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Introduction

In its second consultation paper, the Commission on Local Government and the Scottish Parliament indicated that it was 'minded to recommend to the Scottish Parliament that a form of proportional representation be introduced for local government elections.' The purpose of this report is to assess the relative merits of a number of alternative electoral systems for Scottish local government.

This paper outlines criteria by which various forms of proportional representation might be evaluated and then considers the likely performance of a number of different systems against those criteria. It does so with the assistance of some detailed modelling for eight local authorities of how votes cast in the 1995 local elections might have been converted into seats under various alternative electoral systems.

Choosing an Electoral System

A mistake that is commonly made in discussions of proportional representation is to assume that a choice has to be made between a relatively limited range of systems. As a result debate polarises into a discussion of the relative merits of, say, the single transferable vote versus the additional member system. Yet in practice even these two 'systems' alone can vary significantly in their details. More generally, systems of proportional representation come in many shapes and sizes. Indeed the only limit to their variety is human ingenuity.

This has important implications for how one should set about 'choosing' an electoral system for any institution, be it local government, Holyrood, Westminster or Strasbourg. The task should not be regarded as choosing between a limited range of 'off the peg' alternatives; rather it should be considered to be to design a 'tailor-made' system that best suits the institution in question. This in turn implies that the most crucial task in choosing an electoral system is to identify the aims and objectives that an electoral system is expected to fulfil. Only then should we proceed to consider how those aims and objectives are best met. And of course any consideration of the aims and objectives of an electoral system in turn raises questions about the aims and objectives of the institution itself, and of the role and functions that its elected members are expected to perform within it.

This report therefore begins not with systems, but with aims and objectives. It suggests four questions that need to be addressed so that we can identify the criteria upon which a choice of an alternative electoral system for local government should turn. It then identifies four principal ways in which electoral systems differ in practice and how they affect the likely achievement of any set of criteria. Only thereafter do we describe the operation of some of the main electoral systems commonly suggested as alternatives to the existing first-past-the-post system. To this point our discussion is primarily theoretical. But we then turn to an empirical examination of the operation of various alternative systems and illustrate the relevance of our theoretical discussion in the wide range of particular circumstances thrown up by Scottish local government. We show how some of the main alternative systems would have converted the votes cast in the 1995 local elections into seats. And we consider the kinds of geographical representation that might be possible under different systems. Our final section draws together some tentative conclusions and identifies the key issues to be addressed in choosing an alternative system.

Key Questions and Criteria

Choosing an electoral system is not simply about finding the best means of achieving a given end. Rather it involves normative choices about what properties we consider it desirable for an election to have. We can only identify the criteria against which we might evaluate various alternatives once we have ascertained our attitude to four key questions:

1. How proportional do we want an electoral system to be?
2. What geography do we want to represent?
3. What kinds of choices do we think voters should have?
4. How familiar do we think the system should be to voters?

At first glance it might seem obvious that if we are opting to implement a proportional system of voting that we would prefer that system to be as proportional as possible. After all, most advocates of proportional representation regard the purpose of an election to be to produce a body that is as faithful a microcosm of the electorate as possible (Plant 1991). Yet in practice we might wish to impose some constraint on this objective. We might particularly take this view where the body in question is not just a representative body but also has executive functions to fulfil. For the more parties that are represented in a council chamber the more difficult it might be to construct an executive capable of sustaining the support of a majority of councillors over a reasonable period of time. Equally too many parties might make the choice made available to voters confusing.

We thus might wish to opt for a system that provides relatively few rewards to very small parties and/or gives a bonus to large ones. However the degree to which such concerns are considered pressing must at least in part depend on the future structure of local government in Scotland. If, as the current Westminster government appears to favour for England, councils were to introduce a directly elected mayor, the case for constraining the degree of proportionality would appear weak. In that event the council would no longer be responsible for sustaining an executive in office. Rather its task would be to scrutinise the actions of the mayor and his/her administration, a task to which it might be argued the widest possible range of views should be brought. Moreover, it might be argued that whatever the structure of local government there is little need for any disincentive to small parties as the range of political parties that fight local elections in Scotland is more likely to be determined by the party system at Holyrood and at Westminster than by the rules for local government elections themselves.

However, if there were a move towards a 'cabinet' form of administration, the case for constraining the degree of proportionality would appear stronger. In that event the cabinet would be dependent on maintaining the support of a majority of councillors in order to remain in office. Local council elections would not just be about the election of a representative body of councillors but would also influence who had executive power. We might wish to make it more likely that a clear winner emerged from an election by making it possible for a party to win a majority of seats with somewhat less than half the vote, and by making it relatively difficult for small parties to win seats. Alternatively we might wish to provide incentives to political parties to form electoral alliances that would, *inter alia*, signal to the electorate in advance of polling day who would be likely to agree to form a coalition. Such a feature might help counteract one of the common criticisms of proportional representation, *viz.* that it reduces the ability of the electorate to determine who holds executive office.

Much importance is often attached in political discourse in Great Britain to ensuring that individual elected representatives are accountable to a clearly defined body of voters. Equally, importance is attached to the idea that every voter has someone to whom they can turn in the event that they need help in dealing with a public authority such as a local council or central government department. In addition, it is suggested that MPs and councillors should represent the diverse range of interests within the country or local authority. Councillors themselves often attach importance to representing the interests of the members of their ward within the local authority (Newton, 1976).

All of these arguments have been used to suggest that MPs and councillors should be elected to represent specific geographic constituencies, as happens under the single member plurality system currently used to elect local councillors in Scotland. But another strand of thought has sometimes argued against this view. It suggests that because of their commitment to their ward, too few councillors take a broad strategic view of the needs of the local authority as a whole. According to this line of argument it would be preferable if councillors were less clearly tied to individual wards than is currently the case. This might

even imply that some or all councillors should be elected 'at large', that is on the basis of votes cast across the local authority as a whole.

Moreover, some critics of the single member plurality system suggest that in practice it fails to ensure that individual councillors are accountable to their electorates. Voters it is argued primarily decide who to vote for on the basis of which party they are standing for rather than their personal qualities or competence. With only one candidate standing for each party in each ward, voters effectively do not have the ability to choose between individual candidates. The electoral fate of a councillor depends on the popularity of his/her party rather than his/her personal endeavours.

In contrast, some forms of proportional representation allow voters to express a preference between candidates of the same party, or even in some instances between candidates of different parties. This may be considered a way of increasing the accountability of individual councillors to the electorate as well as reducing the influence of political parties on candidate selection. Such arguments certainly impressed the Jenkins Commission which recently produced proposals for an alternative electoral system for the House of Commons (Jenkins, 1998).

However arguments may also be marshalled in the other direction. It can be argued that by encouraging competition between candidates of the same party, party unity and discipline are weakened while councillors are given even more incentive to be responsive to the particularistic demands of their ward than is already the case under the single member plurality system. It has also been argued that requiring voters to choose between candidates as well as between parties complicates the task of voting unnecessarily and may even discourage some people from voting at all. And it has also been argued that if parties are in control of the order of their lists, gender balance is more likely to be obtained and ethnic minorities appropriately represented. Such arguments were certainly deployed during the parliamentary passage of the European Elections Act 1999, which introduced for European elections a system of proportional representation that does not allow voters to choose between individual candidates.¹ In any event it is clear that the third question that has to be addressed in devising an electoral system is whether voters should only be allowed to choose between political parties, or whether they should also be able to choose between individual candidates, and if so to what extent.

A belief that electoral systems should not be complex or confusing to voters also informs the argument about our fourth question, that is how compatible should the electoral system for local government in Scotland be with other systems that voters may already be using. The more familiar a system is to voters as a result of its regular use in elections for different bodies, the more likely it is that they will not find it complex or confusing. Thus whatever the merits of a particular system so far as local government in Scotland is concerned, utilising a system that is already in use in other elections in Scotland may be thought to have some advantage.

¹ For evidence on the actual reactions of voters to electoral systems that do and do not permit voters to express a candidate preference see Farrell and Gallagher, 1998, Dunleavy et al 1998; NOP 1998.

This discussion has illustrated that there are no simple answers to any of the questions we have posed. What it does indicate is that our answers to them should be based on a careful consideration of the role and structure of councils and of councillors within them.

Varieties of Electoral System

Of course when we have determined what qualities we might like an electoral system to have, we need to consider how they might be achieved. In practice we can identify four major ways in which proportional electoral systems vary. These are as follows:-

1. The rule used to allocate seats to votes,
2. The degree to which a territory is divided into separate constituencies
3. The number of tiers at which seats are allocated to votes
4. The range of choice and degree of influence that voters have in casting their vote.

The way in which electoral systems vary on these four dimensions, both separately and in combination determine the degree to which they are capable of meeting the criteria that we might develop in response to the choices that we outlined in the previous section.

Of these four dimensions of variation, the first is by far the most technical. No system can be completely proportional because all systems are required to allocate whole seats, not fractions. So even if there are say, 100 seats to be allocated, we have to decide whether a party that secures 0.67% of the vote should receive a seat or not, or whether a party that wins 1.5% is entitled to one seat or two.

There are two main methods by which this problem is resolved under proportional systems.² The first are the so-called divisor methods. These allocate seats to the party with the highest average vote at each stage of the count until all seats are allocated. Under the D'Hondt method, the average is determined by dividing each party's vote by the number of seats it has been allocated plus one. Under the pure St. Laguë method in contrast, the divisor is twice the number of seats plus one³, while variants of that method used in some Scandinavian countries start off with an initial divisor of 1.4 rather than one.

² For an excellent concise discussion of their various methods and their properties see Lijphart, 1994.

³ This may alternatively be expressed as the number of seats won plus a half (Mortimore and McLean, 1992).

The second class of methods is based on the idea of a quota plus remainder. The quota is a given proportion of the vote that if secured entitles a party to a seat. A party that secures twice the quota will be allocated two seats, one that wins three times the quota, three seats, etc. Where this calculation results in fewer seats being allocated than there are seats to be filled, the remaining seats are given to the party(ies) with the largest 'remainder' of votes that do not contribute to a full quota. The quota may be the number of votes cast/number of seat (the Hare quota), number of votes/number of seats +1 (the Droop quota), or even number of votes/number of seats +2 (the Imperiali quota).

The different methods vary systematically in the degree to which they favour large or small parties. The D'Hondt method is kinder to larger parties than is St. Laguë. Similarly, the Imperiali quota is least favourable to small parties, the Hare quota the most favourable. But the impact of these differences on the overall outcome depends in fact on the second and third of the ways in which we have identified electoral systems vary, that is in the size and number of constituencies and in the number of tiers that are represented. Indeed, the proportionality of any electoral system depends primarily on the interaction of all three of these features.

The reason for this is simple. The problem of how best to allocate whole seats to votes is a relatively trivial one if a council has 100 members, all of whom are elected in a single authority-wide constituency. The only uncertainty is a marginal one about which party should be given the last one or two seats. But say the council comprised just 30 members, elected in ten separate constituencies with three members in each. Here the question becomes whether a party with, say as much as 25% of the vote, is or is not entitled to a seat. And that question is asked not once but ten times; as a result a party might lose out on a seat not just once but repeatedly. In that event the inevitable consequence is a substantial degree of disproportionality across the local authority as a whole.

A key feature of any proportional electoral system is the degree to which the council area is divided into separate constituencies. For any given total number of councillors, the more it is divided the less proportional the outcome is likely to be across the council area as a whole, especially if each constituency elects only a small number of seats. In short, securing finely grained geographic representation and a high degree of proportionality are largely incompatible objectives.

But if separate representation of relatively small geographic areas is considered desirable, then its negative impact on the overall proportionality of the outcome may be counteracted by allocating some seats at a higher 'tier'. The additional member system used to elect the Holyrood parliament is an example of such a 'tiered' system. The potentially disproportional impact of electing 73 members in single member constituencies is counteracted by the election of 56 additional members in eight regions. One or more tiers can, however, also be used in combination with multi-member constituencies within which seats are allocated according to one of the proportional formula.

It should be noted however that there are ways in which the impact of both the number and size of constituencies and the number of tiers may be modified. On the one hand we may be able to make a system more proportional than it might otherwise be by allowing 'apparentement' or the linking of lists. This allows two or more parties to request that their votes be counted together in determining the initial allocation of seats to party lists. As a result two parties whose tallies might be insufficient to entitle either of them individually to a seat may in combination be entitled to one. That seat would then go to the individual party in the alliance who secured most votes. More generally, whatever allocative rule is used to determine the distribution of seats between parties/linked lists can also be used to distribute a combined entitlement amongst a set of linked lists.

On the other hand, we can also make an electoral system less proportional than it would otherwise be by imposing a formal threshold specifying a minimum share of the vote that a party must win before it wins any seats. The use of such a threshold is most common where some or all seats are allocated at national or regional level and where as a result the proportion of the vote that would otherwise be needed to win a vote would be quite low.

But it is on our fourth source of variation, that is in how voters can vote and the degree of influence that they have, that perhaps different forms of proportional representation vary most. The greatest freedom and influence is undoubtedly provided by the Single Transferable Vote system of voting. Under this method, voters do not in fact vote for parties at all. Rather they are given the opportunity to place all the candidates in order of preference. Voters can thus not only express a preference between candidates of different parties, but their preferences wholly determine which candidates are elected. At the same time, the system also allows voters to indicate their preference between parties, rather than just state which party they most prefer, and again these lower preferences also have some impact on the overall distribution of seats. Indeed, this feature of STV provides an incentive to parties to form electoral alliances, for if two or more parties can persuade their voters to give their lower preferences to other members of the alliance, their joint tally of seats is likely to be higher than it otherwise would be, as experience with STV in Ireland has illustrated (Bogdanor, 1981).

But more conventional party list systems can also allow voters a wide degree of choice and influence. Voters may, for example, be given more than one vote, allowed to distribute their votes amongst candidates of more than one party, and even to give more than one vote to the same candidate. Such a system can offer voters almost as much freedom and influence as the single transferable vote. More generally, so-called 'open list' systems allow voters to express at least one candidate preference and ensure that it is those preferences that wholly determine which of a party's candidates are elected. In contrast, at the other end of the spectrum under a 'closed list' system, such as that introduced into Great Britain for the European elections, voters may only be allowed to indicate which party they most prefer and so not have an opportunity to influence which candidates are elected. Meanwhile so-called 'flexible' lists may give voters the option to express a candidate preference, though the impact of those preferences on who is elected may be quite limited (Katz, 1986).

Achieving Objectives

We can now begin to see how we might identify a desirable electoral system for Scottish local government. Once we have identified our answers to the four questions that determine our criteria, we can examine our four sources of variation to see how those criteria might best be met. True, we may have to recognise that some of our objectives may in practice be incompatible with each other. And as we shall see we will also need to take into account the varieties of particular circumstances thrown up by local government in Scotland. But we should at least now be able to see how best to set about our task.

For example, if cabinet systems were to be pursued in Scottish local government there would be merit in a system which both makes it easier for an individual party (or two or more declared coalition partners) to win an overall majority and makes it more difficult for small parties to secure representation in the council chamber. In that context, we might seek a system that deployed a large number of small constituencies and/or allowed voters' second preferences to have an impact. Or alternatively if, for other reasons, it wanted a smaller number of larger constituencies it might consider introducing a relatively high minimum threshold.

Or say that there was a desire to see councillors focussing more on the strategic issues facing the local authority as a whole rather than the problems of individual wards or constituents. In that case it might appear desirable that some or all councillors are elected on an authority wide basis. At the same time, one might also wish to limit the degree to which voters can choose between individual candidates, though this would be to presume that the party members who select candidates would be more likely to take into account the ability and willingness of individuals to focus on strategic issues than would voters.

Alternatively, if it were felt that one of the problems facing local government is that councils and councillors are too remote from those that they serve, then we might favour a voting system which encourages closer contact by maximising the extent to which individual councillors are reliant on the preferences expressed by voters to secure election. Such a consideration might also suggest that it would be desirable for some councillors at least to continue to be elected for relatively small geographic areas. It is also pertinent that in some rural parts of Scotland the election of independent councillors is still common place. A 'closed' party list system would make it virtually impossible for such a tradition to continue.

Electoral Systems in Practice

So far our discussion has been entirely theoretical. It has indicated that there is a far wider range of options in introducing a new electoral system than is often appreciated. However, it would clearly be useful to have some guidance on what might be the practical consequences of introducing some of the principal alternatives. To that end we have undertaken some detailed modelling of what might have happened if a range of possible electoral systems had been in use at the time of the first elections to the new unitary authorities in Scotland in 1995. Such an exercise cannot investigate all of the considerations that we have suggested ought to be brought to bear in choosing an electoral system, but can serve to inform a discussion of two important issues we have identified, viz., how proportional a system might be, and what geographies might be represented.

The following options are illustrated:

1. **Single Transferable Vote** in multi-member constituencies. Under this system voters are invited to rank individual candidates in order of preference. Preferences may be expressed for candidates of more than one party. In order to determine who is elected a quota (normally the Droop quota +1) is determined and all candidates whose tally of first preferences matches or exceeds that quota are deemed elected. If, as is usually the case, fewer candidates meet the quota than there are seats to be elected, votes that exceed the quota and/or votes cast for bottom placed candidates are redistributed in accordance with their voters' next preference until sufficient candidates have reached the quota.

As we have noted that the proportionality of an electoral system depends on the size of constituencies, we have chosen to illustrate the operation of this system with two different sizes of constituency. One is a set of 'small' constituencies, where in most cases just three members are elected, that is the minimum number usually deployed under STV. The other is a set of 'large' constituencies, twice as big as the 'small' constituencies and typically electing six members, about as large as is commonly suggested for use with STV. Both sets of constituencies have been drawn by combining geographically adjacent wards used in the 1995 elections.

It will be apparent that in order to model this system we not only need information on voters' first preferences but also on their second and lower preferences. This information has been obtained from the 1995 wave of the British Election Panel Study, which interviewed 501 respondents in Scotland shortly after the 1995 local elections. Further information about this study whose sample was originally drawn from those eligible to vote as part of the 1992 British and Scottish Election Studies can be found in Brook and Taylor (1996). Full details of the pattern of second preferences obtained by the study and of their utilisation can be found in the technical appendix to this report. It should however be noted here that we assume that voters vote for all of the candidates of one party before casting preferences for the candidate of another.

2. **Additional Member System.** Under this system some seats are filled in single member constituencies, most commonly under the single member plurality rule currently used to elect councillors in Scottish local government. The remaining 'additional' seats are filled at a higher tier such that the total of constituency and additional seats combined are as proportional as possible in accordance with whatever allocative rule is being used. In our examples we have used the D'Hondt rule, as this is the rule which is already being used both in elections to the Holyrood parliament and the European parliament. Three versions of the system have then been simulated:

- a) half the council is elected under the single member plurality rule and half as additional members elected across the local authority as a whole.
- b) As a), but the additional members are elected in two or more separate 'areas' each typically electing five additional members
- c) Three-quarters of the council are elected under the single member plurality rule and one quarter as additional members elected across the local authority as whole.

In the case of a) and b) our estimates of the outcomes in the constituency half of the election is obtained by drawing up new constituencies based on the combination of (usually two) geographically adjacent wards used in the 1995 election. In the case of c) we have simply assumed that each party would win the same proportion of directly elected seats as they actually won in 1995. This must be considered a more imprecise method that may in practice be likely to somewhat underestimate the degree of disproportionality generated by the single member outcomes. However, it can serve as a reasonable guide as to whether this method would be likely to produce overall outcomes that were significantly less proportional than those produced by either or both of the first two methods.

Under the Additional Member System voters are commonly invited to cast two separate votes, one for their constituency contest, the other for a party list of potential additional members, and may if they wish vote differently on the two ballots. Seats are however distributed in proportion to the party list vote. We have assumed the distribution of support on the two ballots is identical. Voters may or may not be given an opportunity to express a preference amongst the candidates on the party lists.

The Jenkins Commission has recommended a variant of the Additional Member System sometimes known as 'AV+'. Under this variant the outcome in the constituency contests is determined using the Alternative Vote. This method requires voters to vote in the same way as under STV. If no single candidate secures 50% of first preferences, votes for bottom placed candidates are redistributed in accordance with their next preference until one candidate meets that threshold. We have also modelled this variant for versions a and b of AMS, using the same second preference matrix that we

used for STV. As the overall results obtained are only occasionally different from those obtained under the single member plurality rule, full details are not shown in the tables.

- 3. Party List System.** Under the most common version of this system, voters simply cast a vote for the party they most prefer. They may or may not have the opportunity or be placed under an obligation to express a preference for one or more candidates. Voters can however be given more than one vote that they may be able to divide between two or more parties. Our modelling encompasses all of these possibilities. We show the outcome produced by the D'Hondt allocative rule under two sets of circumstances:
- a) constituencies that typically elect six members. In each case these are the same constituencies as the 'large' constituencies used to estimate the impact of STV.
 - b) The whole council area forms a single constituency, with the result that all councillors are elected 'at large'. This is the closest of all our estimates to a 'pure' system of proportional representation and can serve as a benchmark against which to compare the proportionality of other methods.

We have of course had to make some simplifying assumptions to produce these estimates. We have had to assume that the distribution of party support would have been the same as it actually was under first past the post in 1995. Where voters have the opportunity to express more than one preference, it is assumed that their distribution of first preferences would have been the same as the distribution of support under first past the post. We should however bear in mind that the distribution of party support recorded in 1995 was influenced by the presence or absence of candidates for a particular party. In particular, both the Conservatives and the Liberal Democrats only fought around half of the wards in Scotland in 1995. We can anticipate that a far higher proportion of voters would have had the chance to vote for these parties under all of the systems being considered here. Even if, for example, a party only puts up one candidate in a six member STV constituency, all of the voters in that constituency will have an opportunity to express a preference for that party. On the other hand, if a party only fights one out of six single member wards, only one-sixth of voters have the opportunity to vote for it. We can thus anticipate that one of the consequences of a switch to proportional representation is that more voters would be likely to have the opportunity to choose between more parties, and that this in itself might make it more difficult that any one party would secure an overall majority of seats.

We have however had to make one departure from our rule that we rely solely on votes actually cast in 1995. In some wards, mostly in rural areas, a single candidate was elected unopposed, and thus no votes were cast in that ward. In such cases we have assigned to the elected candidate a notional tally of votes. This was calculated by assuming that the turnout in the ward would have been the same as it actually was in neighbouring contested wards and that all votes would have been cast for the winning candidate.

We have also departed from the actual situation in 1995 in a second way. We have noted that the degree of proportionality that can be achieved by any electoral system is constrained by the total number of councillors to be elected. Since 1995 the Local Government Boundary Commission for Scotland has conducted its third statutory review of ward boundaries, and it is these boundaries which operated in the elections held on May 6th 1999. In undertaking its review the commission developed a policy on the ratio of councillors to population that was desirable in different kinds of councils. In contrast the numbers of councillors elected in 1995 was in some cases an accidental consequence of the speedy implementation of local government reorganisation. As a result in drawing up its new boundaries, the commission has altered the total number of councillors to be elected in many authorities. On the assumption that the results of the current systematic policy would be more likely to reflect what would happen under a revised electoral system, we have produced our estimates on the basis of the total number of councillors recommended by the third statutory review rather than the number actually in place in 1995.⁴

Our results should not be interpreted as what would have happened in 1995 had the new systems been in place. Both parties and voters would have behaved differently under an alternative electoral system with the result that the distribution of party support would have been somewhat different from what actually occurred. Rather our estimates should be considered 'proportionality indicators' displaying how different electoral systems would have rewarded the same distribution of party support, a distribution that broadly reflects the pattern of party performance that is likely to be thrown up given recent political circumstances in Scotland.⁵ Considered thus, they can help make an informed judgement about the degree of proportionality likely to be displayed by different systems.

⁴ Achieving this objective sometimes required the creation of STV or AMS constituencies of unequal size. This process could have introduced a bias in favour of one party or another. Thus, in two cases where this danger appeared particularly acute, Perth & Kinross and Clackmannanshire, we also calculated alternative estimates based on constituencies of equal size and the number of councillors that had actually been elected in 1995. These revealed no material difference in the estimated proportion of seats won by each party than provided by the estimates shown here.

⁵ It should also be noted that in constructing our estimates for what would happen under AMS or a party list system we have assumed that Independent councillors would form a single common party list in each local authority. This might be considered unlikely to happen in practice.

Even so, our exercise might still be criticised on the grounds that it only examines one election. So, in order to ensure that our conclusions are robust rather than specific to the circumstances of the 1995 elections, we have also modelled what would have happened if Labour's share of the vote had been ten points lower and the SNP's ten points higher in each and every ward in Scotland.⁶ We are thus assuming that the geographical distribution of Labour and SNP support remains as it actually was in 1995, but that the popularity of the parties changes. As Labour was eighteen points ahead of the SNP in the Scotland wide share of the vote in 1995, this scenario enables us to examine what might happen if the SNP were narrowly ahead across Scotland as whole. As will be seen, this scenario enables us to test whether one or more systems of proportional representation might give most seats to the party that comes second in votes.

We have undertaken our detailed modelling for eight of the 32 districts in Scotland. These are East Ayrshire, Clackmannanshire, Edinburgh, Glasgow, Perth & Kinross, Renfrewshire, Scottish Borders and the Western Isles.⁷ Between them they represent most of the varieties of context thrown up by Scottish local government. Thus they range from Scotland's largest cities to some of its remotest islands. They include both local authorities where Labour won over 50% of the vote in 1995 and authorities where they won a majority on less than 50%. At the same time we have a council where the SNP won an overall majority in 1995, and two where Independents continue to predominate.

Estimates for 1995

The results of our modelling for all eight councils, based on the 1995 election, are shown in Tables 1.1 to 1.8. In virtually all cases any of the alternative systems that we have modelled would have produced a markedly less one-sided outcome than was actually produced by the existing single member plurality system. In particular, the SNP would not have won a majority in Perth & Kinross under any of the alternatives, neither would the Independents have had a majority in the Borders. Meanwhile under most of the alternatives Labour would also have failed to win a majority in either Renfrewshire or Edinburgh. Unsurprisingly counting the votes under an alternative system would have had least impact in the Western Isles, where all but a handful of candidates stood and were elected under an Independent label.

Between them our models clearly illustrate how some of the factors discussed earlier influence the degree of proportionality. True, in a few cases such as Perth & Kinross and Renfrewshire, there are relatively few differences in the outcome produced by the various systems. Yet at the other extreme in Edinburgh Labour's share of seats varies between 41% and 53% depending on which system is used. And in general we can see that the

⁶ This is approximately twice the swing from Labour to SNP that actually occurred in the local elections held on May 6 1999.

⁷ As there were not any elections in the Western Isles in 1995, our estimates for that authority are based on the outcome of the last election held in 1994.

most disproportional outcomes are produced by the use of STV in small constituencies while the most proportional outcomes are provided either by the Additional Member System where half the seats are allocated across the authority as a whole or by a party list system where the whole authority simply forms a single party list constituency.

Consider more closely, for example, our figures for Edinburgh. Here, as already noted, we can see that with STV in small constituencies, Labour would have won as many as 53% of the seats. If we examine all of the differences between each party's share of seats and its share of votes (and divide them by two to avoid double counting) we can calculate an index of disproportionality (Loosemore & Hanby 1971). In this case our index is 12. Under either AMS with half the seats elected across the city as whole or under a simple city-wide party list system, Labour would have just 41% of the seats, the same as its share of the vote. Overall our index would be just one, or almost perfect proportionality. Equivalent calculations indicate that in Glasgow an index of disproportionality of 13 for small seats STV falls to 2 under district wide AMS or party list system, in East Ayrshire from 7 to 2, and in both Renfrewshire and the Scottish Borders from 8 to 3.

We appear then to have clear confirmation that the more a local authority area is divided into smaller sized constituencies, the less proportional the outcome is likely to be. True, our calculations in the small STV seats are also influenced by the distribution of second preferences. In practice, however, these prove to have relatively little impact, not least because neither Labour nor the SNP hold a decisive advantage over the other in the distribution of the second preferences of Conservative and Liberal Democrat supporters combined (see appendix). At most the Conservatives are put at a slight disadvantage because voters for other parties are relatively reluctant to give them a second preference. Indeed if we compare the results of our STV estimates in large seats with those for a party list system in exactly the same constituencies, we can see that rarely is the difference between the two larger than one seat.

Other comparisons that we can make equally attest, albeit less dramatically, to the impact of geographical division on proportionality. In six cases allocating additional seats within separate 'regions' of an authority rather than across the authority as a whole reduces the degree of proportionality. The same is true if a party list ballot is held in separate constituencies rather than across the authority as a whole.

These observations may draw particular attention to our estimates for what might happen if as many as three-quarter of the seats were to be elected in single member districts, thereby providing a greater degree of representation of individual communities, while just a quarter are allocated as additional seats, but, in order to maximise their impact, across the city as a whole. Might this provide a compromise between any desire for maximum geographical representation and a high degree of proportionality? Our evidence from the 1995 results suggests that it might. In five cases the result obtained is identical to that provided by AMS when half the seats are allocated authority wide. In two of the remaining cases - Edinburgh and the Scottish Borders - the outcome is only slightly less

proportional with just a quarter top-up. However, the figures for Glasgow indicate that where very substantial disproportionalities are thrown up by the outcome in single member constituencies, a quarter sized top-up may not in fact contain sufficient seats to produce a proportional outcome.⁸

One other feature of the results under AMS should also be noted. We have suggested that one of the possible motivations for recommending such a scheme might be that, through an authority wide election, it would result in some councillors being encouraged to take a wider strategic view of the interests of the authority as a whole. However our estimates suggest that the impact of this on the future running of authorities might be rather limited. In general the principal beneficiaries of the additional seats tend to be losing parties. As a result even with a half of the seats allocated as additional seats, in all of our authorities only a minority of the seats won by the largest party, that is the party most likely to form the core of an administration, would be won on an authority wide basis. Only in three cases, Clackmannanshire, Renfrewshire and the Western Isles, would they constitute 40% or more of the largest group. And in the event that only a quarter were to be elected across the authority as a whole only in the Western Isles would more than a handful of the member of the largest group have an authority wide mandate.

As we noted earlier estimates were also calculated for the 'AV+' version of the Additional Member System which has been recommended for use in House of Commons elections by the Jenkins Commission. Only in one case, Clackmannanshire, were the estimates for the overall outcome in any way different from those for the single member plurality version of AMS. Only occasionally was the estimated outcome of the election in the directly elected seats different under AV than under the simple plurality rule and, in any event, with just the one exception noted, its impact was always reversed by the distribution of additional seats. This is largely what one would expect when as many as a half of the seats are allocated as additional seats. However, the lower the proportion of additional seats, the more likely it is that the impact of AV would not be negated in that way.

⁸ This observation is reinforced by the outcome of the election in Glasgow on May 6 1999 when Labour won 74 out of 79 first past the post seats on just under 50 per cent of the vote. Such disproportionality could certainly not be fully corrected by a quarter sized top-up.

General Notes to Tables 1.1-1.8

Figures in brackets for votes in Scottish Borders and Western Isles show distribution of vote after assigning notional votes to unopposed candidates.

Figures in brackets for AMS seat totals are (total no of constituency seats/total no. of additional seats).

These results were generated from computer simulations designed to illustrate the likely relationship between votes and seats under different alternative electoral systems. The results should not be interpreted as what would have happened in 1995 had any of the systems been in place.

Table 1.1 East Ayrshire

	Con	Lab	LD	SNP	Other
% Vote	6.9	56.4	0.3	36.1	0.2
FPP Seats (30)	0	22	0	8	0
As %	0	73	0	27	0
<u>Simulations (32 seats)</u>					
STV Small	1	20	0	11	0
As %	3	63	0	34	0
STV Large	1	18	0	13	0
As %	3	56	0	41	0
AMS					
Half district level	2(0/2)	18(14/4)	0	12(2/10)	0
As %	6	56	0	38	0
Half regional	1(0/1)	20(14/6)	0	11(2/9)	0
As %	3	63	0	34	0
Quarter district level	2(0/2)	18(18/0)	0	12(2/10)	0
As %	6	56	0	38	0
Party List Constituency	1	19	0	12	0
As %	3	59	0	38	0
District	2	18	0	12	0
As %	6	56	0	38	0

Table 1.2 Clackmannanshire

	Con	Lab	LD	SNP	Other
% Vote	3.0	54.1	3.9	38.5	0.6
FPP Seats (12)	1	8	0	3	0
As %	8	67	0	25	0
<u>Simulations (18 seats)</u>					
STV Small	0	10	1	7	0
As %	0	56	6	39	0
STV Large	0	10	1	7	0
As %	0	56	6	39	0
AMS					
Half district level	1(1/0)	10(6/4)	0	7(2/5)	0
As %	6	56	0	39	0
Half regional	1(1/0)	10(6/4)	0	7(2/5)	0
As %	6	56	0	39	0
Quarter district level	1(1/0)	10(9/1)	0	7(3/4)	0
As %	6	56	0	39	0
Party List Constituency	0	10	0	8	0
As %	0	56	0	44	0
District	0	11	0	7	0
As %	0	61	0	39	0

Table 1.3 Edinburgh

	Con	Lab	LD	SNP	Other
% Vote	23.3	40.7	18.1	17.3	0.6
FPP Seats (58)	14	34	10	0	0
As %	24	59	17	0	0
<u>Simulations (58 seats)</u>					
STV Small	11	31	8	8	0
As %	19	53	14	14	0
STV Large	13	28	8	9	0
As %	22	48	14	16	0
AMS					
Half district level	14(4/10)	24(21/3)	10(4/6)	10(0/10)	0
As %	24	41	17	17	0
Half regional	13(4/9)	27(21/6)	9(4/5)	9(0/9)	0
As %	22	47	16	16	0
Quarter district level	13(10/3)	25(25/0)	10(8/2)	10(0/10)	0
As %	22	43	17	17	0
Party List Constituency	13	28	8	9	0
As %	22	48	14	16	0
District	14	24	10	10	0
As %	24	41	17	17	0

Table 1.4 Glasgow

	Con	Lab	LD	SNP	Other
% Vote	6.6	61.5	3.4	22.8	5.7
FPP Seats (83)	3	77	1	1	1
As %	4	93	1	1	1
<u>Simulations (79 seats)</u>					
STV Small	1	59	1	16	2
As %	1	75	1	20	3
STV Large	3	55	1	18	2
As %	4	70	1	23	3
AMS Half district level	5(0/5)	50(38/12)	2(1/1)	18(1/17)	4(0/4)
As %	6	63	3	23	5
Half regional	2(0/2)	56(38/18)	1(1/0)	18(1/17)	2(0/2)
As %	3	71	1	23	3
Quarter district level	4(2/2)	55(55/0)	2(1/1)	15(1/14)	3(0/3)
As %	5	70	3	19	4
Party List Constituency	3	58	1	15	2
As %	4	73	1	19	3
District	5	50	2	18	4
As %	6	63	3	23	5

Table 1.5 Perth & Kinross

	Con	Lab	LD	SNP	Other
% Vote	24.8	14.3	13.0	41.0	6.8
FPP Seats (32)	2	6	5	18	1
As %	6	19	16	56	3
<u>Simulations (41 seats)</u>					
STV Small [^]	11	5	4	19	2
As %	27	12	10	46	5
STV Large [^]	10	6	4	19	2
As %	24	15	10	46	5
AMS Half district level	10(1/9)	6(4/2)	5(2/3)	18(12/6)	2(1/1)
As %	24	15	12	44	5
Half regional	10(1/9)	5(4/1)	5(2/3)	18(12/6)	3(1/2)
As %	24	12	12	44	7
Quarter district level	10(2/8)	6(5/1)	5(5/0)	18(17/1)	2(1/1)
As %	24	15	12	44	5
Party List Constituency	11	5	4	19	2
As %	27	12	10	46	5
District	10	6	5	18	2
As %	24	15	12	44	5

[^]STV Small are mostly four-member wards. Large are mostly eight-member wards.

Table 1.6 Renfrewshire

	Con	Lab	LD	SNP	Other
% Vote	7.8	46.3	5.9	38.6	1.4
FPP Seats (40)	2	22	3	13	0
As %	5	55	8	33	0
<u>Simulations (40 seats)</u>					
STV Small	1	20	2	17	0
As %	3	50	5	43	0
STV Large	1	20	2	17	0
As %	3	50	5	43	0
AMS					
Half district level	3(0/3)	19(10/9)	2(2/0)	16(8/8)	0
As %	8	48	5	40	0
Half regional	1(0/1)	21(11/10)	1(1/0)	17(8/9)	0
As %	3	53	3	43	0
Quarter district level	3(2/1)	19(16/3)	2(2/0)	16(10/6)	0
As %	8	48	5	40	0
Party List Constituency	1	20	1	18	0
As %	3	50	3	45	0
District	3	19	2	16	0
As %	8	48	5	40	0

Table 1.7 Scottish Borders

	Con	Lab	LD	SNP	Other
% Vote	14.8(11.8)	3.3(2.6)	24.0(21.5)	18.9(20.3)	39.0(42.8)
FPP Seats (58)	3	2	15	8	30
As %	5	3	26	14	52
<u>Simulations (34 seats)</u>					
STV Small	2	1	10	6	15
As %	6	3	29	18	44
STV Large	2	1	9	8	14
As %	6	3	26	24	41
AMS					
Half district level	4(0/4)	0	8(4/4)	7(2/5)	15(11/4)
As %	12	0	24	21	44
Half regional	2(0/2)	1(0/1)	7(4/3))	7(2/5)	17(11/6)
As %	6	3	21	21	50
Quarter district level	5(1/4)	1(1/0)	8(6/2)	6(4/2)	14(13/1)
As %	15	3	24	18	41
Party List Constituency	2	0	9	6	17
As %	6	0	26	18	50
District	4	0	8	7	15
As %	12	0	24	21	44

Table 1.8 Western Isles

	Con	Lab	LD	SNP	Other
% Vote	0	10.2(13.4)	0	0	89.8(86.6)
FPP Seats (30)*	0	4	0	0	25
As %	0	13	0	0	83
<u>Simulations (31 seats)</u>					
STV Small+	0	2	0	0	27
As %	0	6	0	0	87
STV Large+	0	3	0	0	26
As %	0	10	0	0	84
AMS					
Half district level	0	4(2/2)	0	0	27(13/14)
As %	0	13	0	0	87
Half regional	0	3(2/1)	0	0	28(13/15)
As %	0	10	0	0	90
Quarter district level	0	3(3/0)	0	0	28(20/8)
As %	0	10	0	0	90
Party List Constituency	0	3	0	0	28
As %	0	10	0	0	90
District	0	4	0	0	27
As %	0	13	0	0	87

* No nominations in one ward

+ Two seats could not be assigned because of lack of nomination

Robustness: Looking at a more SNP world

Tables 2.1 to 2.6 show for the six authorities where elections are fought almost entirely along party lines how our various alternative electoral systems would have converted votes into seats should the SNP's share of the vote had been ten points higher in every ward where it stood, and Labour's ten points lower.⁹ How robust do our conclusions appear to be in such circumstances?

Many of our conclusions certainly appear to be upheld. The introduction of any form of proportional representation can sometimes make a significant difference to the outcome. This is particularly true in both Edinburgh and Glasgow. In both cities the SNP would win just three seats under the single member plurality system, despite securing 27% of the vote in the former and 32% in the latter. In part this is because the SNP vote is geographically more evenly spread than Labour's in the two cities, as it is indeed generally in Scotland, a feature which puts it at a distinct disadvantage under the current system at least for so long as its overall share of the vote is below Labour's. But in Edinburgh it also arises because the overall level of turnout in the city in 1995 was systematically lower in wards won by Labour, a feature that depressed Labour's share of the city wide vote without diminishing its ability to win wards. Indeed as a result of this, our projections shows that the existing electoral system would have given Labour an overall majority on just 31% of the vote.¹⁰ Although the difference in the outcomes produced by different systems is sometimes small, in general we can also again see that the overall result is somewhat less likely to be proportional if a relatively high degree of geographical segmentation is likely to be used.

But these projections add some new light through some of the distinct circumstances that our 10% swing throws up. In particular it throws up a number of instances where the SNP are the largest party in votes but are still short of 50%. We can see that in Perth & Kinross where its position as largest party is undisputed and where the remaining vote is scattered amongst a number of other parties, all of our alternative systems would give the SNP an overall majority of at least one. In Renfrewshire in contrast, those forms of proportional representation employing an authority-wide element in their seat allocation would give the SNP just half of the seats, while those not containing such an element would give the SNP an overall majority. Meanwhile in Clackmannanshire, where there are just 18 seats to be allocated, the SNP's 48.5% of the vote, four points more than Labour's, proves not to be sufficient to guarantee it an overall majority. Indeed, under one of our systems, that deploying small STV constituencies, it is Labour that would be given a majority. Equally in East Ayrshire, where the SNP are almost neck and neck with Labour on 46% of the vote, that same scheme also throws up the 'wrong' winner, in this case the SNP.

⁹ Both parties fought all wards in all six authorities, except in Perth & Kinross where Labour did not fight eleven of the 32 wards.

¹⁰ Indeed Labour managed to win an overall majority in the city in the May 1999 local elections while winning just 32% of the vote.

Two general points flow from these examples. First, proportional representation may give a party with less than 50% of the vote an overall majority of seats. This is particularly true of systems that use a more finely grained system of geographical representation. However, this feature is relatively colour blind, that is it is one from which the SNP as well as Labour could potentially benefit. Second, however, very finely grained systems of proportional representation also run the risk of giving a majority to the party that comes second in votes. This seems to be particularly true if the number of persons elected in each constituency is as few as three.

Our alternative scenario also casts some further light on the utility of an additional member system where a quarter rather than half the seats are allocated across the city as a whole. While in four cases, we estimate that the outcome would be the same under the two mechanisms, in both Edinburgh and Glasgow a quarter of the seats allocated additionally would be too small a proportion to produce a proportional outcome. In Glasgow, Labour would have two-thirds of the seats for just over half the vote, while in Edinburgh it would have 40% of the seats for just over 30% of the vote. Allocating one quarter of the seats as additional members cannot then always be relied upon to produce a proportional outcome.

General Note to Tables 2.1-2.6

These results were generated from computer simulations designed to illustrate the likely relationship between votes and seats under different alternative electoral systems. The results should not be interpreted as what would have happened at any particular election had any of the systems been in place.

Table 2.1 East Ayrshire: 10% Lab to SNP swing

	Con	Lab	LD	SNP	Other
% Vote	6.9	46.4	0.3	46.1	0.2
FPP Seats (30)	0	15	0	15	0
As %	0	50	0	50	0
<u>Simulations (32 seats)</u>					
STV Small	1	14	0	17	0
As %	3	44	0	53	0
STV Large	1	17	0	14	0
As %	3	53	0	44	0
AMS					
Half district level	2(0/2)	15(6/9)	0	15(10/5)	0
As %	6	47	0	47	0
Half regional	1(0/1)	16(6/10)	0	15(10/5)	0
As %	3	50	0	47	0
Quarter district level	2(0/2)	15(6/9)	0	15(10/5)	0
As %	6	47	0	47	0
Party List Constituency	1	17	0	14	0
As %	3	53	0	44	0
District	2	15	0	15	0
As %	6	47	0	47	0

Table 2.2 Clackmannanshire: 10% Lab to SNP swing

	Con	Lab	LD	SNP	Other
% Vote	3.0	44.1	3.9	48.5	0.6
FPP Seats (12)	0	6	0	6	0
As %	0	50	0	50	0
<u>Simulations (18 seats)</u>					
STV Small	0	10	0	8	0
As %	0	56	0	44	0
STV Large	0	9	0	9	0
As %	0	50	0	50	0
AMS					
Half district level	0	9(6/3)	0	9(3/6)	0
As %	0	50	0	50	0
Half regional	0	8(6/2)	0	10(3/7)	0
As %	0	44	0	56	0
Quarter district level	0	9(7/2)	0	9(6/3)	0
As %	0	50	0	50	0
Party List Constituency	0	9	0	9	0
As %	0	50	0	50	0
District	0	9	0	9	0
As %	0	50	0	50	0

Table 2.3 Edinburgh: 10% Lab to NSP swing

	Con	Lab	LD	SNP	Other
% Vote	23.3	30.7	18.1	27.3	0.6
FPP Seats (58)	14	31	10	3	0
As %	24	53	17	5	0
<u>Simulations (58 seats)</u>					
STV Small	10	22	7	19	0
As %	17	38	12	33	0
STV Large	13	21	8	16	0
As %	22	36	14	28	0
AMS					
Half district level	14(8/6)	18(15/3)	10(4/6)	16(2/14)	0
As %	24	31	17	28	0
Half regional	14(8/6)	19(15/4)	9(4/5)	16(2/14)	0
As %	24	33	16	28	0
Quarter district level	12(10/2)	23(23/0)	9(8/1)	14(2/12)	0
As %	21	40	16	24	0
Party List Constituency	13	20	7	18	0
As %	22	34	12	31	0
District	14	18	10	16	0
As %	24	31	17	28	0

Table 2.4 Glasgow: 10% Lab to SNP swing

	Con	Lab	LD	SNP	Other
% Vote	6.6	51.5	3.4	32.8	5.7
FPP Seats (83)	4	74	1	3	1
As %	5	89	1	4	1
<u>Simulations (79 seats)</u>					
STV Small	1	50	1	27	0
As %	1	63	1	34	0
STV Large	3	46	1	27	2
As %	4	58	1	34	3
AMS					
Half district level	5(0/5)	42(38/4)	2(1/1)	26(1/25)	4(0/4)
As %	6	53	3	33	5
Half regional	2(0/2)	47(38/9)	1(1/0)	27(1/26)	2(0/2)
As %	3	59	1	34	3
Quarter district level	3(3/0)	52(52/0)	2(1/1)	19(2/17)	3(1/2)
As %	4	66	3	24	4
Party List Constituency	3	46	1	27	2
As %	4	58	1	34	3
District	5	42	2	26	4
As %	6	53	3	33	5

Table 2.5 Perth & Kinross: 10% Lab to SNP swing

	Con	Lab	LD	SNP	Other
% Vote	24.8	8.1	13.0	47.5	6.8
FPP Seats (32)	1	2	5	23	1
As %	3	6	16	72	3
<u>Simulations (41 seats)</u>					
STV Small [^]	11	3	4	21	2
As %	27	7	10	51	5
STV Large [^]	10	3	4	22	2
As %	24	7	10	54	5
AMS Half district level	10(0/10)	3(0/3)	5(2/3)	21(17/4)	2(1/1)
As %	24	7	12	51	5
Half regional	10(1/9)	3(0/3)	5(2/3)	22(17/5)	1(1/0)
As %	24	7	12	54	2
Quarter district level	10(1/9)	3(2/1)	5(5/0)	21(21/0)	2(1/1)
As %	24	7	12	51	5
Party List Constituency	10	3	4	22	2
As %	24	7	10	54	5
District	10	3	5	21	2
As %	24	7	12	51	5

[^]STV Small are mostly four-member wards. Large are mostly eight-member wards.

Table 2.6 Renfrewshire: 10% Lab to SNP swing

	Con	Lab	LD	SNP	Other
% Vote	7.8	36.3	5.9	48.6	1.4
FPP Seats (40)	1	16	3	20	0
As %	3	40	8	50	0
<u>Simulations (40 seats)</u>					
STV Small	1	15	3	21	0
As %	3	38	8	53	0
STV Large	1	15	2	22	0
As %	3	38	5	55	0
AMS					
Half district level	3(0/3)	15(6/9)	2(0/2)	20(14/6)	0
As %	8	38	5	50	0
Half regional	1(0/1)	16(6/10)	1(0/1)	22(14/8)	0
As %	3	40	3	55	0
Quarter district level	3(1/2)	15(12/3)	2(2/0)	20(15/5)	0
As %	8	38	5	50	0
Party List Constituency	1	15	1	23	0
As %	3	38	3	58	0
District	3	15	2	20	0
As %	8	38	5	50	0

Geographical Representation under Alternative Systems

A second issue that our modelling enables us to explore is what kinds of geographical representation might be possible under alternative electoral systems. If we assume, as we have done here, that the total number of councillors should not be increased, all of the alternative systems that we have modelled which allow for some geographical subdivision of the authority all imply creating constituencies that are larger than existing wards. We may therefore question the extent to which larger constituencies are compatible with the representation of distinct communities.

This question cannot be answered definitively on the basis of the work undertaken here. It would require an exploration of the areas with which voters identify as well as considering the potential offered by each system. But we can offer a number of pointers.

One indicator we can examine of how far systems can represent distinct communities is electorate size. Table 3 shows the electorate sizes implied by the various schemes that we constructed in our eight authorities together with those entailed under the existing system. The smallest increase in constituency size is provided by the Additional Member System where, assuming half of the seats are directly elected, wards would have to be double their existing size. Such wards would often either be the same size (e.g. Edinburgh) or still somewhat smaller (e.g. Glasgow) than the size of regional electoral divisions prior to local government reorganisation. Moreover precedents for the ward sizes shown here can be found in local government in England. However in our two most rural areas, Borders and the Western Isles, where a sense of identity with relatively small communities may be thought to be highest, the average ward size would be larger than anything previously experienced. The workload of a single tier district councillor may be expected to be greater than that of a member of the upper tier of a double tier system, especially where the responsibilities of the latter were less likely to generate a heavy caseload of individual constituents' problems. Indeed, most wards of an equivalent size in England elect two or three councillors rather than just one.

Table 3. Average Seat Sizes Implied by Different Electoral Systems

	<i>STV Small</i>	<i>STV Large</i>	<i>AMS</i>	<i>FPP</i>
East Ayrshire	9,544	19,088	5,965	2,969
Clackmannanshire	6,209	12,419	4,140	2,056
Edinburgh	18,491	35,133	12,115	6,182
Glasgow	18,297	36,593	11,893	5,972
Perth & Kinross	10,154 [^]	20,307 [^]	5,077	2,524
Renfrewshire	10,528	19,551	6,843	3,441
Scottish Borders	7,732	14,176	5,003	2,508
Western Isles	2,344	4,688	1,563	750

[^] STV small in Perth & Kinross are typically 4-member seats. STV Large are typically 8-member.

FPP figures are based on 1996 electorates, and are based on the wards created by the third statutory review. Remaining figures are based on 1995 electorates.

Meanwhile of course, our small STV constituencies would be typically around half as large again. Our ward sizes would not be wholly unprecedented. Those projected for Glasgow and Edinburgh are on a par with those in Birmingham, and would elect as many councillors per ward as in that city. But apart from Glasgow all of the ward sizes are larger than anything previously experienced in that area, although it should be remembered that three councillors rather than one would represent each area, enabling them to share the constituent caseload and making it possible that each councillor would be particularly identified with one part of the constituency. Our large STV constituencies are of course simply double in size again. With wards in Glasgow and Edinburgh now more than half the size of a parliamentary constituency, it might be thought that all hope of community representation would be lost.

However, larger constituencies may sometimes make it easier to represent a distinct community. In Edinburgh, for example, our STV scheme, enables the whole of Corstorphine to be represented in a single constituency rather than divided into four units. In the Borders the town of Selkirk can form one STV constituency together with its hinterland. And in the Western Isles our AMS scheme enables the whole of Harris, North Uist and Barra each to form a whole constituency.

Indeed, a greater degree of alignment of constituencies to communities may be possible under a multi-member system than has either been fully exploited here or can sometimes be achieved under the existing system. The concern of the local boundary commission to achieve equal sized electorates under the existing system can sometimes result in allegedly natural communities apparently being arbitrarily divided and amalgamated, as can be seen in the Western Isles. In contrast multi-member systems may provide some degree of flexibility by making it possible for the sizes of constituencies to vary according to the sizes of communities, with the number of councillors elected in each constituency accordingly.

For the most part we have not attempted to pursue that strategy here, not least because in our modelling we were constrained by the need to amalgamate whole wards. But as an example of what may be possible, in defining our AMS 'regions' in the Borders we were able to use the old district councils as our regions, with the number of top-up seats varying between three and five. However, as should by now be evident care would need to be exercised in allowing such variation because of the impact of constituency size on the degree of proportionality. The systematic creation of small constituencies where one party is strong and of larger constituencies where its principal opponent was stronger could soon result in the introduction of a bias in favour of that party.

Familiarity

Of our four key questions, both our theoretical discussion and our modelling have largely not addressed one issue, viz. compatibility with existing systems. Might choosing one system rather than another be justified on the grounds that it might be more familiar to voters?

From this year, Scots are expected to cope with three different electoral systems, apart from local government. These are the single member plurality system, still in use for Westminster, a regional additional member system with the constituency seats determined by the simple plurality rule for Holyrood, and a closed regional party list for the European election. So voters are already being expected to cope with a variety of systems. However, they do have certain elements in common. They all only invite voters to express a first preference by casting an 'X'. And they do not provide for a choice between candidates. This might suggest that if familiarity is considered desirable, systems that simply require a single 'X' would be desirable.

However, matters may not be that straightforward. The Jenkins Commission has recommended an Additional Member System where (a) the directly elected seats are elected using the alternative vote, and (b) are allowed (though not required) to express a preference for an individual candidate on the additional party lists. Though it is uncertain whether this system will ever be implemented it appears that we cannot presume that in future voters will not be expected in other elections either to express a rank order rather than a single 'X', or that they will not be invited to choose between candidates of the same party. As a result there might be justification in recommending a system that contained one or both of these elements if it was felt to be in the interest of Scottish local government.

Conclusions

It is not the aim of this paper to recommend one system rather than another. It should already be apparent that choosing an electoral system involves normative choices as well as technical considerations of how systems work. There are however some clear lessons that do emerge which need to be taken on board in making a choice:-

1. Small wards and a high degree of proportionality across an authority as a whole are largely incompatible objectives. An AMS system with one quarter of councillors elected as additional members can in some circumstances help to square this circle, but it cannot be relied upon always to produce proportionality.
2. Larger multi-member wards may in some circumstances provide opportunities for constructing wards that reflect 'natural' community boundaries that do not exist under the current system, though this has to be handled with care.

3. If it is believed that voters are as likely to identify with their whole local authority, as with any part of it, and/or it is felt desirable that some councillors at least should be encouraged to take a strategic view of the problems of the authority as a whole, then, given the proportionality advantages, there is a strong case for a system that provides for some or all of the councillors to be elected at an authority-wide level.
4. It should not be assumed that proportional representation will necessarily deny a party an overall majority if it wins less than 50% of the vote. In some circumstances, and under some systems, parties that win between, say, 45% and 50% of the vote may win an overall majority.¹¹ As a result the impact of the introduction of proportional representation on the pattern of council control may be rather less than has sometimes been claimed (Adonis, 1998). For example, there were only five councils (of which only three were Labour) where a party won a majority of seats in 1995 on less than 45% of the vote.
5. Some of the most important results of the introduction of proportional representation would be the result of changes in the way that parties and voters behave. We can anticipate that under virtually any system that might be introduced, local government elections in Scotland would become more competitive, as all the parties would be likely to fight a higher proportion of constituencies.
6. The continued existence of independent councillors, and the fact that in rural Scotland at least, even those elected on a party ticket may not simply be elected on the basis of their party's popularity suggests that a wholly closed list system may not be acceptable either to councillors or their publics in such areas.
7. The way in which local councils are to be run and the roles to be performed by councillors are likely to have implications for the appropriate choice of electoral system.

¹¹ Note indeed that in the Scottish Parliament election held on May 6 1999, Labour and the Liberal Democrats were able to secure an overall majority between them while winning a combined 46% of the overall party list vote

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Technical Appendix

As indicated in the main text, our estimates for the single transferable vote (and for 'AV+') rely upon estimates of how voters might cast their second preference vote. For this information we have relied upon results obtained by the Scottish respondents to the 1995 wave of the British Election Panel Study (BEPS). This survey, which was undertaken by the ESRC Centre for Research into Elections and Social Trends interviewed once or twice a year during the course of the 1992-7 parliament a panel of respondents who were first contacted after the 1992 general election. Thus as of 1995 persons aged under 21 were excluded from the survey. In order to counteract the potential impact of differential attrition, data have been weighted so that the 1992 voting profile of those who were successfully contacted in 1995 matches that of the original sample.

During the course of the survey respondents were asked:-

If there had been a general election on the 5th of April, which political party do you think you would have been most likely to have voted for, or do you think you would not have voted?

and

If the voting paper had required you to give two votes in order of preference, which party would you have put as your second preference?

Except in one respect, Table 4 shows the pattern that resulted after crosstabulating the answers to the second question by the first question. The one exception is the row for 'Others' which reflects the distribution of second preferences as reported above amongst those who indicated that they voted for an 'other' option (mostly an Independent) in April 1995, as few voters indicated that they would vote for an 'other' option in a general election. The pattern of second preferences in Table 4 are those that were used in undertaking our STV and AV simulations. This strategy maximised the number of cases upon which the estimates in each row were based. Where third preferences might count, these were assumed to be distributed from one party to another in the same manner as second preferences.

Table 4: Second Preference Matrix for STV and AV

	Con	Lab	LD	SNP	Other	None
Con	-	9.3	43.6	21.3	4.6	21.2
Lab	2.0	-	30.6	56.4	1.8	9.3
LD	33.9	41.9	-	20.0	0.0	4.2
SNP	5.9	53.2	26.2	-	2.8	8.5
Oth/Ind	17.7	21.9	21.7	22.3	-	16.3

Source: BEPS (Scottish sub-sample) 1995 wave.

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