

Briefing Note: Proportional Representation Options for the UK

November 2022

1. Summary

Four proportional representation systems are evaluated in the context of their potential use in electing the UK Parliament:

- Party List PR, as currently proposed for the Welsh *Senedd*
- Mixed-Member Proportional (MMP), often called Additional Member System (AMS) in the UK. Two alternatives are considered:
 - MMP/AMS 368:282, i.e. constituency:list member ratio as per the Scottish Parliament
 - MMP/AMS 325:325, i.e. constituency:list members equal as per the German *Bundestag*
- Single Transferable Vote (STV), as used in the Northern Ireland Assembly

The evaluation is based principally on:

- Ease of implementation
- Proportionality
- Local links
- Accountability

For each criterion, each system is given a summary rating using the following “RAYG” scale:

GREEN	No or minimal issues
YELLOW	Minor issues
AMBER	Major issues
RED	Unacceptable issues

A summary of the evaluation is shown below:

System	List PR	MMP/AMS 368:282	MMP/AMS 325:325	STV
Key example	Wales (proposed)	Scotland (since 1999)	Germany (since 1949)	Ireland (Since 1921)
Ease of Implementation	No/Minimal issues	Unacceptable issues	Minor issues	No/Minimal issues
Proportionality	Major issues	Minor issues	Minor issues	Minor issues
Local Links	Minor issues	Minor issues	Minor issues	Minor issues
Accountability	Major issues	Minor issues	Minor issues	No/Minimal issues

This evaluation is based on a particular implementation of each system, described in Section 2, which we were requested to look at. Different implementations could result in changes to the ratings shown here¹, which the authors of this briefing note would be happy to discuss/explore further, if desired.

This briefing note does not recommend a particular system. However, it provides a potential reason to rule out one of the alternatives due to unacceptable issues. MMP/AMS 368:282 (the Scottish

¹ For example, the version of List PR is chosen to match the Welsh *Senedd* proposal. It would theoretically be possible to improve the ratings for List PR by making a number of changes. To improve proportionality, the Sainte-Laguë method could be used. And an open list system would improve accountability. But each change has a downside; instead of fixing the issues with List PR, it would be more straightforward to use STV.

system, with 57% of MPs elected by FPTP and 43% by party list ‘top up’) is virtually unimplementable for the UK Commons. This is because the current 650 constituencies would have to be reduced to 368, requiring a complete Boundary Commission redrawing of every constituency². This would be very contentious, lengthy, complex and possibly unachievable. The effort would be open to damning criticism and could lead to a significant number of MPs voting against due to fear of losing their seat as a direct result, whilst citing unfair or inappropriate boundaries as a key reason.

2. The Options

The options evaluated are:

- List PR
- Mixed-Member Proportional (MMP), often referred to as Additional Member System (AMS) in the UK: two alternatives are considered
- Single Transferable Vote (STV)

These are the most commonly discussed potential PR systems for the UK Parliament. All are currently or recently in use for other levels of government within the UK.

There are many ways of implementing each of these systems; in each case the most likely/acceptable form is evaluated. In all cases, it is assumed that the total number of MPs for the UK remains at 650, there is no crossing of national (England, Scotland, Wales and Northern Ireland) boundaries, and special consideration is given to islands³.

List PR involves electing all members according to the votes cast for their party in multi-member constituencies or regions; each party puts forward a list of candidates, with the top candidates being elected from the list according to the number of seats won by their party. In the UK this system was used until 2019 for elections to the European Parliament and has been proposed by the Welsh Government for elections to the Welsh Parliament. For this evaluation it is assumed that 6-member constituencies and the d’Hondt method are used⁴.

MMP/AMS involves electing some members in single member constituencies by first-past-the-post (FPTP) and other members by compensatory (“top-up”) List PR, with the aim of making the overall result proportional to the votes cast for each party list. In the UK this system is used for elections to the Scottish and Welsh Parliaments and the London Assembly. For this evaluation it is assumed that list seats are allocated on a “regional” basis (Scotland, Wales, Northern Ireland, and the nine English regions⁵), using the d’Hondt method with a 5% threshold. Two alternatives are considered:

- A ratio of constituency to list members similar to the current Scottish Parliament, i.e. approximately 368:282 constituency members v list members
- Equal numbers of constituency and list members, i.e. 325:325

STV involves electing all members in multi-member constituencies; votes are cast preferentially for candidates put forward by the various parties and surplus votes are transferred with the aim of making the overall result proportional according to the preferences of voters. In the UK this system is used for elections to the Northern Ireland Assembly and for local authority elections in Scotland and Northern Ireland. For this evaluation it is assumed that constituencies of predominantly 3-6 members are used.

² This did not apply to the Scottish Parliament as an entirely new body. To avoid this issue would require either a large increase or a large decrease in the number of MPs; these options are even less acceptable.

³ Isle of Wight, Orkney & Shetland, and *Na h-Eileanan an Iar*.

⁴ These assumptions match the recent proposal for the Welsh *Senedd*.

⁵ As used until 2019 for elections to the European Parliament.

3. Ease of Implementation

Following the next General Election those opposed to PR, and their allies in the media, can be expected to fight tooth and nail to prevent it. So there will be considerable reliance on the momentum for change following the election to hold together what is likely to be a fragile pro-PR alliance, and there will at best be a small window to legislate for PR. Consequently, there is a very high premium on choosing a system that can be implemented rapidly in full, in a way that cannot easily be undone. This means:

- **Boundary method:** It must be straightforward to specify the boundaries to be used for the first PR election in a Schedule of a parliamentary bill, which can be enacted early in the first session without the need for a full boundary commission exercise⁶.
- **Contentiousness:** To reduce any motivation for individual MPs from pro-PR parties to vote against, the boundaries should be as non-contentious as possible and should minimise the number of those MPs who believe they will lose their seats as a direct consequence.

Evaluation:

System	List PR	MMP/AMS 368:282	MMP/AMS 325:325	STV
Boundary method	Combine existing parliamentary constituencies in groups of 6 ⁷ .	No straightforward method. Simplest is to combine groups of 7 then divide into 4 ⁸ .	Combine pairs of existing constituencies.	Based on local authority boundaries; combine or divide where necessary.
Contentiousness	Choices to be made are relatively straightforward, with few opportunities for contention; potential for all sitting MPs to stand.	Choices are arbitrary (therefore highly contentious) or require a full boundary exercise; internal contests between sitting MPs to be constituency candidates.	A number of choices to be made, but these provide significantly less opportunity for contention than the 368:282 alternative; internal contests between sitting MPs to be constituency candidates.	Choices to be made are mostly clear cut, with very few opportunities for contention; potential for all sitting MPs to stand.
RAYG	G	R	Y	G

Example schemes have been developed for List PR, MMP/AMS 325:325 and STV (see Annexes 2 and 3); this has not been attempted for MMP/AMS 368:282.

The main result of this assessment is that it is highly doubtful whether MMP/AMS 368:282 would be feasible to implement. In particular, it could lead to a significant number of MPs voting against due to fear of losing their seat as a direct result, whilst citing unfair or inappropriate boundaries as a key reason. This is still an issue for MMP/AMS 325:325, but the boundary choices are harder to criticise.

With both List PR and STV, it should be possible for all sitting MPs to stand; their success will then depend on popularity within their party and/or with the voters. They would have to be unusually pessimistic to be motivated to oppose it on these grounds.

⁶ Provision can be made in the bill for the boundary commission to revise the boundaries used in the second and subsequent elections under PR.

⁷ In practice, this would be based on the constituencies used in the General Election.

⁸ For details of why MMP 368:282 is impractical, see Annex 0. An alternative approach would be to pair existing constituencies (as for MMP 325:325) and achieve the ratio by reducing the number of list members; this would entail reducing the size of the House of Commons to 574, which would be even more contentious.

4. Proportionality

Proportionality is assessed in two different ways:

- Evaluation of the results of real elections using the system in question. This involves looking at examples within the UK and other comparable countries. The analysis is more realistic, but may not reflect how proportional each system would be in a UK General Election.
- “What if?” evaluation of one or more UK General Elections. This is the approach taken by many system comparison exercises and involves taking the actual votes cast in each constituency, applying them in a model of an alternative system and calculating the resulting proportionality. This is easy to relate to, but is likely to be unrepresentative due to the gross distortions caused by FPTP (e.g. party campaigning focused on marginal seats; tactical voting by electors) that would largely disappear under PR.

Real Election Evaluation:

An analysis of real elections is summarised below (see Annex 4 for details). For the purposes of this analysis, historic elections are included for the following implementations:

- List PR: European Parliament elections in GB (3-11 seat); NI Assembly elections (6 seat) – estimate⁹
- MMP/AMS (368:282): Scottish Parliament elections
- MMP/AMS (325:325): German *Bundestag* elections
- STV: NI Assembly (6 seat); Ireland (3-5 seat)

The following aspects of proportionality are compared for each system, and shown in the table below:

- Typical threshold for representation (which may be explicit as in MMP/AMS or implicit as in List PR and STV)
- Typical threshold for a majority
- Dependence of seats on votes (Seat:Vote ratio) in the range between these two thresholds
- Measure of proportionality (Gallagher Index¹⁰)

System – and specific implementation	Typical ¹¹ % threshold for representation	Typical % threshold for majority	Seat:Vote ratio	Average Gallagher Index
FPTP - UK ¹²	15	35 - 49	1.82	12.5
List-PR - EU (GB) (3-11 seat)	7	40.7	1.41	9.1
List-PR - NI est. (6 seat)	8	41.0	1.29	6.8
MMP/AMS (368:282) - Scotland	5	40.9	1.27	7.6
MMP/AMS (325:325) - Germany ¹³	5	41.5	1.27	6.7
STV - N Ireland (6 seat)	3 – 4	45.0	1.14	3.7
STV - Ireland (3-5 seat)	3 – 4	46.5	1.10	4.2
<i>perfect proportionality</i>	<i>N/A</i>	<i>50</i>	<i>1</i>	<i>0</i>

⁹ This shows the outcome if the actual STV first preferences were counted using d’Hondt List-PR. It provides an estimate of proportionality under 6-seat List PR as well as a direct comparison with STV.

¹⁰ The Gallagher Index measures disproportionality, i.e. higher means less proportional; see Gallagher, Michael (1991). “*Proportionality, Disproportionality and Electoral Systems*”. Electoral Studies. 10: 33–51

¹¹ These figures are indicative for systems without a formal threshold, but are sufficient to provide a basis for comparison; figures are calculated on a regional or equivalent basis to ensure a like for like comparison.

¹² FPTP is included here for comparison, illustrating not just lack of proportionality but inconsistency of effect between parties and from one election to another. The Gallagher index varies from 3 (1951) to 23 (1931).

¹³ Due to significant regional overhangs in 2017, a further 111 seats were added to the *Bundestag* to improve proportionality; this would not be part of a UK system, so these seats have been ignored here.

“What if?” Evaluation:

Model results for the 2019, 2017 and 2015 General Elections are presented summarised below (see Annex 5 for details)¹⁴.

Year	2019				2017				2015			
System	Actual	List	MMP ¹⁵	STV	Actual	List	MMP	STV	Actual	List	MMP	STV
Conservative	365	324	287	317	317+1	298	279+1	296	330+1	269	241+1	276
Labour	202+1	229	218	226	262	284	269	282	232	225	207	236
Lib Dem	11	40	72	54	12	19	43	27	8	21	49	26
SNP	48	30	28	28	35	25	23	23	56	35	32	34
Plaid Cymru	4	2	4	2	4	2	4	2	3	3	5	3
Brexit/UKIP	0	2	11	3	0	0	7	0	1	75	78	54
Green	1	1	12	1	1	0	6	1	1	0	20	3
NI Parties	18	18	18	18	18	18	18	18	18	18	18	18
Gallagher Index	11.8	6.6	1.3	5.1	6.5	5.1	1.5	4.4	15.2	6.4	2.1	7.7

In the Real Election evaluation, STV is the most proportional with MMP/AMS and List PR a little less proportional. In the “What if?” evaluation, MMP/AMS is the most proportional with List PR and STV a little less proportional. Taking account of both sets of results gives the following summary scores:

System	List PR	MMP/AMS 368:282	MMP/AMS 325:325	STV
RAYG	A	Y	Y	Y

Most previous analyses have suggested that STV is less proportional than other PR systems, due to relying solely on “What if?” analysis similar to that above. The experience in practice appears to be the other way round. Also, note that the analysis of STV presented in this briefing (in common with all other analyses) assumes that party support can be derived solely from 1st preferences; thus it is likely to under-estimate the proportionality of STV¹⁶.

5. Local Links

A key argument used by FPTP supporters is the “constituency link”; thus maintaining such links and the strength of those links is a key factor in assessing the likely acceptability of any PR system. In fact, the term conflates a number of factors, which this evaluation attempts to identify:

- Strength of constituency link (MP perspective):
 - Size of constituency: how local is local? There's an obvious sense in which the smaller an electoral unit is, the stronger the link will be because the accountability of the elected representative is less diffused
 - How many MPs in the legislature have a constituency link, and of what sort? Does the presence of MPs elected at regional or national level dilute the overall strength of the link?
 - To what extent is a constituency shared between MPs, who may therefore need to co-operate and/or compete with each other?

¹⁴ Note that STV is difficult to model because data on voter preferences is not available.

¹⁵ All model results in this table are for MMP 325:325. MMP 368:282 would typically be a little less proportional.

¹⁶ The analysis ignores proportionality on factors other than party, which STV particularly enables. It also ignores any value to a voter of helping to elect a lower preference candidate. There is no agreed way to include these benefits of STV in a proportionality analysis; that does not mean they do not exist.

- Strength of local representation (voter perspective): what proportion of voters will have an elected representative they chose and with whom they therefore have a stronger link?
- Strength of identification:
 - Does the constituency reflect an identity that exists at other levels, i.e. local government boundaries, historic and cultural identities, economic and transport links, or is it a largely artificial unit?
 - Is the link continuous over time, or constantly disrupted by boundary changes?

System	List PR	MMP/AMS (325:325) ¹⁷	STV
Constituency size	6 x current constituency size	2 x current constituency size	3 to 6 x current constituency size
Proportion of MPs with link	All MPs elected in constituencies	Half elected in constituencies; half elected in regions	All MPs elected in constituencies
Constituency shared	Shared by 6 MPs	Single constituency MP; partly shared with large number of list MPs	Shared by 3 to 6 MPs
Local Representation	Typically ~80% of voters have an MP from the party they voted for	Typically ~50% of voters have a constituency MP they voted for; a further 30-40% of voters have list MP(s) from the party they voted for	Typically ~85% of voters have an MP from their party of first preference; ~75% have an MP who was their 1 st preference
Meaningful identity	Some. Requirement for equal sized constituencies means constituencies may not coincide with an area with a clear identity.	No. Requirement for small equal sized constituencies means most constituencies will not coincide with an area with a clear identity.	Yes. Ability to vary size means constituencies can be based on local authorities with minimal need to divide them.
Continuity	No. Requirement for equal sized constituencies means regular redrawing of boundaries.	No. Requirement for equal sized constituencies means regular redrawing of boundaries.	Yes. Able to vary number of members in a constituency minimising the need for boundary changes.
RAYG rating	Y	Y	Y

6. Accountability

Individual MPs and Governments/Parties should be accountable to the voters. There are many ways in which this can happen, but the role of the electoral system is to ensure that voters can express or withhold support for both individual candidates and parties in a way that is effective in influencing the result. Thus Accountability at the ballot box is closely connected to the principle of Voter Choice¹⁸.

¹⁷ Analogous conclusions apply to MMP 368:282.

¹⁸ Individual accountability/voter choice runs counter to party cohesion, and views differ on the appropriate balance between the two. In practice, none of these systems fall at the extreme ends of the scale; e.g. under STV, voter choice is constrained by constituency size and candidates are still subject to selection by their party.

System	List PR	MMP/AMS (both alternatives)	STV
Individual accountability	Votes are cast for party lists, so are not effective in holding individual MPs accountable.	Constituency MPs (but not List MPs) can be held accountable at the ballot box ¹⁹ ; as with FPTP, the effectiveness of this depends on how marginal the constituency is.	All MPs can be held accountable at the ballot box; if there is a choice of candidates from the same party, voters can support their party but not necessarily every candidate
Party accountability	Voters can hold parties to account	Voters can hold parties to account in the List section	Voters can hold parties to account by giving their top preferences to all, some or none of a party's candidates
RAYG rating	A	Y	G

A related issue is that of safe seats. Each of these systems has a similar number of safe seats, but they are safe in different ways. Individual MPs can make their own seat safe/safer by enhancing their popularity within their party (more important for List PR and MMP list members) or with their constituents (more important for STV and MMP constituency members).

7. Other Factors

There are a number of other factors that are often used to compare electoral systems. Two recent examples, *A Parliament that Works for Wales* and the *Good Systems Agreement*, are in almost full agreement on the principles against which electoral systems should be judged (see Annex 6). The principles not already covered under the key criteria above are briefly addressed here²⁰:

- **Government effectiveness (GSA: Balance of stability and flexibility):** All the PR systems considered here would satisfy this principle. In this context it is also worth noting that STV allows votes to coalesce around multiple parties that voters perceive to have similar positions, which thus benefit from cross-transfers between them, arguably promoting stability. In the UK context, this is likely to benefit progressive parties (Labour, Lib Dem and Green) more than those on the right. Also, parties perceived as extreme will tend to receive fewer transfers than those perceived as more moderate.
- **Equivalent Status:** Whereas List PR and STV elect all members on the same basis, MMP/AMS results in two classes of MP²¹, with the potential for conflict; there is some evidence of this in Scotland, with List MSPs using their position to target a constituency.
- **Diversity:** All the PR systems considered here would satisfy this principle.
- **Simplicity:** A claim often made against STV is that it is complicated. However, from the voter's point of view it is arguable whether it is more or less complicated to cast a preferential STV ballot compared to casting two MMP/AMS votes with different effects²².
- **Sustainability and Adaptability:** All the PR systems considered here would satisfy this principle.

¹⁹ However, a defeated constituency MP could be elected via the list.

²⁰ In addition to those explicitly covered above: the criteria of Equivalent Mandates/Equal Votes are strongly linked to Proportionality; the criterion of Representation is strongly linked to Proportionality combined with Accountability/Voter Choice

²¹ This has also been presented as a benefit: a mixture of MPs focused on local issues versus those whose focus is on regional and national issues.

²² Bromley, Catherine et al. (2006), *"Has Devolution Delivered?"* Edinburgh University Press, p. 126, provides survey evidence of poor public understanding of MMP.

8. About this Briefing Note

The purpose of this briefing note is to inform decisions on replacing FPTP for electing the UK Parliament. It has taken the most likely contenders and assessed their applicability as well as what each would deliver for the British voter and political parties.

It was researched and written by Crispin Allard, Lewis Baston and Denis Mollison.

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Annexes

The following annexes, available on request, provide supporting research and analysis:

1. *The Scottish Parliament Electoral System for the House of Commons?*, Lewis Baston, Jul 2022
2. *MMP and L6 model 2017*, Lewis Baston, Aug 2022
3. *An STV scheme for Westminster*, Denis Mollison, Aug 2022
4. *Evaluating Proportionality*, Denis Mollison, Jul 2022
5. *Modelling Outcomes for Electoral Systems*, Lewis Baston, Aug 2022
6. *Criteria for good voting systems*, Denis Mollison, Sep 2022