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The Relationship Between
Central Government Grants
And
Council Tax Bills

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1. INTRODUCTION

The “headline” rate of Band D Council Tax varies quite widely from one Local Authority to another. For example, in the financial year 2007/08, the highest Band D Council Tax is £1,565.86p, (in Sedgefield), while the lowest is £681.13p, (in Wandsworth). Part of the purpose of this paper is to attempt to answer the question of what actually causes this variation. Is it the relative extravagance or frugality of different Local Authorities - or is it related more to under / over funding as a result of “inappropriate” Central Government grants?

The amount that any Local Authority has to raise through Council Tax is nothing more than the difference between what it plans to spend and the amount that it receives from Central Government by way of grants. An apparently extravagant Local Authority might therefore be one that is simply under-funded. Equally an apparently frugal Local Authority might be one that receives an unduly generous Central Government grant.

The present Government is on record as stating that it is Local Authorities, and not Central Government, that determine the rates of Council Tax. Their justification for this claim is that the grants from Central Government to Local Authorities are calculated in such a way as to ensure that if every Local Authority were to spend more or less what Central Government thinks that they “ought” to spend, then, to a first approximation, the rates of Council Tax for any particular property Band would be more or less uniform across the country. This is because, in principle, Central Government Grants to Local Authorities are simply the difference between what the government thinks that any Local Authority “ought” to spend and what it thinks it “should” collect by way of Council Tax - and the latter is largely determined by how much tax would be collected in each Local Authority by a uniform Band D rate. Indeed , in their submission to the Lyons Inquiry, Leicester City Council stated that:

“ . . . if all local authorities spent at the level of their FSS, the Band D council tax would be the same throughout the country.”

In this context the FSS, (or Formula Spending Share), was simply the way that, in the fiscal year 2005/2006, Central Government determined what it thought each Local Authority “ought” to spend, (and on which particular “Spending Blocks”). For the fiscal year 2007/08, the FSS has been replaced by the RNF, (or Relative Needs Formula), which is much the same thing - but under a different name and expressed somewhat differently as well.

However, as we have seen, Band D rates of Council Tax are **not** uniform across the country. We have already quoted the examples of Sedgefield and Wandsworth. Since, as we shall see, London might be considered to be a special case, it is perhaps more appropriate to exclude London from our analyses. Outside London, the minimum rate for Band D is £1,027.57, (in the Isles of Scilly), or, if we confine ourselves to the mainland, £1,145.13p, (in Dudley). This means that the highest Band D rate for mainland England outside London is still 36.74% more than the lowest. The interesting question is why, if the government tries to equalise Council Tax rates, there should be such a wide spread of values. Doubtless Central Government and the Local Governments for those Authorities that have below average rates of Council Tax will tend to agree that this is down to the relative frugality of the Local Authorities concerned. On the other hand, the higher tax Local Authorities will tend to argue that they are “under-funded”, whereas Central Government would tend to accuse them of extravagance. Who is “right”?

As I have already mentioned, it is the purpose of this paper to provide some sort of answer to this, as well as to some other related questions.

The key point in the analysis which follows is the recognition that any “errors” in the Central Government assessment of Local Authority spending “needs” is likely to be of a **systemic** nature - which will therefore display some sort of **pattern** in the groups of Authorities which appear to be frugal and those that appear to be extravagant. On the other hand, any genuine relative extravagance or frugality is likely to be more random and display virtually no particular pattern whatsoever.

Of course, the failure to find any pattern of under or over spending by groups of Local Authorities does not necessarily exonerate Central Government from the charge of making errors in its assessment of spending needs - for example, I might simply not be clever enough to detect a pattern that actually **does** exist! On the other hand, if one does find such a pattern, this does indeed provide *prima facie* evidence that Central Government has been guilty of some sort of systemic error.

There are two broad approaches that we could use when assessing whether or not particular Local Authorities are spending more or less than what Central Government believes that they “should” spend.

- We could examine how far the rate of Council Tax in a particular Band, (Band D being the obvious choice), differs in each Local Authority from the average rate for all Local Authorities.
- We could examine how far the total spending by each Local Authority differs from the spending “needs” as assessed by either the FSS or the RNF.

If the two measures of relative extravagance / frugality are well correlated, then this would provide important evidence for Leicester City Council’s contention quoted above. If they are not well correlated, then the situation is obviously more complex than they claim.

2. UNIFORM COUNCIL TAX RATES AND COUNCIL SPENDING

It is a comparatively simple matter to determine what uniform rate of the “headline” Band D Council Tax for two adults would yield exactly the same grand total amount over the country as a whole as the varying rates of Council Tax do at present. The amount yielded by Council Tax in any Billing Authority’s area is simply the product of the average Council Tax per dwelling in the area, (data on which is available from government sources), and the number of dwellings in the area, (information on which is also available from government sources).

This also means that we can calculate a “Yield Factor” for each Billing Authority area which, when multiplied by the headline Band D rate, will tell us how much Council Tax will yield in total for that Authority. (The “Yield Factor” is the ratio between the average Council Tax per dwelling and the headline overall Band D rate multiplied by the number of houses in the area.) We can then use this “Yield Factor” to work out what the uniform overall Band D rate would have to be in every Authority in order that the total Council Tax yield taken over all Authorities should come to the same as it currently is.

For the fiscal year 2005/2006, this uniform Band D rate over all Authorities outside London would be £1,223.89p. For the fiscal year 2007/2008, the figure is £1,333.54p.

If we now examine how many Authorities of each type and in each geographical region have a higher overall Band D Council Tax than the standard / average and how many a lower one, we arrive at a rather interesting pattern. For the financial year 2007/08 we find that only 8 of the 34 Shire Counties have a Band D tax rate lower than average, whereas the remaining 26 have a Band D rate higher than the average of £1,333.54p which we have just quoted. The probability that only 8 or fewer Shire Counties would have a lower than standard Council Tax purely by chance is approximately 1 in 681 - i.e. highly improbable! We also find that only 16 of the 47 Unitary Authorities have a higher than standard Band D Council Tax. The probability of only 16 or fewer Unitary Authorities having a higher than standard tax is about 1 in 50. Similarly we find that only 13 out of the 36 Metropolitan Authorities have a higher than standard Band D Council Tax rate. The probability that 13 or fewer such Authorities would indeed have a higher than standard rate is about 1 in 15. All this is fairly strong *prima facie* evidence that Central Government’s assessments of Local Authority spending needs are indeed subject to some sort of systemic error.

If we repeat the exercise for the financial year 2005/06 we find somewhat similar results. For this year, 10 out of the 34 Shire Counties have lower than standard Band D Council Tax rates, (with a probability of this occurring by chance of about 1 in 82; 18 out of the 47 Unitary Authorities have a higher than standard rate of Council Tax, (with a probability of this occurring by chance of about 1 in 14); and 14 out of the 36 Metropolitan Authorities have a higher Council Tax than standard, (with a probability of this occurring by chance of about 1 in 8).

However, one does need to be a little cautious in interpreting these results. The probability calculations given above are strictly only accurate if each Authority’s overall Council Tax level is completely independent of any other Authority’s overall Council Tax level. This is not quite true. For example, although there are 36 Metropolitan Authorities, these Authorities are served by only 6 different fire and 6 different police services. What we really need to do is to split out any under or over taxing by these common service Authorities before making such calculations. Fortunately, this is quite easy to do.

Since the Band D Council Tax precept is quoted for all the non Billing Authorities, (such as the Police, some of the Fire Services, County Councils and so on), we can use the “Yield Factor” to work out how much each of these non billing Authorities collects in total via Council Tax. This enables us to break down the gross figures for our proposed uniform Band D Council Tax to the rates that should apply to all the non billing Authorities as well.

For the fiscal year 2005/06 the numbers are as shown below, (figure 1).

Uniform Band D Council Tax for the fiscal year 2005/06	
For the Police	£120.24p
For each Fire Service	£52.85p
For each Shire District	£166.83p
For each Shire County without fire	£883.97p
For each Shire County with fire	£936.82p
For each Unitary or Metropolitan Council (without fire)	£1,050.81p
For the two Unitaries with fire, (Isle of Wight and the Scilly Isles)	£1,103.65p

Fig.1

It will be observed that the difference between Shire Counties without their own fire services, (e.g. Durham), and those with, (e.g. Gloucestershire), is £52.85p - which is precisely equal to the uniform Band D rate calculated for the fire services themselves. This is also the same as the difference between the rates for the two Unitary Authorities with their own fire services, (the Isle of Wight and the Scilly Isles), and those without. Similarly if we add the rate for the Shire District Councils to the rate for the County Councils without fire, we get exactly the same figure as we had for the Unitary and Metropolitan Councils without fire. What this means is that the rate is uniform for the discharge of similar service responsibilities.

For the fiscal year 2007/08, the numbers are as shown below in figure 2

Uniform Band D Council Tax for the fiscal year 2007/08	
For the Police	£133.22p
For each Fire Service	£57.47p
For each Shire District	£180.04p
For each Shire County without fire	£962.82p
For each Shire County with fire	£1,020.29p
For each Unitary or Metropolitan Council (without fire)	£1,142.86p
For the two Unitaries with fire, (Isle of Wight and the Scilly Isles)	£1,200.32p

Fig. 2

Once again, these figures mean that there would be the same headline Band D rate for the discharge of similar service responsibilities.

If we strip out the Council Tax precepts levied by the common Fire and Police Services, from the total Council Tax actually paid by households in each Billing Authority, we find that, for the financial year 2007/08, 23 out of the 34 Shire Counties are paying a higher Council Tax than average, (probability about 1 in 35), 34 out of the 47 Unitary Authorities are charging less than the standard rate of Council Tax, (probability about 1 in 648), whereas in the case of the Metropolitan Authorities there are equal numbers charging above and below the standard rate.

In the case of the financial year 2005/06, the numbers resulting from stripping out the Fire and Police Service precepts are: for the Shire Counties, 20 out of 34 are charging a higher Council Tax than average, (probability about 1 in 5); for the Unitary Authorities, 32 out of 47 are charging a lower than standard Council Tax rate, (probability about 1 in 107); for the Metropolitan Authorities, 19 out of 36 are charging a lower than standard rate, (probability just below evens).

All this would suggest very strongly that the spending “needs” of the Shire areas do indeed tend to be under-assessed whereas the spending “needs” of the Unitary Authorities tend to be over-estimated by Central Government. The spending “needs” of the Metropolitan areas could be about right with the apparent over-estimation being down to overestimating the spending “needs” of the Police and Fire Services which serve them. Indeed all 6 of the Police Authorities serving the Metropolitan areas charge less than the standard Band D Council Tax for both the financial years 2005/06 and 2007/08. (There is a probability 1 in 64 of this occurring purely by chance.)

In fact, if we rank the 37 Police Authorities in order of increasing Band D Council Tax for 2007/08, those serving the Metropolitan Authorities occupy places 1, 2, 4, 6, 7 and 13. (The rankings for 2005/06 are 1, 2, 6, 7, 9 and 14). If we perform a similar exercise with the 30 Fire Authorities, we get a similar pattern - albeit one that is not quite so marked. The Metropolitan Fire Authorities occupy places 1, 3, 4, 10, 16 and 25 in the table. (The rankings for 2005/06 are 1, 3, 4, 10, 16 and 26.)

The fire service is particularly interesting since it could provide one of the few counter examples to our thesis that any pattern of over or under taxing is likely to be due to systemic errors in Central Government grants. The point is that some Local Authorities run their own fire service, (which is therefore under **direct** democratic control), whereas others share their fire services with other Authorities, (meaning that any democratic control is **indirect**). It is obviously easier for a Local Authority that is not directly elected to “get away with” higher levels of Council Tax than one that is. Indeed, the Audit Commission commented, (in their report into Council Tax rises for the year 2003/04), to the effect that:

“We found that increases tend to be higher in authorities that are not directly elected – 13 of the 20 highest increases were agreed by police authorities”.

There is some evidence that this lack of direct democratic accountability might be influencing spending on fire services. In the financial year 2007/08, the average Band D Council Tax for the 13 Shire Counties which run their own fire service was £1,022.22p, whereas the average Band D for the 21 that do not was £993.76p. - which is only £28.45p. less. However, the average band D Council Tax precept for the 20 Fire Services which are not directly elected and which serve Shire counties in addition to other Local Authorities is £60.54p.

Similar results are found for the financial year 2005-06. The difference in average Band D Council Tax for those Shire Counties that run their own fire service and those that do not is only £23.90p, whereas the average Band D precept for the non directly elected fire services is £52.85p.

Once one strips out the effect of the different percentages of people in Unitary, Metropolitan and Shire areas within each Region, there are no obvious regional patterns of Central Government systemic “errors”.

These results assume of course that departure from the standard, uniform Band D rate of Council Tax is indeed a good measure of whether or not a Local Authority is spending more or less than Central Government thinks that it “ought” to spend.

As I remarked in the Introduction, the most direct measure of what Central Government believes that Local Authorities “should” spend is provided by the FSS.

3. FSS AND COUNCIL SPENDING

Since there are no FSS figures for 2007/08, this analysis is confined to the financial year 2005/06.

We come across an immediate problem when examining the FSS data for 2005/06, (as provided by Central Government), in that the total of Central Government grants to every single Police Authority exceeds their FSS. This means that either the Government provided data is “wrong” or that the FSS is not exactly what the Government thinks that Police Authorities “should” spend - if they did spend this amount they would be charging negative rates of Council Tax!

However, it seems most likely that the amount that Central Government thinks that each Police Authority “should” spend is indeed related to their quoted FSS. This is because there is an excellent correlation between each Police Authority’s spending per head and their FSS per head, (correlation coefficient = +0.9125, or if we weight Authorities by their populations, as we should, then it becomes +0.9358).

We find a similar relationship between FSS per head and spending per head for the other main expenditure headings. The unweighted correlation coefficient for the Fire Services is +0.8762 and the population weighted one is +0.8617. The correlation between FSS per head and spend per head for the directly elected Authorities, (including fire where this is not separated out), is much better, (the population weighted correlation coefficient is +0.9757). Indeed, apart from the Police Authorities, the spending and FSS differ in total by only a few per cent.

***Note:** Spending is treated as the sum of Central Government grants and the appropriate yield from Council Tax for the Authority concerned. This ignores changes to reserves - but these are small for most Authorities*

If we wish to use the published FSS figures to determine how much Central Government thinks that each Local Authority “ought” to spend - and thereby identify which Authorities are unusually frugal or unusually extravagant - then we need to ensure that the overall FSS totals and overall spending totals of all Local Authorities taken together are identical.

There are a number of ways in which we might do this. The simplest would be to multiply each published FSS figure by whatever **common** factor, (common to all Local Authorities, that is), is necessary to ensure that the grand total of each is the same. Another way would be to use a regression model for the same purpose, (I have examined two), and so on. However, having tried several different approaches, I find that the essential **pattern** of the results that I get is much the same. I have therefore decided to restrict my comments in this report to those results obtained by the simplest method - i.e. the proportional method involving a common multiplying factor.

When we come to examine which Authorities appear to overspend, (or be under-funded), by looking at those whose actual spending is greater than the FSS multiplied by the same common factor for all Authorities, we once again find an interesting pattern.

Just as we found when we assessed over or under spending by departures from a uniform headline Band D rate, we also find that Shire Counties / Districts tend to overspend when their actual spending is compared with their FSS. In fact, we find that 28 out of the 34 Shire Counties are over-spenders in total. The probability that 6 or fewer Shire Counties would under-spend purely by chance is about 1 in 10,250. We also find that only 2 out of the 36 Metropolitan Authorities overspend, (a probability of about one in a hundred and three million of 2 or fewer achieving this by chance), and that 16 of the 47 Unitary Authorities under-spend as well, (a probability of about 1 in 50). Once again we also find that Police Authority spending makes a substantial contribution to these disparities. If we strip out the police over and under spending, the figures become: 26 out of 34 Shire Counties overspending, (probability ~1 in 681); 13 out of 47 Unitary Authorities over-spending, (probability ~ 1 in 648); 9 out of 36 Metropolitan Authorities over-spending, (probability ~ 1 in 509). This is all very similar to what we found from our uniform Band D analysis.

However, in contrast to what we found from the uniform Band D method, we also find a possible pattern of regional imbalances using the FSS based method - although this pattern is less pronounced than for the differences between the **types** of Local Authority. Overall, the pattern of over (+) or under (-) spending in terms of millions of pounds is as shown below in figure 3.

	Shires	Units	Mets	Region
North East	26.67	-18.89	-18.84	-11.07
North West	35.87	-23.03	-112.5	-99.66
Yorks & Humber	14.29	-15.16	-156.6	-157.4
East Midlands	25.58	-17.32		8.266
West Midlands	14.59	-12.54	-154.7	-152.6
Eastern	147.76	-33.98		113.78
South East	204.24	-8.06		196.19
South West	103.43	-0.86		102.57
England	572.43	-129.8	-442.6	0.00

Fig.3

If we take these figures at face value, then it might appear that all those Regions containing Metropolitan Authorities tend to under spend whereas all those that do not tend to overspend. However, it could well be that it is the Metropolitan Authorities themselves that are the cause of the apparent regional imbalances. Is this the case?

The easiest way to answer this particular question is to examine each **type** of Authority in **isolation**. If we compare Shire Counties with other Shire Counties, Unitary Authorities with other Unitary Authorities and so on in such a way that the total FSS of each group is equal to the total spending of that group, (using the common multiplier method), then any apparent imbalances must be either regional or random effects. When we do this, we find that the apparent discrimination against the South East and the South West is probably real as is the apparent discrimination in favour of the West Midlands, the North West and the Yorkshire and Humber Regions. Regional effects account for some £82 m of the £196m imbalance for the South East and about £54m of the £103m imbalance for the South West. The Metropolitan Authority figures are too dominant to be absolutely sure of the **size** of the Regional effects in the North West, Yorkshire and the Humber, and the West Midlands Regions.

We can perform a similar analysis to determine the likely size of the effect due to the type of Local Authority concerned by conducting separate analyses **within** each of the eight Regions, (adjusting the grand total of the FSS in each region to be equal to the grand total of the actual spending using the common factor method). Such an analysis would indicate that around £363m of the apparent £572m overspend by Shire Counties is indeed due to the fact that they are Shire Counties, (rather than **where** they are), around £182m of the apparent £130m under-spend, (i.e. more than the total), is due to the fact that they are Unitary Authorities and around £181m of the apparent £443m under-spend of the Metropolitan Authorities might be down to Regional effects.

It is clear that both the FSS based method and the uniform Band D based method of assessing the overspending, (or under-funding), of Local Authorities yield much the same **pattern** of results suggestive of systemic Central Government “error”. However, do they show that the **same** Local Authorities are under or over spending?

Obviously given the extremely high percentage of Shire Counties that apparently over spend and the high percentage of Metropolitan and Unitary Authorities which appear to under-spend, there will inevitably be what appears to be a good agreement between the uniform Band D and the FSS methods in terms of which class, (i.e. extravagant or frugal), each individual Local Authority falls into. A much more stringent test of the equivalence of the two methods, (and hence of Leicester City Council’s contention quoted above), would be to compare the results of the two methods by comparing the results for Local Authorities of the same **type**. In other words we would work out separate uniform Band D rates and FSS multipliers for Shire Counties as a group, Unitary Authorities as another group and Metropolitan Authorities as a third group. We would then compare the three separate sets of results. It should be noted that in his method of comparison we ought to find approximately equal numbers of over spenders and under spenders in each of the three groups.

The results of such an exercise are striking. Within the Shire Counties, the two methods agree in 27 of the 34 cases, (with 14 of these being classified as over spenders and 13 as under spenders). Within the Unitary Authorities group, we find that the classification is in agreement in 43 out of the 47 cases, (consisting of 21 over spenders and 22 under spenders), whereas within the Metropolitan Authorities the classification agrees in 31 out of 36 cases, (18 over spenders and 13 under spenders). This is very strong evidence that the two methods are indeed broadly equivalent - which means that Central Government does indeed try to equalise the “headline” Band D Council Tax across the country. However this is a **process** - and not necessarily a completed achievement as yet. In order to avoid large changes in Council Tax levels, each Local Authority receives at least a minimum increase in Central Government grant - even where no increase would be justified in terms of the assessment of their “needs”. This procedure is quite explicit in the data for 2007/08 and is known as “Floor Damping”, the value of which is given for each Authority.

Apart from the effects of Floor Damping, it would appear then that Leicester City Council is broadly right in claiming that if all Authorities spent according to their FSS, (or according to what Central Government thinks that they “ought” to spend”), then Band D Council Tax would indeed be the same for all Authorities.

However, this begs the question as to whether the FSS allocations are, in fact, “right”. As we have seen, there is a strong *prima facie* case that they are not. In particular it would appear that Shire Districts, (usually the more rural parts of the country), are discriminated against in favour of Metropolitan and Unitary Authorities, (typically, but not always, the more urban areas).

If we are to make any further progress, we need to determine how the FSS numbers are actually arrived at.

4. DECODING THE FORMULA SPENDING SHARE

The Formula Spending Shares spreadsheet for 2005/06 issued by what used to be the Office of the Deputy Prime Minister gives the values for the Formula Spending Share to 15 significant figures - i.e. to around one hundredth of a penny. Such a level of precision would indicate that the values are indeed the result of applying a mathematical formula, or set of mathematical formulae, to a set of statistics. In investigating the extent to which Central Government makes systemic “errors” in determining what Local Authorities “ought” to spend, it would be useful to know what mathematical formulae are used and the sources and values of the statistics fed into them.

Unfortunately, as the Audit Commission said in its report on Council Tax for the year 2003/04: “*One of the difficulties in carrying out this analysis is that the government itself does not set out the basis on which it comes to its decisions on what to allow for in the local government finance settlement*”.

Note: *Actually this quotation is a little harsh. Central Government does, to some extent, explain how the FSS totals in each so-called “Service Block” are arrived at - but does not do so in sufficient detail to enable the process to be properly audited. In particular it does set out what parameters it considers to be important in arriving at the overall FSS for each Service Block. However it does not set out the **values** of those parameters - nor, (despite quoting their sources), how / where those values can be acquired.. Nor does the Government set out the formulae, (or coefficients / weighting factors), that are used to convert the values of these parameters into the final FSS figure.*

There is some evidence to suggest that Central Government uses regression models to arrive at these coefficients / weightings. However, it would appear that the data used in these regressions, as well as the regressions themselves, are somewhat out of date.

It would also appear that the basic principle is to identify the number of “clients” for each type of spending, (e.g. children of school age for the Education Spending Block), and then “adjust” these numbers according to some measure of “need” / “deprivation” as well as the local costs of providing the service.

*Unfortunately, this methodology begs some important questions. In the first place it is not necessarily true that “deprivation” can be countered by more spending. (Indeed, in the completely unrelated area of health care spending, it manifestly can not. Spending per capita in Scotland is more than 20% higher than that in England - but the outcomes, in terms of longevity and so on, are much worse). In the second place, the regression models appear to relate to what councils **actually** spend, (not what they “should” spend), in delivering different services under various different conditions of local cost and deprivation.. This creates the danger of “setting in concrete” levels of spending which were originally designed to “spend our way out of the problem”. There are many real examples of such spending being either ineffective, or, in some cases, actually being counter productive. This particular problem affects not only the coefficients in the regression analysis but also adjustments for local costs as well. A third problem is that there are simply too many parameters used by Central Government in its regression analyses - many with no obvious connection to the real “need” for that particular Service Block. For example there are only 37 different Police Authorities, (outside London), yet no less than 25 different parameters are apparently built into the regression analysis for the Police FSS. Given this, a “good fit” is almost inevitable - even though the results might be virtually meaningless.*

Finally many of the local costs allowed for may be simply the result of poor management. For example, where it is difficult to retain and recruit staff, the costs of such recruitment and any associated training will tend to be high. These costs are actually allowed for in calculating the FSS. Yet most people in the private sector will tell you that high staff turnover/ difficulties in recruitment is more often a sign of being an “undesirable”, poorly managed employer! Rewarding such employers by enabling them to spend more seems a bit strange!

If even the Audit Commission can't find out how Central Government determines what Local Authority spending "ought" to be, then obviously I am unlikely to be able to do much better. Nevertheless it does seem to be worthwhile to try to determine what the spending pattern of Local Authorities might be from a more "common sense" statistical approach.

I have therefore carried out a number of my own multiple regression analyses between the actual Formula Spending Shares of each Local Authority in each "Service Block" and the sorts of statistics that one might expect to be relevant in their determination. For example, in attempting to examine what drives the FSS for the police, one might imagine that important factors would be the level of crime within the Police Authority's area, the number of road accidents, the number of road miles to be patrolled, the density of the traffic and so on. In turn one might expect that a Local Authority's expenditure on highway maintenance would be related to the same sorts of things, (excluding crime). I describe the results of these analyses in the following subsections of this section of the document.

In all of these analyses, I have ensured that the data supposed to "drive" the spending is from an earlier year, or sometimes the average of more than one earlier year, than the spending being analysed. For example, if there were a negative correlation between road accidents in any one year and the FSS highways maintenance service block in the **same**, (or an earlier), year, this could (just about) be interpreted as showing that the spending was effective. If the relationship puts supposed cause before effect chronologically, no such (mis)interpretation is possible.

Obviously, if I were to succeed in achieving a total decoding of the FSS, (I don't), then any accusations of systemic "error" on the part of Central Government when assessing the spending "needs" of the various Local Authorities would have to rest either on a disagreement about the criteria used or else in the weightings given to these criteria. On the other hand, a failure to achieve a complete "decoding" of the FSS, means that any **pattern** to the unexplained residuals, particularly if it follows the same pattern of "overspending" that we have just seen, would be further evidence of systemic Central Government error, whereas a more random set of residuals would indicate that I have simply not thought up all the truly relevant factors, (or else have been unable to find any data on them).

4.1 Relationships between the various service blocks

Figure 4 shows the population weighted correlation coefficients between the per capita FSS for each of the seven Spending Blocks for the 321 non-London Local Authorities. This correlation is based on allocating the FSS wholly to a Billing Authority on the relevant per capita basis. For example, the Thames Valley Police FSS has been allocated between the six Berkshire Unitary Authorities, Oxfordshire, Buckinghamshire and Milton Keynes on this basis.

	Edcn	Socl	Police	Fire	Roads	Env	Capfin	Rest
Education		0.614	0.583	0.451	0.013	0.611	0.504	0.652
Social	0.614		0.720	0.664	-0.115	0.911	0.693	0.821
Police	0.583	0.720		0.802	-0.229	0.612	0.684	0.745
Fire	0.451	0.664	0.802		-0.195	0.570	0.591	0.664
Roads	0.013	-0.115	-0.229	-0.195		-0.079	-0.044	-0.082
Environment	0.611	0.911	0.612	0.570	-0.079		0.607	0.830
Capital Finance	0.504	0.693	0.684	0.591	-0.044	0.607		0.691
Rest	0.652	0.821	0.745	0.664	-0.082	0.830	0.691	

Fig. 4 Correlation coefficients between per capita FSS in the different Service Blocks

The most interesting aspect to these results is the way that there is a positive correlation between the FSS for each service block with the sole exception of roads, where there is either a small or negative correlation. This would suggest that many of the “needs” assessments are based on common measures, (and indeed my examination of the factors actually listed by the government shows this to be true). However, it is far from clear what the common need is between social services and the environment - which is actually the best correlation in the table! (An alternative explanation is that past spending patterns are used in assessing “needs”. If there are indeed such things as relatively frugal and relatively extravagant Local Authorities, then some of - but not all of - these correlations would be explicable).

It is of interest to see whether or not there is any consistent pattern of FSS per head: either between different Regions or between different types of Local Authorities, (Shire Districts, Unitary Councils and Metropolitan Councils). Figures 5 and 6 show that there is.

	Edcn	Socl	Police	Fire	Roads	Env	Capfin	Total
Shires	520	223	74	33	43	204	48	1145
Units	557	262	77	35	42	227	54	1291
Mets	598	306	101	42	40	236	79	1373

Fig. 5 Per capita FSS by Service Block and type of Local Authority

	Edcn	Socl	Police	Fire	Roads	Env	Capfin	Total
North East	554	295	100	44	42	234	71	1339
North West	578	284	95	39	40	231	66	1333
Yorks & Humber	564	262	88	38	42	218	70	1283
East Midlands	539	235	75	31	43	213	47	1183
West Midlands	579	273	86	36	42	223	63	1303
Eastern	546	231	72	33	48	208	46	1183
South East	524	225	72	32	39	208	51	1151
South West	499	236	73	34	43	205	50	1141

Fig. 6 Per capita FSS by Service Block and Government Office Region

It is immediately clear from figure 5 that Metropolitan Councils are expected to spend considerably more than Councils in the Shire Districts, with the Unitary Councils' spending coming somewhere in between. This disparity applies to every Service Block with the exception of highway maintenance. The interesting question is why this should be the case and whether it can be justified by measurable "needs".

In a similar way it is evident from figure 6 that Northern Councils, (the North East and the North West), are expected to spend more than the more Southerly ones, (the South East and the South West). Once again this disparity applies to every Service Block with the exception of roads. Once again, one also asks why this should be the case.

It might be thought that the difference between the North and the South is merely a reflection of the fact that whereas the North has several Metropolitan Councils, the South has none. However, as figure 7 shows, the regional disparity is present in the Shire Districts. In a similar way figure 8 shows that it is also consistently present in the Unitary Authorities.

	Edcn	Socl	Police	Fire	Roads	Env	Capfin	Total
North East	536	266	96	36	45	220	54	1252
North West	535	236	82	35	40	210	50	1187
South East	517	218	72	36	39	201	50	1132
South West	498	224	73	33	45	201	52	1126

Fig. 7 Per capita FSS for Shire Districts

	Edcn	Socl	Police	Fire	Roads	Env	Capfin	Total
North East	591	283	100	50	41	237	60	1362
North West	605	279	81	34	43	237	58	1337
South East	544	246	74	31	40	226	55	1216
South West	501	255	74	4	40	214	47	1134

Fig. 8 Per capita FSS for Unitary Authorities

Since the FSS for the police and fire services as well as the capital financing associated with them, is actually shared out between Metropolitan Councils, Unitary Authorities and Shire Districts, (for example, Northumbria Police is responsible for both the Tyne and Wear Metropolitan Council areas and the Shire Districts of Northumberland County Council; similarly Durham Police looks after both the Shire Districts of Durham County Council as well as the population of the Unitary Authority of Darlington), it could be argued that these should be excluded from the comparisons in figures 7 and 8. Actually, this makes no difference to the general conclusion. The total FSS per capita figures for the Northern Shires, (North East and North West Regions), excluding any contribution whatever from fire or police services, is £1,210.07p, (£1,204.03p for the North East and £1,212.16p for the North West), compared with £1,089.82p for the Southern Shires, (in the South East and South West Government Office Regions), with the South East Region coming in at £1,104.81p and the South West at £1,061.14p. A similar exercise for the Northern Unitary Authorities yields a figure of £1,214.88p, (NE=£1,210.54p; NW=£1,214.6489p), whereas for the Southern Unitary ones we get a figure of £1,084.21, (SE=£1,110.39p; SW=£1055.06p). These figures cover the FSS for education, social services, the environment and roads - which are entirely the responsibility of the County Councils / Districts or Unitary Authorities concerned.

4.2 Police FSS

One might expect that the spending of any Police Authority would be directly related to the amount of crime in their area, the number of road accidents that they have to cover, (since this might also be expected to be a reasonable indication of how many roads there are, what the traffic is like on them and so on), and how far apart these crimes or road incidents actually are, (i.e. there should be a positive correlation with the inverse of the population density).

We do indeed find a positive correlation between crime and Police FSS per head, (correlation coefficient = +0.7536 on a population weighted basis). However, we find negative correlation coefficients for Police FSS and the number of road accidents, (**minus** 0.4655 on a population weighted basis), as well as for the inverse of the population density, (**minus** 0.4827 on a population weighted basis). Indeed, even regressions of the residual police FSS that is “unexplained by crime” still yield negative correlations against these two parameters, (**minus** 0.3507 for accidents and **minus** 0.0117 for the inverse of the population density). As a result, I have had to make do with the single variable consisting of the amount of crime per head of population in order to determine what Police FSS “ought” to be on the basis of my regression model. The differences between actual Police FSS and that predicted by the regression model are summarised in figure 9.

	Shires	Units	Mets	Region
North East	16.918	4.9822	29.585	51.486
North West	12.297	1.2447	29.086	42.628
Yorks & Humber	-1.151	-10.9	-4.668	-16.72
East Midlands	-28.55	-7.382		-35.93
West Midlands	-11.87	-3.097	30.772	15.806
Eastern	-9.321	-3.311		-12.63
South East	-23.16	-11.18		-34.34
South West	-2.399	-7.897		-10.3
England	-47.24	-37.54	84.775	0.00

Fig. 9 £ millions “misallocated” in police FSS

A positive number in this diagram means that the actual police FSS is higher than the regression model would indicate, whereas a negative number means that it is lower.

Note: Since many of the Police Authorities serve more than one type of Local Authority, I have allocated the “unexplained” portion of the FSS on a per capita basis between the Local Authorities serviced by any particular Police Authority

These numbers suggest a pattern with which we are already familiar, namely that Shires tend to be “under-funded” whereas Metropolitan Authorities tend to be “over-funded”. We also see that there is a tendency for the more Northerly regions to be treated more generously than the more Southerly ones. Is there any real meaning to this pattern - i.e. is it indicative of systemic Central Government “error”? There is some good evidence that there is indeed such a systemic error at work.

If we compare the apparent “over-spend” of the Police Authorities, (using either the uniform Band D or the proportional FSS method), with the two remaining parameters that we expected to affect police spending - namely the inverse population density and the number of road accidents per head - then we do indeed find a positive correlation, (Band D method +0.3901 in the case of road accidents and +0.5184 in the case of the inverse population density / area per head; proportional FSS method +0.4362 for road accidents and +0.4800 for area per head). In other words, **actual** spending does indeed correlate with what we would expect it to correlate with - whereas the more **theoretical** Central Government FSS figures do **not**!

There is also a pronounced relationship between the FSS “under-funding” figures as summarised in figure 9 and the apparent “overspending” of the various Police Authorities as determined by the uniform Band D method. The population weighted correlation coefficient between these two quantities for the 37 Police Authorities is +0.5978.

Given that Council Tax rises are capped and that the bulk of Police Authority funding comes from Central Government grants, it is remarkable that we can find any such relationships at all. Typically we would expect the system to “hide” any systemic errors relatively effectively - without any human intervention!

4.3 Fire FSS

One might expect that the spending of any Fire Authority would be directly related to the number of incidents that they were expected to attend. Indeed, there is a positive correlation between the number of incidents and the fire portion of the Formula Spending Share, (correlation coefficient = +0.7779 on a population weighted basis). One might also expect that there would be a positive correlation between fire FSS and how far those incidents are likely to be apart. In other words there should be a positive correlation with the inverse of the population density. In fact the correlation is **negative**, (**minus** 0.4601). It also remains negative, (**minus** 0.1432), with the “unexplained”, (by the number of incidents attended that is), portion of the fire FSS.

As with the police FSS, I have therefore had to make do with the single variable consisting of the number of incidents attended in order to determine what fire FSS “ought” to be on the basis of my regression model. The differences between actual fire FSS and that predicted by the regression model are summarised in figure 10.

	Shires	Units	Mets	Region
North East	0.3126	5.988	4.6166	10.917
North West	-2.095	-1.172	6.3383	3.0713
Yorks & Humber	0.5864	0.6689	-3.373	-2.117
East Midlands	-12.65	-2.365		-15.02
West Midlands	-10.7	4.1424	7.6967	1.1405
Eastern	8.3924	1.637		10.029
South East	-7.157	-2.234		-9.392
South West	-0.743	2.1111		1.3677
England	-24.06	8.7762	15.279	0.00

Fig. 10 £ millions “misallocated” in fire FSS

Once again we find the same pattern of Shires being expected to spend less than Metropolitan Authorities with Unitary Authorities lying somewhere in the middle. There may also be a slight tendency whereby Southern areas, (and the East Midlands), are expected to spend less than Northern ones.

Just as we found in the case of the police FSS, there is a positive correlation, (correlation coefficient = +0.3601 on a population weighted basis), between the over-spend as calculated using the uniform Band D method and the inverse of the population density. Once again, this is indicative of the real spending by the Authority concerned being a better guide to real “needs” than the more theoretical FSS calculations.

Although we also get a positive correlation coefficient, (+0.0408), between “overspending”, (as measured by band D), and under-funding”, (as determined by my regression model), this particular relationship is not statistically significant - unlike the case with the police FSS.

4.4 The drivers of educational FSS

A common sense view is that educational spending ought to be largely driven by the number of children of school age within each Local Educational Authority. Indeed this turns out to be the case. The regression analysis between the educational Service Block FSS per capita and the percentage of the population that is of compulsory school age yields a correlation coefficient of +0.8708 on a population weighted basis.

One might also expect that the amount of necessary spending would increase as the proportion of children needing education and whose mother tongue is not English increases. Again I find that, once the impact of the number of children of school age is corrected for, there is indeed a positive correlation, (correlation coefficient = +0.3848), between the percentage of the population that is ethnically other than white British and educational FSS per head. Placing both factors into the analysis yields a correlation coefficient of +0.9009. This is the best that I have been able to manage on the statistics available to me. All other factors that one might expect to increase the demands for educational spending show a negative correlation with the actual FSS education Service Block.

For example, one might expect that a low population density would increase educational costs, (fewer opportunities for economies of scale from larger schools and / or more “bussing” of children to distant schools). However, the correlation coefficient between population density and educational FSS is +0.4089 - i.e. the **greater** the population density the greater is the expected educational spending. One might also expect that there would be a positive correlation between the cost of living / average house prices and educational spending, (because one might expect to have to pay teachers more / spend more on their recruitment). However the correlation coefficient is negative - **minus** 0.5773. Equally one might expect that the educational spending would increase with the percentage / number of children staying on at school beyond 16. Once again, this would appear not to be the case. Once the number of children of compulsory school age and those who are ethnically non white British have been taken into account, the correlation coefficient between the percentage of the young population continuing with full time education and educational FSS per head is **minus** 0.3596.

I suspect that this latter result is a consequence of classifying a low percentage of people continuing with their education as a form of “deprivation” - although to me it would appear that it is the people who are “depriving” themselves - not being deprived by somebody else!

Given that I have not been able to achieve a perfect “decoding” of the educational FSS, I have to be careful in drawing any conclusions from the analysis - particularly so because there are no separate Council Tax precepts for education, (or social services, environment or highway maintenance either), which makes it impossible to compare any possible “over-spending” with differences between the actual FSS and that calculated from my regression model. However, if one does use the regression model to determine what “ought” to be spent by each Local Authority and then compare the results with the actual FSS, one finds an interesting pattern - as illustrated in figure 11 - which shows how many millions of pounds have been “misallocated” by Region and type of Local Authority, (a negative number means that the actual FSS is that much lower than the regression model would imply).

	Shires	Units	Mets	Region
North East	19.076	1.1694	19.382	39.627
North West	-15.1	6.492	59.354	50.741
Yorks & Humber	-2.89	6.5984	7.404	11.112
East Midlands	-39.4	-8.246		-47.65
West Midlands	-39.1	0.5271	30.637	-7.935
Eastern	22.23	29.031		51.26
South East	-71.03	6.4735		-64.56
South West	-27.56	-5.037		-32.6
England	-153.8	37.008	116.78	0.00

Fig. 11 £ Millions “misallocated” in educational FSS

Of course, this result could simply reflect the fact that I have not managed to think up all the important factors that “ought” to affect education FSS. However, as we shall see later, there is a reasonable argument that this is not really the case.

There is clearly something rather strange going on. If we take the 34 Shire County Councils we find that only nine of them have an educational FSS higher than the regression model would indicate whereas 25 of them have a lower value. The probability of this happening by chance is about one in two hundred and twenty. (The same probability of tossing a coin 34 times and getting 9 or fewer heads. If this happened you would probably suspect the coin or the person doing the tossing!)

Similarly twenty six out of the thirty six Metropolitan Authorities show a higher FSS than the regression model would indicate was “appropriate”, with only ten showing a lower value. The probability of this result arising by chance is about one in one hundred and twenty.

Only the Unitary Authorities do not appear to show any consistent bias on this measure.

4.5 The drivers of social services FSS

Typically one might expect that social services spending would be driven by the number of “clients” for each type of social service. One would expect that the main clients would be the elderly, the parents or guardians of young children, the victims of crime, and those permanently sick or disabled. The regression model shows that this is indeed the case. There is a good correlation, (correlation coefficient = +0.7674 on a population weighted basis), between social services FSS per head and the percentage of the Local Authority’s population that is registered as long term sick or disabled. Once this effect is accounted for, I find that the percentage of young people in the age range 16-24 is the next most important driver. Accounting for these together then leaves the percentage of pre-school children as the next most important driver, the percentage of people over 75 the next most important, with the incidence of crime per head bringing up the rear. Taking these four factors together gives a correlation coefficient of +0.9191 between the actual social services FSS and my regression based model.

Although on a simple regression analysis, there are a number of other factors, apart from those mentioned above, which appear to correlate well with the size of the FSS Social Services Spending Block, these correlations disappear when compared with the variance in FSS between one Local Authority and another that remains unexplained by the variables chosen.

For example, the correlation coefficient between the percentage of people below the poverty line and FSS spending on social services is +0.6414, whereas that between unemployment and social spending is +0.7856. However, both of these quantities correlate well with long term sickness, (correlation coefficient between unemployment and long term sickness = +0.8142; correlation coefficient between poverty and long term sickness = +0.7800), so these factors are already “taken into account” by long term sickness / disablement. In fact, the correlations observed lend considerable support to the view that long term sickness is, for many people, something in the nature of a life-style choice. Some of those claiming long term sickness or disablement benefit would appear to be either the long term unemployed or those for whom employment would not yield much in the way of additional income.

The only remaining factor that appears to correlate with social services FSS is the percentage of non-white-British people in the population, (correlation coefficient +0.2634). Given that the government claims that immigration is good for the economy, and that there is no obvious **social** “need”, (education is different), associated with those of minority ethnic backgrounds, it seems not unreasonable to exclude any extra FSS that might potentially be associated with this factor. Moreover, the immigrant / ethnic population is so heavily concentrated in the Metropolitan Local Authorities that it would be virtually impossible to disentangle the effects of ethnicity from any potential bias towards the Metropolitan Authorities of the sort that we saw in the case of the educational spending Service Block, (even though I **did** include ethnicity in the regression model for education).

The differences between the actual numbers for the social services FSS and those from my regression model are summarised in figure 12

	Shires	Units	Mets	Region
North East	-21.67	-8.31	11.769	-18.21
North West	-37.3	-10.59	16.416	-31.47
Yorks & Humber	-2.548	-1.845	-24.09	-28.48
East Midlands	-48.06	-8.885		-56.94
West Midlands	-14.7	-9.591	95.868	71.573
Eastern	25.923	8.4097		34.333
South East	17.961	6.0705		24.032
South West	1.5369	3.629		5.1659
England	-78.86	-21.11	99.963	0.00

Fig. 12 £ Millions “misallocated” in social FSS

Once again we see the same pattern that we saw in the case of educational spending where the Metropolitan Authorities seem to be allocated a larger than justified spend per head with the Shire Counties being allocated a lower than justified amount, (on the basis of the regression model that is). We also see the same regional pattern with the more Southerly regions being allocated less spending than the more Northerly ones

4.6 Highways FSS

One might reasonably expect that a Local Authority’s spending on road maintenance would be directly related to the mileage of roads in their area and the density of traffic causing damage to those roads. Unfortunately the nearest approximation that I can find for such information is the population density, (as a substitute for road mileage - the greater the density the shorter are likely to be the roads connecting people), and the number of road accidents, (as a substitute for the density of traffic). Fortunately we do indeed find a positive correlation between road accidents and highways FSS, (correlation coefficient = +0.3802 on a population weighted basis), and, as expected, a negative one, (correlation coefficient = minus 0.3104), between population density and roads FSS. Neither of these correlations is particularly good though - so a large part of the expected spending on roads remains unaccounted for in my regression analysis. In fact I can only account for 15.6% of the variance per head.

As a result there might seem to be little point in conducting the analysis of regional and type of Authority differences that I have analysed for the other FSS Service Blocks. However, partly for the sake of completeness, figure 13 does provide this analysis.

	Shires	Units	Mets	Region
North East	-0.785	0.2854	0.3214	-0.178
North West	-9.991	1.485	-2.312	-10.82
Yorks & Humber	2.2054	-1.048	-0.349	0.8091
East Midlands	-0.949	1.6088		0.6596
West Midlands	-4.1	0.6143	3.6788	0.193
Eastern	24.282	4.4026		28.684
South East	-17.92	-1.759		-19.68
South West	0.9033	-0.574		0.3291
England	-6.355	5.0154	1.3397	0.00

Fig. 13 £ millions “misallocated” in highways FSS

The pattern of bias here is not quite so obvious - not surprising since we can only account for 15.6% of the variance. Nevertheless we still see a slight tendency towards Shire Districts being expected to spend less and Metropolitan Authorities being expected to spend more than the model would indicate. The regional differences do not follow the usual pattern.

4.7 Environmental FSS

Whilst Metropolitan and Unitary Authorities both have a single sum in their Formula Spending Shares relating to environmental issues, Shire Districts have two bites of the cherry - one via the County Council and one in their own right. I have added these two components together before analysing and comparing the different amounts allocated to different Local Authorities for the environmental Service Block.

Although the environmental Formula Spending Share can be correlated with all sorts of demographic, economic and especially social deprivation data, I cannot see why, apart from a few exceptions, (places of outstanding natural beauty, royal palaces, places liable to flooding, places with a large non resident tourist or commuter influx, large percentages of publicly owned listed buildings and so on), there should be any difference in environmental spending needs between one place and another - regeneration is, or ought to be, a capital expenditure item.

Actually if large tourist influxes and being a place of outstanding natural beauty were important factors in determining environmental FSS, then we would expect places like the Lake District and Devon and Cornwall to be allocated unusually high levels of environmental FSS per head. However, when we come to examine the actual numbers, we find a completely different pattern. **Every** Shire District of Devon and Cornwall is allotted **less** than the average environmental FSS per head. The same is true of the Lake District. On the other hand, Slough, (of friendly bombs fame), which has few, (if any), listed buildings, no royal palaces, not much in the way of tourism and so on gets the fifth highest environmental FSS of the 321 Local Authorities examined! If flooding were a major consideration, then East Anglia should receive an above average allocation. Yet its allocation is below average! Indeed, the general trend is that it is just those places that do **not** meet the criteria suggested above that tend to receive the highest environmental FSS allocations. One can understand these results if environmental spending were to be determined on **social** / relative deprivation grounds. But why should it be? Isn't social spending the correct place to find these parameters predominating?

Given my total failure to find any drivers of environmental FSS which pass any of my "sanity checks", I really only have two extreme options

- I could assume that the FSS allocations are actually correct.
 - Given what I have apparently found in respect of other FSS Service Blocks, as well as the **pattern** of over or under spending by certain types of Local Authority, this is a rather sweeping assumption.
- I could assume that the total environmental spending per head should be much the same everywhere.
 - Again this is a rather sweeping assumption.

The question is which is the more plausible assumption and which fits better with the remaining data.

If we take the second of these assumptions, we find the same sort and pattern of "misallocation" of funds in the environmental Service Block as we have found in Education and Social Services. The extent of this "misallocation" is shown in figure 14.

	Shires	Units	Mets	Region
North East	2.561	13.186	28.283	44.03
North West	-14.38	12	98.716	96.334
Yorks & Humber	-7.828	4.5028	13.399	10.073
East Midlands	-41.85	29.255		-12.59
West Midlands	-34.86	0.6253	68.889	34.658
Eastern	-54.77	8.7596		-46.02
South East	-91.69	20.02		-71.67
South West	-50.03	-4.785		-54.82
England	-292.9	83.564	209.29	0.00

Fig. 14 £ millions “misallocated” in environmental FSS

Obviously, since I have not been able to make any sensible decoding of the environmental FSS, we should treat any results such as those shown in figure 14 with extreme caution. Nevertheless we notice the same, by now familiar, **pattern** as we saw in other Service Blocks - and indeed in the apparent over or under spending / under or over funding of different Local Authorities. This alone would suggest that there is the same systemic type of error in Central Government’s calculations of spending “needs”.

As I remarked earlier, there is no readily available data available which would enable me to compare actual spending / over / under spending with any alleged FSS “misallocations”, (other than possibly an exhaustive and exhausting analysis of individual Local Authority’s accounts), for individual Service Blocks other than the police and fire services. However, given that I have managed to arrive at some, admittedly very rough and ready, estimates of the “miscalculations” of all the other FSS elements that contribute to the spending “needs” of the Tier One Authorities, it ought to be possible to use these “errors” to determine to what extent the numbers shown in figure 14 are in any way meaningful.

If we adjust the actual overspend of these Tier One Local Authorities, (as measured by their deviations from a uniform Band D Council Tax), by the amount of each of the other FSS miscalculations, we can then compare the residual over or under spending with the alleged misallocations in the environmental FSS. Whilst many legitimate objections could be raised to this procedure, it is of interest to note that the correlation coefficient between the apparent residual uniform Band D overspend and the apparent under funding of the environmental FSS is +0.5262. This result, however arrived at, is, in itself, definitely statistically significant. This would suggest that there is indeed an underlying reality behind the numbers displayed in figure 14.

Generally we might expect that neighbouring Local Authorities would have more similar environmental spending needs than those which are further away. However, if we compare the environmental FSS for the Shire Counties with the environmental FSS for the Unitary Authorities that are “embedded in them, (i.e. those that share a common police force and / or a common fire service - and for most of which the County Councils were originally responsible, (e.g. treating Darlington as “embedded” in County Durham, Portsmouth as embedded in Hampshire or Derby as being embedded in Derbyshire), we find that for 27 of the 28 Unitary Councils, the Shire environmental FSS per head is **less** than that for the corresponding Unitary Authority. (The only Unitary Authorities that have been excluded are those going to make up the old Counties of Humberside, Cleveland, Berkshire and Avon.)

To some extent we can allocate some of these remaining Unitary Authorities to Shire Counties as well, (only the six Berkshire Unitary Councils, Hull and the East Riding of Yorkshire have no obvious allocations). When we do this we find that 36 out of the 39 unitary Councils have a higher environmental FSS per head than the Shire Counties in which they are “embedded”. Twenty eight of them have a higher FSS allocation than that given to **any** District in the relevant Shire County! The likelihood of such relationships arising other than by chance are extremely low.

4.8 Summary of the modelling of FSS

One would imagine that the capital financing part of the Formula Spending Share would be driven by the capital balances held by the Local Authorities concerned. I have not bothered to analyse these, partly because, in most cases, the numbers are relatively small, and partly because I don't have the necessary data to do a proper analysis. However, it can hardly encourage Local Authorities to be frugal and prudent when they are, in effect, penalised for keeping reserves and not spending them, (some of the capital financing FSS numbers are negative), nor for Central Government to pick up the tab when they have borrowed extravagantly, (one assumes that past taxpayers have benefited from lower Council Tax and / or improved services as a result of borrowing. Why should they benefit again?) However, it is certainly worth summarising the differences between the regression model and the actual FSS allocations for the other Service Blocks. Figure 15 provides such a summary in which the FSS numbers have been “normalised” so as to represent actual over or under assessments of spending needs - and therefore, presumably, of Central Government grants.

	Shires	Units	Mets	Region
North East	38.508	20.843	134.51	193.86
North West	-52.44	8.2634	242.89	198.71
Yorks & Humber	-12.05	-18.08	-21	-51.14
East Midlands	-212.9	-8.879		-221.8
West Midlands	-134.1	-16.22	280.69	130.33
Eastern	5.6005	42.197		47.797
South East	-215.1	-9.507		-224.6
South West	-55.33	-17.91		-73.24
England	-637.8	0.7018	637.09	0.00

Fig. 15 £ millions “misallocated” in total FSS

If my estimates of the differences between what FSS “ought” to be and what it actually is were the **only** numbers available, then it could reasonably be argued that any pattern could be the result of systemic error on my part and not necessarily that of Central Government. However, given that the **pattern** of the numbers in figure 15 is somewhat similar to the pattern of the numbers derived from assessments of under or over-spending, (with reversed sign), by different Local Authorities as shown in figure 3, this particular viewpoint is somewhat harder to sustain.

It is even harder to sustain when one looks at the details as given in the previous subsections. For example apparent Police Authority under-funding is well correlated with apparent Police Authority over-spending. We also find good correlations between apparent over-spending and the sorts of variables which one might consider to be important when assessing the spending needs of both the emergency services, (fire and police).

IF there is a systemic error in Central Government’s assessment of individual Local Authority spending “needs”, (and the results for the emergency services would suggest that there is), then it probably arises from using two potentially erroneous assumptions. The first is that all the problems faced by Local Government arise from social deprivation. The second is that these problems can be addressed by Local Authority spending. This is particularly evident in the case of the FSS for the emergency services.

For example, one would have thought that the main driver of fire service expenditure would be the number of incidents that a particular fire brigade had to attend, (whether it be fires, false alarms, cutting people free after road accidents, rescuing cats up trees or whatever), yet instead of using figures for these, (which **are** available and which I have used in my assessments), the Government uses social and housing factors which are supposed to correlate with the **risk** of fires. Obviously this works to some extent, (otherwise I would not get any correlation between Fire FSS and the number of incidents attended). However, using **indirect estimates** which correlate with the figures that are of **direct** relevance instead of using those figures which are of direct relevance themselves will almost **never** be as accurate as the figures that they are supposed to predict, (very few correlations are perfect). Similarly, the Government does not appear to use the incidence of crime or road accidents when assessing police spending “needs” Instead, and once again, it uses social / deprivation factors which correlate with the incidence of crime. I really fail to understand why Central Government tries to estimate relevant data from (imperfect) regression models when the actual data is itself available.

The Highways Maintenance Service Block provides a complete contrast. Here, the factors used in the Government’s model include the mileage of each type of road, the density of traffic, the likelihood of severe weather conditions and so on. Unfortunately, this data is not available to me, so, on this occasion, it is I who have been forced to use **indirect** measures. Not surprisingly, I get the poorest fit for any Service Block. Indeed, I think that the Government’s estimates are more likely to be correct than my own for this particular FSS item. My earlier observation to the effect that it is **only** this FSS item that does not correlate at all well with other FSS items is also of interest. There are virtually **no** social / deprivation factors considered by the government when determining the FSS for roads, whereas these items appear to be dominant in all other Service Blocks.

Obviously, social / deprivation measures are likely to be most relevant in determining the Social Service Block FSS. It is probably no accident that we get the best correlation between what I calculate this particular FSS element “ought” to be and what the government thinks that it ought to be. This is because we both use social / deprivation measures in our calculations. In my own calculations I have restricted myself to using the numbers of people in each potential client group in order to determine the “appropriate” level of FSS. The Government goes rather further than this. It attempts to estimate the probability that a person in each client group may need a particular social service. There is nothing wrong with this **in principle**. Indeed, it is almost certainly the right thing to do. The problem is that it employs so many parameters that what it reproduces is the actual **provision** of social services at a particular point in time - and not the real **need** for them. Different Local Authorities have different criteria on who gets what. All that the FSS does is set past decisions in concrete.

Similar remarks apply to the educational part of the FSS.

Finally we come to the environmental part of the FSS. I can see no case whatever, (except, just possibly, for the cultural part of this Service Block), for this to be based on social / deprivation factors. The fact that I can correlate the apparent overspend with the unexplained portion of the tier one of the FSS, would indicate that the Local Authorities take a view of their own spending needs which is very different from that taken by Central Government.

5. LONDON AS A SPECIAL CASE

In the Introduction, I remarked that London appeared to be a special case so that I felt it appropriate to exclude it from the main body of my analysis. It is important to recognise that a real special case implies some sort of **pattern** in spending / grant / FSS / over / under-spending - and in itself therefore provides some sort of support to the idea that there is some sort of systemic error in Central Government's assessment of Local Authority spending needs. My reason for excluding London from the main body of my analysis is that this pattern is so extreme that it makes the case appear unanswerable, (possibly wrongly), in the case of the remaining Local Authorities.

For example, if we focus on the "headline" Band D Council Tax we find that four out of the five lowest rates of Council Tax are to be found in inner London. Three of these, the City of London, Kensington & Chelsea and Westminster also appear to be the three Local Authorities whose residents appear to enjoy the three highest levels of average income in the country, (according to the Inland Revenue). The remaining one, Wandsworth, occupies the eighth position in this ranking. In fact only the residents of 2 out of the 13 Inner London Local Authorities paid more than the "uniform headline Band D rate of Council Tax" necessary to give the same gross yield as Council Tax actually did in 2005/06. Some of these "under-spending" figures are enormous. For example, Westminster spends £347.46p less per head than the Government thinks that it "ought" to on this method of assessing relative frugality,. The figures for Wandsworth and the City of London are £257.03p and £275.93p respectively. In contrast the maximum under-spend elsewhere is £151.69p, (in the Isles of Scilly), and the maximum over-spend is £81.43p, (in Rutland). On the mainland, the maximum under-spend is just £63.06p, (in Trafford).

It is easy to understand why Westminster, (the biggest under-spender per head), can apparently under-spend to such an extent. Westminster residents receive £1,368.67p by way of Central Government funding. If the residents of every Local Authority were to receive this amount then no less than 244 out of the 321 Billing Authorities outside London could charge their residents a total rate of Council tax that would be **negative**, (on current levels of spending)! This total of 244 is made up from 2 out of the 36 Metropolitan Authorities, 24 out of the 47 Unitary Authorities and 218 out of the 238 Shire Districts.

Westminster does not however receive the largest Central Government grant per head. That distinction belongs to the City of London, or, if we exclude the City, Tower Hamlets, (both Inner London Boroughs), which receives a grant of £2,113.89p per head. Indeed, eight out of the ten highest grants per head are paid to Inner London Boroughs. The inner London Borough which receives the smallest grant per head is Camden - which nevertheless receives the 58th highest grant per head out of the 354 Bill Collecting Local Authorities in England.

To some extent it might be possible to understand why both Westminster and the City of London, despite having relatively rich populations, should receive a higher than average grant per head. The former is the seat of government and the Local Authority might have to spend money on what are really national causes, (which it would probably be inappropriate to expect local taxpayers to fund), whereas the latter provides what is essentially the national financial police. However, we would expect such “excuses” for high levels of Central Government grant to appear in the environmental Service Block of the FSS. This does not appear to be the case. Although the FSS per head figures for this Service Block in Inner London do tend to appear in the upper half of the distribution, the real reason for the high levels of grant to inner London would appear to lie in the social services Service Block.

There are 13 Inner London Boroughs. The twelve highest social FSS per head allocations are to be found in Inner London. The remaining Borough, Wandsworth, occupies the 15th position. Homelessness is probably more prevalent in London than elsewhere in the country, (even if the streets aren’t actually paved with gold). However real homelessness is very difficult to measure and varies enormously from year to year. Whilst this **might** provide some sort of justification for the high social services FSS, homelessness does not actually appear in the list of factors provided by the government which are supposed to determine the level of social services FSS!

However, whatever the **reason** might be for the extraordinarily large Central Government grants per head paid to the Inner London Boroughs, the fact that so many of them appear to under-spend would suggest that these grants are too large and, in effect, **exaggerate** the extra spending that needs to occur. “Excuses” for extra grants or spending, by their very nature, merely give weight to the case that London should be treated as a special case. If it were not so treated, the pattern of under-spending / over-funding in Inner London would be further support for the contention that there are systemic errors in the way that central Government assesses Local Government’s spending “needs”. In fact the “under-spending” in Inner London amounts to some £216m.

From many perspectives, Inner London could be considered as simply another Metropolitan Authority - which, as we have seen, tend to under-spend / be over-funded. Outer London is probably more similar to the Shire Districts of the Home Counties. Indeed, Outer London “over-spends”, (like these Shire Districts), to the tune of £61 million.

6. CONCLUSIONS

There is no single piece of “killer” evidence that demonstrates that Central Government gets its assessment of Local Authority spending needs “wrong”. However, virtually all the evidence that I can find would **suggest** that individual Local Authorities get a better “handle” on what needs to be spent in their communities than Central Government does. Over-spending / under-spending **does** show a pattern. This pattern fits moderately well with my independently derived pattern for what spending “ought” to be. It also fits with factors that I consider ought to be included in the assessment of spending needs but which appear to be excluded in Central Government assessments.

There is also considerable evidence, (not all of it discussed in this document), that Central Government does try to equalise the level of Council Tax for the same Band across the whole country. There is also considerable evidence that it is this “Resource Equalisation” which is the main cause of most of the “unfairness” in Council Tax. However, that will form the subject of a different report.

None of this should be taken to imply that there are **no** relatively extravagant or relatively frugal Local Authorities. It would be amazing if there were not! However, what is clear is that **some** of the apparently extravagant or frugal Local Authorities are spending approximately the “right” amount. Others probably are not.

So, is it Local or Central Government that sets Council Tax? Without gearing, Central Government grants and “capping” it certainly would be the Local Authorities. However, the system, and the evidence contained in this document, (and elsewhere), would indicate that it is only the last two or three per cent of the variance in Council Tax that is down to Local Authorities. The rest is down to Central Government.