

Report
of the
Formula Review
Sub-Group

May 2002

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Chapter 1

Introduction, terms of reference and membership

Introduction

1. The Formula Review Sub-Group (FRSG) was set up in spring 2001 to take forward work reforming grant distribution formulae (other than for police and education), following the consultation on the proposals in the September 2000 Local Government Finance Green Paper, "Modernising Local Government Finance". That green paper can be found at

(<http://www.local.dtlr.gov.uk/greenpap/index.htm>)

2. The Government received a large number of responses to the proposals in the Green Paper. These were dominated by campaign from education interests, which falls within the remit of the Education Funding Strategy Group, which is working in parallel with the FRSG. The December 2001 Local Government White Paper "Strong Local Leadership – Quality Public Services" which can be found at

(<http://www.local-regions.dtlr.gov.uk/sll/index.htm>)

set out the Government's policies in relation to local government finance issues. It confirmed that the new grant distribution system would continue to be based on formulae, rather than the alternative of basing it on a Government assessment of authorities own plans. However, it did not go into any more detail on the new system, because the Government did not wish to pre-judge the conclusions of this review.

Aims

3. The aim of the FRSG is to consider and evaluate options for developing formulae that represent an improvement on the current system. Its remit covers the service areas currently funded by individual Standard Spending Assessment (SSA) 'blocks' which do not have their own specific groups; i.e.:

- Personal Social Services;
- Fire;
- Highways Maintenance;
- Environmental, Protective and Cultural Services; and
- Capital Finance.

4. In addition, the FRSG was remitted to look at some issues of cross-cutting consequence, including

- the Area Cost Adjustment;
- fixed/non-linear costs; and
- treatment of data.

5. Each of these topics is covered by its own chapter of this report. FRSG (01) 01 sets out the detailed work programme discussed at the start of the process. FRSG (01) 16 updated that programme.

6. The group did not consider issues such as floors and ceilings, or council tax equalisation, which are primarily to do with grant (as opposed to formulae.) These grant issues are covered by the report of the RGD group.

Membership

7. The membership of the FRSG was drawn widely from central and local government, with contractors and researchers attending meetings as necessary. The aim was to allow all interested parties to contribute to the work of the Group, and to bring a wide range of expertise and views to bear on the issues under consideration. The Local Government Association was responsible for co-ordinating local government representation.

Working practice

8. The FRSG met on 14 occasions in the period June 2001 to May 2002 and considered 126 papers. The proceedings of the FRSG were conducted openly, with the papers considered by the Group and minutes published on the LGA's website at

<http://www.lga.gov.uk/Executives1.asp?lsection=59&ccat=407>

9. This report records the technical work undertaken, and summarises the discussions of the group. However, the group wished to make clear that those discussions were between officials and local government officers. Neither Government Ministers nor local elected members are bound by them. The group also agreed that it would not be helpful for comments in this report to be attributable. Instead, those local government groupings who wished to were invited to submit their views separately to the DTLR.

Chapter 2

Principles and concerns with formulae

1. The current review has its origin in the 1998 White Paper *Modern Local Government; In Touch with the People*, when the government announced its intention to investigate, in conjunction with local government, whether there is a better way of determining the distribution of Revenue Support Grant which is simpler, stabler, more robust and fairer than the present arrangements for SSA.

2. The 2001 White Paper *Strong Local Leadership Quality Public Services* concluded that:

- There are no reasons why formulae should not continue to be used to distribute the great majority of general grant between authorities;
- We need to look to amend the formulae to make them fairer and more intelligible;
- We also need to recognise that formulae are a means of distributing grants and are not an infallible guide to how much local authorities should spend.

3. There are a number of reasons why formulae are the preferred means of grant distribution. These were set out in the report by the Revenue Grant Distribution Group to Central Local Partnership in March 2000 as:

- formulae can be **based on objective data**. Formulae and data are chosen so that grant cannot be influenced by the decisions of individual councils and the same formulae are applied to all local authorities;
- the use of objective data ensures a consistent approach and **minimises the need for judgement** in grant allocation, whilst maximising local accountability;
- formulae can be **updated** annually with the latest available data to reflect the changing circumstances impacting on individual councils;
- formulae are relatively **transparent**, at least to finance experts, as the data used is publicly available and the grant calculations can be replicated;
- a formula-based grant distribution system is **relatively economical** to administer. Currently large amounts of grant are distributed with relatively little effort in adaptation from year to year, and with no burden of monitoring, claiming, and auditing.

The case for a simplified and more explicable system

4. There is evidence that some stakeholders consider the existing system to be too complicated. To quote the opinion survey commissioned by DTLR for the Revenue Grant Distribution Review in 1999:

'The complexity of the system caused widespread dissatisfaction, not only because officers and members themselves were unable to understand the system, or the reasons for changes in their grant levels, but also because: "...it is impossible to sell to the public why your budget has gone here there and everywhere, and the decisions you have taken...depend on something which is impossible to predict"'

5. Some of the main reasons for this, relating to the current system, are:

- The way the formulae are calculated and presented gives a spurious suggestion of precision. Formulae should not be treated as an infallible guide on how much local authorities should spend.
- Formulae driven by annual changes in data, such as population or interest rates, may produce unpredictable annual variations in grant.
- It is not clear why different formulae, and statistical techniques, are adopted for different service blocks (for example the different techniques used to model need in the Education and Children's Personal Social Services SSAs).

6. The Review group discussed a paper on simplification and better presentation of the system. The Group drew a distinction between the two; it is possible to present the formulae in a more intelligible way, even if the underlying analysis remains quite complex. There was strong support for improved presentation, but there was concern that simplification for its own sake could lead to less fair formulae. In terms of how better presentation could be achieved, the paper illustrated how the existing formulae could be presented in a common framework of basic entitlements plus top-ups for deprivation, pay costs and other costs such as sparsity. In terms of taking this forward, this was something the Department would come back to once further work to develop the new formulae had been completed.

Regression within grant distribution formulae

7. Currently, many formulae rely heavily on the statistical technique of regression analysis against expenditure at the level of an individual local authority. A number of issues arise from this

- the expenditure data used in these regressions currently dates from 1990/91 and therefore take no account of changes in the pattern of service delivery since then;
- the technique of regression against past expenditure can reflect differences in political decisions and efficiency, if these are not distributed randomly;

- the use of regression, and other statistical techniques, can seem to be opaque to laypersons.

8. Updating the data used in regressions meets the first of these objections, but not the other two. The chapters dealing with the various service blocks describe how the Review has looked at the place of regression within formulae.

Principles underlying grant distribution

9. In taking forward our work, the following are the suggested principles which should, as far as possible, govern the construction of new formulae:

- formulae should provide fair and reasonable results to all local authorities and reflect their relative needs;
- formulae should not be treated as an infallible guide to how much local authorities should spend;
- formulae should be based on objective and factual evidence which relates to need to spend on services;
- formulae should be constructed and applied in such a way that the resultant grant distribution is more predictable and more stable than the current system;
- where possible the most recent data should be used in constructing formulae and in underlying analyses;
- data which is particularly volatile should be smoothed, for example, an average of more than one year should be used;
- indicators and variables should be capable of being justified on a rational basis;
- any judgement used in the construction of the formula should be open and transparent;
- any incentives created by the formula should not be perverse incentives nor should formulae penalise authorities for improving efficiency;
- control total, methodology and data changes ought to be provided to local government with as much advance notice as possible.

10. These were broadly agreed on by the FRSG. However, it has also recognised that there are frequently practical and political constraints on what can be achieved, and that pragmatic decisions are needed that balance up the different options and pressures. There are areas on which the FRSG has reached consensus. But agreement has not been possible on many issues. This is partly because the difficulties are complex but also because the fact

that the solutions impact on distribution of resources. This is reflected in the following chapters.

Chapter 3

Area Cost Adjustment

Overview

Criticisms of the existing methodology

- It can be volatile from year to year;
- It is confined to London and the South East, and some authorities who do not receive the ACA have argued that they have wage pressures as least as high as those that do;
- It is based on a sub-set of occupations, rather than the whole labour market. Labour market economists have argued that the labour market is relatively seamless, with all employers in competition to attract the staff they need. Others have argued that public sector and private sector labour markets are fundamentally different and subject to different pressures;
- There is only limited standardisation for differences in the structure of the labour market between areas (for example some areas have more people working in financial services, others more in agriculture);
- Average wage calculations are highly influenced by small numbers of very high earning individuals; and
- The assumption that additional recruitment and retention costs 'close the gap' between London Weighting for public sector staff and earnings in the wider labour market has been questioned. The size of the ACA factors for London and the South East are therefore seen as too high.

Options for change

For PSS, EPCS, Highways Maintenance and the Police - either a variant of the existing methodology, or a variant of the Elliott methodology. The Elliott methodology is also based on earnings data, and was proposed by an independent review in 1996.

For Education - either a variant of the existing or Elliott methodologies, or a new approach based on house prices, or a specific cost approach based on London weighting for teachers.

For Fire - either a variant of the existing or Elliott methodologies, or a specific cost approach based on London weighting for fire fighters.

For all service blocks: there are options for changing the geography and the rates cost adjustment.

Options for the existing methodology

- i. Smoothing – ie. using an average of three years data rather than just one;
- ii. Changing the fringe weight calculation so that it is updated each year;
- iii. Changing the occupation weights
- iv. Using data in the public domain
- v. Excluding high earners

Options for the Elliott methodology

- i. Basing the methodology only on data from the private sector, or using data for both the public and private sector;
- ii. Use the Labour Force Survey or the New Earnings Survey.

Options for geography

- i. Recognise variation in wage pressures across London;
- ii. Divide the fringe area along East/West lines or combine it altogether, rather than divide it in to inner and outer fringe areas as now;
- iii. Have ACA factors specific to each county or the same ACA factor for groups of authorities.
- iv. Set a threshold, or 'lower limit' to the ACA, below which all authorities would receive the same ACA factor.

Options for the Rates Cost Adjustment

- i. Keep existing methodology, but use same geography as is decided for the labour cost adjustment.

Main areas of agreement

- That either a variant of the existing methodology or the Elliott approach should be applied to PSS, EPCS and highways maintenance. The Police Review Group also agreed this for the police block.
- That data should drive the geography.
- That the use of a robust methodology is more important than ensuring that those outside government are able to replicate the ACA calculations (due to data confidentiality issues).
- That the existing methodology could be improved by basing it on three years rather than one year's data.

Main areas of disagreement

- How the Elliott methodology should be applied, if at all. In particular whether and where a lower limit is set, and whether it is based on private sector data only.

- Whether or not variants of the Elliott or existing methodology are appropriate for the education and fire blocks.
- Whether and how high earners should be excluded from the existing methodology.
- Whether additional labour costs should be reflected through a separate grant, rather than in each service block as now.

Area Cost Adjustment

Main Report

Introduction

1. This chapter of the report discusses the Group's work on the ACA. Three Departments have been involved in the process. DTLR have taken the lead in working up options based on earnings in the wider labour market, as well as approaches for the fire service, which has been part of the Department's responsibilities since the election. DfES have taken the lead in thinking about alternative approaches for the education block, and Home Office in thinking about alternatives for the police.

The existing methodology and criticisms

2. The existing methodology is based on average earnings calculated from the annual New Earnings Survey (NES). The 2002/3 settlement used NES data for 2000. The following eight occupational groups are used:

- Corporate Managers and Administrators
- Teachers
- Other Professionals
- Protective Service Occupations
- Secretarial Staff
- Clerical Staff
- Personal Service Occupations
- Other Elementary Occupations

3. An average wage is calculated for each of the above occupations, for males and females separately, for the following areas:

- City of London
- Inner & Outer London (based on former ILEA boundaries)
- South East England
- Rest of England

4. The average wage for each gender/occupation is combined in proportion to national sample sizes for the labour market as a whole. South East England is then divided into three areas: inner fringe, outer fringe and rest of South East. This is done using a set of fringe weights based on analysis of historic NES data (1993). The weights have been rolled forward each year since then by assuming wage increases in the fringe areas have been at the same rate as for the South East as a whole.

5. A number of criticisms of the existing methodology have been made:

- It can be volatile from year to year;

- It is confined to London and the South East, and some authorities who do not receive the ACA have argued that they have wage pressures as least as high as those that do;
- It is based on a sub-set of occupations, rather than the whole labour market. Labour market economists have argued that the labour market is relatively seamless, with all employers in competition to attract the staff they need. Others have argued that public sector and private sector labour markets are fundamentally different and subject to different pressures;
- There is only limited standardisation for differences in the structure of the labour market between areas (for example some areas have more people working in financial services, others more in agriculture);
- Average wage calculations are highly influenced by small numbers of very high earning individuals; and
- The assumption that additional recruitment and retention costs 'close the gap' between London Weighting and earnings in the wider labour market has been questioned. The size of the ACA factors for London and the South East are therefore seen as too high.

Options for change

6. In the course of the review, a number of options for change were discussed to try and address these criticisms. The Department decided early on that it would not update the least promising of the large number of options considered in the 1998 Review. This included the "fixed effects" variant of the Elliott methodology, which requires further development work before it could be considered robust. A paper was put to the Group explaining which options would be updated and why. A distinction was also drawn early on between services with high proportions of staff on national pay scales (education, police and fire) and the other service blocks.

7. For the other service blocks (PSS, EPCS, and highways maintenance) two broad options have been considered: variations of the existing methodology, and variants of the Elliott methodology proposed by an independent review of the ACA in 1996. Both of these approaches are based on earnings in the wider labour market.

8. For education, police and fire, in addition to the approaches based on earnings in the wider labour market, two further alternatives have been considered. These are an approach for education based on house prices, and an approach based on London Weighting for education, police and fire. The adoption of alternative methodologies for some service blocks would produce a hybrid methodology.

Variants of the existing methodology

9. The following options for changing the existing methodology were discussed by the group:

Updating the Fringe Weights

10. The current fringe weights are based on NES data for 1993. This is because the fringe areas cut across county boundaries, and so it is necessary to have data at shire district level. The data that is required is therefore very detailed and this has not been obtained from ONS every year. Rather it has been assumed that wages in the fringe area have increased at the same rate as those in the South East as a whole. As part of this review, data was again obtained at shire district level. A revised methodology for the ACA was put forward such that this data would be obtained each year. This would mean that ACA factors for the fringe area were calculated in the same way as for all the other areas.

11. This updating of the fringe weights under the existing methodology found that wages in the inner and outer fringe were actually very similar. The implications for geography are discussed further below.

Excluding High Earners

12. The experience of revisions to the New Earnings Survey for 2000 was to reveal how the existing methodology is highly influenced by small numbers of people on very high salaries. The reason for this is that the wage distribution is highly skewed, with a long tail of high earners. Such a skewed distribution means that the average wage is higher than the median.

13. The extent to which this tail of high earners has an influence on the average wage was explored further as part of this review. The approach was to ask ONS to resupply the data from which the ACA is calculated, but excluding anyone earning more than £100 per hour. This is a judgement, but is a standard cut-off used by ONS in presenting average earnings data from the LFS. It can also be justified by looking at the average salary of the Birmingham chief executive – the highest paid individual in local government, and adding a margin to this. However, in this respect, some of the group made the point that local government also employs lawyers and consultants on higher hourly earnings than chief executives.

14. The new data confirmed that small numbers of individuals – 67 – have quite a large impact on average earnings calculations. This is less than a tenth of one percent of the sample used to calculate the ACA. The 67 people are almost all corporate managers rather than professionals such as lawyers and consultants, though more professionals would be included the lower the cut-off.

15. The Group's comments on the option can be summarised as being of two kinds: (i) a point of principle as to whether it is right or wrong to include high earners; and (ii) the statistical robustness of an approach where such a small proportion of the sample has so much influence on the distributional outcome.

16. In terms of principle, some of the Group argued that high earners were an integral part of the labour market and had knock-on consequences for wages

in the area. The aim of the ACA was to show wages differentials in the wider labour market, and not mimic local government salary scales. There could therefore be no justification for excluding them. Others argued that the high pay individuals had little bearing on the range of staff employed by local government and that a cut off lower than £100 should therefore be explored (exemplification of the effect of setting the cut-off at #75 and #50 were asked for). The concern was that high earners are not generally representative of employees in Local Government and including them overstated the magnitude of the area cost factors.

17. In terms of the second point, the Department noted that the influence of high earners is only really an issue under the existing methodology. Under the Elliott approach the use of regression analysis means that the influence of outlying individuals is very much reduced. In terms of trying to improve the existing methodology, it was argued that the same £100 limit across the country was not necessarily appropriate. Outside of London and the South East, individuals above a lower threshold than £100 might be outliers. It was noted that there were more statistical ways of setting the threshold for each ACA area, for example by looking at the standard deviation in wages around the mean.

Changing the Occupation Weights

18. The weight given to each of occupations in the existing ACA methodology depends on total NES sample size, including both the public and private sectors. The group discussed whether the weights should be changed so that they are based on the sample of people working in local government. Some of the group believed that it was unfair to base an ACA factor on occupational weightings that were not closely related to those of Local Government. This increases the weight given to teachers and protective service occupations, and reduces the ACA factors for London and the South East. However, the counter argument made is that the current approach does not aim to reflect the existing workforce but seeks to measure local pay differentials in the labour market.

19. A high proportion of teachers are employed in the public sector. So in effect changing the occupation weights in this way comes close to being a specific cost approach for education that reflects differences in what teachers are actually paid between areas. The debate on specific versus general labour market approaches is reported below; the same pros and cons apply to this option. It was also noted that changing the occupations weights to base them only on local authority patterns of employment might not properly recognise the pattern of employment of services that are contracted out to the private sector.

20. The other change to occupation weights that was discussed by the Group was the implication of introducing alternative approaches for the national pay scale staff groups. For example, if an alternative approach was introduced for teachers then there would be a case for excluding teachers from the existing

methodology. Again the Department noted that this issue does not arise under the Elliott methodology.

Use of Public Domain Data

21. It is possible to closely replicate the existing methodology using data that are available in the public domain. This would allow those in local government that were interested to fully replicate the ACA calculations each year.

22. There was little enthusiasm for this approach. The Group felt that it was best to use the most robust approach possible, rather than make any compromises to the methodology so that it could be more widely replicated.

Smoothing

23. The existing methodology is based on one year of NES data. The movements in the ACA from year to year are not particularly large in percentage terms. But the financial implications can be large because of the way the ACA appears in all the formulae, and this has become a particular issue during the formula freeze when data changes are much more apparent.

24. A straightforward way to reduce such volatility would be to base the ACA factors on three year's worth of data. There was very strong support for this from the review group. We discussed two slightly different ways of smoothing; (i) working out the ACA factors for each year separately and then taking a three year average; or (ii) combining the data for three years first, and then working out the ACA factors. In practice which approach is used makes negligible difference. If implementing smoothing, the Department would propose to use the first of these two approaches.

Variants of the Elliott methodology

25. The Elliott methodology was proposed by an independent review of the ACA in 1996. It is also the approach used by the Department of Health to allocate resources to the NHS.

How the approach works

26. The approach is based on a regression analysis of hourly earnings at individual level, against the following factors:

<ul style="list-style-type: none"> the area in which they work 	
<ul style="list-style-type: none"> age gender occupation industry occupation full time or part-time 	These variables are available in both the Labour Force Survey and New Earnings Survey.
<ul style="list-style-type: none"> Qualifications and years of schooling length of time with employer size of employer 	Education and experience variable are only available from the labour force survey.

27. The rationale for the approach is that average wages vary between areas not only because the underlying 'going rate' varies between areas, but because the structure of employment varies as well. Some areas employ a high proportion of people in financial services, others a high proportion in agriculture, others still a high proportion in catering and tourism. The regression analysis allows these structural differences to be taken into account, so that the underlying going rate is properly identified. The coefficients on the area variables form the basis of the ACA factors.

28. The existing methodology uses quite broad occupational groupings. Due to sample sizes, it is not possible to robustly disaggregate the methodology to the next lowest level of occupational detail that is available in the NES. This is however possible under the Elliott methodology, and around 75 occupational controls have been included in the work by the Department (the same is true of Warwick's work for the NHS).

NES v LFS

29. The Elliott approach can be applied to either the NES or LFS. The pros and cons of the different data sets are summarised in the following table:

Labour Force Survey	New Earnings Survey
Pros: <ul style="list-style-type: none"> Can include education and experience variables Better coverage of low pay individuals and therefore may be more representative 	Pros: <ul style="list-style-type: none"> Larger sample sizes Data is employer reported Simpler specification for the ACA regressions
Cons: <ul style="list-style-type: none"> Smaller sample sizes, particularly in London Earnings data is self-reported 	Cons: <ul style="list-style-type: none"> Less good coverage of low pay individuals Does not include education and experience

30. There is little to choose between the two data sources. Though sample sizes are higher in the NES, recent improvements to the LFS mean that the

sample sizes are still large enough for robust estimates to be derived. There is however a lower response to the LFS in London, which raises a question as to whether there is a non-response bias. The issue of data being self-reported under the LFS is probably less significant. The two main factors to focus on would seem to be: (i) whether better coverage of low paid individuals in the LFS makes a significant difference, and (ii) whether taking account of education and experience makes a significant difference.

31. The pattern of ACA factors that comes out of the NES and LFS is broadly quite similar, suggesting that if these two factors are significant, they are more likely to be so for individual authorities. In terms of whether education and experience makes a difference, work by the University of Warwick for the NHS has concluded that they add little once the occupation and industry that an individual works in has been taken into account. These findings are however based on LFS data at regional level for two quarters only; the differences might be more significant for ACA factors calculated at a lower level. In terms of whether data on low paid individuals makes a difference, work by NERA commissioned by the ALG and wider South East demonstrates the extent to which the two surveys appear to have different coverage. But this does not give a feel for whether it makes a difference to the ACA factors that are estimated in practice. It would be possible to explore this by looking at the impact of excluding everyone earning below a threshold (eg. the minimum wage). The Department has not yet had a chance to analyse this.

Using Private Sector Data Only

32. It is possible to calculate ACA factors using only data for the private sector. This is the approach used by the NHS. It is also recommended by the NERA work commissioned by the ALG and wider South East. The rationale is that it is private sector wages that most closely reflect underlying market pressures as there is less use of national pay scales. It therefore provides a less distorted picture of the underlying labour market. It is also argued to prevent circularity, whereby authorities' decisions on pay are reflected to some extent in their ACA factors.

33. The alternative view is that by excluding the public sector, ACA factors would be determined without reference to local authority pay. Given the prevalence of national pay scales and the impact this has on wage flexibility, it is also argued that public sector pay needs to be included in order to ensure that this is properly reflected. This lower wage flexibility is recognised by the NHS, but through setting a threshold or 'lower limit' to the ACA (this is discussed in the section on geography).

34. The Group did not reach consensus on this issue.

Conclusion

35. Compared to the existing methodology, the Elliott approach is able to take more detailed account of the structural differences in employment between areas, and is robust to the inclusion of high earners. However there was no

agreement over the different ways in which the Elliott approach can be implemented. This is particularly the case in relation to geography, which is discussed further below. Nor was there agreement as to when it was appropriate to use a general labour market approach as against specific cost approaches. This is discussed in the following section.

National pay scale blocks (Education, Police and Fire)

Summary of the discussion on Specific v. General Labour Market Approaches

36. The treatment of these three staff groups go to the heart of the ACA debate. The issue is whether recruitment and retention costs over and above what staff are paid closes the 'gap' between public sector pay and pay in the wider labour market. Examples of these additional costs are the use of agency staff, and dealing with higher turnover.

37. The Group was presented with evidence that there is flexibility over what teachers are paid through the use of recruitment and retention points. It is asserted that schools are making very little use of these retention points, and pay does not vary much more between areas than London Weighting alone. The argument was also put that there is a relationship between higher ACA factors and lower Band D council tax as a result of this.

38. There was also an argument put to the Group that there needed to be greater transparency over the additional resources provided to London and the South East as a result of the ACA. The suggestion for a way this could be achieved would be for the ACA to be paid through its own separate block or targeted grant, with a total that would be determined as part of the Spending Review process. It was also suggested that such a grant should be ring-fenced to ensure that grant allocated to reflect additional costs is used for that purpose. Under such an approach authorities would need to account for how they had spent their ACA resources and if they had not spent them on additional cost pressures then that would have been their choice.

39. The alternative view was that the ACA should fairly recognise differences in costs. It is then for individual authorities to decide how the money should be used. The local level of Council tax is a matter for local political choice reflecting very different factors and the willingness of local people to accept these levels. It is not related to any one element of budget or funding regime. Essentially it is a local policy choice as to whether to use wage flexibilities (such as teachers recruitment and retention points) to bring wages up to the going rate in the area, or whether to use agency staff, and so on. The point was also made that it is difficult to rapidly increase the use of recruitment and retention points due to other pressures on budgets, and the need for schools to demonstrate that they are treating all their staff fairly. Other points were that average council tax per household should be used for comparison rather than council tax at band D; and that any comparison of teachers pay also needs to take account of regional differences in teachers' experience to ensure a like for like comparison.

40. It was also argued that area costs are an integral part of the formulae and should be applied multiplicatively (as now) so that it is also applied to additional funding for deprivation. This might make a separate block for the ACA difficult. If there was a separate control total for the ACA, it would be necessary to try and forecast how wage relativities were likely to change. For example, if the difference between wages in London and the South East narrowed then a lower control total would be appropriate that if the difference widened. And it might be possible to improve the transparency of how much money is redistributed by the ACA without the need for a separate block.

Specific Cost and House Price Approach for Education

41. The ALG presented a paper on recruitment and retention difficulties in the capital. This included evidence on the use of agency staff and higher vacancy rates for teachers. If the use of recruitment and retention points is fairly limited, in principle it would be possible to derive a set of ACA factors based on London Weighting alone. However, this would not reflect additional costs such as the use of agency staff, overseas recruitment, less qualified staff requiring more assistants etc., if they are significant. It is possible for specific cost approaches to try and explicitly take these additional costs into account. But delivering a workable option on this basis has always proved difficult in practice.

42. If ACA factors over and above London Weighting are appropriate, then looking at earnings in the wider labour market is one way into this, as now. DfES, as part of the review, considered an alternative approach of basing the ACA factors on variation in house prices. The rationale is that house prices are the key factor behind recruitment and retention difficulties for teachers, with teachers often choosing to move out of London at the stage at which they start wanting to buy a home. The approach can also be seen as simpler to explain to wider education stakeholders such as parents and governors.

43. Two main concerns with the house price approach were identified. Firstly there was a concern that they could be volatile from year to year. And secondly, as raised in the NERA report for ALG and wider South East, house prices are only one of a number of factors that have a bearing on the going wage rate in an area, and it is the going rate that determines how much employers have to pay to recruit and retain the staff they need.

44. The Group also expressed a concern that it was difficult to provide more detailed comments until they had seen more details of how the house price approach would work in practice, particularly if the approach required a number of judgements to be made.

Specific Cost Approach for Fire

45. By contrast with education, in the case of the fire service there is rather less evidence of recruitment and retention difficulties. For example there are large numbers of applicants for every post, including in London and the South East. If additional recruitment and retention costs over and above the national

pay scale are not significant, then there is a case for basing the ACA factors on London Weighting alone.

46. The Group agreed that while there might be little evidence of a *recruitment* problem, some of the Group argued that there was in fact evidence of an increasing *retention* problem, with staff transferring out of brigades in the South East to other areas. The Department has not been able to explore this using centrally available data. Available data reports resignations from the fire service altogether, but not movements in staff between brigades.

47. There is a question of whether the approach would introduce a significant perverse incentive. London weighting is not negotiated nationally, but locally. Any decisions to increase London Weighting as a result of negotiations would feed through into ACA factors the following year. The same is true of any move to introduce additional allowances by authorities outside of London.

48. Many of the support services used by Fire authorities are contracted out, such as catering or vehicle maintenance. These costs are likely to be subject to the going rate. This could be addressed by changing the weighting between the proportion of the ACA made up by an approach based on London Weighting, and the proportion applied to civilian staff (for which a general labour market approach would apply).

Police Review Group discussions

49. The Police Review Group had two discussions on the ACA. At the first meeting, it was agreed that before the Home Office started any work on alternatives to general labour market approaches, it would wait to see the range of options that were being developed by DTLR and DfES.

50. At the second meeting there was some interest in a specific cost approach being developed for the police block. However, the sort of approach envisaged went beyond just recognising London Weighting to trying to explicitly recognising a range of other factors. An example is the Metropolitan Police training college at Hendon and that a number of recruits it trains move to other forces. As set out above, this sort of specific cost approach has always proved difficult to implement in practice. It was agreed that it would not prove practicable to develop such an option in the time available, and that therefore one of the labour market approaches being developed by DTLR should apply to the police block.

Conclusions

51. In the case of education and fire, the Group did not reach a consensus on whether general labour market, specific cost or house price approaches were most appropriate. It was also noted that different approaches for different service blocks might increase the complexity of the overall formulae.

Geography

52. Different geographies can be applied to each of the above methodologies. In discussion, the Group agreed the principle that data should drive the geography rather than it being confined to administrative areas such as the South East.

London

53. Available wage evidence suggests that wages vary across London; in particular wages are significantly higher in West than in East London. The Group discussed three illustrative options for change. It was noted that these options had not yet been shared with DTLR Ministers.

54. The first option was to keep inner London defined as now, and to divide outer London into two, along East/West lines. The second option was to move Greenwich from inner to outer London, with outer London being divided into three: West London, East London and South London. A third option was for each London borough to have its own ACA factor. This is essentially the approach used by the NHS. Because sample sizes for individual boroughs are relatively small, the NHS has introduced an additional form of smoothing. Each authority's ACA factor is a function not only of wages in the authority, but of its neighbouring authorities. The weight given to neighbouring authorities depends on their population size and how far away they are.

55. The third option is only possible using the Elliott approach, whereas the first two options could be used under both the existing and Elliott methodologies.

56. Arguments from London representatives on the Group were put in favour of both options that keep London boroughs grouped together and those that would lead to individual factors. The former was seen as simpler, and quite well reflecting London's travel to work patterns. The advantage of the latter was seen as being that it avoids having to decide which authorities are grouped together. However, it was noted that it was important to ensure that there would not be significant volatility in the factors of individual boroughs from year to year.

57. A further London issue is the treatment of the City of London. The group discussed a version of the Elliott methodology commissioned by the ALG and wider South East from NERA. The NERA work has included the City of London within the definition of inner London. An alternative view is that despite the standardisation that is possible under the Elliott approach, it is still very difficult to properly take account of the very different nature of jobs in the City. This suggests that the City should not therefore be aggregated with the rest of inner London, but kept separate as under the existing methodology. This was the conclusion reached by the original Elliott review. The NHS conclusion has been to give the City of London the same factor as the City of Westminster.

Fringe

58. The current methodology has a separate factor for inner and outer fringe areas as defined for the purposes of paying APT&C staff. Updating the NES data at shire district level on which the current weightings are based revealed that wages in the inner and outer fringe are actually very similar. On the basis of this evidence, a simple option would be to combine the two fringe areas into one.

59. Further work using the Elliott methodology suggested that, as with London, wage pressures are higher on the Western side of the fringe area (ie. Berkshire, Buckinghamshire, Surrey and Hertfordshire) than on the Eastern side (ie. Kent and Essex). A second option would therefore be to keep two distinct fringe areas, but to divide the fringe on East/West lines rather than the current inner and outer fringe definitions.

60. The NERA work commissioned by the ALG/South East has a single ACA value for the South East. This would not recognise that wages are higher in the fringe area than the surrounding areas. Part of the issue is that NERA have been restricted to NES and LFS data that is in the public domain. As part of the Review the Department has been able to access specially edited versions of the NES and LFS that allow these more detailed geographies to be explored.

Other

61. Setting aside the fringe area, the current approach assumes that the South East faces homogenous wage pressures. Applying the principle that data should drive the geography, this may not be the most appropriate geography. For example, the evidence suggests that wages are lower along the South East coast (eg. Kent, Essex and East Sussex), that further to the West of London (eg. Berkshire, Buckinghamshire and Surrey). The current approach also assumes the rest of England group is homogenous. Again there is evidence to suggest prevailing wage rates are lower in parts of the South West and North East.

62. There is therefore an issue as to how far the current geography is disaggregated. There are two risks with disaggregation. One is that sample sizes become small enough to introduce a significant amount of random volatility from year to year. The second is a risk that local structural factors are not properly standardised for. In the case of the latter, the Department presented a paper to the Group that suggested that the existing methodology could not be robustly taken down to individual county level. Increased disaggregation is much more robust under the Elliott methodology because of the more detailed standardisation that is possible.

63. In general, sample sizes at (1991) county level are sufficiently large under the Elliott methodology for any random volatility to be limited. This still leaves an issue as to whether local factors are being properly standardised for at this level. The City of London has been discussed above as a particular example. Comparing the results using LFS and NES suggests that there are one or two

other authorities where these local factors might be at play, including East Sussex, Cheshire and the Isle of Wight.

64. The NHS derives separate ACA factors for shire unitaries, rather than for the former counties of which they were part. Because of smaller sample sizes at this level, and a greater risk of not controlling for local factors, this change was made together with the approach to smoothing discussed in the section above on the geography for London.

65. A further issue with geography is whether there should be a threshold or “lower limit” below which all authorities are given the same ACA factor. There are two rationale for this. One is around data quality, and whether it is possible to say that, for example, Cornwall’s ACA factor is statistically significantly different to Devon’s. If they are not, then there is a case for giving them the same ACA factor. The Maxwell Stamp work in 1998 is one way into setting a lower limit on this basis.

66. The second rationale is recognising the prevalence of national pay scales in the public sector. For example, a teacher in Cornwall is paid the same salary (for a given spine point) as a teacher in Cheshire, though wider wage pressures in each area are different. Lower variation in public sector salaries means that outside the South East they can be relatively higher than private sector wages. The Maxwell Stamp approach does not reflect this second rationale, and if a lower limit is set on this basis then it is necessarily a judgement.

67. The Group did not reach a consensus on whether and where a lower limit should be set. The argument turns on how much wage flexibility there is deemed to be, and different points of view were put.

Rates Cost Adjustment

68. The Group did not discuss the rates cost adjustment. As set out in one of the early papers that was considered, the Department does not propose to change the methodology for the rates cost adjustment, but will revisit the geography to bring it into line with whatever geography is decided for the labour cost adjustment.

Summary of Conclusions

Main areas of agreement

- That either a variant of the existing methodology or the Elliott approach should be applied to PSS, EPCS and highways maintenance;
- That data should drive the geography.
- That the use of a robust methodology is more important than those outside government being able to replicate the ACA calculations (due to data confidentiality issues).

- That the existing methodology could be improved by basing it on three years rather than one years data.

Main areas of disagreement

- How the Elliott methodology should be applied, if at all. In particular whether and where a lower limit is set, but also whether it is based on private sector data only, and whether the New Earnings Survey or Labour Force Survey should be used.
- Whether or not variants of the Elliott or existing methodology are appropriate for the education, police and fire blocks.
- Whether and how high earners should be excluded from the existing methodology
- Whether additional labour costs should be reflected through a separate grant, rather than in each service block as now.

ACA papers considered by the Formula Review Sub-Group

DTLR and DfES Papers

FRSG(01)25 Work programme for the ACA
FRSG(01)37 Narrowing down the 21 Options from 1998
FRSG(01)38 Smoothing the ACA
FRSG(02)48 Summarising the ACA Debate
FRSG(02)49 ACA for Education
FRSG(02)50 Fringe Weights Under the Existing Methodology
FRSG(02)51 Extending ACA Coverage Under the Existing Methodology
FRSG(02)52 Applying the Existing Methodology to County Level Earnings Data
FRSG(02)53 Updating the Elliot Approach
FRSG(02)54 NHS Review
FRSG(02)55 Supplementary Work on the NHS Review
FRSG(02)56 Comparison of Elliot using LFS or NES
FRSG(02)57 Occupation Weights Under the Existing Methodology
FRSG(02)58 Basing the Existing Methodology on Data in the Public Domain
FRSG(02)59 Illustrative Maps
FRSG(02)93 Excluding High Earners
FRSG(02)94 Specific Cost Approach for fire
FRSG(02)95 Further Elliot Results
FRSG(02)96 London Geography

Association and Special Interest Group Papers

FRSG(02)60 NERA work on Elliott Approach (ALG/South East ACA Group)

FRSG(02)61 Views of the Cliff Edge Group
FRSG(02)62 Investigation into use of resources allocated by the ACA (Coventry)
FRSG(02)63 Views of the Non ACA Counties Group
FRSG(02)64 Views of SIGOMA
FRSG(02)65 Views of the South East Counties
FRSG(02)86 Impact of Area Costs on London (ALG)

Chapter 4

Fixed Costs, Sluggish Costs and Population Change

Overview

Criticisms of the Existing Methodology

- That there is not a directly proportional relationship between authority size and cost, and that therefore smaller authorities cannot take advantage of economies of scale;
- That authorities with decreasing populations, in the short run, are not able to reduce their costs in proportion to the decline in their population. Some costs are relatively fixed in the short term, though they are variable in the long run;
- That authorities with decreasing populations are becoming increasingly deprived, as it is the most affluent who tend to migrate. This is an argument about whether deprivation measures used in the formulae are sufficiently up-to-date; and
- That areas of population growth are disadvantaged because the latest available population estimates lag the year for which grant is being distributed by two years. The argument is that these areas are having to serve a larger population than is recognised by the formulae.

Options for Change

- Recognising smaller authorities inability to take advantage of economies of scale through distributing a fixed sum per authority, either as part of the EPCS formula or as a targeted grant;
- Recognising authorities with decreasing populations become more deprived by re-considering the balance in the system between Census indicators and indicators that can be routinely updated;
- Provide additional support to areas with a population decreasing above a certain threshold through a targeted grant, though explicit consideration needs to be given to a) the extent to which the new system moves away from Census data; b) the protection offered by the two year lag between population estimates and the settlement year; and c) floors and ceilings; and
- Recognise that growing authorities do not receive sufficient grant because of the time lag in the population figures used in the formula, which could be compensated by the use of a targeted grant.

Main Areas of Agreement

- That if a fixed sum adjustment is not made as a targeted grant, it should be made within the EPCS block.
- That population is a prime driver of cost, and that because of the data lag, growing authorities have a larger population to serve than that recognised by the formula.
- That targeted grant is an easier, and therefore better solution to the growth areas concern than other options such trying to project pupil and population numbers and including the projections in the main formulae.

Main Areas of Disagreement

- Whether the fixed sum adjustment should be within EPCS or as a targeted grant.
- Whether additional support is required for declining areas over and above the protection offered by the two year lag between population estimates and the settlement year and floors and ceilings.

Fixed Costs, Sluggish Costs and Population Change

Main Report

Introduction

1. This chapter addresses the following four criticisms of the existing system that were raised during the course of the Review:

- That there is not a directly proportional relationship between authority size and cost, and that therefore smaller authorities cannot take advantage of economies of scale;
- That authorities with decreasing populations, in the short run, are not able to reduce their costs in proportion to the decline in their population. Some costs are relatively fixed in the short term, though they are variable in the long run;
- That authorities with decreasing populations are becoming increasingly deprived as it is the most affluent who tend to migrate. This is an argument about whether deprivation measures used in the formulae are sufficiently up-to-date; and
- That areas of population growth are disadvantaged because the latest available population estimates lag the year for which grant is being distributed by two years. The argument is that these areas are having to provide services, and therefore incur additional costs on behalf of a larger population than is recognised by the formula.

Background: PricewaterhouseCoopers Scoping Study

2. Prior to the Formula Review Sub-Group being established, the Department commissioned a scoping study to investigate the first two of these issues. This included reviewing the existing literature and making recommendations about the most promising avenues for further research.

3. In terms of whether or not there are economies of scale in the provision of local government services, PwC found that the existing literature was inconclusive. They had two main points to make on this. Firstly, they took the view that the majority of the studies had used an inappropriate analytical framework. If using regression analysis, they suggested that a functional form that could take account of both economies of scale and economies of scope would be required. The second was that English local authorities tend to be larger and have a more extensive range of services than in other countries. Studies in other countries have been able to find evidence of economies of scale, despite drawing on quite simple analyses.

4. These findings suggested that economies of scale might in fact be quite limited. The complex regression analyses required were also unlikely to be fruitful, in the main because of limitations with available data.

5. The most promising approach was therefore to focus in on where economies of scale are most likely to be found. A useful definition in this context was identified as the “costs of being in business, not doing business”. The argument is that there are costs that authorities face regardless of their population size, or the number of clients they serve. All authorities are required to produce a best value performance plan, to run elections, audit their accounts and so on. If a sum could be identified that did not vary much between authorities, then a fixed sum paid to each authority would recognise that larger authorities are able to take account of economies of scale. PwC suggested that corporate and democratic core expenditure came closest to the costs of being in business definition, and that this would be a useful focus for further work.

6. PwC described the argument that authorities with decreasing populations are not, in the short run, able to reduce their costs in line with the change in their population as “sluggish” costs. They found this to be a little researched area, and there was little literature on which to draw. The only real example was a study in Denmark that had used regression analysis of panel data on schools expenditure. This had found evidence of sluggish costs. Again, data limitations suggested that complex regression analysis was unlikely to be fruitful. It was suggested that the most promising way into further work would be case studies of individual authorities.

Options for Change

Costs of being in business

7. Further work on the ‘costs of being in business, not doing business’ was carried out by the Department in-house. The starting point was regression analysis of corporate and democratic core (CDC) expenditure against measures of authority size. This suggested the following estimates for costs that are largely invariant with authority size:

Shire Districts:	£200,000-£400,000
Upper Tier Authorities:	£550,000-£830,000

8. Centrally available CDC data cannot be disaggregated to focus only on those elements of it that are most likely to fit the costs of being in business, not doing business definition. And there may be other such costs that authorities face, but which are not part of CDC. To help refine the above estimates, the Department therefore commissioned a survey to analyse relevant costs in more detail.

9. This more detailed analysis suggested the following ranges for a fixed cost sum.

Shire Districts	£210,000-£325,000
Upper Tier Authorities	£280,000-£500,000

10. The great majority of the costs identified by authorities fall under EPCS. In addition, DfES had carried out some analysis looking at whether there was a case for a fixed cost sum as part of the proposed LEA block. This had been inconclusive. The Department therefore suggested that if a fixed sum adjustment is made, it should be made as part of the EPCS block. The option is no different to any other formula change, and making it as part of the EPCS block would mean that it was within the resource equalisation framework.

11. The Shire District Liaison Group suggested that the same fixed sum should be used for both upper and lower tier authorities. This was both on the grounds of simplicity, and because the distributional implication is much less significant for larger authorities. Setting different levels for the fixed sum would therefore be an unnecessary complication. They also argued any fixed sum component to the formula should be paid as a targeted grant, on the grounds that it would better address their distributional concerns about the existing system. The use of a targeted grant would lead to a different distribution to including the adjustment within EPCS. An amount for assumed council tax receipts would not be deducted, and it would be outside floors and ceilings. However, the impact of the new system on shire districts depends not only on the proposal for a fixed element, but the wider review of the EPCS formula. Each of the changes needs to be looked at on its own merits. It would not be right to use one change to address perceived unfairness with another part of the formula.

12. Other comments were that the Department's analysis understated the size of the fixed sum. An example given was that members are paid an allowance irrespective of attendance at meetings. However, the purpose of the adjustment is to reflect smaller authorities inability to take advantage of economies of scale. Though members allowances may be fixed, smaller authorities have fewer members. The purpose of the adjustment is to try and identify costs that do not vary much with authority size, for example whether members allowances as a proportion of net budget requirement is higher for smaller authorities. Such a comparison could only be made for authorities in the same class in order to ensure like for like comparisons – the same expenditure on members will be a smaller proportion of budgets for authorities who are being funded to provide a wider range of services. That members allowances as a proportion of net budget requirement is a higher proportion for shire districts than for upper tier authorities is not in itself evidence of economies of scale.

13. Others suggested that any fixed sum adjustment at all was inappropriate because, in the long run, all costs are variable. However, again the issue is one of economies of scale. While all costs may be variable in the long run,

the case for any adjustment depends on whether all costs can be varied in direct proportion to authority size.

Sluggish costs

14. Following the PwC scoping study, DfES and DTLR agreed that further work was most likely to be fruitful using case studies, and to be most tractable for education, given the clearly defined nature of the client group and the service being provided. DfES commissioned a further study from PwC to look into this.

15. The follow-up study did find evidence of sluggish costs, for example

- Costs associated with restructuring school provision
- Costs associated with changing pupil numbers in small schools; and
- Costs associated with class sizes and pupil teacher ratios

16. However, PwC concluded that though they had found evidence of sluggish costs, it was not clear that they exceeded the protection offered by the fact that the population estimates used in the formula lag the settlement year by two years. This data lag means that the formula is assuming a larger number of clients in areas of population decline than the population that is actually being served. Grant allocated to these areas is higher than it would be if more recent population estimates were available. Arguments about “data losses” need to be seen in this context. As changes in data are reflecting changes in circumstance, all data losses cannot be argued to be unfair. The issue is whether the rate at which data changes are reflected in the formulae is one which fairly takes account of possible sluggish costs. The two year population lag effectively assumes that there is a two year lag on average before costs can be reduced in proportion to the reduction in population. Arguments for further support to areas with decreasing population need to make the case that it takes longer than this for authorities to adjust their costs.

17. The PwC report also argued that areas with increasing pupil numbers are disadvantaged because there is a lag between the pupil number count and the settlement year. This concern is discussed later in the chapter.

18. Comments on the PwC report included that it did not look at the actual costs of individual schools, but rather looked at schools' budgeted data. It was also stressed that conclusions reached on education might not hold for other service areas. The problem here is that sluggish costs are very difficult to get at analytically. They would be even more difficult to analyse in EPCS than in education, and there was not time to commission the detailed analysis that would be necessary. The Department has looked at simple analyses of changes in EPCS spend against changes in population. These show no relationship, but cannot be taken as in any way conclusive due to the large number of other factors affecting spend over time. It is these other factors that it is difficult to control for.

19. There was also discussion about whether the floor provides protection to authorities with decreasing populations. It is possible for the floor to provide additional resources to authorities who would have got less, had their population change led to a grant increase below the floor. However, it is also possible for an authority to have data losses and be above the floor, as argued in one of the papers put to the group. These authorities do not receive any additional protection over and above that provided by the lag in population data.

20. On the basis of currently available evidence, whether or not sluggish costs exceed the protection already provided in the system is a judgement that will have to be made. If the judgement is that they are significant, the Group discussed ways in which additional support could be provided.

21. In terms of the 2003/4 settlement, the most straightforward solution was argued to be the use of a targeted grant. The criteria determining receipt of the grant could be a population loss above a certain threshold. The safety valve is another form of targeted grant, though it is being considered for 2004/5 rather than 2003/4. Until further work is carried out on how it might work, it is difficult to give a view on whether it would be appropriate for this purpose.

Increased Deprivation in Areas with Decreasing Population

22. The issue of increasing deprivation in areas with decreasing population was not addressed by either of the PwC research projects. The Department took the view that this was worth exploring further, and commissioned Birmingham City Council to carry out some additional work.

23. The further work went some way to demonstrate that it is the case that deprivation can increase in areas with decreasing population, backing this up with evidence from the literature and demonstrating the correlation between population decline and indicators of benefits receipt. The impact on the demands being made of services such as PSS is much more difficult to demonstrate, not least because of the large number of other influences on service provision over time.

24. The issue for the grant distribution formulae is whether the data that it used in the new system is sufficiently up-to-date to reflect current circumstances, and if not whether there is a case for providing additional support.

25. The balance between indicators that can be updated and Census data has been one of the themes of the review. The use of the Census is discussed in more detail in the chapter on data issues. Indicators need to both accurately reflect authorities' current circumstances, be good predictors of the relative need to provide services, and be sufficiently robust for use in the formulae. Some non-Census indicators may achieve all these aims. Others may be good predictors of need, but not sufficiently robust because of sample sizes.

This is a particular issue at shire district level, and may mean that the Census equivalent needs to be used instead. Other good predictors of need may only be available from the Census. This means that in some instances a balance needs to be struck between a) using up-to-date indicators but which may not be quite as good at predicting need, and b) using out-of-date indicators that are good at predicting need.

26. Depending on how this balance is struck, there is a question as to whether there is case for providing additional support to areas with decreasing population. The Birmingham work suggests there may be a systematic relationship between some measures of deprivation and population decrease. This opens the possibility of using a targeted grant to try and reflect changes that have taken place since the 1991 Census. As such, a targeted grant to areas with decreasing population could address both sluggish costs and increased deprivation, though arguments around the latter would not apply once 2001 Census data was available (though 2001 data would start to become out-of-date as time went on). The above discussion on the protection offered by the two year data lag and floors and ceilings is also relevant here.

Population Data Lags

27. That the two year lag in population data provides protection to areas with decreasing population has the opposite effect in areas of increasing population. That is, they are having to serve a population larger than the one reflected by the formulae. The Growth Areas Group brought a paper to the Formula Review highlighting this issue, as well as a number of additional points relating to ceilings, precepting for fire authorities, English partnerships and the quality of ONS population estimates. The latter points are either for the RGD Review group (ie. ceilings), are not grant distribution issues (precepting and the review of English Partnerships), or need to be raised with a different Government department (the ONS methodology for deriving population estimates). Nevertheless, it was argued that these additional issues have a bearing on any case for change. For example, it was pointed out that floors help protect declining authorities, but ceilings can provide additional restrictions on grants for growing authorities.

28. Population data lags were therefore the focus of this Group's discussions. The Department put a paper to the Review Group considering possible options to address the concern. It concluded that a targeted grant was the most straightforward solution (as above, the safety valve may be appropriate but further work is required). The targeted grant could be paid to authorities growing above a threshold increase. The minimum threshold would be the national average increase in population, as it is authorities with a rate of growth above the national average that are disadvantaged by the formula

29. There was a good measure of support for the view that the use of a targeted grant was the most straightforward solution, rather than complicating the issue by making adjustments in each service block. It was also noted that a targeted grant would be outside the ceiling arrangements.

30. It was argued that the targeted grant could be most fairly distributed by basing it on grant per head for each authority rather than a fixed amount per head. In particular this would recognise differences in area costs.

31. It was also argued that because the grant would be top-sliced off RSG, the position of those just below the threshold needed to be considered; a tapered approach might be more appropriate. Others argued that the use of a threshold population increase would be inappropriate, and that all increases in population should be reflected.

Summary of Conclusions

Main areas of agreement

- That if a fixed sum adjustment is not made as a targeted grant, it should be made with the EPCS block.
- That population is a prime driver of cost, and that because of the data lag, growing authorities have a larger population to serve than that recognised by the formula.
- That a targeted grant is an easier, and therefore better solution to the growth areas concern than other options such trying to project pupil and population numbers and including the projections in the main formulae.

Main areas of disagreement

- Whether the fixed sum adjustment should be within EPCS or as a targeted grant.
- Whether additional support is required for declining areas over and above the protection offered by the two year lag between population estimates and the settlement year and floors and ceilings.

Fixed Costs papers considered by the Formula Review Sub-Group

FRSG(01)07 Cost of Being in Business (DTLR)
FRSG(01)28 Birmingham Project on Deprivation and Population Change
FRSG(01)40 PwC Report Sluggish Costs in Education
FRSG(01)41 Growth Areas Group – Relevant Issues
FRSG(02)68 Follow up work on Cost of Being in Business (DTLR)
FRSG(02)69 Response to the Growth Areas Group (DTLR)
FRSG(02)100 Financial Pressures on Areas with Declining Populations (SIGOMA)
FRSG(02)105 Cost of Being in Business (Shire District Liaison Group)

Chapter 5

Cross Cutting Data Issues

Overview

Options Considered

1. Three general data issues have been considered in the review - foreign visitor nights, urban/rural measures, and 2001 Census. No specific options were considered for urban/rural measures.

Foreign Visitor Nights

- Use of domestic visitor nights to apportion foreign visitor nights.

2001 Census Data

- Use frozen 1991 Census Data.
- Re-open the review following publication of 2001 Census data.
- Update all Census data with 2001 data as soon as possible.
- Update Census data with 2001 data where this does not produce too much turbulence.

What remains to be done

2. Checking of candidate Census data for availability from 2001 Census.

Areas of agreement

3. That domestic visitor nights should not be used to apportion foreign visitor nights.

Areas of disagreement

4. There was disagreement on whether the review should be re-opened following 2001 Census data publication; certain interests said that the freeze policy should be reversed/relaxed or that the freeze should continue for another year.

Cross Cutting Data Issues

Main Report

Foreign Visitor Nights

5. Paper FRSG(01)27 examines the disaggregation of Foreign Visitor Nights from counties, metropolitan county areas, and London, as well as some separate data for national parks to district level. Therefore it is of limited relevance to police where only the City/GLA split is of any real concern. Similarly it is of little relevance to fire, where only the estimate for the Isles of Scilly is significantly affected. However, it is of relevance to any other upper or lower tier service block where the use of visitors is being considered, notably the EPCS block where it is currently used.

6. The paper notes that the 2001 Census does not record the visitor data required to calculate this disaggregation (nor any other plausible alternative).

7. The paper examines the use of domestic visitor nights, but notes that these provide a poor predictor - foreign visitors stay in different places to domestic visitors.

8. The paper asks for suggestions on ways forward.

9. The current position is that no alternative to using 1991 data has been developed - nor are there any suggestions currently on the table.

Rural/Urban Measures

10. The Department has commissioned a report on urban and rural measures. Though not specifically directed at SSAs the group has been kept informed of progress of this review. Paper FRSG(01)08 described the purpose of this review and potential relevance to grant distribution. Results of the report were distributed directly to members, and were not covered by separate papers. The review does not appear to have come forward with any new proposals that may be of use in the current review. This review was of potential interest to the highway maintenance formula and Rural/Urban measures are discussed separately for this block in the appropriate chapter of this report.

Views of the Group

11. It was suggested that a separate full discussion of urban and rural issues was required.

2001 Census

12. FRSG(01)17 and FRSG(01)32 set out in considerable detail which and how 1991 Census indicators that are used in the current formula might be derived from the 2001 Census.

13. Few indicators are not derivable from the 2001 Census. Exceptions are Visitors (day and foreign), where none of the information required for apportioning visitor data was collected at all. For ED density and Sparsity measures (ward and higher measures are unaffected) it was noted that EDs would no longer exist (at least in a comparable form to the 1991 Census) and therefore these indicators would need to be replaced with 'Output Area' density and sparsity. It was noted that since 'Output Areas' were intended to be geographically cohesive units, it was thought that these new indicators would, if anything, provide more focussed indicators. Finally it was noted that the social class variable would no longer be available, but that the use of a close alternative should be possible based on the new National Statistics Social Economic Classification.

14. More generally it was noted that the 1991 concept of a head of household would be directly replaced in the 2001 Census by a household reference person.

15. Other than the indicators mentioned above all other current indicators can in principal be derived from information recorded in the 2001 Census. However, certain indicators could not be derived from the then proposals for standard outputs. Thus indicators that relied on non-standard outputs would not be available for 2004/05 but instead would have to be specially commissioned (incurring unknown expense) for a later date. Paper 32 sets out those indicators where this is an issue, suggests close alternatives where available, and suggests potential amendments to standard outputs. DTLR has raised these issues with ONS who undertook to examine these amendments and make changes where possible.

Views of the Group

16. In discussion DTLR indicated that they were hoping to work on the principle that Census data would normally be updated as they became available (mainly in 2004/05) and that this reflected the usual policy to update data whenever newer data became available. In discussion the view was raised that the updating of Census data in 2004/05 could not be regarded as a simple data change, the step change was too big and in many cases the data would reflect different things to 1991 (notably lone parent families). To deal with this four alternative suggestions were raised: That the data should be frozen and 1991 data used throughout the methodology freeze period; that the review be reopened when 2001 Census data became available; that the implementation of the review be delayed until the data became available; or that the new formulae be designed as far as possible so as not to use Census data.

17. Paper FRSG(02)112 examines these issues.

18. It was suggested that a detailed list of both Census and non-Census data that are used in the various options should be provided as soon as possible.

Further work

19. Potential new Census indicators will need to be considered for 2001 Census availability. Since this is an extremely labour intensive process it is not possible to screen all suggested indicators in advance. DTLR will therefore only perform this exercise on variables that are going to form part of the summer consultation on the review outcomes.

Abbreviations

City	City of London
ED	Census Enumeration District, i.e. the area covered by one enumerator in the 1991 Census
EPCS	Environmental Protective and Cultural Services
GLA	Greater London Authority

Data papers considered by the Formula Review Sub-Group

FRSG(01)08 Specification	Review of Urban and Rural Definitions – Project
FRSG(01)17	Data not available from the 2001 Census
FRSG(01)27	Disaggregating Foreign Visitor Nights data
FRSG(01)32	Data from the 2001 Census - 2001 equivalents to 1991 indicators, detailed definitions
FRSG(02)112	Approach to 2001 Census Data

Chapter 6

Personal Social Services

Overview

Options for change considered by the Group

Children's Foster Cost Adjustment

- Update the existing Foster Cost Adjustment methodology using 2000/01 data.
- Adopt simpler Foster Cost Adjustment based on the work carried out by the Thomas Coram Research Unit.
- Include an ethnicity indicator in the Foster Cost Adjustment.
- Adjust the weight applied to the Foster Cost Adjustment from 17.5% to 19.35%.
- Drop the Foster Cost Adjustment altogether.

Other Adults Formula

- Update existing expenditure based methodology using 2000/01 expenditure data, retaining the existing Other Adult indices.
- Move to a simpler expenditure based methodology using three variables.
- Adopt a separate Mental Health formula, accompanied by a new formula for all expenditure excluding Mental Health services.
- Move away from regression on past expenditure approaches, using activity data.

Elderly Residential and Domiciliary Formulae

Options for 'Needs' part of the formulae

- Update separate residential and domiciliary formulae (as estimated in the PSSRU research).
- Adopt a combined needs formula (as suggested in the PSSRU research).
- Adopt 'Total elderly population including those in institutions' measure for the Elderly residential formula.

Options for the 'Unit cost' part of the formulae

- Revise the size of the sparsity top-slice in light of the MSA Ferndale research.
- Adopt regression based approach for the 'Income from charges' adjustment for both Residential and Domiciliary formulae.
- Adopt a weighted average of Residential and Domiciliary Area Cost Adjustments if using combined needs formula.

What remains to be done

- Options need to be revisited under the different Area Cost Adjustments (ACA) under consideration by DTLR.
- Revisit the weightings used in the Elderly combined formula following decisions on the transfer of nursing care responsibilities.

Areas of agreement

- It was not possible to update or review the York University Children's model without use of the 2001 'Children in Need' census (CIN) data.
- The Thomas Coram research suggests that a more straightforward Foster Cost Adjustment is feasible.
- An expenditure-based approach would be the way forward for the Other Adults formula as an activity-based approach proved not to be viable.
- While there are a number of viable options for changes in the Elderly PSS SSA formulae, ultimately it would be a matter of judgement as to which was adopted.
- A formula for the 'income from charges' adjustment is better than using actual income from charges.

Personal Social Services

Main Report

Introduction

1. This chapter of the report sets out the current Personal Social Services Standard Spending Assessment (PSS SSA) formulae and records the work carried out by the Formula Review Sub-Group towards options for new formulae.

Existing Formulae

2. The current PSS service block is made up of four Standard Spending Assessment (SSA) sub-blocks, each of which has a separately constructed formula:

- **Children's Services:** which include adoption and foster care, children in residential care and those on child protection registers, for children 0-17;
- **Other Services:** which include the provision of residential and non-residential services to adults aged 18-64 with physical or learning disabilities, or mental illness;
- **Elderly Residential Services:** which cover residential and nursing homes; and
- **Elderly Domiciliary Services:** which include home helps, meals on wheels, day care and lunch clubs for people over 65.

A detailed breakdown of the factors, currently included in each of the current SSA formulae, is given in the Annex to this chapter.

Overview

3. As part of the Local Government Finance Review the Formula Review Sub-Group has considered a number of papers. These are listed in at the end of this chapter. Copies of each paper considered by the group are available on the Local Government Association (LGA) web site¹ (papers listed under the date of the meeting at which they were discussed).

4. The group looked at each of the formulae separately, and for ease of reference in this paper, the review material for each sub block is set out separately. For each sub-block in turn (Children's', Other Adults, Elderly), the current formulae are outlined, followed by a discussion of the research undertaken and the options for change.

¹ <http://www.lga.gov.uk/Executives.asp?lsection=59&ccat=407>

Children's Services

5. The main part of the Children's Formula is the number of children aged 0-17 weighted by an index of deprivation/need. The deprivation index consists of five separate indicators. These indicators and the weight given to each indicator were established using a multi-level model (the 'University of York' Model). The formula also has an adjustment reflecting the additional costs of recruiting and retaining foster carers in some parts of the country.

6. There was considerable discussion about whether it would be possible to use the Children in Need Census data to either develop a new Children's PSS formula, or to test the validity of the existing formula. However, at the FRSG meeting in September it was agreed that the February 2000 Children in Need (CIN) Census data was not robust enough, and that the later September / October 2001 CIN data would not be received in time, and would not be viable, unless supplemented by additional information on deprivation from local authorities.

7. It was acknowledged that, since the current Children's Formula had taken nearly five years of careful research, it would not be appropriate to introduce a new formula without allowing adequate time (and research) to get it right. It was therefore agreed to drop the option of reviewing this formula for the time being, though the possibility remains that the main element of the Children's Formula will be re-examined during the next review. It was agreed that the priority (for this review) would be to review the Fostering Cost Adjustment (FCA) which is a separate part of the Children's Formula.

8. The current FCA is an adjustment to reflect the additional costs of recruiting and retaining foster carers in some parts of the country. It is based on regression analysis of unit costs, and so risks reflecting differences in policy and efficiency across different authorities. It is constructed in a complex way (using a technique known as two-stage least squares regression to distinguish between demand and supply of foster carers) and is multiplicative. The argument for simplifying the Foster Cost Adjustment is that such complexity does not fit well with the aims of developing a more intelligible system. The argument against simplifying the FCA is that some distributional accuracy may be lost.

Update existing Foster Cost Adjustment

9. Analysis conducted by the Department of Health found that a simple update of the existing Foster Cost Adjustment methodology, using more recent data was feasible. The model estimated in this way had a slightly worse fit than the current model, and the analysis indicated that the degree of variation in costs had decreased, with the constant term increasing and the coefficients declining in importance. In addition, a more thorough update was attempted, revisiting the two-stage least squares method, and reviewing the explanatory variables included in the analysis. The 'best' model produced was found to collapse down to a simple linear regression model, with just two

significant variables: the proportion of unskilled and partly skilled individuals; and an ethnicity measure (country of birth). Although the R^2 values of an Ordinary Least Squares regression and a Two-stage least squares regression are not directly comparable, the new model seemed to have substantially better fit (adjusted R^2 of 0.33). *This analysis was completed following the final meeting of the Formula Review Sub-Group, and the findings have not been presented formally to that group.*

Adopt simpler Foster Cost Adjustment based on the work carried out by the Thomas Coram Research Unit.

10.FRSG(02)78 reports the research “Demand and Supply of Foster Care: A Report to the Department of Health” by the Thomas Coram Research Unit, Institute of Education. This research was commissioned by the Department of Health to examine options for change for the Foster Cost Adjustment².

11.The study has not been able to move away from regression analysis of unit costs. It has however been able to simplify the existing approach. The current approach tries to distinguish the demand and supply for foster carers in each authority (using a technique known as two-stage least squares regression analysis). However, the current study notes that some parts of the country, particularly London, place large numbers of children with other authorities. This blurs the link between the supply of foster carers in an area and the demand for care. In any event, it is possible to estimate a (reduced form) unit cost function alone, without using the two–stage least squares method.

12.The main conclusion from the study was that if a foster cost adjustment continues to be used, a fairly simple model with just two variables can be employed. The two variables are :

- Proportion of females aged over 16 working full-time
- Proportion of persons from social class 4 or 5

13.Using this model, estimates of the expected gross weekly expenditure per child in foster care were calculated. Some authorities are spending above their expected level, and others below.

14.One drawback of this model is that the second variable will not be available from the 2001 census. Consequently, a further regression analysis was conducted, leaving out this social class variable. Again, a simple two variable model was found to be appropriate. This time the social class variable was replaced by:

- Proportion of children from lone parent families.

² [http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG\(02\)78.PDF](http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG(02)78.PDF)

Estimates were also derived for each local authority from this model. Although the two models gave roughly similar results, the figures for some local authorities were quite different.

15. Two additional factors were noted, which could not be dealt with statistically. One was the number of mixed race children in an area. This has been flagged up before as a reason why authorities may face higher costs, the argument being that these children are particularly difficult to place. The Thomas Coram work has explicitly tested a number of measures of ethnicity, and found that they are not statistically significant. This is consistent with the current adjustment. There is also anecdotal evidence that London authorities have been very successful in recruiting black foster carers. However, the analysis has not been able to test a measure of ethnicity specific to mixed race (though this will be possible once the 2001 Census variables are available).

16. A second factor was the need to use independent foster agencies, which cost more than the allowance a local authority pays to its own foster carers. Since Thomas Coram model expenditure, their results reflect the higher costs where these are incurred. The researchers argue that a more direct measure of the use of independent fostering agencies may provide a better link with higher costs. Such information may become available through the National Commission for Care Standards registration of all fostering agencies. However the presence of these agencies is more likely to be symptomatic of a gap in demand and supply of local foster cares and a marketing opportunity.

17. Following the final Formula Review Sub-Group, the Thomas Coram researchers have revisited their work in light of the discovery of some errors in their original dataset. Using corrected (and updated) data, Thomas Coram have revised their model, and have produced a model in full agreement with DH analysis (see para.9). The two variables remaining in the model are measures of social class and ethnicity (country of birth indicator). *This analysis was completed following the final meeting of the Formula Review Sub-Group, and the findings have not been presented formally to that group.*

Views of the Group

18. The following comments were made by the Formula Review Sub-Group;

- There was a discussion on whether there is a strong correlation between the use of independent agencies and ethnicity. Thomas Coram noted that it is difficult to separate out these effects. London has a high incidence of out of borough placements and ethnicity, but it is not clear that ethnicity is the key explanatory variable.
- When researching the current Children's Formula a large number of variables had been tried, 30-40 of which had been ethnicity variables. If unit costs for fostering children from ethnic minorities were higher this would have been expected to show in the regression. It was acknowledged, however, that no data had been available on children of mixed race.

Inclusion of an Ethnicity Indicator in the Foster Cost Adjustment.

19. Paper FRSG(02)79³ is a report “Foster Care Costs and Ethnicity” prepared by Birmingham City Council on behalf of the Higher Ethnicity and Special Interest Group (HEASIG).

20. The paper focuses on the case for amending the Foster Cost Adjustment “to take account of the increased costs experienced when fostering ethnic minority children”. The aims of the study were;

- i) To determine if there is a higher incidence of children in need of foster care amongst ethnic minority populations;
- ii) To examine whether providing foster care to ethnic minority children has additional cost implications for local authorities over and above the current SSA formula;
- iii) To suggest an amendment to the current Foster Cost Adjustment funding formula if either (i) or (ii) indicate it is necessary.

21. The research conducted has three broad strands, a review of publications relevant to foster care of ethnic minority children, a survey of HEASIG member authorities looking at foster costs, and a statistical analysis using DH data and indicators currently used in the SSA to assess the impact of ethnicity on incidence or cost of foster care (see aims above).

22. Following a literature review, the researchers draw out the finding that “in providing services to ethnic minority children, local authorities should take into account a number of additional needs, which place an additional cost burden on them”⁴. The researchers comment that a number of reports suggest that authorities are failing to meet needs adequately, and that these needs are not recognised. They note that adoption rates for ethnic minority children are below that of white children (looked after), and that low adoption rates will impact further as the need to supply foster care to this group will be increased, when there is already a shortage of suitable carers. It is also suggested that regression analysis of past expenditure will underestimate required resources as unmet need is unaccounted for, and that additional resources will be required as a result of changes in government guidance.

23. The local authority survey (15 of 27 authorities responded) revealed that authorities felt that there were a range of additional costs that may be incurred in relation to foster care of ethnic minority children. The researchers found that there appeared to be a consensus that these additional costs arise in relation to the use of specialist agencies, translation, interpretation, additional training, specialist recruitment and transport. It was not possible, from the responses received, to distinguish between the costs of providing foster care to ethnic minority and white children. 10 authorities out of 14 responding to

³ [http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRSG_\(02\)_79.PDF](http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRSG_(02)_79.PDF)

⁴ HEASIG research paper p.10

the relevant section reported that ethnic minority children in care were over represented relative to the proportion in the general child population.

24. The researchers conducted their statistical analysis using DH PAF indicators for 2001/2 and the 1991 census “country of birth of head of household for children 0-15” as an ethnicity indicator. The analysis showed that “high ethnicity authorities have more deprived populations, with higher numbers of children in need and children looked after. They are also more likely to look after children with additional problems, as shown by the higher proportion of care leavers with no qualifications at 16”⁵. Deprivation indicators were shown to be highly correlated with both ethnicity and percentages of children in need / looked after. The analysis also identified a positive correlation between the ethnicity indicator and fostering costs, and negative relationships between the ethnicity indicator and service variables such as percentage of children adopted and percentage of child protection cases reviewed on time during the year.

25. The researchers conclude that a change to the current funding formula would be required to reflect the higher cost of providing foster care to ethnic minority children, although this will not be possible until the new 2001 census data becomes available. In the mean time they suggest that a judgmental top-up be considered.

Views of the Group

- The University of York explained that in their research on the present Children’s Formula, ethnicity did not add to the explanatory power of the model once deprivation had been included in the model. If this is correct, then high ethnicity authorities are not systematically disadvantaged.
- Thomas Coram noted that the skewed nature of ethnicity data may make it unsuitable for regression analysis. An ethnicity adjustment may, therefore, be a matter for judgement.
- It was suggested that DH should look at what was happening on the ground. Several authorities that had lost out when ethnicity was taken out of the Children’s Formula had had poor SSI reports on their Children’s services.
- The increase in costs associated with the use of fostering agencies was noted and it was asked that more work be done to explore the phenomena.
- It was suggested that care should be taken when examining time series of fostering costs, as the use of independent agencies was a changing situation, and they were starting to become common outside of the South East. DH said that they would be examining the latest available unit cost figures in order to reflect this.

⁵ HEASIG research paper p.19 – findings based on analysis of correlations between indicators.

- DH agreed to consider the use of a judgmental ethnicity top-up in the Foster Care Adjustment. Currently there is a lack of good data on ethnicity and foster care, notably a lack of data on mixed race children, which has been cited as a driver of foster costs. In the absence of such data, a judgmental approach may have merit.
- In the long-run it should be possible to more comprehensively research the ethnicity issue and its relation to costs, once the Children in Need Census data and 2001 Census data are available.

Adjust the weight applied to the Foster Cost Adjustment.

26. Currently, the formula assumes that 17.5% of PSS (net) expenditure on children relates to foster costs. Analysis of PSS expenditure data for 2000/01 was conducted in order to assess whether the weighting given was still appropriate.

- The analysis using the Department of Health's PSS Ex1 expenditure return showed that up to date (net) expenditure data suggests that the weight should be 19.35%. Slightly increasing the weight given to the Foster Care Adjustment is therefore an option for change.

Other Adults SSA

27. The Department of Health commissioned research from the University of York, looking at the Other Adults SSA formula as it had been identified as an important area for further work. The CCN commissioned another piece of work from MSA Ferndale looking specifically at Mental Health services, which at present comprise one element of the Other Adults formula. The findings of both the research studies were presented to the Formula Review Sub-Group. In addition to these two studies, this report includes summaries of two in-house DH studies that address some of the issues arising from the research.

28. The current formula allocates a basic sum per adult, with adjustments for deprivation using two deprivation indices. The first index consists of seven indicators, the second of five. This is the only PSS formula derived using regression analysis of past expenditure apart from the Foster Cost Adjustment (Children's' Formula).

Research on the Other Adults SSA Formula

29. Paper FRSG(02)76⁶ reported on research commissioned by the Department of Health from the University of York. The findings of the report "Local Authority Standard Spending Assessments: Social Services for Adults 18-64" are briefly summarised below;

⁶ <http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/76 - York Other adults report.PDF>

30. The University of York carried out a literature review; an analysis of the approach taken by different countries; a survey which asked local authorities to identify the needs drivers; and an analysis of available data that could be used to allocate resources. The report concludes that there is no simple model that could be used to move away from regression of past expenditure.

31. The research looked at the possibility of splitting the formula into component client groups i.e. people with learning disabilities, people with physical disabilities and people with mental health problems. It concluded that the factors that may lead to the need for services are complex, and are likely to be linked to conditions over a long time period, rather than to recent social and economic conditions. Recent economic conditions may provide a proxy measure for some causes of need, although it is not likely to be a strong relationship, as each of the three main areas of (adult) need has more than one component and cause.

32. The researchers also looked specifically at the scope for using Disability Living Allowance uptake as an indicator to explain the level of need for these services, as preliminary analysis suggested this could be a fruitful approach. Unfortunately, following further analysis, they found that there was not a strong correlation between expenditure on these services and receipt of DLA. A high correlation between the DLA take up and the deprivation indices suggested that DLA data could be used in a funding formula as a proxy for deprivation.

33. A survey was sent out to Local Authorities (22% responded), to solicit the opinions of Directors of Social Services on how a variety of factors impacted on the need for adult social services. No individual factors were agreed upon by all respondents, although all factors were thought to be positively related to the need for services. The researchers reported that no detailed conclusions could be drawn.

34. The researchers suggest that it is unlikely that there is a “simple and readily available indicator of needs for expenditure on physical disability, learning disability or mental illness”. It is suggested that, in the absence of detailed data on type of client, severity of problems, basis of assessment or cost and quality of services provided, it is difficult to devise a transparent allocation methodology based on need.

35. Although based on a small sample, their survey showed that a range of social factors were thought to be associated with increased need for services. The relationship between these factors and need for services may not, however, be straightforward for a number of reasons.

36. Detailed local data would need to be collected in order to continue the search for a more transparent approach to funding for adult services

Views of the Group

- It was noted that there are some very high cost clients in other parts of PSS as well as the “Other PSS” block that could have a large impact on Authorities’ budgets. It was argued that it would be useful to do some analysis on how large the problem was and whether non-formula solutions might be appropriate.
- DH replied that this information could not be obtained from available activity data, which made the point difficult to pursue.
- The University of York suggested that there were a relatively small number of institutions serving high cost clients, and that it might be possible to carry out a survey of a small number of them to find out where the clients had come from. They also suggested that, if there were only a small number of cases that did have significant costs, funding ought not to be formula distributed, but the risk should be managed at a higher level instead.
- The Group acknowledged that a model based on receipt of Disability Living Allowance would not be feasible.

Update existing expenditure based methodology using 2000/01 expenditure data, retaining the existing Other Adult indices.

37. The paper FRSG(02)110 reports on work carried out by the Department of Health to update the current methodology using more recent data. The aim of this work was;

- i) To use the most up-to date expenditure data to assess whether the current Other Adults methodology is still valid. The existing formula is based on regression analysis using expenditure data from 1990-91, and it is necessary to see whether the formula is valid when updated.
- ii) To assess whether a formula based on expenditure per head excluding mental health services is feasible. If such a formula is feasible then it may be possible to separate out mental health services into a stand-alone funding formula (provided a reasonable Mental Health services’ formula can be agreed upon).

This work also relates to the option headed “Adopt a separate Mental Health service formula”, below.

38. (Net) expenditure per head figures (for the three separate expenditure blocks) were regressed on the current “Other” adult indices and also on the individual indicators. The relevant expenditure figures had been deflated by the Area Cost Adjustment (ACA).

39. The current Other Adults SSA methodology appeared to be valid in the sense that both of the indices currently used were significant predictors of adult PSS expenditure per head. An estimating equation based on these

indices was found to account for some 55% of variation in Local authorities' PSS expenditure per head.

40. The analysis indicates that the option of separating mental health services out of the current formula is possible. A regression of remaining expenditure per head on the current indices showed that the indices are significant explanatory variables and that the model would account for a reasonable amount of variation (some 42%) of expenditure per head. A slightly improved model in terms of fit used just two variables, Income support and Rented flats. This 2 variable model accounts for around 47% of the variation in 'remaining' expenditure per head.

Views of the Group

- The Group felt that it would be helpful to look at gross expenditure as well as net expenditure. This analysis is currently being conducted by the Department of Health.
- Reference was made to the literature review at Annex E of paper FRSG(02)109 with regard to ethnicity. It was argued that if there is unmet need associated with ethnicity then regression based formula will not pick this up. There may therefore be a case for a judgmental ethnicity top-up.
- An updated version of the existing formula is feasible.
- One group noted that the use of Index of Multiple Deprivation (IMD) indicators in regression analyses (such as the health based indicator) would offer a real alternative to 1991 Census based indicators.
- The Department of Health noted that regressions on expenditure including an IMD overall score had found that the variable did not add anything to the model.

Move to a simpler expenditure based methodology using three variables

41. Paper FRSG(02)110 found that it is possible to account for nearly 60% of the variation in expenditure per head using an equation based on three explanatory variables, "Income Support", "No Family" and "Rented Flats". This was a slight improvement in fit compared to a model using the two existing Other Adult indices. These results will need to be revisited under different options for the Area Cost Adjustment.

Views of the Group

- A simpler model for the Other Adults formula is feasible.
- It was argued that 'Principal Components' analysis should have been employed to allow a wider range of potential explanatory factors to be included.

Adopt a separate Mental Health Formula

42. The paper FRSG(02)75 is a report “A Study to Identify Determinants of Variation in Demand for Mental Health Social Services in England with Implications for Equitable Funding⁷” by MSA Ferndale on behalf of the County Council Network.

43. The MSA Ferndale research aimed initially to develop a distribution formula based on analysis of the determinants of variation in per capita costs of delivery of Mental Health social services, between localities within Local Authority areas. Due to difficulties of data collection, the proposed approach was not feasible. The revised approach adopted was to investigate a formula based on analysis of the determinants of variation in social service activity rates (i.e. numbers of social services clients per capita).

44. Data was collected for 10 authorities, covering some 1,059 electoral wards. It was found that the data collected was broadly representative of England as a whole and was thought to be a reasonable sample. Rates of demand for services were age and gender standardised and regressed on a series of socio-economic indicators identified from relevant literature. Using this approach, the researchers identified a model of ‘additional needs’ for services, based on three indicators (DTLR Index of Multiple deprivation, proportion of people aged 18-64 living alone and proportion of residents in rented accommodation).

45. The researchers found that “it is possible to derive a simple, transparent and evidence-based distribution mechanism for mental health social services funding as a replacement for the current SSA mechanism⁸”. The MH formula that MSA Ferndale identifies is based on a statistical link between the observed demand rate for Mental Health services and measurable socio-economic variables. While the explanatory power of the proposed formula is modest (proposed formula accounts for around 14% of the variation in the data) and statistically misspecified, it is thought to be based on technically sound methodology.

46. If the proposed formula for mental health services was to be adopted, then consideration would need to be given to how funding for the remaining “Other” adult services would be allocated. MSA Ferndale recommended that in the short-term the current mechanism be retained for adult disability services and that research be undertaken to develop a new empirically based mechanism when time and resources permit.

47. MSA Ferndale made the following recommendations;

- Immediate steps be taken to develop further the new MH formula in time to inform the 2003/4 RSG settlement.

⁷ [http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG\(02\)75.PDF](http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG(02)75.PDF)

⁸ p.16 MSA Ferndale report.

- Establish control totals for the three individual service elements of the Other Adults PSS sub-block.
- Use current SSA formula as an interim allocation mechanism for disability services.
- Commission empirical research when time and resources permit to develop a new evidence based formula(e) specific to disability services.

48. In addition to the work by MSA Ferndale, the Department of Health examined the possibility of using an expenditure-based approach for a separate Mental Health formula. This was discussed in paper, FRSG(02)110, and was outlined above in para.41. The research showed that an expenditure-based approach excluding Mental Health services was feasible, and in addition estimated an expenditure-based regression equation for Mental Health services alone.

Views of the Group

- The Proposed formula could not be compared with the existing SSA, as there are other clients in the Other Adults PSS service block. If the existing SSA only applied to mental health, it would have a different distribution.
- Unit costs should have been modelled as part of this work, since costs per client varied considerably around the country, and this ought to be reflected.
- It was thought that private rented accommodation should have been included as an indicator in the model. MSA Ferndale said that they did look at this indicator, but that the rented accommodation variable they had chosen performed slightly better.
- MSA also said they had intended to model client costs but the information was not available from a sufficient number of authorities. They explained that there are small numbers of high cost clients in small areas, but there was no particular pattern to their distribution across the country.
- Sparsity needed to be considered and modelled in any future work.
- The Index of Multiple Deprivation (IMD) was designed for use in distributing regeneration funding, rather than revenue grant. Issues of homelessness, ethnicity and client turnover needed to be looked at in more detail.
- Also discussed was the issue of whether some of the subgroups could be aggregated, for example by combining males and females.
- In summary, DTLR said that the Group had identified a number of areas where the work needed to be taken forward and developed. DH said that detailed further analysis would not be possible in the timescale for 2003/4,

because of the need for further data collection. DH would, however, be exploring available activity data (discussed below).

- It was argued that the MSA Ferndale work should be used to inform a larger scale research project which should commence in the near future so that the results would be ready in time for the next round of formula changes.
- The model nevertheless represents a serious attempt to move away from regression of past spending. If considered as an option for 2003/4, the feasibility of separating out mental health services from the Other Adults SSA would have to be addressed.
- An expenditure-based formula excluding mental health services is feasible.
- An expenditure-based approach to Mental Health services alone is also feasible.

Move away from regression on past spending approaches, using activity data

49. Paper FRSG(02)110 reports on work by the Department of Health looking at the feasibility of an activity based approach. The research, "Reviewing the Other Adults SSA Formula: An Exploration of Activity-based Methodology" is summarised below;

50. Data from the 2nd dress rehearsal of the RAP (Referrals, Assessments and Packages of Care) collection was used to construct cost-weighted activity measures for each main Other Adult service (Physical disability, Learning disability, Mental health) individually and for overall service use. Regression analysis was employed to assess whether it was possible to accurately model cost-weighted activity in terms of a set of socio-economic indicators. Each cost-weighted activity measure (for PD, LD, MH and overall service use separately) was regressed on a set of indicators used in the current Other adults SSA formula, using a variety of techniques.

51. This first exploration of the data revealed that some statistical relationships between the 'cost-weighted activity' indicator and some socio-economic indicators existed, although none of the relationships identified were particularly strong. The RAP data from the 2nd dress rehearsal collection was not complete. Further work may explore these relationships using fuller data when it becomes available.

52. Attempts to model cost-weighted activity measures were largely unsuccessful, in the sense that useful models that explained a large amount of the variance in service volumes with significant explanatory variables could not be estimated. A useful finding from the modelling attempt was that the regression analysis indicated that MH service volume data seemed to exhibit different characteristics to that of the LD and PD cost-weighted activity. The

analysis may provide justification of a break-up of the 'Other' Adults service block into 2 blocks, one for MH and another for all other services, along the lines suggested by recent MSA Ferndale research.

53. The analysis was constrained by the fact that the 2nd "dress rehearsal" data was anonymised and only a limited set of explanatory variables were put forward to be added to the dataset. When the new RAP data becomes available, it should be possible to add a wider set of explanatory variables, and have an increased number of observations. The larger sample size and wider range of variables may enable estimation of better models.

54. While analysis of this form may identify relationships between activity rates or service usage and socio-economic indicators, it will only be possible to model met need. Unmet need will not be reflected in any funding formula based on an approach such as this. An activity-based approach is likely to suffer from similar drawbacks to that of an approach based on regression on past expenditure, as it reflects historic patterns of care provision.

Views of the Group

- The group accepted that an activity-based approach as outlined in the paper is not feasible at this time.

Elderly Residential and Domiciliary SSA

55. At the present time there are two SSA formulae for Older People's Services. The Department of Health commissioned the Personal Social Services Research Unit (PSSRU) at the University of Kent to;

- develop a combined formula for predicting the relative need between different local authorities for community care services for older people, including both residential and domiciliary based services and those for people in their own homes, based on administrative statistics including the 1991 Census;
- test the desirability of using a combined formula;
- consider the implications of the 2001 Census;
- review evidence about variations in costs, and consider how factors related to cost variations might be used in a combined formula to allow for differences in the relative unit costs for services faced by local authorities

56. The paper FRSG(02)77, "Report of an Investigation to inform the SSA Formula for Older People"⁹ summarises their findings. In addition, the County Council Network commissioned work looking at the extra costs associated with delivering older people's services in rural areas (FRSG(02)74). Brief synopses of all the research are presented below.

⁹ [http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG\(02\)77.PDF](http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG(02)77.PDF)

PSSRU research report

57. The study used data from the 1995/6 PSSRU survey of older publicly funded admissions to residential care and nursing homes. This included a sample of over 2000 older people in 18 areas. It also used combined data from the 1994/5 and 1998/9 General Household Surveys (GHS) on receipt by older people in the community of home care, day care and meals. The GHS included around 400 recipients of these services in each year. The data for both years was added together to double the sample size of domiciliary clients. In addition, the admissions data and the GHS data were weighted so that the sample data accurately reflected the population of older people.

58. A range of plausible social indicators were selected that were thought to be linked to need for services (where the link can be quantified through independent evidence), were reliable and also outside of local authority decision making processes.

59. The analysis developed separate formulae for residential care and for domiciliary care as well as a combined formula for both forms of care. The combined formula was estimated on a combined data set using PSSRU and GHS data. Additional weight was given to the admissions survey data as the small group of residential care recipients have more spent on them in total than the larger group of domiciliary care recipients do (in terms of SSD resources). The researcher states that there is no correct choice of weights, and two cost-related systems have been used in the analysis.

60. The first step in the analysis was to use logistic regression to identify the social indicators that seemed best able to predict the probability of service receipt. As logistic regressions could not be used in the formulae, the next step was to estimate linear versions of the functions. Only factors found to be highly significant in the logistic regression analyses were included in the linear regression analyses. The general approach was to develop separate formulae first and then attempt estimation of a combined formula (under both weighting systems).

61. The analyses found that:

- Age, household composition, limiting long-standing illness and attendance allowance/disability living were highly significant in a separate domiciliary care regression.
- Age, housing tenure, not head of household, limiting long-standing illness, income support and attendance allowance/disability living allowance were highly significant in a separate residential care regression .
- The factors that were significant in the combined regression were mostly those that were significant in either the residential or the domiciliary regression, i.e. age, household composition, housing tenure, not head of

household, limiting long-standing illness, income support and attendance allowance.

- Ethnicity, which has not been previously used, was only marginally significant in the domiciliary formula and in one version of the combined formula¹⁰ and insignificant in the residential care formula.
- The coefficients using the two different weighting systems with the combined sample were broadly similar.

62. For the combined formula it will be necessary to use a single area cost adjustment, and the researcher recommends using the Area Cost Adjustment (ACA) that is currently applied to the domiciliary formula. This reflected the researcher's view that almost all residential expenditure is labour related. An alternative is the use of a weighted average of the residential and domiciliary ACAs. Consideration has to be given to 'income from charges' adjustments that are made in the current residential and domiciliary formulae. A regression-based approach is suggested for the combined formula, although an alternative is to incorporate the adjustment for domiciliary income only. It is suggested that a sparsity adjustment in a combined formula should only make allowance for domiciliary care, as "there is no evidence long-term residential care is dearer in rural areas"¹¹.

Views of the Group

- The value of combining the formulae was questioned as little was gained other than greater simplicity, as it was based on existing decisions on whether a client is placed in residential or domiciliary care rather than on a separate assessment of each client.
- The main arguments for combining the Elderly formulae are that (i) a combined formula is simpler in principle; and (ii) may be seen as better reflecting the perceived substitutability of Residential and Domiciliary services (whereas separate formulae with separate control totals ensure a hard distinction).
- The main arguments against combining the Elderly formulae are; (i) that difficulties arise in terms of applying an 'income from charges' and unit cost adjustment; and (ii) that a combined formula, in practice, may be seen as opaque due to difficulties in applying unit cost adjustments and the underlying methodology may be seen as over elaborate.
- PSSRU noted that whether or not to have two separate formulae in part depended on the extent to which they can be considered to be distinct services. There had been a convergence between residential and

¹⁰ The researcher noted that "there are in total just 41 people from ethnic minorities receiving services across the three surveys, 22 of whom have no ethnic identity given. Such small numbers may be sufficient to point to the probability of a raised level of use for people in ethnic minorities, but in the author's opinion not to quantify it reliably at this time" [PSSRU report para. 30 p. 7]

¹¹ PSSRU research paper para. 41 p.9.

domiciliary care, with much greater use of intensive home care. In that sense there is no longer such a clear distinction between the two services.

- One group noted that there will be a need for separate sub-blocks as a proportion of elderly people will always end up in Residential accommodation, with different costs and charges (compared to Domiciliary care). If the SSA system is to encourage a standard system of delivery then there should be separate sub-blocks.
- The presentation of a negative constant was queried. PSSRU said that the negative constant resulted because the formula was using a linear model to approximate a non-linear relationship.
- It is technically possible to combine the Elderly residential and domiciliary needs formulae into a single composite formula.

Report on Sparsity

63. The paper FRSG(02)74 “Estimating Travel Related Effects of Population Distribution in the Provision of Domiciliary Care to the Elderly as a Basis for Improved PSS Funding Decisions¹²” by MSA Ferndale for the County Councils Network, reports on the costs associated with ‘sparsity’.

64. The researchers use an SMOSS (Simplified Modelling of Spatial Systems) model, which uses simple function(s) to generate approximations of travel distances and times likely to be experienced providing domiciliary services in a typical working day, in selected districts. For a given set of inputs the modelling work predicts the travel-related effects of a typical day’s work for domiciliary services. From the outputs of the model, average mileage per visit/call and average travel time per visit/call can be calculated.

65. The researchers looked for relationships between routinely collected data and the model outputs (travel times and distances). The use of an indicator which combines a demand (need) weighted elderly population sparsity measure and an elderly population concentration measure is proposed as a good (both feasible and successful) predictor of travel distances required to provide services in a particular LA district. The elderly population sparsity measure discussed was hectares per head of elderly population, chosen as it was easily weighted for need. The elderly population concentration measure discussed would be one based on the proportion of enumeration districts required to cover an input proportion of the elderly population.

66. Travel speeds in an area are not independent of the area’s population distribution characteristics – surveys have shown that travel speeds are likely to be lower in urban areas than in more rural areas due to congestion. This dependence means that the relationship between travel times and population distribution characteristics is more complex than for travel distances.

¹² [http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG\(02\)74.PDF](http://www.lga.gov.uk/Documents/Agenda/Finance/rgd/100402frg/FRG(02)74.PDF)

Judgement had to be exercised in order to decide upon the travel speeds assumed to apply to different types of district (e.g. rural or urban).

67. Findings on travel times and distances from the SMOSS modelling stage were generalised to the whole of England. So that costs of service provision in different local authorities could be examined, a series of assumptions on costs were made. It was assumed that costs in different types of area (urban, intermediate or rural) could differ and the AEM allowed some flexibility in terms of cost inputs.

68. Three different scenario types have been 'run' within the All England Model (AEM). The first scenario is the 'baseline' case reflecting the costs to local authorities when an input 'set' is used reflecting the researchers' best judgement. The other scenario types explored were: (i) allowing for greater differences in travel speeds between districts with different population distribution characteristics, and (ii) allowing for changes in the travel-related cost inputs.

69. The researchers claim that the previously used SSA sparsity adjustment does not "adequately compensate for differential population-distribution-related costs". The researchers propose that AEM outputs are used to derive population distribution weights for each local authority to adjust for travel-related costs. This would involve agreement on the input "set" to be used.

Views of the Group

- One organisation said they had been unable to find evidence of spending pressures in rural areas in their own analysis, and wished to make comparisons with the CCN model to help assess whether sparsity was a real problem. It was agreed that they could be provided with the "All England Model"
- It was noted that the distribution that resulted from the formula contained in the report depended greatly on the parameters set for the inputs. The project's steering group had been unable to agree on a definitive set of parameters. The main finding of the research is that population distribution is a key cost driver of service cost and as such should be used as a building block for a new formula rather than be an add on adjustment at the end.
- The report's assumption of homogenous service provision was queried, and it was asked how Authorities' actual behaviour had been taken into account. MSA Ferndale noted that the assumption of similar service provision was driven by the need to control for factors other than population distribution in the analysis. The assumptions were based on observation of the actual behaviour of home care workers in Plymouth and North Yorkshire from the previous ORH report. They acknowledged that authorities did make different policy choices but noted that the model was a good predictor of distance and journey times across different authorities. However, distance and journey time are not the only determinants of cost,

and other assumptions about inputs have to be made. The model is sensitive to these assumptions.

- Clarification was sought on the assumed route of care workers to and from clients and the assumptions made about the amount of productive time available. MSA Ferndale noted that the care workers were assumed to tour from client to client. The length of the tour is constrained to a given number of hours per day and guided by local traffic speeds. With regard to productive time, this did not include thinking time or 'getting going' time. Further, the report assumed that non-road transport made up a small part of the tour.
- Concern was expressed that London authorities had not been included in the original ORH work and so for home care the weights given to time taken and mileage would not be correct. However, it was noted that some London authorities had taken part in the present study.
- Concerns were also expressed about any move away from the current sparsity variable to a variable produced by a black box calculation and about the small sample on which the work was based.
- DTLR noted that it would be unlikely that such a detailed model would be used directly in the formula. However, the model could be used to inform the size of a sparsity adjustment along the lines of the existing approach.

Research on 'Income from charges'

70. The Formula Review Sub-Group discussed three papers on the unit cost element of the existing elderly residential care formula FRSG(01)04 and FRSG(01)15 and FRSG(02)111.

71. The papers consider the consequences of the transfer of nursing care costs and updating the 'income from charges' data from the early 90's. They also cover the 'income from charges' adjustment in the current domiciliary formula, and consider how an 'income from charges' adjustment could be made in a combined formula.

72. Updating the data used in the 'Income from charges' adjustment in the elderly residential formula encounters two problems. The first problem is that of mis-recorded data, and the possible perverse incentive for under-recording income from charges by authorities in order to acquire additional grant. A solution put forward is to use benefits data as a proxy, and use regression analysis of average income per client divided by national average gross unit cost of nursing and residential care on an income support indicator. This still does not take into account increasing variation in residents' incomes that arises due to the withdrawal of the Residential Allowance. A proposed solution is to upwardly adjust the regression coefficient on the Income support variable. This would be an ad-hoc adjustment until the next formula review and the degree of upward adjustment would need to be agreed.

73. The paper FRSG(02)111 considers taking into account the transfer of nursing care costs, which affects the elderly residential income from charges adjustment, as the transfer means that the gross cost to authorities of nursing home care should in principle be similar to residential care.

74. Two changes to the current domiciliary formula 'Income from charges' adjustment are proposed, (i) To update data used, and (ii) To deflate expenditure (used in calculating the adjustment) by the ACA. Regression analysis is employed to demonstrate a potential adjustment, if the changes were to be adopted.

75. It is argued that "if the income from charges adjustment in the residential formula is to be on the same basis as the current domiciliary formula, then in a combined formula it is straightforward to have a combined income from charges adjustment by taking a weighted average". An example of such a weighted average is presented.

Views of the Group

- The low 'fit' of the model presented was raised, although DTLR stated that this could be a result of poor data quality.
- Disappointment that the method used would not capture the effects of changes such as the introduction of free nursing care and fair charges guidance.
- One group noted that there are difficulties with calculating any 'income from charges' adjustment for Elderly Residential and Domiciliary SSAs and that there was a possible need for a new survey of income to update the analysis.
- Another group noted that new formulae should not be based on actual income since authorities do not treat income in the same way. While benefit data may be expected to be a factor (explaining income from charges levels) even in families that are not on benefit, where the client going into Residential care is part of a couple, the income available to pay charges may not be dissimilar to that of those receiving benefits.
- There was general agreement from local government that the use of actual income from charges was not the way forward.

Adopt 'Total elderly population including those in institutions' measure for the Elderly residential formula.

76. The paper FRSG(01)23 reporting work by Rita Hale Associates (commissioned by the Resort Authorities), discussed the issue around the choice of population measure, 'total elderly population' or 'total elderly population minus institutional population' used in the Elderly Residential formula. Prior to 1999 the 'total population' measure was used, but the 'total population minus institutional population' is currently used.

77. Essentially, the issue arises because of the way in which Local authorities can place people out of area, and the fact that neither 'total population' or 'total population minus institutional population' adequately reflect the numbers of people that local authorities are responsible for. The argument for the current methodology is that under the 'total population' measure, people who are in out of area care places are counted as the responsibility of the host authority, and the host is over-allocated additional funds accordingly. The argument against is that if an authority has a large proportion of its own elderly residents in care, then it is likely to be under-funded.

Current PSS SSA Formulae

There are four client (age) specific sub-blocks for which need is estimated. These are children (0-17), elderly (65+) supported in residential care, elderly supported with domiciliary care, and other adult (18-64) social services. The calculation of an authority's SSA follows general principles applied to all authorities and takes account of each authority's demographic, geographic, social and economic characteristics. The main factors included in each of the four formulae are as follows:

Children

In addition to the number of children in each area, the children's formula takes account of the following six factors:

- Proportion with a limiting long-term illness
- Proportion of children living in one adult households
- Proportion living in households claiming income support
- Proportion living in flats
- Density of population of the area
- The "foster care adjustment", which reflects difficulties in recruiting, fosters carers and is based on demand for foster care and the number of married females in full time employment.

Other Adult Personal Social Services

This formula has two indicators of social, economic and health conditions, which were derived by factor analysis. Factor analysis enables indicators to be grouped according to their likeness to one another. The first index consists of:

- % unemployed of working age
- % of total population receiving Housing Benefit
- % of households in rented non-private accommodation
- % of residents on Income Support of 18-64 age population

- % of lone parent households with at least one dependent child
- standardised limited long-term illness rate of those of 18- 64 age
- standardised Mortality rate for under 75 years.

The second index is based on the following factors:

- % of single households
- % of residents not from UK the Republic of Ireland, the European Community, the Old Commonwealth and the USA
- % of households living in purpose build non-private flats
- % of households living in overcrowded accommodation (more than one person per room)
- density.

Elderly Residential

The potential demand for residential care is assessed by a formula which incorporates the total number of elderly people resident in households, and the following eight indicators of the characteristics of the population:

Proportion of over 65 population that are;

- on Income Support
- on Attendance Allowance or Disability Living Allowance
- aged 75-84 years and living in a household
- aged 85 years and over and living in a household
- living in a household in rented accommodation
- with a limiting long-term illness and living in a household
- who are not in a couple and not a head of household and living in a household
- living alone in a household.

Domiciliary services for the elderly

The number of potential elderly domiciliary clients is based on the numbers of people in the local authority's area aged 65 and over, and the proportions with the following characteristics:

- proportion of over 65 population that are;
- aged 75-84 years
- aged 85 years and over
- elderly living in rented accommodation
- elderly living alone
- elderly on Income support
- elderly with a limiting long-term illness.

The formula also takes account of an authority's ability to raise charges; this is also based on the proportion of elderly on income support.

Area Cost Adjustment

In addition, all authorities in London and the rest of the South East region receive the area cost adjustment. There are seven ACA area factors, and also one for the Isles of Scilly.

Personal Social Services papers considered by the Formula Review Sub-Group

FRSG(01)02 Children's SSA formula - DH
FRSG(01)03 Ethnicity in the Children's Formula – DTLR
FRSG(01)04 Elderly Residential Unit Cost Adjustment – DH
FRSG(01)05 Sparsity in the Elderly Domiciliary Formula – CCN
FRSG(01)11 Children's SSA – York Model – DTLR
FRSG(01)12 Review of the Children's SSA – CCN
FRSG(01)13 Children in Need Census – DH
FRSG(01)14 Foster Cost Adjustment – DTLR
FRSG(01)15 Income from Charges Data – DH
FRSG(01)22 Children in Need Census - DH
FRSG(01)23 Resort Authorities – Rita Hale
FRSG(01)24 PSS Norfolk Project – CCN
FRSG(01)43 Norfolk Project Update – CCN
FRSG(02)73 Norfolk Project Covering Paper – CCN
FRSG(02)74 Norfolk Sparsity Paper – MSA Ferndale
FRSG(02)75 Norfolk Mental Health Paper – MSA Ferndale
FRSG(02)76 Other PSS Research – DH/University of York
FRSG(02)77 Older Peoples Research – DH/University of Kent
FRSG(02)78 Fostering Unit Cost Research – DH/Thomas Coram
FRSG(02)79 Fostering Unit Costs – HEASIG
FRSG(02)109 Other Adults block: Activity-based methodology - DH
FRSG(02)110 Other Adults block: Expenditure-based methodology –
DH
FRSG(02)111 Elderly services: Treatment of charges income – DTLR

Chapter 7

Fire

Overview

Options considered

1. The group has considered two main options. The first option is a minimum change approach that uses a 'Fire Risk Index' (i.e. an index that attempts to predict the likelihood of a fire authority receiving a fire or other call) to replace the current fire calls indicator that acts as a potential perverse incentive. The second option is to use this index together with a measure built up from 'fire risk areas' (e.g. 'A' risk etc. qv para 18) and other variables. Finally a further approach has been suggested based around using budgets to set a base position and then applying the same flat rate increase to each authority.
2. The approaches all have a number of variants. However, there are also a couple of variants that could be used in combination with any of the above options. The first is to change the percentage that is allocated to fire safety within the formula, and the second is to create a 'top-slice' for sparsity.

Further work

3. Further work remains to be done on producing alternative fire risk indices in particular one that avoids the use of Census data and one that uses a wider range of special service calls for its calibration.
4. In the fire risk area based approach further work needs to be done in determining the weightings for the factors used together with work on looking at a fixed cost element. Further work is also required on the use of proxies for risk area.

Areas of agreement

5. There is uniform agreement that the perverse incentive of the fire calls indicator need to be removed from the formula. There is agreement that the costs of attending a call (except for a very few high profile calls) are small in comparison with the costs of providing the stand-by service.

Areas of disagreement

6. There has disagreement whether activity (or busyness) has an impact, over and above risk area classification, on the level coverage that is required. There is disagreement over whether 'density' can be justified as a cost driver in the formula.

Fire

Main Report

Introduction

7. This paper sets out the current FIRE SSA formula, records the work carried out by the Formula Review Sub-Group and identifies a number of options arising from this work which could be used to create a new formula.

Why the Review?

8. The group was established to look at all the existing SSA formula with the aim of putting forward a number of options for changes that would make the formula both fairer and simpler to understand and remove perverse incentives.

Existing Formula

9. The current formula is split into four elements: the main formula and three 'top-slices' – for pensions, fire-safety enforcement, and fire-safety education.

Main Formula - This is based on population and contains additional factors for fire calls, 'A' risk, density, and length of coastline (which is included mainly to reflect the fact that coastal authorities can not call on adjacent authorities for assistance).

Fire Pensions - This top-slice is currently set at 16%. This percentage is chosen to reflect, at the aggregate level, the percentage of fire spending on pensions. The indicator is based on Government Actuaries Department (GAD) projections of local authorities' pensions expenditure.

Fire-Safety Enforcement - This top-slice is set at 6.5%. It is based on the average¹³ time spent inspecting plans and premises for different types of buildings multiplied by the number plans and premises inspected by each authority.

Fire-Safety Education - This top slice is set at 0.5%. It is allocated on the basis of the number of primary school children in each authority and an estimate of the 'number of people with a greater need for fire education'.

The Area Cost Adjustment (ACA) is applied to the main formula and the fire safety indicators, but not fire pensions.

¹³ This average is calculated and applied separately for Metropolitan (including London) and shire fire authorities.

Options Considered by the Group

10. As part of the local government finance review the Formula Review Sub-Group has considered a number of papers. These are listed at the end of this chapter.

11. Most of the effort of the group has been devoted to considering the 'main formula' and this is addressed separately here from the issues surrounding the top-slices.

The Main Formula

12. Two main options have been developed, and variants on each option are possible. The first option may be considered a 'Minimum Change Option'. As an alternative we have developed an approach based on fire risk areas. A further option has been suggested that applies a fixed increase (equal to the percentage increase in the fire control total) each year to all authorities.

Minimum Change Option

13. The current formula contains a perverse incentive. Fire authorities that are successful in reducing the number of calls made are faced with a reduction in their grant allocation. Ministers have stated that this perverse incentive will be removed from any future formula. The minimum change option has therefore been developed to achieve this objective, but keep the remainder of the formula the same.

14. It is known that the number of fire calls an authority receives is strongly correlated with deprivation. Further, various reports¹⁴ have also highlighted other factors that potentially influence the risk of fire. We have therefore developed an index attempting to predict or provide a proxy for the risk of an authority receiving a fire¹⁵ call, drawing potential indicators from these sources, the components that make up the Index of Multiple Deprivation (IMD) together with an existing set of deprivation type indicators that has been used for similar work in the past. This index has then been directly substituted for fire calls in the current formula. The opportunity has also been taken to update the expenditure database, reflecting more recent spending patterns. Work to create an index is detailed in papers FRSG(02)72, 85¹⁶, 117, and 120 and FRSG(02)84 looks at updating the regression expenditure database and FRSG(02)119 looks at using a wider range of calls to calibrate the index.

15. A variant on a custom built index is to use a ready made index and two further papers have looked at the relationship between fire and deprivation and in particular using the Index of Multiple Deprivation (IMD).

¹⁴ Notably '*Elaboration of a Risk Assessment Toolkit for the UK Fire Service*' and a report on the British Crime Survey '*Fires in the Home*'.

¹⁵ Technically fire calls, false alarm calls, and special service calls where there is a potential risk of fire. This mirrors those calls included in the current fire calls indicator.

¹⁶ Please note paper number 85 was issued for two papers. From henceforth the fire paper will be paper 85 and the paper on the structure of the report will be 85A.

- FRSG(02)82 shows that at both the national and local (ward) level there is a high degree of correlation between fire calls and IMD scores. The paper goes on to examine how the IMD could be used in the fire formula and in particular looks at some of the limitations in the IMD and notes that there is some evidence for a non-linear relationship - with fires in particularly deprived wards being very high. The report concludes with an examination of how levels of deprivation and in particular the IMD could be included in the Fire funding formula.
- FRSG(02)83 again addresses some of the perceived problems of using the IMD for general grant distribution, in particular the non-linearity of the index and the use of ward rankings. The paper goes on to examine indicators other than fire calls used in the main formula and concludes that density plays an undue role - acting as a second Area Cost Adjustment (ACA) within the formula. The use of educational attainment measures is suggested as a possible replacement. The paper also looks at the quantum allocated on population and suggests that it may currently be insufficient, given that 40%¹⁷ of the formula is currently allocated on variable factors. The paper then goes on to develop a number of formula variants, all using the IMD and excluding density, but combining the use of educational attainment and an increased unit cost in various manners. Finally the paper looks at categorising fire authorities into families of like authorities, based on ONS methodology for classifying districts. The paper suggests that authorities with these families should have similar SSAs per head - and notes that the options proposed in this paper achieve this better than the current formula.

Views on the Minimum Change Option

16. Much of the discussion on this option revolved around two main issues: density and the relationship between how 'busy' an area is and the underlying cost pressures this might impose. Other issues were also discussed.

- *Density.* Opinions differed on the relevance of density to the fire formula. At one end of the scale it was argued that population density has little relevance to cost pressures and is instead acting as a second ACA within the formula (redistributing money to London and the Southeast plus Metropolitan authorities). Further it was suggested that many of the factors that density does reflect should be "picked up" by the 'A' risk measure. However others suggested that density does have a direct influence, indicating the increased prevalence of tall buildings, the increased risk of fire spread, and the extra burden imposed by having congestion slowing response times. It was also noted that density may serve as a useful proxy for deprivation, doing the 'same job' in the formula as several different variables in the fire risk index.

¹⁷ It was noted in discussion that this 40% could be considered to be an overestimate.

- *Activity.* The group largely agreed that the marginal¹⁸ costs of attending a fire are small. The group was however broadly split along two lines. On one side it was suggested that the main role of the current fire calls indicator, and hence the role of a fire call risk index, is to indicate how busy an area is. And therefore, is used to indicate the need for additional provision above what might otherwise be suggested by the fire risk area classification. This argument is primarily that in a busy area two appliances might be required because of the risk of one appliance already being on a call. On the other hand it was argued that busyness is irrelevant and that the risk areas were sufficient to indicate the level of coverage required, and inclusion of both a fire call risk index and risk categories would lead to unnecessary "double funding".
- *Other Issues.* It was argued that deflating the expenditure database by pensions expenditure may not be appropriate in the years used. Authorities with high relative pensions expenditure may have felt overly restricted in the amount of non-pensions expenditure they could incur. FRSG(02)118 Looks at the advisability of updating the expenditure database and suggests an alternative method of dealing with pensions expenditure.
- It has also been argued that an 'enhanced population' indicator, taking account, for example daytime population, would provide a better measure of fire risk.
- It was suggested that one of the gaps in the data used was any reference to area of heathland and moorland, which was thought to present a significant fire risk in rural areas, and heath/moorland fires often required disproportionate levels of resources. It was however, noted that the National Land Use Database was not yet on-line and therefore there was not a ready source for these data.

Further work on the Minimum Change Option

17. Work will be undertaken to examine candidate indices in the light of comments made in other papers. Since this is a regression based approach decisions made on the ACA may require a revaluation of the factors used in the formula. An option will also be developed using an enhanced population indicator.

Risk area based approach

18. A risk area categorisation is carried out for England on the basis of half kilometre square grid. Each square is then assigned to either 'A', 'B', 'C', 'D' risk or 'remote-rural'. In simple terms these represent 'A' - major city centres, 'B' city centres and large town centres, 'C' other towns and suburbs, 'D' mostly rural. Five contiguous half kilometre squares make a substantive risk area.

¹⁸ In the sense of additional costs to those that are incurred simply by providing coverage, e.g. fuel, overtime, retained fire-fighter call out fees.

These risk areas then determine the maximum response time and number of appliances required to an incident.

19. An approach has been developed to combine these risk areas, giving a 'coverage measure' which has then been combined with the fire risk index and population as well as the ACA and coastline to give an alternative risk area based approach. This approach is set out in Papers FRSG(02)80 and FRSG(02)121.

20. Since these risk areas are subject to a certain degree of local authority judgement it may prove necessary to use proxy indicators for some of the area classifications. Initial proxies have been developed but further work is ongoing. The exception is 'A' risk (which is used in the current formula) where it is felt that the data are robust due to the annual validation of this indicator by Her Majesty's Fire Services Inspectorate (HMFSI) and thus this risk area may be used directly.

Views on the Risk Area based approach.

21. The discussion on the risk area based approach focussed mainly on 'activity' and formed part of the discussion on activity set out at paragraph 16.

22. There was some discussion about whether C and D risk areas were underweighted. It was suggested that in recent years it had become practically necessary to send two appliances instead of one to these areas. However, it was suggested that this was a local policy decision not a strict requirement and as such should be funded locally as it was an additional level of service.

23. There was discussion on whether risk areas could be used without the use of proxies. It was noted that if these were frozen then there was no risk of perverse incentives. However, it was also noted that in some areas local policy may have influenced the categorisation - and that local decisions to provide a higher level of service should be reflected in local council taxes rather than the national formula.

Further work on the Risk Area based approach.

24. Further work is required on developing the proxies for risk areas. Further work is also desirable to determine the best method for combining the various elements and determining weightings. Further work is also desirable to examine whether any changes to the make up of the fire call risk index are required when the index is used in the risk area based approach. The possibility of using an enhanced population indicator, as noted in paragraph 16, will also be developed for this approach. Finally we intend to look at fixed costs for fire authorities (what has been termed the cost of being in business as opposed to doing business). FRSG(01)34 looks at the costs relating to a combined fire authority.

Fixed increase approach

25. FRSG(02)81 looks at increases in SSA compared with increases in budget. The paper suggests an approach based on the equalisation of SSAs in relation to current budgets at national level to establish a base position. A fixed increase equal to the increase in control total for the relevant year over the three years of the spending review would then be applied to this revised base for each Authority. The paper says that since it is mainly staff costs that are driving budget increase requirements, and that these increases are the same across the country, fixed increases can then be applied to all authorities.

26. Views on this paper were wide ranging. Concern was expressed about the use of budgets, as there tends to be divergence between budget and outturn. It was thought that the use of outturn could address this issue. There were also concerns that the approach did not offer any incentive to efficiency, nor did it reflect the increasing pressures on growing authorities.

Pensions

27. No specific papers have been taken on pensions (though FRSG(01)34 does raise the issue briefly - but mainly with reference to control total issues that are out of the scope of this group). It is envisaged that the pensions indicator will remain much as it is at present. Government Actuary's Department on behalf of DTLR are currently working on a new set of pensions projections. This is a standard update, the projections are updated every five years and this just happens to coincide with this review.

Fire Safety

28. For both fire-safety enforcement and fire-safety education we expect to examine whether the indicators contribute sufficiently to the overall formula to warrant their separate inclusion, or whether the formula can be simplified by the removal of one or both.

29. Other than this there are no plans to change the fire-safety enforcement top-slice. However FRSG(01)09 looked at the possibility of changing the top-slice for fire safety education, currently set at 0.5%. It has been suggested that the "top-slice" for fire safety education should be increased to 1.5%, or perhaps, reflecting best practice in some brigades, to 3%.

30. There was broad agreement for an increase to 1.5%. There were mixed views about the possibility of a larger increase, linked to concerns about additional funding.

Sparsity

31. FRSG(01)09 went on to float the idea of including a sparsity top-slice as part of the conventional formula. It is argued that a rural station could potentially handle a greater volume of calls and a greater population but due

to travel times could not cover a bigger area. Thus there is in effect unavoidably 'wasted' coverage. The paper, however, points out that these additional costs can be at least partially offset by the use of retained instead of permanent crews. Views were sought on the measure of sparsity to be used (e.g. ward sparsity) and how to quantify any financial disadvantage of being a rural authority.

32. Comments on the proposal were broadly in favour, though strong views were expressed by some that any sparsity top-slice should be supported by an equivalent increase in resources. No comments were received on methods for determining the size of the top-slice. It was suggested that "settlement pattern" indicators could be used instead of sparsity, but it was also noted that currently available settlement pattern data would give a largely similar result to the use of sparsity. The case for a sparsity indicator was also supported by paper FRSG(01)34.

Other Issues

33. Paper FRSG(01)34 raises a range of other issues, including the costs of being a combined fire authority, and the wider role of the fire service, for example, in dealing with flood risks and responding to rail incidents.

34. The group also looked at the use of a specific cost approach for the Area Cost Adjustment (ACA). This is covered separately in the ACA chapter.

Fire papers considered by the Formula Review Sub-Group

The following papers have been produced on the fire formula. Text in parenthesis () has been added here for further clarification.

FRSG(01)09	Fire Safety Top Slices
FRSG(01)09	Sparsity Top Slice
FRSG(01)34	Report on Fire SSAs for Shropshire CC and Telford & Wrekin Council
FRSG(02)72	Variables to be considered in determining a 'Fire Risk Index'
FRSG(02)80	Possible new basis for the Fire formula (Fire risk area approach)
FRSG(02)81	Proposal for reform of the Fire SSA block (Fixed increase based approach)
FRSG(02)82	Fire Calls and Deprivation: A paper from Greater Manchester Fire
FRSG(02)83	The SSA methodology – The Fire Service block: A paper by South Yorkshire and Durham Fire
FRSG(02)84	Updating the Expenditure database for the Fire Formula
FRSG(02)85	Creation of a 'Fire Risk Index'
FRSG(02)94	ACA Options: A Specific Cost Approach for the Fire block
FRSG(02)117	Fire Risk Index: A paper from Greater Manchester Fire Authority
FRSG(02)118	Expenditure database: A note from the London Fire and Emergency Planning Authority
FRSG(02)119	The dependent variable for calibrating the 'Fire Risk Index'
FRSG(02)120	Update on the creation of a 'Fire Risk Index'
FRSG(02)121	Further detail on the Fire Risk Areas based Approach
FRSG(02)122	Variables considered in the creation of a 'Fire Risk Index'

Chapter 8

Highway Maintenance

Overview

Options considered

- Removing thresholds from the formula.
- Reweighting the road lengths based on the outcome of the Highway Maintenance Expenditure survey.
- Moving from R199b road length data to GIS road length data.
- Rebasing the built-up/non-built-up split on ONS urban areas rather than the 40 mph cut-off.

What remains to be done

- Further work still needs to be done on rebasing the built-up/non-built-up split on ONS urban areas rather than the 40 mph cut-off. The data will not become available until later on in the year.
- Establishing whether the current 12:1 ratio of HGV flows: all motor vehicle flows needs to be changed to reflect the greater damage done by HGVs to roads, and hence the need for maintenance.
- Finding an alternative winter weather variable to snowdays.

Areas of agreement

- Removing thresholds from the formula.
- Reweighting the road lengths on a 2:1:2:1 basis for built-up principal roads, non-built-up principal roads, built-up other roads and non-built-up other roads respectively.

Areas of disagreement

- Moving from R199b road length data to GIS road length data.
- Rebasing the built-up/non-built-up split on ONS urban areas rather than the 40 mph cut-off.

Highway Maintenance

Main Report

The existing formula

1. The current Highway Maintenance SSA formula has two components:
 - i) general maintenance; and
 - ii) additional winter maintenance.
2. The general maintenance component is based mainly on road lengths, but also takes account of road usage and population density.
3. The additional winter maintenance component is also based on road lengths, but also takes account of winter weather and road usage.
4. A boundary change factor and the area cost adjustment are applied to the calculations.
5. **Road length** is the most significant factor in determining the need to spend on highway maintenance. Both the general maintenance formula and the formula for additional winter maintenance are based on the lengths of roads that the authority maintains. But the costs of maintaining roads differ significantly between:
 - i) principal¹⁹ and non-principal roads; and
 - ii) built-up and non-built-up roads.
6. The lengths of each of these four kinds of roads are therefore given a weight relative to the others, reflecting these differences in costs.
7. There are two sets of weights. One is based on an assessment in 1989, in preparation for the introduction of SSAs. These 'original' weights are applied to the winter maintenance element of the formula, and to that part of the SSA for general maintenance which is allocated by reference to population. But in relation to most costs of general maintenance, 'modified' weights have been adopted, because the costs of structural maintenance on principal roads, which in 1989 were a charge to the revenue account, are now treated as items of capital expenditure. The weights are given below.

¹⁹ Principal roads are 'A' roads for which the local authority is the highway authority, or in the case of the London Boroughs, for which the local authority would have been the highway authority if the Greater London Authority was not in existence.

Weights on road lengths

Type of road	Original weights	Modified Weights
Principal roads		
in built-up areas	6	2.426
in non-built-up areas	3	1.213
Non-principal roads		
in built-up areas	2	2
in non-built-up areas	1	1

8. Costs are higher on principal roads because they are more heavily used. In built-up areas, the additional costs include street lighting and footways, the greater concentration of traffic signs, road markings and traffic lights, as well as the heavier usage.

9. The measure of **traffic flow** is based on traffic counts on principal roads. This is used as an indication of volume of traffic on all the authority's roads. These are the only flows for which comprehensive data are available for individual authorities on a nationally consistent basis. Data collected nationally each year (Transport Statistics GB) suggested that, on average, flows on principal roads are about 10 times higher than flows on other types of road, in both built-up and non-built-up areas.

10. Heavy goods vehicles and buses and coaches are given an additional 12:1 weighting, compared with cars (thus giving a weighting of 13:1 in total). This reflects the disproportionate share of structural damage for which they are responsible. This weighting is derived from the methodology used for allocating road track costs between classes for national taxation purposes.

11. The measure of **population density** is the resident population plus 25% of the daytime net inflow of people (commuters), as a proportion of the (unweighted) length of roads. The extra weighting for this net inflow allows for the extra costs arising in central areas as a result of the net inflow of commuters and the consequent effect on the number of pedestrians.

12. The measures of traffic flow and population are combined in a composite measure of road usage. This composite measure is weighted so that, when applied to road lengths weighted by the 'original' weights, two-thirds of the allowance for expenditure above the threshold is distributed on the basis of traffic flows and one-third on the basis of population per kilometre of unweighted road length. These proportions reflect the relative shares in total costs of the types of spending on maintenance to which each of these two indicators was judged to be relevant.

13. The extent to which costs are dependent on road usage was determined from examination of general maintenance expenditure relative to traffic flows and population. These graphs were interpreted as showing that usage has little effect on expenditure until it reaches a threshold. The thresholds were set

judgementally, in the light of that examination, at 5 million vehicles per year and 100 people per kilometre of road length.

14. The costs independent of road usage are determined by calculating the average expenditure per weighted kilometre of each type of road for those authorities whose roads fall below both the traffic flow and the population thresholds. It distributes about 60% of the total general maintenance SSA.

15. The costs dependent on road usage, accounting for the remaining 40% of the total general maintenance SSA, are allocated among authorities in proportion to the measure of road usage described in paragraph 17.

16. The **winter weather** variable used in the formula is days per year on which snow was lying at 9am, based on an average of the years 1978 to 1990 inclusive.

Problems with the existing SSA formula

17. The existing Highway Maintenance formula does not perform well against the set of principles discussed in *Work Programme for 2003/04 Formula Changes* (FR(01)58). In particular, the formula is generally derived from analysis of past expenditure, some of which dates from the 1980s. Updating the data on which the formula is based is therefore desirable. Unfortunately, however, many of the original sources of the data have been discontinued.

Options considered by the group

18. As part of the local government finance review the Formula Review Sub-Group has considered a number of papers related to highway maintenance. These are listed at the end of this chapter. The following areas have been examined:

- moving to using GIS data for road lengths (papers FR(01)21, FR(01)26 and FR(01)44);
- the use of the 40mph speed limit as a proxy for the built-up/non-built-up split (papers FR(02)71 and FR(02)115);
- removing thresholds from the formula (paper FR(01)20); and
- the relative weightings between the four types of road (papers FR(01)42 and FR(01)70).

GIS data for road lengths

19. Work has continued within DTLR to consider whether OSCAR data could be used to measure road lengths (*papers FR(01)21, FR(01)26 and FR(01)44*). The individual link lengths for principal roads had been agreed between DTLR and the local highway authorities for use in the 2002/03 settlement. However, there were ongoing disagreements on other roads.

20. Much of this disagreement related to back lanes. Back lanes have been excluded from the SSA formulae as the traffic flow on these roads was minimal compared to that on both principal and other roads. (Paper FR(02)87 argued for the inclusion of back lanes in the new formula.) OSCAR data classified back lanes as either "private roads open to the public" if they were unnamed or as "other" roads if they were named. This inconsistency meant that named back lanes would be included in the measurement of road lengths but unnamed back lanes would not.

21. A number of authorities identified other roads that had not been included in the OSCAR estimates of their road lengths.

22. DTLR are liaising with Ordinance Survey to determine how these discrepancies can be rectified. However it is unlikely that this work will be available in time for use in the 2003/04 settlement. Using GIS data to determine road lengths remains the long-term aim of DTLR.

Built-up areas

23. Previously the built-up/non-built-up split has been defined using the 40mph cut-off. All roads with speed limits of 40mph or less have been defined as built-up and those with speed limits above 40mph have been defined as non-built-up.

24. Recently however a number of authorities have introduced speed limits of 40mph or under on rural roads for road safety purposes. The correlation between speed limits and built-up roads has therefore become smaller in recent years.

25. Paper FR(02)71 proposed using the 1991 Census urban areas together with GIS data to determine the length of built-up roads. However, it is unlikely that the GIS data will be suitable for use in the 2003/04 settlement. DTLR are therefore proposing in the absence of GIS data to ask authorities to supply both principal road lengths and other road lengths within a list of urban areas identified by DTLR within their authority (paper FR(02)115). These urban areas would be those identified from the 1991 census as having populations over 1000. All roads, regardless of their speed limits, which are contained within the present-day boundaries of these urban areas would be classified as built-up. All roads outside the boundaries of these urban areas would be classified as non-built-up.

Removing thresholds from the formula

26. When the Highway Maintenance SSA was introduced in 1990/91, the traffic flow threshold was set at 4,250 for weighted flows and the population threshold was set at 100 for population per km of unweighted road length. These were determined judgementally in the light of an examination using scatter plots, of expenditure patterns for local authorities with low flows and/or low population per km of unweighted roads.

27. Paper FR(01)20 reviewed the evidence for including thresholds for traffic flow and population density.

Relative weightings between the four types of road

28. DTLR conducted a survey of the local highway authorities to determine what the weightings between built-up and non-built-up and urban and rural roads should be in the new formula.

29. Paper FR(01)70 reported on the results of this survey. Very few authorities keep records of the cost per km split between built-up and non-built-up roads. The data from the 27 authorities which were able to supply data suggested that the current 2:1 ratio between built-up and non-built-up was still relevant.

30. A ratio of 1:1 between principal and other roads emerged from the analysis of responses. Further investigation of the Revenue Outturn data also supported this. This would, therefore, suggest that the weightings for road lengths in the new formula should therefore be:

Type of road	New weights
Principal roads	
in built-up areas	2
in non-built-up areas	1
Non-principal roads	
in built-up areas	2
in non-built-up areas	1

Options and views

31. Paper FR(01)42 suggested that the new formula might take the following form:

$$\left(\begin{array}{l} 2 \times \text{coeff}_1 \times \text{prinbu} \times (\text{coeff}_2 \times \text{flow} + \text{coeff}_3 \times \text{weather}) \\ + \text{coeff}_1 \times \text{prinnbu} \times (\text{coeff}_2 \times \text{flow} + \text{coeff}_3 \times \text{weather}) \\ + 2 \times \text{coeff}_1 \times \text{otherbu} \times (\text{coeff}_2 \times \text{flow} + \text{coeff}_3 \times \text{weather}) \\ + \text{coeff}_1 \times \text{othernbu} \times (\text{coeff}_2 \times \text{flow} + \text{coeff}_3 \times \text{weather}) \\ + x \times \text{coeff}_1 \times \text{backlanes} \end{array} \right) \times \text{BCF} \times \text{ACA}$$

where:

- prinbu = length of principal built-up roads;
- prinnbu = length of principal non-built-up roads;
- otherbu = length of other built-up roads;
- othernbu = length of other non-built-up roads;
- backlanes = length of back lanes;
- x = 1 or 0.5
- flow = a measure of traffic flow;
- weather = a measure of winter weather;

BCF = Boundary Change Factor; and
ACA = Area Cost Adjustment.

32. The above formula reflects the findings from the survey conducted by DTLR. The LGA expressed their disappointment in the number of authorities that were able to supply usable data, however, they had no way of gainsaying the 2:1 ratio.

33. Authorities with large numbers of back lanes have requested the inclusion of back lanes in the formula, as expenses relating to patching and other routine highway maintenance, resurfacing and structural repairs, street lighting (particularly in areas where councils are taking responsive measures to tackle the fear of crime), street and drainage cleansing and inspection re public liability insurance risks. Paper FR(02)xx proposed that back lanes should be included in the formula but should not be multiplied by traffic flow etc. This has been reflected in the above formula.

Further work from this point

Road lengths

34. These might be based on either the 40mph split or on the 1991 Census Urban Areas. The data will be collected by DTLR on form R199b, but is not yet available.

Traffic flow

35. The highway maintenance SSA formula currently uses a ratio of 12:1 to reflect the additional damage to roads from use by HGV and busses. HGVs are thought to be the dominant factor is causing road wear and the ratio could be altered to reflect this. Further work in this area is required.

A measure of winter weather

36. The highway maintenance SSA formula currently uses "the average number of days with snow lying at 09:00 hours during 1978 to 1990 inclusive" as the measure of winter weather.

37. DTLR is currently exploring with the Meteorological Office whether there is a more suitable product that could be used. One possibility is to use the OpenRoad data, that the Met. Office supply to local authority highway engineers to enable them to decide when to grit the roads.

38. The final weather variable might therefore consist of either snow lying days or a measure of frost days or a combination of both snow lying and frost days.

Highways papers considered by the Formula Review Sub-Group

FR(01)20: Highways Maintenance SSA

FR(01)21: New Data Source for Road Lengths

FR(01)26: Highways Data

FR(01)42: Highway Maintenance Survey

FR(01)44: Cross Checking of GIS-Based Road Lengths - Update

FR(02)70: Highway Maintenance Survey Report

FR(02)71: Highway Maintenance: Definitions of Urban Areas

FR(02)87: Highways SSA - Definition of Roads: Treatment of Backlanes

FR(02)115: Road Lengths

Chapter 9

EPCS block

Overview

Broad Approach

1. Ministers made it clear during the group's consideration of EPCS that they wanted the new formulae to be simple and transparent but that they wanted to avoid regression analysis of past expenditure wherever possible.
2. The group concluded that some examination of recent spending patterns was essential given that a comprehensive bottom-up analysis of spending needs would not be practical across so many services, especially given that the level and mix of any discretionary provision was a matter for local judgement.
3. An alternative approach by NERA based on splitting expenditure into "mandatory" and "discretionary" elements was still in development at the end of this phase of work.

Options Considered

4. The group's work can be broadly categorised into four categories:
 - Potential indicators
 - The future of the existing sub-blocks
 - Potential new blocks (waste, transport and open spaces)
 - Technical adjustments

Further Work

- Further general regression analysis
- Further examination of sparsity and density data
- Consideration of possible new indicators
- Development of alternative broad approach by NERA
- Development of new waste block proposals
- Development of new transport block proposals

Areas of agreement

5. These were inevitably few. The group agreed:

- That some analysis of past expenditure was essential.
- That it was desirable to move provision for Rent Allowance Payments, Housing Benefit Administration and Council Tax Benefit and Administration to direct DWP grants.
- That the concurrent services adjustment should be scrapped, although agreement would depend on the size of any control total changes.

EPCS block

Main Report

The Existing Formula

6. The present system consists of two main blocks for services carried out by upper- and lower-tier authorities and five sub-blocks for various services that could not be brought into the main formula adequately.

7. Within the main blocks the basic allocation is for “enhanced population” – residents adjusted for day and night visitors and for net commuter flows. There are additional sums for population density, population sparsity, deprivation and area costs. There is a transfer from districts to counties and vice-versa in two-tier areas to reflect concurrent service provision, and adjustments for the GLA and because public transport support is not a local authority function in London.

Why The Review?

8. The main specific criticisms of the existing EPCS system are:

- *Regression.* The formula is largely based on regression against past expenditure and uses very old (1990/91) expenditure data.
- *Timeliness of data.* Especially Census-based measures, visitor data and Rent Allowance Payments.
- *Deprivation measures.* There are 12 separate measures, some of which are not intuitively related to EPCS services. The use of Housing Benefit claims data penalises authorities that reduce HB fraud. There may be correlation with density.
- *Weightings.* The weights for sparsity, commuting and visiting are judgemental.
- *Commuting adjustment.* The validity of making deductions for out-commuters has been questioned.
- *Flood and coastal defence.* This is based entirely on local spending decisions, except that a scaling factor means that authorities are not guaranteed full compensation for relevant expenditure.
- *Concurrent services adjustment.* There are concerns about the complexity of this, its size, local disparities, and scope.

General Constraints

9. Ministers made it clear during the group's consideration of EPCS that they wanted the new formulae to be simple and transparent but that they wanted to avoid regression analysis of past expenditure wherever possible.

10. The group concluded that some examination of recent spending patterns was essential given that (i) a comprehensive bottom-up analysis of spending needs would not be practical across so many services and (ii) even if this were possible for some services, the level and mix of any discretionary provision was a matter for local judgement.

11. Preliminary research work was commissioned in September 2001 from two organisations: a narrow study by National Economic Research Associates into a possible allocation method using a classification into committed and discretionary expenditure; and a broader study by the Institute of Public Finance. The specification was presented as Paper 30.

12. The reports were considered by Whitehall departments and by the LGA and ALG at two meetings. Concerns were expressed about both:

- The NERA work offered an alternative to standard regression analysis, though one that relied upon more complex data analysis. There was concern about the risks of pursuing this approach, which would need to be offset by work in parallel.
- The IPF work, though covering the required ground, lacked depth in many areas and the way forward was unclear.

13. After much debate, the department concluded that it ought to lead the remaining work with assistance from IPF to undertake certain research and data management tasks. For the main formula, the department sought to combine an intuitive look at likely cost drivers and weightings with regression analysis of past spending, bearing in mind the weaknesses of the regression approach. The intuitive approach was supplemented by visits by the department to Brent, Chiltern and Hampshire and by a widespread informal consultation of authorities on the likely cost drivers for each service.

14. Work on potential new blocks - waste and transport - would be taken forward by the relevant parts of DEFRA and DTLR respectively.

15. The department presented general progress reports throughout the process as Papers 19, 47, 66 and 97. Results were reported as Papers 104 and in supplementary papers. Papers 102 and 103 on reform of the EPCS block as a whole were submitted by SIGOMA.

Consideration of options

16. Two broad approaches to the new formula were considered. The department concentrated on the analysis of recent past expenditure as outlined above. Results for whichever groups of services studied would be aggregated to produce the final formula, rather than presented in any disaggregated form.

17. Towards the end of this phase of the work, NERA were re-employed by the ALG and Greater London Enterprise to develop further the alternative approach they had suggested to the Department. Their early findings were presented in Papers 107 and 113. The NERA approach attempted to shift the focus from regression equations for average levels of spending to the identification of minimum necessary levels of expenditure, allowing for differences in the circumstances of local authorities. Since average spending exceeds the available grant resources, the results of the regression approach must necessarily be scaled in a manner that may be unfair to many authorities whose needs are large relative to their actual spending. Such scaling is not required with NERA's formulae.

18. NERA's primary results are based on a modern statistical technique known as quantile regression. The formulae are constructed so that the actual expenditures of 90% of local authorities exceed the projected minimum necessary levels of spending, while only 10% fall below this (often because of erratic factors or data errors). By using this technique, the perverse incentives associated with using existing average patterns of spending to project future expenditure needs are greatly reduced. The results demonstrate that it is possible to construct simple formulae based on standard indicators for minimum necessary levels of expenditure that would allocate 50-75% of the total grant. The remainder of the grant, which would contribute to discretionary spending on top of minimum expenditure needs, could then be allocated using a simple formula based on factors reflecting Ministers' preferences.

19. Within this broad picture, the group's work can be broadly categorised into four sections: potential indicators; the existing sub-blocks; potential new blocks; and technical adjustments.

Indicators

Base cost

20. The department favoured resident population as the base driver, analysing commuter and visitor patterns as independent variables, rather than using judgement to derive weights for enhanced population as at present.

Deprivation

21. Papers 98 and 99 were submitted by SIGOMA on deprivation recommending use of the education, income and health domains of DTLR's

Indices of Multiple Deprivation. Others questioned the use of indices primarily designed for regeneration funding and the updating, transparency and statistical difficulties.

22. The regression analysis considered ten measures of deprivation:

- The six domains of the Indices of Multiple Deprivation
- Unemployment-related benefit claimants
- Income Support and Job Seekers' Allowance claimants
- Income Support claimants aged 60 or over
- Standard Mortality Ratios for ages under 75

23. Income Support featured in five of the 21 service regressions and Income Support for pensioners in six (one negative). Two IMD domains were used: employment (three times) and income (twice). SMR occurred once, negatively.

24. Overall, deprivation was a positive factor for all service blocks studied except planning, waste collection and trading/other services.

Density

25. The present indicator is based on a weighted sum of Evaluation District (ED) densities but there was an alternative of whole-authority density. There was also a suggestion that the adjustment should have an upper threshold at a point beyond which costs did not increase.

26. Density distributes a large amount of EPCS in the present formulae, but regression on the whole expenditure set shows a slightly lower contribution for lower tier and a negative factor for upper tier. Nevertheless, there is some intuitive support that high density adds to costs, but concerns about the correlation with deprivation and existing service patterns (particularly on transport) remain.

27. Density - either ED or whole-authority - features in more than half the regressions. Positive for libraries, consumer protection, environmental health, homelessness, planning and "other lower tier" services; negative for "other upper tier" services, sport and trading services.

Sparsity

28. Previous regression of past expenditure showed sparsity as a negative cost factor, presumably because of lower service levels in rural areas. In Paper 102, SIGOMA suggested that if a sparsity element was top-sliced, expenditure data should be deflated by any sparsity measure, as in ACA, or that the analysis should be restricted to sparse areas.

29. In Paper 114, the Rural Strategic Partnership recommended research into the development and use of settlement patterns as in Scotland and Wales. The department felt that there was insufficient time to complete the work and noted that researchers involved in the Scottish and Welsh work had been very pessimistic about its applicability to England.

30. The regressions used the two existing measures:

- Sparsity - population in EDs of not more than 4.0 persons/hectare
- Super Sparsity - for EDs of not more than 0.5 persons/hectare

31. Sparsity was a positive factor in the regression of consumer protection; environmental health; homelessness; waste collection; and planning. There were negative values for public transport support, concessionary fares, waste disposal, open spaces and street cleaning. There was widespread agreement that sparsity was a cost driver in some service areas and the negative results possibly reflected lower service levels or take-up in some cases.

32. Super Sparsity featured along with the standard sparsity measure in environmental health. It was used without standard sparsity in the regressions for "all" and "all other" lower tier expenditure.

Visitors

33. The department had a number of concerns about the quality and timeliness of the visitor data. In particular, the day visitor data came from 1991: there were no plans to update it. The apportionment of foreign night visitors between districts relied on a question in the 1991 Census that was not replicated in 2001. Ministers would need to consider the concerns about the data when considering options on the inclusion of visitors in the new formula.

34. There was some intuitive support for the use of visitor data in street cleaning and environmental health and differing views in a number of other service areas. The regressions showed day visitors being a positive factor when analysing the whole expenditure set and on environmental health and "other lower tier" services. It was negative for trading services.

35. Night visitors were significantly negative for transport and trading services.

Commuters

36. The department analysed data for net commuting (inflow minus outflow) and for net in-commuting (i.e. inflow minus outflow but ignoring values of less than zero). Gross commuting figures were not readily available because of limitations in the data for armed forces and for authorities that merged since the last Census. There was a suggestion that the adjustment should have an upper threshold at a point beyond which costs did not increase.

37. Clear intuitive support for this adjustment was restricted to libraries and waste services. There was little support for deductions for exporting authorities.

38. The regressions showed net in-commuting was a positive factor for libraries and homelessness, and a negative one for public transport and trading services.

Language Costs / Ethnicity

39. The main limitation here is the lack of a genuine language indicator or an up-to-date ethnicity measure. The only identified suitable data source was the Census variable known as COBIRTH that measures the number of residents born outside the EU, USA and Old Commonwealth.

40. There was some support for the use of an indicator for translation costs across many services. The COBIRTH indicator was a positive factor for one homelessness model and for "all other lower tier" services.

Homelessness

41. A homelessness indicator was considered for EPCS because the expenditure is significant (£180m in 2000/01), largely mandatory, and unevenly distributed across authorities. Data on the number of homelessness cases were not found to be satisfactory as an indicator because of the lack of accompanying supply data.

42. Given these difficulties, the option of a targeted grant for homelessness as used elsewhere in Government was suggested.

Other Indicators

43. The regression work also tested:

- Working age population (negative for environmental health and trading services)
- Various pensioner age groupings (positive for economic development)
- Numbers of domestic properties (positive for homelessness, negative for economic development)

Summary of Regression Findings

		Commuters	Day visitors	Overnight visitors	Population aged 18 to 64	Density	Sparsity	Super sparsity	Employment deprivation	Income deprivation	Homeless	Income support claimants	Income support pensioners	Population 65-74	SMR for ages under 75	COBIRTH	Domestic Hereditaments
Upper tier	All		+			-			+								
	Transport	-		-			-		+								
	Transport (alt)	-					-						+				
	Buses			-			-			+							
	Buses (alt)			-			-						+				
	Libraries	+				+							+				
	Consumer protection					+	+						+				
	Other services		+			-			+								
Lower tier	All					+		+				+					
	Concessionary fares						-						+				
	Economic development												+	+			-
	Environmental health		+		-	+	+	+									
	Environmental health (alt)		+			+	+	+		+							
	Homelessness					+	+				+					-	
	Homelessness (alt)	+														+	+
	Open spaces						-						+				
	Sport						-						+				
	Tax & benefits												+				
	Trading services	-	-	-	-	-											
	Planning					+	+						-				
	Other services					+		+								+	

"Culture" was not successfully modelled.

44. The work to date generally accorded with intuitive expectations of the likely cost drivers. There were examples of the difficulties inherent in the regression approach, such as the selection of wholly-implausible indicators, however, and several service models fitted very poorly or were not suitable for linear regression. Low service levels or take-up rather than lower unit costs were also apparently important for some services.

45. The quality of the expenditure data was not especially high and the nature of local authority provision and/or local choice for highly discretionary services obscured the analysis.

Existing Sub-blocks

Flood and Coast Defence Sub-blocks

46. Flood defence funding is presently subject to a formal separate review, but its findings are not expected to be implemented for some time. Two possible interim reforms were identified:

- Remove the scaling factor so that authorities are guaranteed full compensation. Ministers have previously decided that this could result in a large increase in expenditure on flood defences, unfairly squeezing the remainder of EPCS.
- Change the time period used to calculate authorities' own spend from two years' out-turn plus one year's budget to either two or three years' out-turn. Even during the latest period of heavy flooding (2000-01) budgets were only equal to final expenditure. In the previous year expenditure was 8% below budget. This hid considerable turbulence at individual authority level, with differences – both plus and minus – of several hundred thousand pounds. Reducing to two years would, however, reduce stability and using three years' out-turn data would reduce timeliness still further.

Rent Allowance Payments Sub-block

47. The Rent Allowance Payments arrangement was widely criticised because of the long data lag and the effect this has on councils who have recently undertaken housing stock sales. The department noted that this loss might not be recouped from debt interest savings where the housing stock sold is valueless or has a debt overhang. Tameside presented Paper 88 suggesting that Housing Benefit data from pre-transfer tenants could be used during the interval before audited RAP claims were available.

48. The department accepted that there was almost no element of local government discretion here and agreed to consider alternatives with DWP.

Housing Benefit Administration Sub-block

49. There was no proposal to change the Housing Benefit administration formula. But the process of supplying grant via two different streams, using slightly different formulae, at slightly different times was criticised. The LGA supported a move to a single grant stream, given that DWP's grant for this purpose is also unhypothecated.

50. The department accepted these arguments and agreed to consider alternatives with DWP.

National Parks Sub-block

51. These sums are effectively determined by DEFRA, being one-third of the direct grant. Five options were identified:

- Continue with the existing system
- Continue with the existing system, but make the SSA part a targeted grant
- Pay all the grant to the Parks
- Pay all the grant to the counties through SSA to pass to the Parks
- Pay all the grant to the counties through targeted grant to pass to the Parks

52. The desire of counties and districts for formal recognition in Park affairs was identified as a constraint on the third option.

53. National Parks funding more generally is being considered by DEFRA in its current review of NPAs and in particular they are considering proposals to remove the present split in order to simplify matters and make the funding streams more transparent.

Potential New Blocks

Waste

54. The group received papers from the Society of County Treasurers (Papers 29 and 90) and DEFRA (Paper 108). The County Treasurers proposed a separate waste block based on an amount per head plus area costs. Others felt that this was too simplistic and did not cover recycling and other recent developments (such as EU regulations on cars and fridges) and that a separate block would add to the complexity of the system without necessarily increasing fairness.

55. DEFRA presented preliminary regression analysis that identified various possible factors for a formula on waste collection and disposal, and street cleaning. Concerns were expressed about the use of non-domestic property numbers and Housing Benefit claimants. Further work would be undertaken.

56. Within joint waste disposal authority areas, the option to allocate resources between districts proportional to taxbase was suggested. This would have the logic of mirroring the current default levying regime in these areas. There was also support for continuing to mirror the levying regime for any future changes to the default system.

Transport

57. The group received Papers 67, 91 and 92 from the transport side of DTLR. Under their proposals, a transport block would consist of the existing highway maintenance block, plus a lower tier concessionary fares sub-block and an upper tier integrated transport sub-block from EPCS.

58. On concessionary fares, the department presented options on provision for mandatory and discretionary elements using various possible underlying cost and need drivers. Deprivation and/or density as indicators were used, rather than regression analysis of past spend, given that authorities are now subject to new statutory duties. All the options resulted in a significant deviation from present expenditure patterns, primarily because London and Metropolitan authorities have schemes in place which are much more generous than the national minimum requirements.

59. On upper-tier expenditure, the department considered that a formula was potentially feasible and would contain population and deprivation measures with the possibility of other factors, though detailed options had not been produced.

60. As on waste, the option to allocate SSA for public transport and concessionary fares between districts in passenger transport authority areas on the same basis as charges are levied was suggested.

Open Spaces

61. The report of the cross-cutting review on improving the public space recommended that the review should consider the case for creating a defined public space block. The Review team decided not to pursue this recommendation because of the considerable work necessary and the limited potential gain since the block would not be ring-fenced.

Technical Adjustments

Concurrent Services

62. Paper 6 from the department set out the issues and possible solutions. The department's later view was that abolition of the Concurrent Services Adjustment was the simplest and most transparent option, making a one-off shift in the control totals for the tiers. There was recognition that none of the practicable solutions would be equitable in every shire area.

63. The Society of County Treasurers (Papers 31 and 89), the Society of District Council Treasurers (Paper 31) and the Shire District Liaison Group (Paper 106) presented views and data. The districts were content with the abolition proposal, but wanted no control total adjustment. They favoured local adjustments as a fallback, with consideration of district expenditure on PSS and Highways. The counties were also content, provided that the control total adjustment lay between £650m and £700m, with a fallback of retaining the adjustment and updating the percentages.

Public Transport in London

64. The present upper-tier EPCS formula contains adjustments for London authorities because this support is provided by Transport for London, part of the GLA. Aside from the presentational question of whether to present this as

a deduction for London or a bus subsidy for other authorities, there are two broad questions and a number of options.

65. For the quantum to be deducted for London, it was noted that the city does have a superior service to virtually all other areas, but some of this is provided as a service for the capital city, not solely for Londoners' benefit. Eight options were identified:

- Use the existing quantum and update for inflation/general EPCS changes. This would be simplest, but would have no relation to the costs of provision
- Base the deduction on the annual TfL net expenditure. This would mean boroughs losing EPCS due to decisions beyond their control
- Base the deduction on the last net expenditure figures before the GLA came into effect and update by inflation or the general block increase. This would remove the impact of direct Mayoral control, but would not reflect changes in service levels
- Base the deduction on an estimate of the costs of providing bus services **outside** London. This would – effectively – replicate the existing system. It could be updated annually or in line with inflation/general EPCS changes

66. On distributing the deduction around London, there were four options:

- Proportional to taxbase
- Proportional to SSA
- Proportional to cost drivers. This would fit best with the options for the quantum deduction based on service levels in some direct way
- Per head of resident population. This would be simplest and would reflect the relatively even levels of service provision

Greater London Authority

67. At present there is a small deduction from London authorities for certain GLA services: the London Planning Advisory Committee, the London Ecology Unit and the London Research Centre. SSA provision for these was £6m in 02/03 – a pre-determined 0.335% of London SSA under both tiers. This was deducted from boroughs in proportion to taxbase.

68. There are similar issues to those for buses, although on a much smaller scale. The principal quantum options identified were:

- To leave things as they are

- To fix the GLA adjustment now and increase by inflation/general block
- To give the GLA an allocation set by Ministers each year
- To incorporate this responsibility in the GLA general grant

And on distribution:

- Proportional to taxbase as at present
- Proportional to SSA
- Per head of resident population
- To ignore the deduction altogether

69. The department considered it helpful to combine any adjustment with that for public transport if at all possible.

Further Work

Further Regression Analysis

70. There will be scope to consider any new indicators that may be proposed. There may also be scope to rationalise both the number of indicators or the number of service blocks.

Detailed Indicator Work

71. The density and sparsity indicators can be examined for their influence among the most dense and most sparse authorities respectively, rather than considering all authorities. This could be useful in assessing the validity of thresholds on density and extra weightings - if any - for super sparsity.

Alternative Approaches and Structures

72. The NERA work for ALG and Greater London Enterprise will continue to be developed, as will work on separate waste provision for DEFRA and transport provision within DTLR.

EPCS papers considered by the Formula Review Sub-Group

Number	Author	Topic
6	DTLR	Concurrent services
19	DTLR	Progress
29	SCT	Waste block
30	DTLR	Research specification
31	SCT	Concurrent services
47	DTLR	Progress
66	DTLR	Progress
67	DTLR	Transport block
88	Tameside	Rent Allowance Payments
89	SCT	Concurrent services
90	SCT	Waste block
91	DTLR	Concessionary fares
92	DTLR	Public transport
97	DTLR	Progress
98/99	SIGOMA	Deprivation measurement
102/103	SIGOMA	General approach
104	DTLR	IPF regression results
106	SDLG	Concurrent services
107	ALG/GLE	NERA approach
108	DEFRA	IPF regression results for waste
113	ALG/GLE	NERA approach
114	RSP	Sparsity
Supp	DTLR	Two further tranches of IPF regression results plus commentaries

Chapter 10

Capital

Overview

1. The group considered various options for removing explicit formulae for interest earned by local authorities on cash balances, reserves and unused capital receipts. No options were put forward for amending the formula dealing with support for traditionally-funded capital investment.
2. No further work is proposed on the options for the interest receipt elements. The government will be consulting over the summer on options for supporting traditionally-funded investment – the result of this consultation will determine whether the formula for support for traditionally-funded investment will continue to cover both new and old investment or whether it will only need to handle past investment. The government is proposing to continue the present arrangements for supporting approved PFI projects by a separate grant for the immediate future.
3. It was generally agreed that the current arrangements for the interest receipt elements can lead to volatility in grant distribution; some members also felt that the formulae were complex and difficult to explain to most stakeholders.
4. Not all members of the group felt it was sensible to dispense with explicit formula for interest receipts – some felt that removing these elements would reduce transparency and increase unfairness.
5. Some members felt that the existing methodology for the capital financing block should be kept unchanged for the immediate future, and only reviewed once the new prudential indicators system was in place. In view of the ongoing consideration of possible methods of providing future support for new capital investment some members indicated that they wished to make representations on alternative proposals as part of the consultation process.

Capital

Main Report

Background

6. The CFSSA block is made up of 3 sub-blocks. These are:

- the Debt Charges sub-block
- the Interest on Reserved Receipts sub-block
- the Other Interest Receipts sub-block

7. The two interest receipt sub-blocks are intended to allow explicitly for interest which local authorities are expected to earn on cash balances and reserves and on the funds they hold from disposing of assets no longer required. As they represent income, not expenditure, both sub-blocks have a negative control total.

8. The debt charges sub-block provides support towards the borrowing costs which local authorities incur on traditionally-funded investment.

Support for Investment

9. Purchasing a capital asset is the traditional way in which a local authority obtained access to capital services. An alternative to a local authority undertaking investment on its own account, often financed by borrowing, is for the authority to join with the private sector in a PFI or PPP scheme. Under this route the local authority gains access to capital services by making regular revenue payments to a private developer who builds and finances the asset and who takes on a substantial part of the risk. Support for approved PFI projects is at present provided outside of the RSG system through a separate grant.

10. The government will be consulting on options for supporting capital investment during the summer. The outcome of this consultation process will determine whether support for traditionally-funded new investment continues to be provided through the RSG system or by some other route.

11. If the government decides to continue to provide support for traditionally-funded investment via the RSG mechanism then the debt charges sub-block would continue in its present form, with credit approvals being replaced by assessments of the need for capital investment. Alternatively, if support for new investment were provided outside the RSG system, the government would continue to support existing borrowing through the debt charges sub-block broadly in its present form.

The Interest Receipt sub-blocks

12. Unlike other SSA sub-blocks each of these sub-blocks represent income, not expenditure. So both sub-blocks have a negative control total. Another difference between these two sub-blocks and other sub-blocks is that each of these negative control totals is first split between different types of authority before being allocated between authorities within the relevant group. This initial split between groups of authorities is intended to reflect the differing ability of authorities to realise capital receipts.

13. The combination of a negative control total and the unusual initial 4-way split of that total between classes of authority makes these two sub-blocks difficult to explain to most stakeholders. Furthermore, changes in interest rates, especially volatility in short-term interest rates, affect the control totals for these blocks. This can lead to significant year-on-year distributional consequences for RSG which local authorities find difficult to accommodate. Because of these factors a case can be made for the removal of these two blocks (and the corresponding control total changes) on the grounds of (i) improving stability and (ii) improving simplicity and intelligibility.

14. An alternative view was that, although removal of these two blocks would improve stability, it would reduce transparency, since the adjustments to the control totals would be lost after the first year. It was also argued by some members that the new distribution was no more, and possibly less, equitable than that under the existing methodology.

15. If these blocks were dropped then one option would be to reduce the control total for the debt charges sub-block by a corresponding amount, so leaving the overall control total for the CFSSA block unchanged.

16. However, these interest receipt sub-blocks reflect the interest which local authorities earn on their cash balances, reserves and receipts. All sub-blocks outside the CFSSA contribute to the need to hold cash balances and reserves. And the assets sold to generate reserved and usable receipts come from various sub-blocks. So a case can be made for reducing the control totals for all non-CFSSA sub-blocks to offset the removal of the Other Interest Receipts sub-block, instead of reducing the control total for the debt charges sub-block.

17. Three options were identified for adjusting the non-CFSSA control totals to offset a removal of the two interest receipt sub-blocks. These were:

- to allocate each of the negative control totals across all sub-blocks identified as contributing to the ability to earn interest receipts pro-rata to the control totals for these sub-blocks;
- to allocate higher proportions of each of the negative control totals to the lower tier EPCS sub-block in recognition of the fact that this sub-block is a major source of capital receipts;

- to reduce the lower tier EPCS block control total by the total for the two interest receipt sub-blocks.

18. Under the second option the weighting attached to the lower tier EPCS sub-block would be higher for the Reserved Receipts control total than for the Other Interest Receipts control total. Under the third option the control totals for all the other service sub-blocks would not change.

Summary

19. The debt charges sub-block will remain. Whether it continues to provide support for both new and old investment, or only for past investment, will depend on the outcome of the forthcoming consultation on support for capital investment.

20. The two interest receipt elements could be retained in their present form, or they could be abolished. If they were to be dispensed with four options have been identified for adjusting sub-block control totals in order to keep the overall SSA total unchanged:

- reduce the debt charges control total;
- reduce all relevant sub-block control totals pro rata to SSA;
- reduce all relevant sub-block control totals but with a higher weights on the lower tier EPCS sub-block;
- reduce just the lower tier EPCS sub-block control total.

21. Some members proposed leaving the methodology for the capital financing block unchanged for the present, and then reviewing it once the new prudential indicators system had been introduced. It was suggested that this would allow further consideration of other options, including those which had been proposed in earlier years.

Abbreviations

CFSSA	Capital Financing SSA block
EPCS	Environmental, Protective and Cultural Services
PFI	Private Finance Initiative
PPP	Public Private Partnership
RSG	Revenue Support Grant

Capital papers considered by the Formula Review Sub-Group

FR(01)10 Removal of the two Interest Receipt Sub-blocks DTLR