

Proportional representation and local government

Lessons from Europe

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List of abbreviations

AMS	Additional member system
AP	Alliance Party (Northern Ireland)
CDU	Christian Democrats (Germany)
CPNT	Hunters' Party (France)
CSU	Christian Social Union (Germany)
D (or DV)	Deviation from proportionality, Loosemore–Hanby index
DRP	German Rights Party
DUP	Democratic Unionist Party
DVU	German People's Union
DKP	German Communist Party
FDP	Free Democrats (Germany)
FN	National Front (France)
FNB	New Belgian Front
FPTP	First past the post
GAL	Green Alliance List (Germany)
GE	Génération Ecologie (France)
KPD	Communist Party (Germany)
LD	Liberal Democrats
M	District magnitude (the number of seats in a given constituency)
MDC	Citizen's Movement (France)
MEP	Member of the European Parliament
MMP	Mixed member proportional (New Zealand)
MPF	Movement for France
NIWC	Northern Ireland Women's Coalition
NPD	National Democratic Party of Germany
N	Effective number of parties

ÖDP	Ecological Democratic Party (Germany)
PC	Communist Party (Belgium)
PC	Plaid Cymru
PCF	Communist party (France)
PR	Proportional representation
PRG	Federation of the Left Radical Party of the Gironde (France)
PS	Socialist Party (France)
PTB	Workers' Party of Belgium
PUP	Progressive Unionist Party (Northern Ireland)
RPR	Neo-Gaullists Party (France)
SDLP	Social Democratic and Labour Party (Northern Ireland)
SLP	Socialist Labour Party
SNP	Scottish National Party
SPD	Socialist Party (Germany)
SSP	Scottish Socialist Party
STATT-Partei	Instead of Party
STV	Single transferable vote
UDF	Union of Democratic Forces Party (France)
UDP	Ulster Democratic Party
UKU	UK Unionist Party (Northern Ireland)
UU	Ulster Unionists Party
V	Total number of votes cast
Verts	Greens (France)

Executive summary

So far, much of the debate about whether to change the system of local elections in Britain has taken place at a very general level. This research goes deeper into the issue by examining the experience of local electoral systems in Europe. What is revealed is that selecting the right electoral system is no straightforward exercise. A variety of broadly different systems exists from which a choice can be made but the operation of these is in turn affected by the detailed rules and provisions adopted within various countries. Moreover, the number of parties and the state of party competition can have a substantial effect on the outcomes achieved under a particular system, as can the way that voters choose to exercise their vote.

The structure of this report is built around an examination of the four main electoral systems that can be observed in use in local and regional elections in Europe. The 'first-past-the-post' system is alone practised in Britain and key features of its operation are reviewed drawing on recent local elections. France provides the main illustration of the 'party list' system that also operates in Belgium, Denmark, Sweden and several other countries. The 'additional member' system is illustrated through its use in 1999 in Scotland's Parliamentary and the Welsh Assembly elections. However, prime attention is given to the use of the 'additional member system' in Germany's regional level elections. The final system to be reviewed in practice is the 'single transferable vote' schema and in this case the experience of the system in the 1998 election of the Northern Ireland Assembly is noted but most attention is devoted to recent local elections in the Republic of Ireland.

The report starts, however, by painting a

broad picture of the kinds of choices that are faced in the detailed design of a voting system. Are voters to be given one choice or encouraged to express an order of preference? What size of constituency (the district magnitude) is proposed? What formula is to be used in counting votes and determining results? Is there a need for an electoral threshold, that is, a legally defined minimum level of support that a party or candidate requires before a seat can be allocated to it?

These detailed questions are addressed fairly straightforwardly in the system of 'first past the post' with which we are most familiar in Britain. Voters can express only one choice.

Constituency size is usually relatively small. There is no legal threshold since the winner in our system is determined by the simple formula whereby the seat is allocated to the candidate who tops the poll (or the first two or three candidates in multi-seat constituencies).

As Chapter 2 goes on to show, our 'first-past-the-post' system may have the virtue of having a relatively simple design but it does not always perform effectively against standard criteria used to assess the performance of electoral systems.

Two questions can be asked of any electoral system. The first relates to its effectiveness in achieving a proportional outcome, by which is meant the degree to which a party's share of votes equates with its share of seats. An index of proportionality can be constructed for any election result. This paper uses the Loosemore-Hanby index in which a score of below 10 is generally considered to be a proportional outcome. The second issue to be addressed in evaluating an election system is: what kind of elected body does it construct? Does it

encourage majorities or coalitions? Does it facilitate the representation of many parties or does it aid the amalgamation of interest in 'catch-all' parties?

The current first-past-the-post system used in local elections in Britain, as is well known, generally leads to non-proportional outcomes. However, not only does our current system fail the proportionality test, it also does not guarantee the production of majority government, which for many is the great virtue of 'first-past-the-post'. More than a third of all councils in Britain were in 1999 hung or balanced. What can be said to that is that our current system does encourage single-party majority government at the local level but the rise in the number of 'hung' councils where no party has an overall majority provides a significant qualification to this claimed virtue of our current system.

Having considered the strengths and weaknesses in practice of our current system, the remainder of the report turns to examine how the three main types of proportional representation (PR) election system operate in practice.

The first to be examined is the 'party list system' which is the most common form of sub-national election used elsewhere in Europe. This system asks voters to choose between parties, each of which presents a list of candidates. The seats available in the local council are allocated to candidates on the lists according to the share of votes achieved by each party list. Looked at through the lens of the 1998 regional elections in France, the system generally but by no means always achieves highly proportional outcomes. Failure to achieve proportionality is particularly likely where a large number of parties are

competing for votes and some fail to get above the threshold to be allocated seats.

Thresholds are generally justified as a mechanism for preventing extremist parties of the left or right from getting a foothold in local politics. Not all countries that use party lists have a threshold – in Sweden, Denmark and Belgium, for example, there is no legal threshold – and generally in these countries highly respectable levels of proportionality are achieved in local elections.

It is common, as with other PR systems, for party list systems to leave no one party with a majority of seats. Coalition government is the norm but the coalitions that are formed reflect issues of principle as well as a pragmatic concern to put together a majority. For example, in France, centre right parties have in some cases refused to form coalitions with Jean-Marie Le Pen's National Front party at the regional level.

The 'additional member' system is usually one where the voter has two votes. The first is cast for a candidate standing in a single-member constituency. The second is for candidates arranged according to party (or other) lists. The first stage of the election process sees the constituency votes counted and seats allocated on a first-past-the-post basis. The list votes are then counted with seats allocated to achieve a proportional result taking into account the seats that a party had already won in the constituency section.

The 1999 Scottish and Welsh elections achieved outcomes that led to a proportionality index below 10, that is, they were respectably proportional in their votes cast–seats allocated ratio. The system in operation in Germany generally achieves proportional results but,

again, this perceived quality can be undermined if a large number of parties compete for votes and several fail to get above the legal threshold. In Hamburg, for example, close to 20 per cent of votes were wasted in the 1997 elections in the sense that nearly a fifth of votes were cast for parties that received no seats.

The German system also relies on coalition government since few local elections leave a single party with a working majority. Coalition partners are not necessarily the same at the local level as they are at the national level of government.

The 'single transferable vote' system allows voters to express a preference over competing candidates in multi-member constituencies. It is the system used in Northern Ireland for local elections and the Northern Ireland Assembly. Local elections in the Republic of Ireland also use the system. Recent elections in Ireland show opportunities for a wide range of parties to win seats. Because the system allows voters to express preferences, then parties that have a broad appeal appear to do better. The system in Ireland also allows Independent candidates to perform well.

The results of the 1999 elections in Ireland led to eight out of 34 local authorities where a single party was able to win an overall majority of seats. Again, it is the nature of Ireland's party system and the state of party competition that explains this outcome. In other authorities, coalitions are formed on a relatively loose basis and mostly concentrated on key votes for the Chair or Lord Mayor of the Council. Otherwise all local politicians tend to concentrate on constituency issues.

The main conclusion from this study is that, if a choice is to be made about moving from the

'first-past-the-post' system in local elections to a proportional representation system (PR) a complex range of issues will need to be addressed. Different systems can be seen as more or less complex to understand. Some give more choice to voters than others. There is more scope for a constituency relationship of a sort in some systems.

European experiences of PR elections provide a useful arena in which to see the main options in practice. All PR systems deliver at a minimum an effective opposition to a ruling coalition or, less frequently, single-party majority government. Most of the time, more proportional results in terms of matching share of votes to share of seats are achieved, although the state of party competition can affect that outcome, especially if the PR system has a legal electoral threshold in operation. Because a larger range of parties can usually win seats under PR systems, the norm is for a coalition government to emerge following local elections elsewhere in Europe. The nature of local coalitions that are formed reflect local circumstances and conditions.

These outcomes which are commonly achieved under PR systems elsewhere in Europe stand in contrast to the current system used in British local elections. In many authorities, no effective opposition is provided, results are generally highly disproportionate and, while majority government is the norm, a substantial proportion of authorities rely on coalition government. Where a PR form of election has been tried at the sub-national level in Britain – for example, in elections to the Scottish, Welsh and Northern Irish Assemblies – a pattern of outcomes comparable to those achieved elsewhere in Europe can be observed.

If a move to a PR system is to be made, what this research suggests is the need to take care over the design of the detailed arrangements for the electoral system. What it also indicates is that the changing nature of party competition and the way voters exercise their choices can have effects on any system that goes beyond the capacity of institutional design to determine.

1 Introduction

It is understandable that, given recent constitutional changes, the method for electing local councillors in Britain should now come under the spotlight. Electoral reform has run parallel to the devolution process in Scotland, Wales and Northern Ireland. The new institutions have all been elected using some system of proportional representation (PR). Similarly, one signal of the Government's approach to Europe has been the introduction of PR for elections to the European Parliament. Electoral reform for elections to the Westminster parliament is also being considered. The Jenkins Commission has published its recommendations for electing MPs by PR to the House of Commons and a referendum is awaited on this issue. In May 2000, the new London Assembly was elected using a PR system while the supplementary vote procedure was used to elect the new Mayor. With electoral reform so widespread, it is, perhaps, inconceivable that the merits of changing electoral systems for the remaining democratically elected bodies in local government should not be considered.

The pressure towards local electoral reform also comes from changes, some introduced by previous administrations, in the role of local authorities. A more responsive and accountable local government needs to reflect better the broader set of interests that comprise its different communities. Local authorities that learn from one another should be less confrontational and more amenable to change. Extending accountability may mean making the political composition of local authorities more sensitive to the ebb and flow of electoral opinion. In Scotland, where the Parliament has the executive power to reshape local

government, the move towards electoral reform is growing. Inevitably, if PR is used to elect Scottish local authorities, the pressure for change to the local electoral system in England and Wales will increase.

The search for alternatives

An essential starting point in the search for alternative electoral procedures is to recognise that there is no single perfect system. Choosing between competing systems, however, can prove an extremely difficult task. Indeed, the degree of difficulty involved has proved crucial in the past. Faced with making a choice across a broad range of systems, all with varying strengths and weaknesses, it is unsurprising that Britain has in the past come close to implementing some form of PR only to draw back and retain the status quo. Adopting any electoral system, whether it be 'first past the post' or some form of PR, requires clarity of purpose. Unfortunately, there are many different definitions of what constitutes democracy. Possibly for that reason, there are many different electoral systems that reflect that lack of agreement. Ultimately, we need to provide the answers to some important questions. What is the electoral system designed to do? What is the nature of the social and political environment that needs to be represented? A system that is designed to produce strong and stable government in a bi-polarised society is obviously ill suited to a society that is highly fragmented and wishes to proceed through political consensus. Equally, a system that promotes and protects partisan fragmentation will be inappropriate for a society requiring a clear and coherent set of policies.

Answering such questions, however, lies beyond the scope of this report. Rather, it is our intention merely to describe and to identify the key characteristics of the main systems that are used in sub-national elections in Europe. There are, in fact, a bewildering variety of systems in use today. Most of these, however, are variations on a core set of electoral procedures that can be divided between PR and non-PR systems. All electoral systems, whether PR or non-PR, have a number of characteristics that provide useful ways of distinguishing them apart.

Electoral system characteristics

First, there is the nature of the ballot itself. At opposite ends of a continuum lie categoric and ordinal ballots. A categoric ballot is one where the voter can express a choice for only one of the candidates competing for office. In a parliamentary constituency, for example, there may be many candidates but voters are forced to select only one. By contrast, an ordinal ballot is one where each voter can express an order of preference over candidates. In between these two examples lies a range of other ballot types. For example, in some systems, voters may have a cumulative vote. Under this arrangement, voters have more than a single vote and may single out one candidate for particular preference by giving him or her multiple votes.

A second important characteristic of any electoral system is district magnitude. This may be a somewhat confusing term for British readers, particularly those with an interest in local government. In this context, the word 'district' refers not to a particular type of local authority but rather it is synonymous with the terms ward, division, or constituency. In the

specialist literature on electoral systems, district magnitude is referred to with the letter 'M'. For example, in a single-member constituency, such as those currently used to elect MPs, district magnitude (M) equals 1. In local government, the system is not as straightforward. In the London boroughs, district magnitudes of 1, 2 and 3 can be found. In some English shire districts and in some unitary authorities in Wales, $M = 5$. Under PR systems, there is also variation in district magnitude. The system used to elect MEPs is based on electoral regions that vary in size from the South East, which elects 11 members, to the North East, which elects four members to the European Parliament. District magnitude is considered to be one of the most important factors in determining whether a system promotes proportional representation.

Third, all systems require an electoral formula. This is the set of rules for determining the winners once votes have been counted. In parliamentary elections in Britain, for example, the electoral formula states simply that the seat is allocated to the candidate that tops the poll in each constituency. This is regardless of whether the candidate has captured an absolute majority (50 per cent + 1) of votes cast. For that reason, the system is more popularly known as 'first past the post' (FPTP) or 'winner takes all'. A more technical description is 'single ballot, simple plurality'. Some other systems that use single member seats ($M = 1$) require that winning candidates receive an absolute majority of votes. Such systems are termed 'majoritarian'. Ensuring winning candidates have majority support is largely achieved in one of two ways. First, there may be a second ballot where only the top two candidates may proceed to a 'run-off' election. This guarantees that the winner

will receive a majority of votes. A variation on this method is used to elect municipal authorities in France. The second method is to use an ordinal ballot. Voters can now express a preference over candidates. Should the first count of votes not reveal a majority winner, then the votes of less favoured candidates are examined for second preferences and votes redistributed to remaining candidates. A variation on this method is the 'supplementary vote', which was used to determine the winner of the London mayoralty election. In PR systems, other electoral formulae are used. There are two basic methods; namely 'highest averages' and 'largest remainders' and these will be described in more detail later.

Finally, there is the concept of electoral threshold. This refers to a legally defined or theoretical minimum level of electoral support that any party or candidate must receive before seats can be allocated. An example of a legal threshold rule, although now slightly modified, is that which operates in Germany where a party is required to win at least 5 per cent of votes before being eligible to receive any seats. Other countries employ threshold rules. At the sub-national level, these countries include Spain (3 per cent) Estonia and France (5 per cent) and Turkey (10 per cent). In the larger French municipalities, half of the available seats are allocated to parties that obtain 5 per cent or more of the votes. If, after the first round of voting, no party has won an absolute majority of votes, a run-off takes place between all those parties that captured more than 10 per cent of the votes. Such thresholds are legally defined. Each electoral system will also have theoretical thresholds that will affect the allocation of seats. Where $M = 1$ and only two candidates contest

an election, the theoretical threshold is 50 per cent + 1 of votes cast. Where more candidates contest, however, the threshold will, in effect, be lowered. For the European elections, the theoretical threshold in the North East region that elected just four MEPs was 20 per cent while, in the South East ($M = 11$), the threshold fell to just over 8 per cent. In other words, once a party had passed that level of support, it would be guaranteed at least one of the seats. District magnitude, the number of parties contesting an election and the electoral formula, therefore, all combine to determine the theoretical electoral threshold.

Assessing electoral systems

Ultimately, of course, the purpose of an electoral system is to translate votes in the ballot box into seats in the legislature or council. One of the principal measures (but certainly not the only one) for assessing the effectiveness of an electoral system is the 'proportionality' of its outcome. By proportionality is meant the degree to which a party's share of votes equates with its share of seats. A system with perfect proportionality would result in each party's share of seats matching exactly its share of votes. There never has been, and there never will be, an electoral system that *guarantees* perfect proportionality. In this regard, therefore, discussions of proportionality are matters of degree – some electoral methods are better than others at producing a proportional result.

There are, in fact, a number of indexes that are used to measure proportionality but only one will be used in this report. This particular index, designed to measure deviation from pure proportionality, is described variously in the

literature as 'Loosemore-Hanby' (after the names of the two writers who first used it to measure proportionality in electoral outcomes), 'DV' or simply by the letter 'D'.

Calculating the index is relatively straightforward. First, subtract from each party's share of seats its vote share. Second, ignoring the fact that some of the differences will be positive, others negative, sum all differences. Finally, divide the total of summed differences by 2. We can see how this works with a simple example. Consider an election contested by two parties where party A receives 65 per cent of seats and 55 per cent of votes, while party B gets 35 per cent of seats from a 45 per cent share of votes. For party A, therefore, the seat-vote difference is plus 10 and for party B minus 10. Ignoring the negative and positive signs, the sum of these differences is 20, which divided by 2 gives a proportionality index score of 10. Apart from its ease of calculation, another strength of this index is that it appears intuitively correct. In the example given above, we might as easily say that 10 per cent of votes (those cast for party B) were irrelevant to the outcome. In other words, these could be described as 'wasted votes'. Assuming pure proportionality, where vote and seat shares are identical, no votes are wasted and the value of D would be zero. In the extremely bizarre event of a party winning all available seats without a single vote in its favour, then D would equal 100. Although D therefore runs on a scale of 0–100, its upper limit is effectively never reached. Unsurprisingly, this aspect of the Loosemore-Hanby index has attracted critical comment but we believe its strengths outweigh its weaknesses.

A second important consideration in any assessment of an electoral system is its impact

on legislative composition. For many observers, the chief requirement of an electoral system is that it delivers a legislature or council that can operate effectively. Supporters of FPTP freely acknowledge that the system often results in an inequitable distribution of seats but argue that is secondary to its capacity to deliver single-party government. Strictly speaking, the relationship between an electoral system and a party system is not one of cause and effect. It does not follow that simple plurality elections always result in strong two-party systems as is sometimes claimed. Neither does it follow that PR systems all encourage the development of multi-party systems. There are many examples, including Portugal and Greece, to the contrary. It does follow, however, that the greater the number of parties represented in a legislature, the greater the probability that a single party will have insufficient seats to form a majority government. As with proportionality, therefore, we require a measure for capturing this aspect of an electoral system.

One useful measure that can be used in this way is the effective number of parties. This not only counts the actual number of parties but also takes into account their relative weight within the legislature. The letter 'N' is used to denote the effective number of parties and it is calculated as follows. Each party's share of seats is expressed as a decimal fraction. Thus, a party with 40 per cent of seats has a fractional share of 0.40 while a party with half as many seats would have a 0.20 fractional share. The fractional share of seats for each party is then squared. In the example above, 0.40 squared becomes 0.16 while 0.20 becomes 0.04. The next step is to sum these squared or weighted values for all parties with seats. Finally, the summed

values are divided into 1. If we consider a legislature where three parties win seat shares of 40, 40 and 20 per cent respectively we can show how the measure can be operationalised. The fractional shares are 0.40, 0.40 and 0.20 while the squared or weighted values are 0.16, 0.16 and 0.04. The sum of these values is 0.36. One divided by 0.36 is 2.8, which is the effective number of parties. In another example, three parties have shares of vote equal to 60, 20 and 20 respectively. The calculation shows that the effective number of parties in this system is equal to 2.3. Looking at the two results, it does appear that the former has a more competitive party system than the latter. Naturally, the more the effective number of parties exceeds 1, the more fragmented the party system and the greater the probability that no single party will be able to form a majority administration.

The focus on sub-national elections

There is, therefore, a set of characteristics that allow us to distinguish between different electoral systems. These are ballot structure, district magnitude, electoral formulae and electoral threshold. Assessing the impact of these characteristics on electoral outcomes requires measures designed to examine the extent of proportionality and the effective number of parties. The main purpose of this report is to consider the operation of various electoral systems used to elect sub-national institutions in a range of European countries. For two main reasons, it is important that the focus remains at the sub-national level. Electoral procedures, the rules of the game, which apply at national parliamentary elections, may not apply at elections for lower-level authorities.

The number and type of political parties that contest elections may vary from national to local and, therefore, outcomes may be quite different in character.

We propose to examine four types of electoral system currently used in sub-national elections across Europe. First, we will examine the first-past-the-post system as it operates in Britain. We are familiar with the arguments used in the debate over electoral reform but we have little knowledge of how the system operates in practice at the level of local government. Our purpose in describing this system, therefore, is to enable some 'benchmarks' to be laid down and subsequently used to evaluate competing systems. The second electoral system to be examined will be 'party list' PR. This system is used extensively across Europe. A detailed examination of the 1998 French regional elections will provide the basic evidence for our evaluation but results from other countries using this method will be used as appropriate. The third system to be studied is that known as the Additional Member System (AMS), which is used primarily in Germany but versions of which are used to elect the Scottish Parliament and the Welsh and London Assemblies. State-level elections in Germany will be the focus for analysis. The final electoral system to be considered is that known as the Single Transferable Vote (STV). This method is currently used to elect local authorities and the new Assembly in Northern Ireland. It is also used in the Irish republic. Evidence will be drawn from both to illustrate the operation of STV.

There are two basic strands to our analysis. The first consideration will be the extent to which the electoral system promotes a

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proportional result, as measured by our index of proportionality. In any debate on electoral reform for local government in Britain, there should be a clear appreciation of how the current system for electing councillors compares with other methods used elsewhere. Does the current system result in disproportional outcomes which could be avoided should another system be introduced? A second consideration relates to the impact of election results on the formation of single- or multi-party government. One of the perceived attractions of FPTP is that it tends to give the

largest party in an election more seats than its vote share would warrant. This capacity to 'over-reward' large parties should mean that the system should give a greater opportunity for single-party administrations to form. By contrast, electoral systems that emphasise more the need for equity between votes and seats may not favour large parties to quite the same degree and may lead to parties having to share power. Debates on electoral systems frequently drift into discussions of the advantages and disadvantages associated with coalition government.

2 First past the post

Ballot structure and district magnitude

Simple plurality systems merely ask that the winning candidate in an election receive one vote more than the nearest challenger. In single-member constituencies in Britain, whether at local or parliamentary elections, voters are given a categorical ballot and asked to make a single choice. In the case of single-member districts, only one choice is allowed and only one candidate can be preferred over all others. In local government in Britain, it is also common for individual wards to be represented by two or more councillors. These councillors may or may not be elected simultaneously. Where district magnitude is greater than 1 and where the election of councillors is simultaneous, voters may cast as many votes as there are seats to be filled. No voter may cast multiple votes for a single candidate. This method of elections is known as a block vote.

The use of such multi-member wards was once extensive but following successive boundary reviews they have declined in number. They are, for example, no longer used in elections for the shire counties in England. Nevertheless, some types of local authority still continue with this practice. Until recently there were 759 wards in the 32 London boroughs, of which 15 elected one councillor, 330 two and 414 three councillors at whole-council elections held every four years. In the English shires, and also in Wales, wards range in size from one to five members. In all such cases, however, the winners are determined by simple plurality. If five seats are to be allocated, then they will be allocated to the candidates in the first five positions in the finishing order.

Such multi-member districts need to be

identified apart from those used in PR systems. With PR, the diversity of electoral opinion can, in fact, be better reflected if multi-member districts are used. The rule of thumb is that the larger the district magnitude the more proportional the electoral outcome. Potentially, this could happen with simple plurality elections with larger district magnitudes. Voters enthused with a sense of fair play could, in theory, decide to split their ballots and divide support between candidates from competing parties. If a substantial majority of voters were to do this in a uniform manner, then it is quite possible that the outcome could be proportional. In practice, the reverse is the case. Although there are many examples of multi-member districts returning councillors from different parties, the normal pattern is that a single party wins all available seats. Given those circumstances, the disproportional effects of simple plurality elections are exaggerated still further in the case of multi-member districts.

Party systems

Simple plurality elections are said to favour two-party politics and it is certainly the case that, despite counter-examples, many countries that employ this electoral method characteristically have such a party system. This pattern of party competition largely persists because of the system's 'winner takes all' aspect. Within each district, voters perceive that the electoral contest is a battle between the party defending the seat and its nearest challenger. Those voters that wish to remove the current incumbent are often driven to vote for the challenger, sometimes regardless of their own party preference. Indeed, such tactical voting

has become a notable feature of this electoral system. Over many elections, this tends to reinforce two-party domination with minor parties largely ignored. Between 1973 and 1998, the average for the effective number of parties for all local authorities was 2.1. This figure has proved remarkably stable, with a range between 1.6 and 2.3. It does not follow, however, that the same two parties will dominate everywhere. It is certainly the case that in recent years many authorities have seen the Liberal Democrats replace either Conservative or Labour as one of the two main parties.

Proportionality in English local government

This favouritism towards two parties means that electoral outcomes are often disproportional. For illustrative purposes, we show the results of the 1997 English shire county elections and the 1998 London borough contests. The first point to note about the county results is that the system frequently delivers a 'winner's bonus' in that the leading party's share of seats is somewhat greater than its vote share. In Conservative-dominated Buckinghamshire and Surrey, for example, the bonus was worth almost 25 and 20 per cent respectively. Similarly, in Labour's better areas, notably Durham, Derbyshire, Northumberland and Staffordshire, a similar winner's bonus is evident. In some counties, particularly Devon and Somerset, the Liberal Democrats are popular and are sometimes favoured by the operation of the electoral system.

The magnitude of the difference between vote and seat shares at the county level is reflected in the index of proportionality (D) in the final column of Table 1. A value for D of 10

or below is generally considered to be a proportional outcome. Of the 34 counties with elections in 1997, less than a third fell into that category. The mean D score was 13.7 with Durham having the highest score (25.5) and Gloucestershire the lowest (1.6). At first glance, Gloucestershire appears to have a highly proportional election result. A more detailed analysis reveals, however, that in 1993 its D score was 16.3 while in 1977 it was as high as 27.4. In short, for each authority, a proportional outcome at one election is no guarantee that such a pattern will persist. Much depends, for example, upon the closeness of individual results. If one party consistently wins seats with small majorities, then its seats–votes ratio is likely to be better than a party whose seats all have large majorities. Similarly, if one party's seats are won with a low turnout of voters, then the eventual gap between vote and seat share is also likely to be large. Minor parties that contest many seats and whose vote is widely dispersed will have a worse seat–vote ratio than if their support had been concentrated in a small number of electoral districts. This last point is particularly important in regard to the Liberal Democrats. Over the past decade, the party has become much more efficient in targeting winnable seats. The consequence has been that a lower proportion of its support results in wasted votes.

Electoral support in the London boroughs is more concentrated than in the counties and this can sometimes result in a higher distortion of the seat–vote relationship. Boroughs that are safe for one party or another will mean that the dominant party will most likely receive a sizeable winner's bonus in seats. Table 2 shows that, in half of the 32 London boroughs at the

Table 1 Index of proportionality for English shire counties, 1997

	Con. %S-%V	Lab. %S-%V	LD %S-%V	Other %S-%V	D
Bedfordshire	9.2	-5.8	-2.6	-0.8	9.2
Buckinghamshire	24.8	-11.5	-11.7	-1.5	24.8
Cambridgeshire	16.1	-8.9	-4.7	-2.5	16.1
Cheshire	5.8	2.5	-7.9	-0.4	8.3
Cornwall	-6.1	-8.0	10.3	3.8	14.0
Cumbria	-10.3	12.6	-3.7	1.4	14.0
Derbyshire	-10.1	21.5	-10.4	-0.9	21.5
Devon	-9.9	-11.7	19.4	2.2	21.6
Dorset	-4.8	-5.0	10.2	-0.4	10.2
Durham	-8.1	25.5	-12.9	-4.5	25.5
East Sussex	8.1	-2.2	-3.7	-2.3	8.1
Essex	11.8	-3.0	-7.2	-1.6	11.8
Gloucestershire	0.7	0.5	0.3	-1.6	1.6
Hampshire	16.3	-9.2	-7.0	0.0	16.3
Hereford & Worcester	3.9	3.7	-6.7	-0.9	7.6
Hertfordshire	9.2	3.8	-12.5	-0.6	13.0
Kent	13.8	-5.4	-7.3	-1.2	13.8
Lancashire	-6.3	15.4	-7.7	-1.4	15.4
Leicestershire	7.1	-4.0	-2.9	-0.2	7.1
Lincolnshire	16.4	-8.3	-7.2	-0.9	16.4
Norfolk	7.8	3.4	-8.9	-2.2	11.1
Northamptonshire	-0.1	9.3	-7.4	-1.8	9.3
Northumberland	-4.7	20.3	-13.9	-1.8	20.3
North Yorkshire	7.4	-8.6	-0.3	1.5	8.9
Nottinghamshire	-7.8	18.8	-9.3	-1.8	18.8
Oxfordshire	2.1	2.7	-4.6	-0.2	4.8
Shropshire	5.3	-11.6	-1.6	7.8	13.1
Somerset	-7.0	-13.2	20.4	-0.3	20.4
Staffordshire	-1.7	20.6	-14.7	-4.2	20.6
Suffolk	1.0	5.1	-4.6	-1.5	6.1
Surrey	19.5	-11.6	-9.4	1.5	21.0
Warwickshire	-2.0	11.1	-7.2	-1.8	11.1
West Sussex	9.3	-9.1	0.8	-1.0	10.1
Wiltshire	7.5	-10.9	4.8	-1.4	12.3
Mean D					13.7

1998 election, the bonus was 20 percentage points or more. The largest gap (42.7) was in Newham where Labour polled 53 per cent but

won every seat on the council. This imbalance largely favoured Labour but in two boroughs, Richmond upon Thames and Sutton, it was the

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Liberal Democrats that benefited. Such large distortions helped to produce a high level of disproportionality. The mean D score for this set of elections is 20, high even by the standard of FPTP. In only four cases is the proportionality index lower than 10.

It can be seen, therefore, that the simple plurality electoral system often results in disproportional outcomes. The distribution of seats is not an accurate reflection of the pattern of voting. Although there are occasions when the system produces an outcome that is as

Table 2 Index of proportionality for London boroughs, 1998

	Con. %S-%V	Lab. %S-%V	LD %S-%V	Green %S-%V	Ind. %S-%V	Other %S-%V	D
Barking & Dagenham	-3.2	24.3	-21.1	0.0	0.0	0.0	24.3
Barnet	8.4	3.5	-6.7	-5.1	0.0	-0.1	11.8
Bexley	10.7	-0.8	-9.3	0.0	-0.1	-0.5	10.7
Brent	-6.6	18.0	-8.4	-1.2	-1.1	-0.7	18.0
Bromley	2.0	-7.4	6.6	-0.9	0.0	-0.3	8.5
Camden	-6.3	28.9	-12.9	-6.7	-1.5	-1.5	28.9
Croydon	-2.6	15.7	-11.0	0.0	-0.7	-1.4	15.7
Ealing	-8.8	26.6	-9.6	-6.0	0.0	-2.1	26.6
Enfield	-4.2	17.7	-11.9	-0.1	-0.7	-0.7	17.7
Greenwich	-14.5	28.3	-10.8	-0.9	-1.8	-0.3	28.3
Hackney	-0.9	6.7	2.4	-5.3	-0.1	-2.8	9.1
Hammersmith & Fulham	-8.8	21.9	-12.8	0.0	0.0	-0.2	21.9
Haringey	-14.5	39.4	-12.1	-9.7	-0.4	-2.7	39.4
Harrow	-0.7	11.8	-10.0	-0.7	-0.1	-0.2	11.8
Havering	-7.0	10.8	-1.1	0.0	-1.4	-1.2	10.8
Hillingdon	3.7	7.0	-8.8	0.0	-1.1	-0.8	10.7
Hounslow	-9.5	25.3	-7.7	-1.0	-1.1	-6.0	25.3
Islington	-6.4	9.6	8.8	-11.0	-0.6	-0.4	18.4
Kensington & Chelsea	20.5	-4.8	-14.8	0.0	-0.8	0.0	20.5
Kingston upon Thames	5.3	-5.1	2.4	-2.2	-0.3	-0.2	7.7
Lambeth	-9.6	21.7	-1.3	-7.7	-1.3	-1.8	21.7
Lewisham	-18.3	34.9	-6.5	-6.1	-0.5	-3.4	34.9
Merton	-9.2	26.9	-11.0	-8.2	-0.4	1.9	28.8
Newham	-17.2	42.7	-7.7	0.0	-6.1	-11.8	42.7
Redbridge	-0.9	7.7	-5.5	-0.3	-0.7	-0.3	7.7
Richmond upon Thames	-8.7	-13.2	22.8	0.0	0.0	-0.9	22.8
Southwark	-6.6	7.7	8.1	-6.5	-1.3	-1.3	15.8
Sutton	-19.2	-8.4	30.9	-2.8	-0.2	-0.3	30.9
Tower Hamlets	-13.8	32.4	-7.2	0.0	-5.0	-6.4	32.4
Waltham Forest	3.3	11.5	-9.1	-4.5	-0.6	-0.6	14.9
Wandsworth	30.0	-17.7	-8.9	-3.4	0.0	0.0	30.0
Westminster	24.1	-10.4	-9.7	-0.8	-2.7	-0.6	24.1
Mean D							20.4

proportional as that produced under PR rules, this is largely the result of happenstance.

First past the post and coalitions

We now turn to examine the current effectiveness of FPTP elections as a means for producing majority administrations in local government. There have been few occasions when a general election result in Britain has failed to produce a majority winner. Normally, the winning party is returned with a working majority that should survive the parliament. For many supporters of the first-past-the-post method this is its principal strength. By contrast, PR is characterised as resulting in legislatures where no single party has an overall majority and where back-room deals are struck between party elites invisible to public scrutiny. The electorate is frequently portrayed as the innocent victim of a political 'stitch-up'. However, the experience of local elections in Britain is quite different from that at the parliamentary level. Many more electoral contests result in hung councils where no single party is able to command a majority of council seats.

Table 3 shows the pattern of political control for all local authorities in Britain since the major reorganisation of the early 1970s. By 1976, the percentage of councils with no single party in

overall control had fallen to below 20 per cent and, by 1980, such councils comprised just 12.6 per cent of the total. With the growth of three-party politics and the arrival of the Liberal/SDP Alliance in the early 1980s, however, the number of hung councils began to rise again. This growth has been almost constant ever since, rising to its maximum in 1999. With more than a third of all councils in Britain now defined as 'hung', the evidence certainly questions the received wisdom. FPTP does not deliver strong and stable single-party administrations at the level of local government. Minority administrations and coalitions, it appears, are significant features of contemporary local government and there are few signs that the situation will alter radically in future years.

This brief analysis of the operation of simple plurality elections at the sub-national level in Britain has shown that the system does lead to disproportional outcomes and does not guarantee strong single-party government. It is also the case, however, that the system does not necessarily discriminate against small parties. More precisely, it only penalises small parties whose support is spread thinly across many districts. Smaller parties, for example, the Liberal Democrats, which are able to concentrate support, will enjoy a better seat–vote ratio than might otherwise be the case.

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Table 3 Patterns of local authority political control in Britain, 1973–1999

Year	Con. %	Lab. %	LD %	Ind. %	NOC %
1973	19.8	34.1	0.2	19.1	26.8
1974	19.1	32.9	0.2	21.1	26.5
1975	19.9	32.1	0.2	21.1	26.5
1976	41.8	20.7	0.0	19.0	18.2
1977	48.0	16.1	0.2	19.0	15.9
1978	49.7	15.1	0.2	18.8	15.3
1979	47.2	21.1	0.4	15.9	14.7
1980	43.1	27.9	0.6	15.9	12.6
1981	38.7	30.9	0.8	15.7	13.9
1982	38.3	29.6	0.8	15.7	15.7
1983	38.1	29.8	0.8	14.3	17.0
1984	36.4	30.0	1.0	14.1	18.4
1985	34.6	29.0	1.0	13.9	21.3
1986	29.6	31.4	1.8	13.7	23.3
1987	29.4	30.4	2.5	11.0	26.5
1988	30.4	30.8	2.5	10.2	25.9
1989	31.8	31.6	2.5	10.2	23.7
1990	29.6	32.9	2.2	10.4	24.7
1991	20.6	35.3	5.5	11.6	26.9
1992	21.6	32.2	5.3	11.2	29.6
1993	18.4	32.5	5.7	11.0	32.3
1994	14.5	33.9	7.2	10.4	33.9
1995	2.9	45.0	11.3	5.0	34.8
1996	3.2	46.9	12.5	5.4	31.1
1997	5.3	47.1	11.4	4.8	30.4
1998	5.5	46.5	9.6	4.6	33.0
1999	17.2	38.2	6.2	3.4	34.1

NOC No overall control

3 Party list systems

Ballot structures and district magnitude

The most common electoral system currently in use for sub-national elections in Europe is known as 'party list'. This system asks voters to choose between parties, each of which presents a list of candidates. The nature of the ballot varies according to whether the list is 'closed' or 'open', 'blocked' or 'non-blocked'. The basic difference between these ballot structures as it affects voter choice is as follows. Closed lists do not allow voters to select candidates from different parties while open lists permit such choices to be made. Blocked lists do not allow voters to influence the rank order of candidates within a party list while non-blocked lists allow candidates to move up or down the list according to the number of ballots specifically cast in the candidate's favour. Generally speaking, open lists are used in the smaller local authorities. For the purposes of sub-national elections at the regional level, closed, non-blocked lists are most common, operating in such countries as Austria, Belgium, Italy and Sweden. Norway is one of the few countries that permit open lists while closed lists are used in Spain and Turkey. In most countries, non-party or independent candidates are permitted to stand in separate lists but some countries, for example Italy and Spain, specify that lists should be restricted to parties or groups of candidates.

District magnitude can vary widely both between and within countries. In parliamentary elections in both Israel and the Netherlands, for example, the entire country is used as the electoral district. In the case of the Netherlands, a candidate requires a mere 0.67 per cent of the national vote in order to be elected to the country's 150-member Second Chamber. In

most cases, much lower district magnitudes are used, particularly in sub-national elections where legislatures are smaller.

Electoral formulae

The allocation of seats under list systems is determined by the application of specific electoral formulae. The operation of such formulae are critical in determining whether the electoral system's principal objective is to maximise proportionality or to allow some degree of electoral bias with the intention of securing single-party government. Formulae that tend to give small parties a better chance of securing seats lead to greater proportionality. Formulae that favour larger parties are more likely to result in fewer effective parties.

The first process in the allocation of seats under party list systems is to derive the electoral quota. The quota is some fractional share of the total votes cast in each electoral district. There are a number of different quotas that have been used. The simplest is the Hare quota, named after its inventor Thomas Hare who used it in his version of STV. The Hare quota is calculated by dividing the total number of votes cast (V) by the number of available seats or district magnitude (M). On the surface, this looks an effective formula but its main drawback is that the quota will invariably be reached by fewer candidates/parties than the number of available seats leaving some seats unallocated. The solution is to increase the divisor, thereby lowering the quota. By dividing total votes by the number of seats plus 1 and then adding 1 ($V/M + 1$, then add 1), the quota becomes easier to attain. This particular approach is often known as the Droop quota, after Henry Droop,

one of its inventors. The Imperiali quota increases the size of the divisor still further by dividing total vote by the number of available seats plus 2 ($V/M + 2$). The difficulty with increasing the divisor in this way, however, is that, as the quota becomes correspondingly smaller, the greater the chance that the number of candidates reaching the quota will exceed the number of available seats.

The second stage of the process is to allocate any seats that still remain because not enough candidates reached the quota. Two principal methods are used. The first is known as 'largest remainder'. At the first count, seats are allocated to candidates or parties that reach the electoral quota. Thereafter, seats are given on the basis of which party has the largest remainder of votes until all available seats have been allocated. This appears to be a fair arrangement except that it can work to the disadvantage of larger parties that originally reached the quota and were given seats at that point. That flaw led to the development of a second approach, namely, 'highest average'.

The most common form of highest average method is known as d'Hondt, named after the Belgian mathematician Victor d'Hondt. This system is the one now used in Britain to allocate seats to the European Parliament. The d'Hondt formula is used for sub-national elections in Austria, France, Italy, Spain and Turkey. This system does not require that seats be first allocated on the basis of an electoral quota. It operates as follows. The party with the largest number of votes is allocated the first seat. Its total vote is then divided by 2. The second seat is given to the party with the largest number of votes, remembering that the party that won the first seat has had its total reduced. Successive

seats are awarded to parties on the basis of which one has the highest average. If five seats are to be allocated, then this process will take place five times. In the case of d'Hondt, the divisor rises by 1 each time a seat is allocated. The evidence shows that this system of allocating seats tends to favour larger parties.

One means for alleviating this bias is to adjust the rate at which the divisor increases. Instead of the arithmetic series 1, 2, 3, 4 ... another series can be used. One such is the Sainte-Laguë method, which uses only odd numbers and proceeds 1, 3, 5, 7 ..., etc. Another modification is to begin the series with the divisor 1.4 rather than 1, a system used in Sweden. The effect of increasing the size of the first divisor or by altering the incremental rise in the divisors is that the larger parties will see their vote reduced by a bigger amount, giving smaller parties a better chance of receiving seats. Of the two principal formulae, therefore, d'Hondt tends to be more favourable to larger parties, while Sainte-Laguë is more helpful to smaller parties and may lead to a more proportional outcome.

The French experience

France uses a party list system to elect its 22 regional assemblies (21 on the mainland plus an assembly for Corsica). These directly elected assemblies were first established in 1986. Previously, an electoral college had indirectly elected regional representatives. Members of the regional councils are elected for six years and the March 1998 elections, where turnout was 58 per cent, was the third in the electoral cycle. The largest assembly is Ile-de-France, which covers the Paris region and comprises 209 members.

The smallest is Franche-Comté with just 43 members. Electoral districts are based on the départements within each region, with a maximum of six départements in a region. Only a single round of voting is required, in contrast with parliamentary and municipal elections, which use a two-ballot system designed to find a majority winner. It is reasonable to say that an unmodified two-ballot system favours larger parties while the regional list system allows smaller parties to compete more effectively. However, a crucial element in the French system is that in order to be eligible to win any seats a party list must secure 5 per cent of votes cast within the electoral district. As we shall see, the operation of this legal electoral threshold has a significant impact on the number and type of successful parties and, of course, on the level of proportionality.

The 1998 French regional elections

Table 4 is a summary of results for the 1998 French regional elections. It clearly shows that

regional elections are fought by a diverse set of political parties reflecting the broad political spectrum. In many electoral districts, the parties of the left, primarily the Socialist (PS), the Communists (PCF) and ecologists, presented unified lists as did the two parties of the right, the neo-Gaullists (RPR) and the Union of Democratic Forces (UDF). Both lists enjoyed a bonus of seats over votes. The National Front polled more than three million votes overall, winning a total of 275 seats. Overall, the index of proportionality was 12.0 but that figure conceals some wide variations that operated at the level of individual districts.

No electoral system can guarantee proportionality; much will depend on a number of factors. One key factor is district magnitude. Other things being equal, it is harder to achieve proportionality when few seats are at stake than when district magnitude is higher. A second key factor relates to the number of parties contesting an election. This is something over which those that devise an electoral system have little or no control, short of using an electoral formula that

Table 4 Results of the 1998 French regional elections

Party list	Votes	%V	Seats	%S	%S-%V
Left lists	6,154,317	28.7	575	34.4	5.7
UDF-RPR	6,034,260	28.1	549	32.9	4.7
National Front	3,261,174	15.2	275	16.5	1.3
Other right	1,616,979	7.5	101	6.0	-1.5
Ecologists	1,130,902	5.3	22	1.3	-4.0
Extreme left	937,843	4.4	24	1.4	-2.9
Others	888,990	4.1	34	2.0	-2.1
PS	670,589	3.1	57	3.4	0.3
Other left	318,052	1.5	13	0.8	-0.7
PCF	223,610	1.0	17	1.0	0.0
Regionalists	192,861	0.9	4	0.2	-0.7
Extreme right	27,611	0.1	0	0.0	-0.1
Total			1,671		D = 12.0

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might discourage candidates from standing in the first place. When those two factors combine, however, the outcome can prove highly disproportional. One of the more extreme examples of that from the 1998 elections occurred in the Lot and Garonne département located within the Aquitaine region (see Table 5). The electoral district returned ten members to the Aquitaine regional assembly. Voters in that district were confronted by no less than 12 party lists. It is significant, perhaps, that the leading party list, that of the Socialists and Communists, achieved only 28 per cent of votes. Even minor lists were able to muster 2–3 per cent support. The complex pattern of party competition together with the relatively small district magnitude meant that it was impossible for the allocation of seats faithfully to reflect the distribution of votes. The proportionality index, 26.1, is one that we might expect to find for simple plurality elections.

It does not necessarily follow, however, that small district magnitude will result in a disproportional outcome. If the number of

competing parties is relatively small, the party list system can approximate proportionality. Table 6 shows the contrast between two electoral districts within the Midi-Pyrénées region. Both districts described have small magnitudes of 10 and 8 respectively. In the first case, however, voters had only four lists from which to choose, while in the second example there were eight lists. The impact of the number of competitive parties on the election result can be seen in the contrasting levels of proportionality achieved. Clearly, in terms of proportionality, district magnitude matters but so also does the number of competitive parties.

Other party list systems

As we have shown, a key factor in the French regional electoral system is the operation of the 5 per cent threshold. In most countries, the threshold has been introduced so that extremist parties, of the left or right, will find it more difficult to gain a foothold. Not all countries that use party list voting employ an electoral

Table 5 Party list voting in the Lot and Garonne département within the Aquitaine region, 1998

Party list	Votes	%V	Seats	%S	%S-%V
PS-PCF	37,310	28.0	4	40.0	12.0
RPR-UDF	32,485	24.4	3	30.0	5.6
FN	20,466	15.4	2	20.0	4.6
CPNT	8,166	6.1	1	10.0	3.9
MDC.Verts.LCR	7,123	5.3			-5.3
RPR/UDF-dissent	5,207	3.9			-3.9
Independent	5,060	3.8			-3.8
MPF	5,082	3.8			-3.8
DVG	3,428	2.6			-2.6
Other	3,292	2.5			-2.5
Regionalists	3,083	2.3			-2.3
PRG	2,490	1.9			-1.9
Total			10		D = 26.1

Table 6 Voting patterns in two départements within the Midi-Pyrénées region, 1998

Party list	Votes	%V	Seats	%S	%S-%V
Aveyron					
RPR-UDF	55,312	39.8	4	40.0	0.2
Left list	47,498	34.2	4	40.0	5.8
UDF-dissent DVD	24,985	18.0	2	20.0	2.0
FN	2,812	4.6			-4.6
Total			10		D = 6.3
Tarn-et-Garonne					
RPR-UDF	29,374	31.5	4	50.0	18.5
PS.PCF.PRG	26,640	28.6	3	37.5	8.9
CPNT	6,425	6.9			-6.9
FN	13,599	14.6	1	12.5	-2.1
Greens	5,513	5.9			-5.9
DVG-PS-dissent	4,181	4.5			-4.5
LO	3,937	4.2			-4.2
Others	3,570	3.8			-3.8
Total			8		D = 25.3

threshold. In addition, other countries have slightly different electoral formulae and ballot structures that may result in different electoral outcomes. To illustrate this, we have provided three further examples of party list systems from Sweden, Denmark and Belgium respectively.

Table 7 shows the result of the most recent county elections in Stockholm. There, a party list system is used but it should be immediately apparent that no legal electoral threshold is used. Under the French system, the 4.7 per cent cast for the Ecology party would not have resulted in the seven seats that the party received in Stockholm. As can be seen from the final column, the gap between seat and vote shares in the Swedish system of voting can be quite narrow. The D score for this particular set of elections was just 5.5.

The Danish party system is one of the most fragmented in Europe. We saw that a multiplicity of parties within a French region could prove a disadvantage, particularly with many small parties failing to reach the electoral threshold. Denmark, however, does not have such a threshold in place and its method for allocating seats means electoral outcomes are often proportional. The example of the 1997 county elections in Århus described in Table 8 provides some evidence that a fragmented party system can function under party list rules. Although the majority of seats on the 31-member council were allocated to the two largest parties, no fewer than five other party groupings were successful in getting at least one representative elected. If the aim of local government is to provide a more precise reflection of the broad range of local public

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Table 7 Result of the Stockholm county elections, 1998

	%V	Seats	%S	%S-%V
Moderates	32.8	52	34.9	2.1
Social Democrat	29.1	46	30.9	1.8
Left party	10.6	17	11.4	0.8
Christian Democrat	8.9	14	9.4	0.5
Liberals	8.4	13	8.7	0.3
Ecology	4.7	7	4.7	0.0
Other	2.8	0	0.0	-2.8
Centre	2.7	0	0.0	-2.7
Total		149		D = 5.5

opinion, then a system such as that in Denmark has much to commend it.

Another example of a multi-party state is that of Belgium where parties reflect a myriad of ethnic, cultural and political groupings within that society. Table 9 is, in fact, an edited version of the actual election result for the Brussels regional council. The category of 'others'

aggregates the votes for a large number of fringe party lists, leaving just 15 other parties listed separately! Remarkably, in a 75-member legislature, there are no fewer than 11 party groups represented. The index of proportionality, 5.1, reflects the fact that the Belgian system is designed to give a political voice to many of the different social elements

Table 8 Result of the Århus regional elections, 1997

	Votes	% Votes	Seats	% Seats	%S-%V
Social Democrat	133,282	39.5	13	41.9	2.4
Liberal	83,543	24.8	9	29.0	4.3
Conservative People's party	30,756	9.1	3	9.7	0.6
Socialist People's party	26,884	8.0	2	6.5	-1.5
Danish People's party	20,638	6.1	2	6.5	0.3
Radical left	14,595	4.3	1	3.2	-1.1
Red-Green Unity	10,083	3.0	1	3.2	0.2
Fremskridtspartiet	4,477	1.3	0	0.0	-1.3
Christian Democrats	3,929	1.2	0	0.0	-1.2
Greens	2,700	0.8	0	0.0	-0.8
Centre Democrats	2,382	0.7	0	0.0	-0.7
De Hjemløse	1,170	0.3	0	0.0	-0.3
Den frie Amtsliste	1,112	0.3	0	0.0	-0.3
Communist	766	0.2	0	0.0	-0.2
Natural Law party	608	0.2	0	0.0	-0.2
Danmarks Retsforbund	554	0.2	0	0.0	-0.2
Total	337,479		31		D = 7.3

that comprise the society. Of course, for opponents of PR, examples like those in Denmark and Belgium merely confirm their worst fear that such electoral systems encourage fragmentation of the party system and lead inevitably to the politics of coalition government. An alternative viewpoint would be that such electoral systems serve to reflect better the cleavages within those societies by giving representation to a range of political parties.

Coalition government in France

It is common that, even under the French system, PR list voting results in no single party able to form a majority government. In France, following each election, the regional assembly elects a president. This person will serve a six-year term as the region's chief executive.

Coalition politics, therefore, becomes a reality shortly after the election has taken place. The coalition of parties that form together to elect a president will invariably coalesce again to elect the vice-presidents that will form the regional cabinet or executive. The principal parties engaging in coalition politics at the regional level are the Socialist (PS), the RPR (neo-Gaullists), the Union of Democratic Forces (UDF) and the Communists (PCF). In some recent coalitions, however, these parties have been joined by the National Front (FN) as well as the two ecology parties, the Greens and Génération Ecologie (GE). Recently, a number of these parties have split into smaller groupings. With such a proliferation of parties, therefore, it is not unusual for multi-party coalitions to form at the regional level.

Table 9 Result of the Brussels regional council elections, 1999

	Votes	%V	Seats	%S	%S-%V
Liberal Reform	146,845	34.4	27	36.0	1.6
Ecology	77,969	18.3	14	18.7	0.4
Socialist	68,307	16.0	13	17.3	1.3
Social Christian party	33,815	7.9	6	8.0	0.1
Flemish bloc	19,310	4.5	4	5.3	0.8
Christian People's party	14,284	3.3	3	4.0	0.7
VLD-People's Union-O	13,729	3.2	2	2.7	-0.5
SPAGA	13,223	3.1	2	2.7	-0.4
National Front	11,204	2.6	2	2.7	0.1
Vivant	6,431	1.5	1	1.3	-0.2
FNB	5,528	1.3	1	1.3	0.0
D.Maret	3,430	0.8	0	0.0	-0.8
PC	3,346	0.8	0	0.0	-0.8
PTB-UA	1,760	0.4	0	0.0	-0.4
Tarte	1,612	0.4	0	0.0	-0.4
Others	5,948	1.6	0	0.0	-1.6
Total			75		D = 5.1

A significant feature of the first regional elections, held in spring 1986, was that President Mitterand's socialists were unpopular with the electorate. Under normal circumstances, that would have signalled a swing to the main opposition parties, the RPR and UDF. Instead, French voters moved even further to the right. Jean-Marie Le Pen's National Front party gained sufficient seats to enable it to influence the election of the president and cabinet in some regions. In five regions, it joined with the RPR and UDF to form majority-winning coalitions. This established a clear tension between regional and national government in France. While the RPR and UDF helped to support the national President in his efforts to block the power of the National Front at the regional level, politicians of the right regionally were joining forces to restrict the power of socialists and communists alike.

At the following elections, held in 1992, the pattern of regional government formation reflected the general unease with the advance of the National Front. In five regions, the RPR and UDF ignored offers of political support from FN, opting instead to form minority governments. However, in two regions, Alsace and Franche-Comté, the National Front did enter a coalition with the more mainstream parties of the right. In one region, Rhône-Alpes, the right even entered a coalition with the two ecology parties.

The most recent regional elections in 1998 witnessed a recovery by the Socialist party. Coalitions of the left, including socialists and communists, together with the ecologists, which had controlled just two regions after the 1992 elections, now coalesced to form governing administrations in a further nine regions. Once again, however, the role of the FN in the coalition process caused political controversy. In Languedoc-Roussillon, for example, the leader of the UDF, Jacques Blanc, was expelled from the party after he had accepted support from the FN in his bid to become regional president. Expulsions from the UDF also occurred in two other regions for similar reasons. In other regions, the RPR and UDF allowed power to pass to the Socialists rather than accept political support from the FN.

A number of French politicians, including Jacques Chirac, believe that the electoral system has facilitated the rise of the National Front at the regional level in France. The numbers do appear to show that the parties of the traditional right, the RPR and UDF, have insufficient strength at the regional level to form majority coalitions on their own. That means that they either remain out of power, leaving the socialists, communists and ecologists to govern the regional assemblies, or enter into some form of power-sharing agreement with the National Front. For the time being at least, they appear to be caught between a rock and a hard place.

4 Additional member system

Our understanding of the additional member system (AMS) stems largely from its use in German federal and state elections but in recent years it has been adopted by a number of other countries. For example, it is now used in two former communist states, Hungary and Russia. It has also been adopted by New Zealand (where it is known as mixed member proportional or MMP), Italy and Japan. Some South American and Asian countries also employ a version of AMS. More recently, of course, it has replaced FPTP as the chosen electoral method to appoint new national assemblies in both Scotland and Wales, and the London Assembly. Additionally, the Jenkins Commission, established to consider alternative voting systems to elect the House of Commons, recommended yet another version of AMS, described as 'AV plus'. Ironically, although Britain has been slow to adopt AMS, it played a vital role in its early application. Following World War II, the British occupying forces in Germany introduced this method for state-level elections and it was eventually modified by the German political parties and is still in use today.

Ballot structure and electoral formula

Some versions of AMS provide voters with a single vote but in Germany (as in Scotland, Wales and London) each voter is given two votes. For that reason, AMS is sometimes referred to as the 'two-vote system'. Under a two-vote procedure, voters cast a first, 'primary' vote for candidates standing in single-member constituencies. The 'secondary' vote is cast for candidates arranged on a regional party list. Within the constituencies, seats are allocated using the simple plurality formula, or 'winner

takes all' method. List seats are allocated using the Hare quota and then by the largest remainder formula. Party lists are 'closed' in the sense that voters can have no influence over the finishing order of the candidates within each list.

The first stage in the electoral process is to count the votes cast in each constituency to find the winning party. The second stage is to count the second, party list vote and to calculate each party's share of the list vote and its theoretical entitlement of list seats. However, instead of allocating list seats strictly in proportion to votes cast for the party lists, the number of seats won in the single-member constituencies is taken into account. Each party has its total of constituency seats subtracted from its number of list seats. This stage of the process is critical in terms of the proportionality of the outcome. As with any FPTP election, the system tends to favour larger parties, though not to the same degree. By deducting such seats from each party's total allocation, the list seats become, in effect, 'top-up' or 'additional member' seats, designed to redress some of the imbalance produced by the plurality elections in the single-member constituencies.

In German sub-national elections the ratio between constituency and party list seats is 50:50. By contrast, in Scotland the ratio is 57:43 in favour of constituency seats. For Wales the ratio is 67:33 while in London it is 56:44. The ratio between the different types of seat is significant. The party list seats are essentially designed to redress any imbalance that may have occurred in the seat-vote ratio at the constituency level. It follows, therefore, that the greater the proportion of so-called 'top-up' or additional member seats, the greater the

probability that the overall distribution of seats will be equitable. Other things being equal, the German arrangement of a 50:50 split should produce a fairer result than one with fewer party list seats.

AMS in Scotland and Wales

We can demonstrate that this does appear to be the case by showing the results from the Scottish Parliament and Welsh Assembly elections from 1999. These results may also provide some insight into the ways in which local voters in Britain might behave under AMS.

Table 10 shows the distribution of constituency and party list votes among the different parties following elections to the Scottish Parliament in May 1999. The electoral effects of FPTP are evident. Despite receiving almost 16 per cent of the vote, the Conservative party was, as in the 1997 general election, unable to win a single constituency seat. By contrast, the Liberal Democrats with a similar vote share, but with support concentrated in fewer constituencies, were able to perform much better at this level. The Scottish National Party (SNP) was similarly disadvantaged winning three out of ten votes cast but only one in ten constituencies. When we turn our attention to the list vote, however, a different pattern of voting and a different distribution of seats become apparent. Labour's list vote drops by five percentage points compared with its constituency vote. A proportion of voters that had supported the party in the constituencies switched their list vote to some of the minor parties, notably the Scottish Socialist party (SSP) and the Socialist Labour party (SLP). This pattern of 'split-ticket' voting resembles that

seen at the 1997 general election. Furthermore, because Labour was seriously advantaged by the distribution of constituency seats, it was penalised under the electoral formula, winning just three list seats. Both the Conservatives and SNP were able to pick up list seats because each had been disadvantaged by the FPTP election in the constituencies. List seats were also awarded to the SSP and Greens. When the overall percentage of seats in the Scottish Parliament is compared with the distribution of constituency-based votes, it is immediately apparent that AMS is able to compensate for the disproportionality of simple plurality elections. The proportionality index of 4.6 reflects a reasonably equitable outcome.

In the example of Wales (see Table 11), there is less aggregate evidence of split-ticket voting with the largest movement between this and the general election apparently between Labour and its nearest challengers Plaid Cymru (PC). As in Scotland, parties whose vote is scattered across a number of constituencies do not fare as well as those where support is more concentrated. However, the most interesting aspect of this outcome from our viewpoint is the lower proportion of 'top-up' seats in the Welsh system. With only 20 list seats to distribute, the electoral formula cannot operate as efficiently as it does in Scotland. Consequently, the disparity between seat and vote shares is greater, resulting in a proportionality index of 9.1. This still compares well with a result under FPTP rules.

Striking the right balance between constituency and party lists, therefore, is critical. Here, practical politics may also come into play. It is more likely that the principle of PR will be accepted if the movement away from FPTP is

Table 10 Result of the Scottish Parliament election, May 1999

Party	Votes	%V	Seats	%S	%S-%V
Constituency votes					
Con.	364,425	15.6	0	0.0	
Lab.	908,346	38.8	53	72.6	
LD	333,179	14.2	12	16.4	
SNP	672,768	28.7	7	9.6	
SSP	23,654	1.0	0	0.0	
SLP	5,268	0.2	0	0.0	
Others	34,848	1.5	1	1.4	
Total	2,342,488		73		
List votes					
Con.	359,109	15.4	18	32.1	
Lab.	786,818	33.6	3	5.4	
LD	290,760	12.4	5	8.9	
SNP	638,644	27.3	28	50.0	
SSP	46,714	2.0	1	1.8	
SLP	55,153	2.4	0	0.0	
Green	84,023	3.6	1	1.8	
Others	77,693	3.3	0	0.0	
Total	2,338,914		56		
Overall					
Con.			18	14.0	-1.6
Lab.			56	43.4	4.6
LD			17	13.2	-1.0
SNP			35	27.1	-1.6
SSP			1	0.8	-0.2
Others			2	1.6	-0.1
Total			129		D = 4.6

Note: The proportionality index was calculated using each party's share of the total number of seats and subtracting its share of constituency votes.

not too great. It is significant, perhaps, that the Jenkins report itself described the German system as an 'extreme form' and its own recommendations suggested that the ratio for a reformed system should be of the order of 80:20 or even 85:15 in favour of constituency seats.

Clearly, the scope for a proportional electoral outcome under those circumstances would be diminished. It is also true that such a system would most likely guarantee that the largest party would win a legislative majority with a relatively low share of the total poll.

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Table 11 Result of the Welsh Assembly election, May 1999

Party	Votes	%V	Seats	%S	%S-%V
Constituency votes					
Con.	162,133	15.8	1	2.5	
Lab.	384,671	37.6	27	67.5	
LD	137,657	13.5	3	7.5	
PC	290,565	28.4	9	22.5	
Others	47,992	5.0	0	0.0	
Total	1,023,018		40		
List votes					
Con.	168,206	16.5	8	40.0	
Lab.	361,657	35.4	1	5.0	
LD	128,008	12.5	3	15.0	
PC	312,048	30.5	8	40.0	
Others	51,938	5.0	0	0.0	
Total	1,021,857		20		
Overall					
Con.			9	15.0	-0.8
Lab.			28	46.7	9.1
LD			6	10.0	-3.5
PC			17	28.3	-0.1
Others			0	0.0	-4.7
Total			60		D = 9.1

Note: The proportionality index was calculated using each party's share of the total number of seats and subtracting its share of constituency votes.

The German sub-national system

A notable feature of the German system is the operation of a legal threshold. In 1953, the system was modified so that only parties that had gained a constituency seat or had captured 5 per cent or more of the national vote could qualify for additional seats. This rule was purposely designed to prevent extremist parties from winning representation. The operation of the threshold serves to reduce overall

proportionality. If many competing parties fail to reach the threshold then, in effect, votes for those parties are 'wasted' since they are not translated into seats.

There is little doubt that the two-vote system allows voters to split their ballot between parties. 'Ticket-splitting', as it is more commonly known, has been growing in German elections. In federal elections, for example, fewer than one in 20 voters were ticket-splitters. By the 1980s, however, the proportion had

grown with one in seven casting ballots for different parties. Ticket-splitting was also in evidence at the Scottish and Welsh elections held in 1999. It is also apparent that at the synchronous general and local elections of 1997 many English voters divided their support between different parties. Based on an analysis of aggregate voting data and the survey of voters carried out for the British Election Study, we estimate that as many as one in five voters at that election divided their support between parties.

The number of parties

The operation of AMS at the sub-national level in Germany reveals that its proportionality is closely linked with the number of parties that contest elections. In the 1960s and 1970s, for example, electoral contests featured typically just three main parties, the Christian Democrats (CDU), the Socialists (SPD) and the Free Democrats (FDP). Although individual Länder featured minor parties, these rarely attracted much support. The electoral system's ability to provide an equitable distribution of seats to votes was very much in evidence (see Table 12). The gap between each party's seat and vote

Table 12 Voting in German Länder elections, 1966–72

	%V	Seats	%S	%S-%V
North Rhine Westphalia, 1966				
CDU	42.8	86	43.0	0.2
SPD	49.5	99	49.5	0
FDP	7.4	15	7.5	0.1
Centre	0.2			-0.2
Others	0.1			-0.1
Total		200		D = 0.3
Lower Saxony, 1974				
CDU	48.8	77	49.7	0.9
SPD	43.1	67	43.2	0.1
FDP	7.0	11	7.1	0.1
KPD/DKP	0.4			-0.4
DRP/NPD	0.6			-0.6
Total		155		D = 1.1
Baden-Württemberg, 1972				
CDU	52.9	65	54.2	1.3
SPD	37.6	45	37.5	-0.1
FDP/DVP	8.9	10	8.3	-0.6
KPD/DKP	0.5			-0.5
Others	0.1			-0.1
Total		120		D = 1.3

share at the 1966 state elections in North Rhine Westphalia, for example, was no more than 0.2 per cent. The proportionality index was a remarkable 0.3. In Lower Saxony, the CDU and SPD dominated the 1974 elections and the index score for this election was just 1.1, close to perfect proportionality. Similarly, in 1972, the state elections in Baden-Württemberg produced an index of 1.3.

By the end of the 1970s, however, the party system had become more complex, particularly with the emergence of the Greens (see Table 13). In Lower Saxony, this had the effect of reducing support for the Free Democrats, which had polled 7 per cent of the vote at the 1974 election and consequently won seats in the state parliament. In 1978, the party's vote slipped to 4.2 per cent while the Greens polled 3.9 per cent. The impact of the 5 per cent threshold is apparent. The FDP was given no seats, as were the Greens. Consequently, the proportionality index rose to 9.1 compared with 1.1 four years earlier. A similar outcome can be seen in Hamburg. There too the FDP and Greens polled slightly fewer than 5 per cent and were awarded no seats. The proportionality index for that election was 10.1. By itself, the fragmentation of the party system did not cause disproportional electoral outcomes. It was only when minor parties failed to win sufficient support that the level of disproportionality rose.

That view is confirmed if the 1982 elections in Lower Saxony are examined. At that election, both the FDP and Greens attracted more support with the two parties polling 5.9 and 6.5 per cent of votes respectively. Since both parties now qualified for seats this had a dramatic effect on the proportionality index, which fell to just 0.5. At the 1983 elections in the state of

Bremen, neither the FDP nor the Greens were able to reach the electoral threshold. A number of other minor parties contested the election and they too failed to receive 5 per cent of votes leading to a reduction in proportionality.

The effect of German reunification in the early 1990s has been to transform the Bundestag, the national parliament, from a three- to a five-party system. Similar patterns have also been in evidence at the sub-national level. Candidates representing such parties as the Republicans, DVU and the ÖDP have joined the CDU, SPD, FDP and Greens. Notably, the vote share for 'others' has also been rising as parties splinter or the traditional parties fail to attract support from voters disillusioned with the turn of political events. In practice, this development has had a negative effect upon levels of proportionality in some state-level elections.

The most dramatic impact of an expanding party system can be seen in the results for Hamburg during the 1990s (see Table 14). The 1991 elections were contested by four main parties with little support for the Republican movement and for fringe candidates. The D score for that election was 4.3, close to the state's overall average for the previous decade. However, the 1993 and 1997 elections saw more parties competing for representation. Collectively, fringe candidates, as well as those standing for the FDP and Republicans, polled over 15 per cent of votes in 1993 but won no seats. The proportionality index rose to 15.4. By 1997, disproportionality grew as four parties failed to reach the electoral threshold. Their votes, and that of other minor parties, rose to almost 20 per cent of the total. In short, virtually a fifth of votes could be considered 'wasted'.

Table 13 Voting in German Länder elections, 1978–83

	%V	Seats	%S	%S–%V
Lower Saxony, 1978				
CDU	48.7	83	53.5	4.8
SPD	42.2	72	46.5	4.3
FDP	4.2			–4.2
Green	3.9			–3.9
KPD/DKP	0.3			–0.3
DRP/NPD	0.4			–0.4
Others	0.3			–0.3
Total		155		D = 9.1
Lower Saxony, 1982				
CDU	50.7	87	50.9	0.2
SPD	36.5	63	36.8	0.3
FDP	5.9	10	5.8	–0.1
Green	6.5	11	6.4	–0.1
KPD/DKP	0.3			–0.3
Total		171		D = 0.5
Hamburg, 1978				
CDU	37.6	51	42.5	4.9
SPD	51.5	69	57.5	6.0
FDP	4.8			–4.8
Green/GAL	4.5			–4.5
KPD/DKP 3	1			–1.0
DRP/NPD 4	0.3			–0.3
Total		120		D = 10.8
Bremen, 1983				
SPD	51.3	58	58.0	6.7
CDU	33.3	37	37.0	3.7
FDP	4.6			–4.6
Green	5.4	5	5.0	–0.4
Others	5.3			–5.3
Total		100		D = 10.4

The index score of 19.2 in 1997 approximates that typically found under FPTP rules. Once again, the operation of the electoral threshold

combined with a proliferation of parties places a considerable strain on the ability of the electoral system equitably to translate votes into seats.

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Table 14 Voting in the city-state of Hamburg, 1991–97

	%V	Seats	%S	%S–%V
1991				
CDU	35.1	44	36.4	1.3
SPD	48.0	61	50.4	2.4
FDP	5.4	7	5.8	0.4
Green/GAL	7.2	9	7.4	0.2
Republican	1.2		0.0	-1.2
Other	3.1		0.0	-3.1
Total		121		D = 4.3
1993				
CDU	25.1	36	29.8	4.7
SPD	40.4	58	47.9	7.5
FDP	4.2		0.0	-4.2
Green/GAL	13.5	19	15.7	2.2
Republican	4.8		0.0	-4.8
STATT-Partei	5.6	8	6.6	1.0
Other	6.4		0.0	-6.4
Total		121		D = 15.4
1997				
CDU	30.7	46	38.0	7.3
SPD	36.2	54	44.6	8.4
FDP	3.5			-3.5
Green/GAL	13.9	21	17.4	3.5
Republican	1.8			-1.8
STATT-Partei	3.8			-3.8
DVU	4.9			-4.9
Other	5.1			-5.1
Total		121		D = 19.2

Coalition government in Germany

As with German federal government, there is no shortage of coalition arrangements. The principal coalition parties tend to be the CDU/CSU, SPD, FDP and the Greens. Although federal coalitions have tended to be either CDU/FDP or SPD/FDP, at state level, the range of combinations has been greater. Thus, in 1990,

when the CDU/CSU was in a federal coalition with the FDP, there were a number of state coalitions that reflected a different set of agreements. In Baden-Württemberg and Berlin, for example, the CDU formed coalitions with the SPD. In Hessen and Lower Saxony, the Socialists joined forces with the Greens. In Rhineland Palatinate, it was the Free Democrats who joined forces with the SPD. One of the

more interesting coalition formations took place in Bremen. This was the so-called 'traffic light' coalition featuring the red SPD, the yellow FDP and the Greens. In fact, during this period, none of the coalition arrangements in force at the state level mirrored the federal coalition government.

Following German reunification, it is also interesting to observe the pattern of coalition formation in the former East German states. In 1990, for example, there was another traffic light coalition in Brandenburg. In three states, Mecklenberg-West Pomerania, Saxony-Anhalt and Thuringia, there was a CDU/FDP coalition. Four years later all three coalitions changed. In Saxony-Anhalt, political control fell to an SPD/Green coalition while in the other two states

broad coalitions between the CDU and SPD were built.

State coalitions, therefore, do not necessarily follow the coalition pattern established at the federal level. Other significant differences are also apparent. Federal coalitions invariably include the largest party in the legislature. That is not true of state coalitions. Indeed, one calculation that looked at state coalitions over a 30-year period showed that the largest party was missing from coalition more often than it was present. However, it should also be pointed out that over this same period single-party majorities governed half of West German states. AMS, in the context of Germany at least, has a roughly even chance of delivering stable one-party government.

5 Single transferable vote

Ballot structure and district magnitude

The single transferable vote (STV) was devised independently in the nineteenth century by Thomas Hare, an English lawyer, and by Carl Andrae, a Danish mathematician. It is used in Ireland for both parliamentary and local elections, and in Northern Ireland for local, Assembly and European elections. In Britain, it was once used to elect MPs representing University seats. It is also currently used in Australian Senate elections, and in Malta and Tasmania. Some local authorities in the United States are also elected using this method. STV is the preferred choice of the Electoral Reform Society for a PR system of elections in Britain.

Voters, instead of having a categorical ballot (as in FPTP elections), are allowed under STV rules to state a preference order over competing candidates. The ordinal ballot permits voters to state as many preferences as there are candidates on the ballot paper, with the option of limiting the number of preferences to a subset of candidates. Proponents of STV maintain that an ordinal ballot gives voters more choice, and more influence, over which candidates will be elected. Voters are free to choose not only between parties but also between candidates from the same party. This is possible because STV elections require multi-member electoral districts.

District magnitude can play a critical role in an STV election. If a large magnitude is used, the electoral process can become extremely difficult. Such was the case in New York where STV was used to elect the city council for a ten-year period from 1937. At the first election, borough-wide constituencies were used and a total of 99 candidates ran for election. The ballot

paper was reported to be over four feet long. This resulted in large numbers of ballot papers being incorrectly completed and, in Brooklyn, 31 per cent were excluded from the final count.

If district magnitude can be too large it can also be too small. If there are only a small number of vacancies to be filled then the outcome can be disproportional. It has been calculated that the optimum size for an STV constituency is five members. Below this number, the threat of disproportionality is real. Above this number and the voter may be presented with a lengthy list of candidates. In the Northern Ireland Assembly elections held in June 1998, each of the 18 constituencies elected six members. The longest slate was presented in Strangford where 22 candidates stood. For local elections in Northern Ireland, district magnitude is normally five or six. In parliamentary elections in Ireland, however, the majority of seats are just three or four members.

The electoral formula

In STV elections, an electoral quota is calculated to elect candidates. This can be the Hare quota but most elections, in fact, use the Droop quota. This quota, it will be recalled, is calculated by dividing the total number of valid votes by the number of seats plus 1 and then adding 1 ($V/M + 1$, plus 1). Any fractions are ignored. We can best illustrate the process with a practical example. Consider a six-member constituency where a total of 49,000 valid votes have been cast. This total is divided by 7 (the number of seats to be filled plus 1), which gives us exactly 7,000. Finally, we add 1 taking us to a Droop quota of 7,001. In this example, any candidate receiving 7,001 or more first preference votes

will be deemed elected at the first-stage count. The essence of STV, however, is that no votes are wasted. Therefore, if any candidates have exceeded the quota at this stage, their 'surplus' votes are also taken into consideration.

Let us suppose that one of the candidates received 7,101 first preference votes. That is a 'surplus' of 100 votes above the quota. All of the votes of that particular candidate are then examined and arranged into 'sub-parcels' according to the second preferences marked on each ballot paper. Next, assume that exactly half of these ballot papers indicate a second preference for one of the other remaining candidates. This proportion of the surplus is then added to the vote of that candidate. In this particular case, the surplus was 100 votes and, therefore, 50 votes are transferred to the total of that particular candidate. This transfer might be sufficient to take that candidate above the quota in which case he or she would also be elected. However, if no further candidates are elected at this stage the counting process enters the second stage.

At this point, the lowest placed candidate is eliminated from the count and his or her votes are examined to see how they should be transferred to the remaining candidates. This transfer is done on the basis of next available preferences. If the second preference on a ballot is for a candidate who has already been elected, then the next available preference is identified and so on. The basic idea, once again, is not to waste any votes. If this process of transferring votes takes any of the remaining candidates above the quota, then they are elected.

Successive counts will proceed either on the basis of distributing surplus votes or in eliminating the lowest placed candidate. In

cases where there is a surplus to be redistributed, the method differs from that used at the first-stage count. Instead of examining all of those candidates' votes, only those votes which were transferred and which took the candidate above the quota are examined. There are sound practical reasons for this in that it saves considerable time. It can also be justified on the grounds that these transferred votes are the ones that created the surplus and it is right that it should be these that ought to govern the distribution of the surplus.

At some stage in the count, there will be only one seat left to fill. Under certain circumstances, it might be that the final candidate to be elected might not actually reach the quota. This is because either the number of transfer votes available might be less than the total required to take any candidate above the quota or because a candidate cannot be overtaken even if such a transfer were to take place. In such cases, the candidate with the largest vote is deemed elected without reaching the quota.

There can be little doubt that STV gives voters both freedom of choice and attempts to maximise the effect of voters' preferences. It is also open to the charge that the system can prove confusing to voters asked to choose between candidates, especially when there are many names on the ballot paper. While STV elections are more complicated than, say, FPTP elections, voters do not appear confused in practice. More serious objections, perhaps, are that the counting process can sometimes be time-consuming and that the outcome can be unpredictable. On occasion the counting process can take days to complete. Moreover, candidates in receipt of more transfer votes can at the last moment overtake candidates that appear to be

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close to election. This may have an impact upon the way in which the public perceive this method of election.

STV and the Northern Ireland Assembly

We can observe how STV operates by providing a number of recent results from elections using this particular electoral method. It was, of course, used to elect members of the new Northern Ireland Assembly. The results of that election are shown in Table 15. It is immediately apparent that the party that finished with the highest number of first preference votes did not win the most seats. The SDLP received 5,738 more first preference votes but won four fewer seats than the Ulster Unionists. That result occurred because of the subsequent redistribution of surplus votes and the transfer of lower preferences from eliminated candidates. Nevertheless, the outcome is close to proportionality and resulted in an index score of 6.2. A total of 11 parties, some very small

indeed, were successful in getting at least one candidate elected to the Assembly. No party was able to secure an overall majority, although in the context of a politically divided Northern Ireland that is hardly surprising.

Local elections in Ireland

Next, we turn to the result for the 1999 local elections in Ireland. These had earlier been postponed but a referendum decision taken on the same day will now ensure that in future local authorities are elected every five years. The largest authority is Dublin county borough, which is divided into 13 electoral districts representing more than 340,000 electors. District magnitude ranges from three to five members. There is some imbalance in the councillor–elector ratio for these districts. The smallest constituency is South East Inner City, where three councillors represent 18,557 electors – a ratio of one councillor for every 6,186 electors. By contrast, the largest constituency, Crumlin-

Table 15 Results from the Northern Ireland Assembly elections, June 1998

Party	Vote	% V	Seats	% S	% S–% V
SDLP	177,963	22.0	24	22.2	0.3
UUP	172,225	21.3	28	25.9	4.7
DUP	146,917	18.1	20	18.5	0.4
Sinn Féin	142,858	17.6	18	16.7	–1.0
AP	52,636	6.5	6	5.6	–0.9
UKU	36,541	4.5	5	4.6	0.1
PUP	20,634	2.5	2	1.9	–0.7
NIWC	13,019	1.6	2	1.9	0.2
UDP	8,651	1.1	0		–1.1
Union	8,332	1.0	1	0.9	–0.1
United	8,152	1.0	1	0.9	–0.1
UU	2,976	0.4	1	0.9	0.6
Others	19,341	2.4	0		–2.4
Total	810,245		108		D = 6.2

Kimmage, numbers 40,588 electors and has five councillors – a ratio of 8,112 electors per councillor. Such disparities in the councillor–elector ratio, combined with the particular distribution of support throughout the city, can produce a disproportional outcome, as Table 16 shows. Unlike our previous example of Northern Ireland, the largest party, Fianna Fáil, was provided with a ‘winner’s bonus’. However, the largest bonus actually went to Labour, which finished in third place on the basis of first preference votes. In fact, only one Labour candidate was elected at the first count. The remainder were elected following transfers from other candidates. This appears to demonstrate that candidates with a broad appeal can sometimes do better under STV than candidates whose core support is larger but more narrowly based. The disparity in the seat–vote relationship for Labour largely explains why the proportionality index, 13.1, is so large for this particular election.

Another example from the recent Irish local elections is that of Donegal County Council. The authority has six constituencies, with district magnitudes ranging between 3 and 6. The result of the 1999 election in Donegal is shown in Table

17. In this example, the two largest parties, Fianna Fáil and Fine Gael, both win proportionately more seats than votes. This time a much smaller Labour party does not benefit from the electoral system. However, it is worth noting how well Independent candidates performed. One of the perceived strengths of STV is that it encourages voters to identify the personal qualities of candidates as well as any party labels they may carry. Local electoral districts are, of course, much smaller than those used in parliamentary elections. Hence, the absolute number of votes required for election is that much smaller, allowing Independent candidates to succeed where there is a personal base of support. In the context of local elections, in Ireland and also in Britain, this aspect of STV makes the system attractive to those who deplore the spread of party politics at this level of government.

Coalition government in Ireland

The powers of local authorities in Ireland are narrowly defined and councils are not policy oriented. Indeed, the organisation of these authorities is quite different from that in the UK.

Table 16 Voting in Dublin county borough, June 1999

Party	%V	Seats	%S	%S–%V
Fianna Fáil	34.7	20	38.5	3.8
Fine Gael	17.8	9	17.3	–0.5
Labour	17.7	14	26.9	9.2
Ind.	9.5	3	5.8	–3.7
Sinn Féin	7.9	4	7.7	–0.2
Green	7.7	2	3.8	–3.9
Prog. Dem.	2.5	0		–2.5
Workers’ Party	1.9	0		–1.9
Others	0.5	0		–0.5
Total		52		D = 13.1

Proportional representation and local government

Table 17 Voting in Donegal County, June 1999

Party	%V	Seats	%S	%S-%V
Fianna Fáil	41.5	14	48.3	6.8
Fine Gael	22.8	8	27.6	4.8
Labour	5.1	1	3.4	-1.7
Prog. Dem.	4.4	0		-4.4
Ind.	24.9	6	20.7	-4.2
Others	1.3	0		-1.3
Total		29		D = 11.6

There is, for example, no committee structure and therefore no portfolios to be allocated to party politicians. Local politicians are largely concerned with the need to build a personal base within their own communities and work within the system to that end. Thus, a form of brokerage politics develops whereby councillors ensure their continuing electoral support by paying close attention to the special interests of their constituents. Indeed, the electoral system contributes to this style of politics since councillors need to distinguish themselves apart, even from their own party colleagues, if they are to be re-elected. Most councillors have party affiliations and even those nominally elected as Independents will often be identified with particular political groupings. However, party politics is not as strong in Ireland as it is elsewhere. It has been noted, for example, that local councillors seldom meet to define the 'party line' before the monthly council meetings. The only real time when voting follows party lines is for the periodic election of the chair of the county council or of the Lord Mayor in the case of the county boroughs. For these reasons, therefore, local coalition politics is certainly not as developed as it is in France and Germany, and even the United Kingdom.

Following the 1999 elections, in only eight of

the 34 local authorities was a single party able to win an overall majority of seats (see Table 18). This repeated a familiar pattern from previous election rounds. In the eight majority-run councils, the winning party was Fianna Fáil, although in none of the authorities could the party's majority be described as comfortable. This is partly a function of the electoral system and partly because of the fact that council size is relatively small. Of the remaining 26 councils, most are on a knife-edge where a change of one or two seats would be sufficient to take the largest party to an overall majority. The 52-member Dublin council is the most fragmented, with the largest party, Fianna Fáil, some seven seats short of an overall majority.

Local government's relatively low status in Ireland and the need for politicians to concentrate on brokering the interests of their constituents means that capturing political control of the authority itself is not regarded as essential. In that sense, therefore, the election of chair or mayor provides one of the few opportunities for parties to coalesce and offer an insight into local political complexities. It appears that there are no traditional patterns of party co-operation but rather the composition of the council will largely determine which party groups will vote with one another. As we saw in

the case of Germany, local coalitions do not necessarily reflect the pattern of coalition politics played out at the national level. In Ireland, too, it is not unknown for the two

main parties, Fianna Fáil and Fine Gael, though rivals for national power, to vote together in the election of the county chairs or borough mayors.

Table 18 Composition of county and county borough councils in Ireland following 1999 elections

	Fianna Fáil (FF)	Fine Gael	Labour	Other	Total seats	Control
Carlow	9	7	3	2	21	NOC
Cavan	13	9	2	1	25	FF
Clare	18	9		5	32	FF
Cork	19	21	4	4	48	NOC
Cork Borough	12	8	5	6	31	NOC
Donegal	14	8	1	6	29	NOC
Dublin Borough	20	9	14	9	52	NOC
Dun Laoghaire	10	8	6	4	28	NOC
Fingal	6	5	6	7	24	NOC
Galway	16	9		5	30	FF
Galway Borough	5	4	2	4	15	NOC
Kerry	12	6	3	6	27	NOC
Kildare	9	5	5	6	25	NOC
Kilkenny	12	11	1	2	26	NOC
Laois	14	10		1	25	FF
Leitrim	10	8		4	22	NOC
Limerick	14	10		4	28	NOC
Limerick Borough	6	5	3	3	17	NOC
Longford	8	10		3	21	NOC
Louth	14	7	1	4	26	FF
Mayo	16	13	1	1	31	FF
Meath	14	11		4	29	NOC
Monaghan	8	6		6	20	NOC
Offaly	9	7	1	4	21	NOC
Roscommon	9	12		5	26	NOC
Sligo	9	11	2	3	25	NOC
South Dublin	8	3	7	8	26	NOC
Tipperary North Riding	12	5	1	3	21	FF
Tipperary South Riding	12	9	1	4	26	NOC
Waterford	11	8	3	3	25	NOC
Waterford Borough	4	3	2	6	15	NOC
Westmeath	12	6	5		23	FF
Wexford	9	8	1	3	21	NOC
Wicklow	8	6	5	5	24	NOC

NOC No overall control

6 Conclusions

Electoral systems comprise a number of different elements, including the ballot structure, the number of seats to be filled within each electoral district and a set of rules for allocating seats. It is clear from our survey of sub-national electoral systems within Europe that the combination of these elements has a critical bearing upon the pattern of party competition and ultimately the nature of political representation. Our own 'first-past-the-post' system is probably the easiest to describe, a factor exploited by its supporters who contrast this method with some of the more esoteric versions of PR. However, the analysis of the operation of FPTP suggested that the system was not only erratic in its distribution of seats but also not entirely successful in delivering strong, stable single-party government at the local level. The absence of electoral proportionality raises problems about the real nature of local democracy. As new institutions, elected by some form of PR, shoulder devolved powers, the place of local government is bound to come under the spotlight. With electoral reform likely in Scottish local government and as London's Assembly elections have recently been held, the pressure to alter the electoral system for the remaining local authorities in England and Wales is likely to become intense.

Apart from FPTP elections, our survey also examined three other types of electoral system in use at the sub-national level. The most common of these in European countries is the party list system. Critics of this method complain that voters are forced to support parties rather than individuals and that this undermines the sense of local democracy, particularly when those parties are nationally, not locally, based. However, some forms of

party list system do allow voters to choose candidates from within lists while others permit voters to support candidates from different parties. The French regional elections formed the basis for our assessment of PR list voting. The most obvious difference between the French and our own system is the multiplicity of parties that contest these seats. Potentially, with many competing parties, a list system could translate into a multi-party system of government but in France this was not necessarily the case. The reason for this lay in the operation of an electoral threshold whereby parties are required to win at least 5 per cent of the vote before becoming eligible to win seats. Such mechanisms are normally in place to prevent extremist parties from gaining a foothold but they do not always work in the way intended. Electoral outcomes in the French regional assemblies were sometimes disproportional. The analysis also included data from three other countries that use PR list voting, Belgium, Denmark and Sweden. Both Belgium and Denmark have many parties competing for election and, without the impediment of an electoral threshold, a significant number of parties were able to gain some representation and the outcomes were relatively proportional. Clearly, the presence of so many parties means that it becomes extremely difficult for a single party to win an overall majority. Coalition politics becomes the norm rather than the exception. This aspect of party list voting is likely to dominate discussion of its merits in the UK.

Next, attention fell on Germany where AMS is used to elect the state legislatures. This is also a system already in use in Britain. Its supporters claim that AMS combines the best elements of

FPTP and party list voting. Voters are allowed to vote for individual candidates in single-member constituencies while casting a second ballot for a party list. Top-up seats allocated on the basis of party shares compensate for disproportionality introduced by simple plurality. The proportion of constituency-based and top-up seats is critical for the system's capacity to produce a fair result. Germany's practice of having these different types of seat in equal proportions should result in an equitable outcome. However, as in France, the operation of an electoral threshold, particularly in recent years, has had a real impact on the system's capacity for fairness. When the number of parties was relatively small, AMS produced outcomes that were highly proportional. With the arrival of many more parties across the political spectrum, the system has been tested to the limit. In short, the circumstances have to be right before AMS can deliver proportional outcomes.

STV is used to elect local councils in the Irish republic and also in Northern Ireland. It is also the electoral system that is used to elect the Northern Ireland Assembly. The nature of the ballot in this form of election maximises voter choice. Voters are free to express a preference over candidates, even candidates standing for the same party. Voters in each of those countries have little difficulty in understanding how the STV ballot works. The same cannot be said for the operation of the electoral formula. Although it is clear that the electoral quota is used to determine the winner, it is the way in which votes are redistributed amongst candidates that to the outside observer appears both tortuous and, on occasion, illogical. Furthermore, the intention that the impact of voter preferences is maximised is sometimes undermined by the

critical value of district magnitude. When district magnitude is too small, then STV finds it difficult to produce an equitable outcome. Too many seats and the potential for an extremely long and unmanageable ballot paper is increased. The construction of electoral districts, therefore, is a critical process under STV rules and one where finding the right balance between grouping communities and promoting electoral fairness can prove problematic.

This study has shown that the realities of party competition sometimes upset the smooth running of an electoral system. Advocates of FPTP claim that the method may have its faults but its strength is that it invariably produces, in theory at least, a winner. That position assumes that two parties dominate and that electoral support for other parties remains weak. Local government in the UK is far from being dominated by just two parties. Smaller parties have, in some instances, proved adept at concentrating support in a number of areas rather than spreading support thinly and thereby failing to win seats. The outcome of this process means that currently a third of local authorities are 'hung'. In such cases, the alternatives are minority administrations or some form of power-sharing arrangement. Critics of the system may have a point when they argue that since coalition politics is so widespread there may as well be an electoral system that at least produces a 'fair' result. But the choice between competing systems is far from clear. Each has its merits but equally each is flawed as it currently operates at the sub-national level. In the final analysis, the debate over electoral reform for local government must decide whether the failures of the existing system are sufficient to warrant the adoption of an alternative.

Guide to further reading

There are now a large number of texts that describe the technical aspects of different electoral systems. There are also a number of comparative studies that discuss the operation of these systems in different countries. Virtually all of these, however, are concerned with the results of parliamentary elections and sub-national elections are seldom discussed.

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