is superior in both equity and efficiency.

The local government white paper (Cm 5237) lays great stress on efficiency measures, and on giving local authorities incentives to become 'best value councils'. These are praiseworthy, but efficiency criteria can operate only at the margin. They cannot distribute core grant because inefficient councils are likely to be in poor areas. The formula for core grant must be an equity formula that is consistent with efficiency. It cannot be a pure efficiency formula. Also, given devolution, neither the UK Government nor the joint ministerial council can apply efficiency conditions to the devolved territories. These matters are for their governments and parliaments alone.

4.4 How DFM might persuade her colleagues to adopt the scheme.

The arrangements just proposed involve persuading politicians to give up power. Ministers and their advisers would no longer have the power to set grant allocation formulae for either health or local government, nor for deciding when to observe and when to bypass Barnett. Persuading politicians to give up power is difficult. But they have three material interests in putting formulae beyond manipulation. Here is what DFM might say to her colleagues.

1. Removing a formula from political manipulation prevents a future government from manipulating it against you. The evidence that SSA was coloured by the Conservative governments' 1990 priorities for years afterwards might suggest to Labour politicians that it is a dangerous power.
2. and more profoundly, it prevents people from blaming you. Compare the voluntary surrender of levers of macroeconomic policy by Margaret Thatcher (who gave up the traditional macro levers of economic management) and Gordon Brown (who gave the central bank the sole right to fix interest rates, see McLean 2001b, chapter 8).

3. yet more profoundly, a government is more credible the less it has power to manipulate levers for partisan advantage. North and Weingast's (1989) already classic paper argues that 18th century Britain was a stronger state than 18th century France. Britain, where there were multiple veto points over the executive, could give credible commitments not to renege on debt to the international money market. France, where *l'état c'était Louis XIV*, could not give credible commitments. Britain never reneged on its sovereign debt; France did so several times. Therefore, 'weak' Britain could raise money to equip armies and navies more cheaply than could 'strong' France - and hence won more wars. The weak state was strong and the strong state was weak. Although nobody has plans for war between the UK and its devolved territories, the logic of North and Weingast is sound.

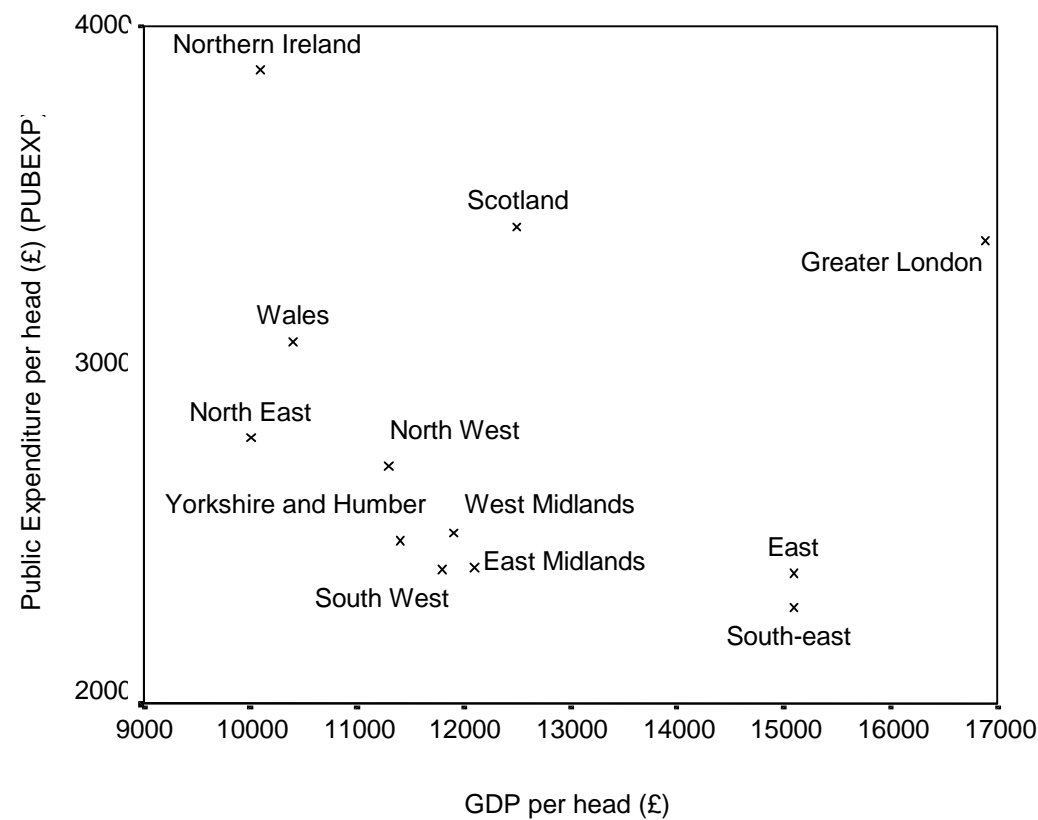
One principled politician might even convince a cabinet of Downsians.

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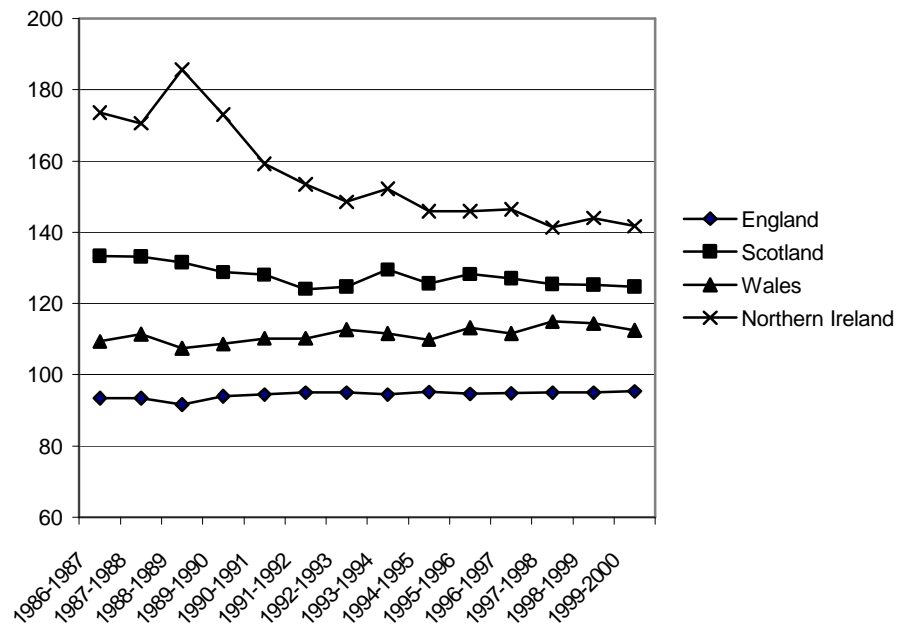
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Figure 1 Scatter-plot of per capita Public Expenditure and GDP, for UK regions and territories

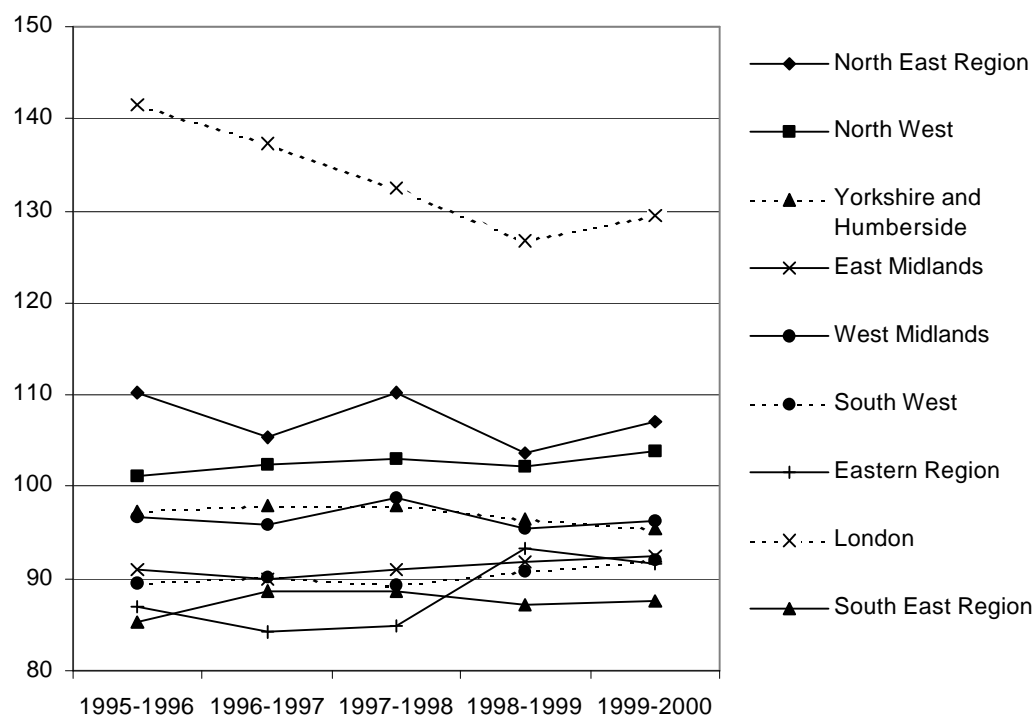


**Figure 2: Spending on devolved services in England, Scotland, Wales and Northern Ireland
1986–2000 (UK spending = 100)**



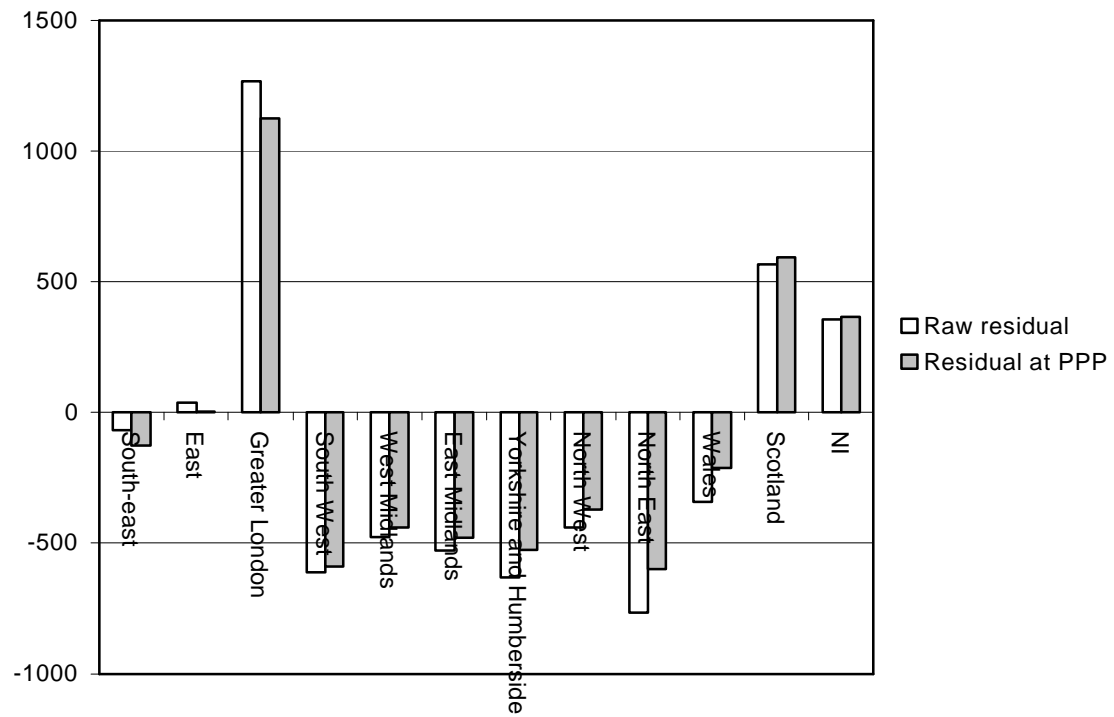
Source: PESA various years

Figure 3: Spending on devolved services in the English regions 1995–2000 (identifiable English spending = 100)



Source: PESA, various years.

Figure 4: Raw and PPP-adjusted residuals: actual regional government expenditure per head minus simulated expenditure under inverse GDP formula, £



Notes

¹ Reference by kind courtesy of Professor James Mitchell

² Roughly speaking, a service administered by the Scottish, Welsh or Northern Ireland Offices, 1979-99; a service provided by the Scottish Parliament, the National Assembly for Wales, or the Northern Ireland Assembly since 1999.

³ Because in the long run the successive increments come to dominate the original assignment. For the mathematics, see David Bell's paper posted on the Web at

<http://www.stir.ac.uk/Departments/Management/Economics/staff/dnfb1/Barnett%20Formula.pdf>

⁴ Its main incarnations have been Department of the Environment (1970s and early 1990s); Department of the Environment, Transport and the Regions (1997-2001), and Department of Transport, Local Government, and the Regions (since 2001). For transfers of functions 1964-92 see I. McLean, C. Clifford, and A. McMillan, *The Organisation of Central Government Departments: a history 1964-1992*, web version at <http://www.nuff.ox.ac.uk/politics/whitehall/>.

⁵ The following PESA headings, which are largely spent directly by the regional arms of the UK Government, are not discussed in detail below: *Trade, industry, energy, and employment*, and *Culture, media and sport*. Between them they amount for only 7.5% of spending per head on 'devolved' services.

⁶ The London boroughs of Westminster and Wandsworth; the counties of Kent and Lincolnshire; and the metropolitan districts of Solihull and Trafford.

⁷ The inverse GDP formulae in Tables 6 and 7 are calculated as follows.

Let:

E = Identifiable total managed expenditure per head on 'devolved' services

G = UK GDP per head

e_i = managed expenditure per head on 'devolved' services, 1999-2000, region i

\hat{e}_i = managed expenditure per head on 'devolved' services, 1999-2000, region i , applying inverse GDP multiplier

g_i = GDP per head, region i

Multiplier equation for all i : $\hat{e}_i = \frac{EG}{g_i}$

Residuals for all i = $e_i - \hat{e}_i$