



MIXED ELECTORAL SYSTEMS: DESIGN AND PRACTICE

ANDREW ELLIS

Thirty years on from its initial democratic transition and after several changes of system, Mongolians are still seeking to improve the electoral process by addressing the mechanism for converting votes cast in elections to seats gained in the Great Hural. There is particular interest in mixed systems.

The report seeks neither to advocate, nor to discourage the adoption of a mixed system: that is a decision for Mongolians. Instead, it describes the detailed design choices that flow from the adoption of a mixed system, and illuminates their possible effects both generally and in the specific Mongolian context.

The fundamental feature of mixed electoral systems is in the name: they have two or more components. One of these components is a majoritarian electoral system. First Past The Post (FPTP) is the most common, although Block Vote (BV) or the Two Round System (TRS) can also be used. The second component is a system of proportional representation (PR), almost always in practice List PR.

This report is a response and a contribution to the current political debate in Mongolia regarding potential changes to the electoral system.

PARALLEL OR MIXED MEMBER PROPORTIONAL?

There are two basic forms of mixed electoral system. In a Parallel system, the two components of the system are separate and independent of each other. The number of seats elected in each, and consequently the total number of members elected, is fixed.

The overall result of an election under a Parallel system is the sum of the results from a majoritarian, and thus likely to be disproportional, component, and the results from a proportional component. A Parallel system is almost certain to reduce overall disproportionality compared to a solely majoritarian system, but unlikely to achieve overall proportionality of representation in the legislature.

In a Mixed Member Proportional (MMP) system, the aim is to achieve overall proportionality, so the two components of the election are linked. The results of the majoritarian component are determined first, and the seats in the List PR component are then allocated in order to create party totals that are proportional overall. Demonstrations of how the two approaches operate in practice are included in Annex 1.

As of August 2022, 23 countries and territories worldwide used a Parallel system, and a further nine used an MMP system. Detailed information about the design and functioning of the electoral system in a selection of these countries and territories is included in Annex 2 under 'Comparator mixed systems'. This selection excludes authoritarian states, micro-states, countries in conflict, countries where the purpose of the PR component is to create a mechanism for gender or group representation, and countries for which full information cannot be readily accessed. In addition, the version of MMP used by the Scottish Parliament is shown. Details of the Parallel system enacted in Mongolia in 2011 and used in the 2012 election are also included for comparison.

Under all electoral systems, exactly what happens in practice depends on details down to the smallest level, many of which are consequences of design choices. These choices are sometimes the result of conscious debate and decision making. They may however also be the outcome of a lack of understanding of their significance, a lack of consideration or simply a carry-over from previous practices. These design choices include:

- [The balance between majoritarian and PR seats](#)

Where the purpose of the mixed system is to facilitate the inclusion of significant political forces, the two components

of the mixed system are usually quite similar in size. In all the comparator countries, the ratio of the larger to the smaller component is less than 2:1. When a Parallel system is used, the higher the percentage of seats given to the List PR component, the closer the full result will be to overall proportionality.

When an MMP system is used, the basic principle is that the full result will show overall proportionality. However, it is possible for parties to win more majoritarian seats than they would be entitled to under overall proportionality. Such excess seats are called 'overhang seats' and increase the size of the legislature from its base figure. When this happens, overall proportionality will not be achieved, as parties with overhang seats will be overrepresented. The possibility of overhang seats rises as the percentage of the total seats elected by List PR falls. It also rises when the average number of members from each List PR district falls, for example, through a change from a single national list to several subnational lists.

In response, it is possible—and may be constitutionally required, as was ruled in 2013 in Germany—to introduce a compensatory balancing mechanism that gives additional seats to the underrepresented parties and returns the overall result to proportionality. This further increases the size of the legislature; and this increase may be substantial, especially if the balancing mechanism operates in the context of subnational districts where party support varies substantially between the districts.

In order to avoid increasing the total size of the legislature, one possible alternative is to make a corresponding reduction in the number of seats in the List PR component. A second possibility is to use the Additional Member System (AMS) version of MMP, which is discussed further below. Either option tends to take the overall result further away from proportionality, although this effect may be less pronounced under AMS.

- [The level and size of the List PR districts](#)

List PR may use a single nationwide district or a number of subnational districts, usually defined to match existing institutional or administrative divisions at subnational level. The latter could create potential for the elected list members to represent a subnational identity, or indeed to build practical working links with subnational structures of governance.

In comparator countries, subnational List PR districts are only found in countries with large legislatures, such as Germany,

Italy and Japan. The average number of List PR seats per subnational district (6 in Italy, 19 in Germany, 16 in Japan) enables the representation of a spread of parties in each district. In countries with relatively small legislatures, it is not possible to ensure such political diversity at subnational district level.

- [The criterion of eligibility for List PR seats](#)

A significant aim of List PR is the proportional inclusion of support for the ideologies, policies or strands of opinion professed by different political groups. It is therefore normal practice (as illustrated in all the comparator countries) that eligibility for seats in the List PR component is restricted to political parties. It is also much simpler if only parties are included, even though it is technically feasible to design a mechanism that enables independent candidates to participate in the List PR component.

- [The number of ballot papers used](#)

For both Parallel and MMP systems, the existence of two components of the election is usually reflected in a requirement for the voter to fill in two separate ballots: one for the majoritarian election and one for the PR election. These may appear either on two separate ballot papers or next to each other on the same piece of paper. (In the latter case, the voter casts a separate vote in each ballot and it is therefore still considered to be two ballot papers.) It is possible, however, although less common, for the voter to just cast one vote on a single ballot paper that is counted for the chosen majoritarian candidate(s) and also automatically for the party represented by the candidate(s).

- [The mechanism used to count the List PR vote](#)

There are essentially two options:

- Largest Remainder (LR), in which a quota of votes needed to win a single seat is calculated, seats are allocated to parties that have polled one or more full quota, and the rest of the seats are given to those parties where the remaining votes represent the highest fraction of the quota. The Hare quota, under which the total of valid votes cast is divided by the number of seats to be allocated, is the most common option. It is used in its simple form by all the comparator countries that use LR except Germany.

The German LR system is also based on the Hare quota, but has an additional and more complex feature. When the remainders have been calculated, those which exceed half of the quota are rounded up and those that are less than half of the quota are rounded down. In the majority of cases, this produces the same result in seats as use of the simple Hare quota. However, the remainders will on occasion fall in such a way that the resulting total of seats is not equal to the number of seats to be elected. In such cases, the quota is then varied in order to make the two figures match.

- Highest Average (HA), in which a seat is allocated at each sequential stage of the count to the party with the highest vote at that point, and that party's vote is correspondingly reduced by dividing it by one of a series of pre-set factors. The two most common sets of divisors used are those of d'Hondt, 1, 2, 3..., found in Japan; and those of Sainte-Laguë, 1, 3, 5..., found in New Zealand.

Slides to demonstrate how LR Hare, HA d'Hondt and HA Sainte-Laguë operate in practice are included in the attached examples and resources file Annex 1.

HA d'Hondt is by its nature more favourable to larger parties than HA Sainte-Laguë. LR Hare is usually, but not always, a little more helpful to small parties than HA Sainte-Laguë.

The scale of the effect of this choice is heavily dependent on context. The differences that will arise are usually clear but relatively limited in scale, but there are exceptions. An extreme illustration was provided by Tunisia, where List PR is used to elect the entire legislature and the largest single party polled 37% of the vote in 2011. LR Hare gave that party 41% of the seats, leading to interparty discussion in the assembly. HA Sainte-Laguë would have given it 55% of the seats, and enabled it to form a government on its own. HA d'Hondt would have given it 69% of the seats, and enabled it not only to form a government but also to amend the constitution acting alone.

The use of HA enables the construction of an MMP design that guarantees that the number of seats in the legislature can remain fixed, which may be politically desirable or even constitutionally necessary. This version of MMP is called the Additional Member System and is used to elect the Scottish Parliament. After results in the majoritarian seats have been counted, the List PR HA count uses an initial divisor for each party that is determined by the number of majoritarian seats it has already won. For

example, before any List PR seats are allocated, the initial vote of a party with one majoritarian seat would be divided by 2 under HA d'Hondt, and by 3 under HA Sainte-Laguë. Similarly, the initial vote of a party with two majoritarian seats would be divided by 3 under HA d'Hondt, and by 5 under HA Sainte-Laguë: and so on. Overhang seats do not arise using this mechanism.

- [The choice between closed and open list PR](#)

With Closed List PR, parties determine who appears on their list and in what order, possibly subject to legislative provisions regarding, for example, gender representation. With Open List PR, voters choose a candidate from those nominated by their party of choice.

In systems that use Closed List PR, putting together a party's list of candidates is in the hands of the party structures, although party nominations may be constrained by legal requirements related to gender and/or minority representation. This nomination process might be regulated, usually by the inclusion in the law on political parties of requirements for some form of internal democratic process involving members, and/or of provisions on controlling the use of money to buy a high position on a party list.

Open List PR enables the voters to express a preference not only for a party, but also for a particular candidate of that party. A candidate who gains enough individual support from the voters moves to the top of the party list. In the Netherlands, the qualifying level is 25% of the LR Hare quota; in the Czech Republic, it is 5% of the total vote for the candidate's party. If the qualifying level is set too high, Open List will lead to few if any changes in the results, and may thus be seen as something of an illusion. Designers must also consider the potential impact of effective Open List provisions on provisions on gender and minority representation in nominations.

- [The existence of a formal threshold for representation in the legislature](#)

To discourage party splintering, many countries that use mixed systems of either kind also establish a formal threshold or minimum percentage of the vote required for a party to gain representation. Only parties that exceed this threshold qualify for seats in the List PR component. The most common level of formal threshold in the comparator countries is 5% of the total nationwide valid vote (Germany, Kyrgyzstan, Lithuania and New

Zealand), although 3% is also an established option (Italy and Japan). Additional refinements may be added, such as a higher threshold for coalitions of parties (Italy) and/or a provision that the threshold is automatically passed if a party wins a small number of majoritarian seats (Germany and New Zealand).

It is important to appreciate that a 'hidden' threshold effect exists in all List PR systems regardless of whether a formal threshold exists. This effect is determined by district magnitude. For example, to be guaranteed a List PR seat when an LR mechanism is used, a party must poll a single quota. If LR Hare is used, if a district elects ten members, this quota is 10%, if it elects five members the quota is 20% and if it elects four members it is 25%. A party that polls less than a quota has only a remainder. It may still win a single seat, but this depends on how the complete set of remainders falls.

A particular possible political outcome from a formal threshold can be noted from experience in Germany. If during an election campaign it is doubtful whether a particular smaller party will exceed the threshold, a larger party that sees that party as a potential future governing coalition partner might encourage some of its own supporters to vote for that smaller party to ensure that it clears the threshold and will be present in the legislature.

- [Out of country voting](#)

Although the introduction of out of country voting is different from and independent of the adoption of a mixed electoral system, it does have administrative implications that impose constraints on its operation. Comparator countries with limitations on their administrative capacity have decided not to use out of country voting at all (Nepal), or to restrict it to only a small group, such as diplomats, their dependants and their employees (Lesotho). However, other comparator countries permit out of country voting by any out of country person who is qualified to register as an elector.

The first choice to be made is whether to restrict out of country voting only to the List PR component, for simplicity of administration. Where the List PR component contains a single nationwide district, every out of country voter receives only the single national ballot paper, as in Kyrgyzstan. In Japan, however, the exclusion of out of country voters from receiving majoritarian component ballot papers was held invalid by the Supreme Court.

The more common practice is for out of country voters to participate fully by voting in both components of the mixed system, which makes it necessary to allocate a majoritarian district to each elector. Italy deals with this by creating a special overseas component with four overseas electoral zones using List PR. Other comparator countries either allocate overseas electors to the last electoral district in which they were resident in-country (Germany, Japan, New Zealand) or include all of them in the electoral district where the parliament building is located (Lithuania).

Whichever choice is made, the available administrative resources and capacities must be able to ensure that each elector receives the correct ballot paper for their district, and that this ballot paper can then be transported to and included in the correct count. Polling stations in embassies or consulates, postal voting and online voting are all possibilities. Each raises questions of training, infrastructure, facilities and voter education, and postal voting in particular imposes constraints on the electoral timetable.

THE MONGOLIAN CONTEXT

It is possible to explore the effects of the potential choices now facing Mongolia by simulating election results based on the actual votes cast, using different combinations and values of the detailed features discussed. Sufficient data is available from the two most recent general elections, of 2016 and 2020, to enable this.

It is important to recognize the limitations of this tool. It shows what would have happened if a different system had been in place and the same votes had been cast. It cannot take into account the fact that if the election had taken place using a different electoral system, voters, parties and candidates may all have perceived different incentives and dynamics, and therefore acted in different ways. It also requires assumptions and estimates to be made when constructing the options, for example on the definition of seats in a simulated majoritarian component. The tool does, however, make it possible to assess the sort of effect a possible choice or option might have in the Mongolian context, and to provide an indication of the scale of such an impact, showing the likely change in representation that might result when the option involves choosing from a range of different numbers, values or magnitudes.

Simulations based on both the 2016 and the 2020 general election results can be found in Annex 2. For each of these two elections,

there is a results page (GE) and a page containing the details of the simulation (Simulations). For 2020, there is an additional page showing the detailed workings of the highest average mechanism (HA seats 2020). Finally, Annex 2 contains a summary page (Simulations summary) showing the simulated outcomes of one Parallel and one MMP option based on the 2016 results, and of 16 options based on the 2020 results created to show the effects of major design choices both individually and in combination. It is, of course, possible to specify and construct additional simulations based on further combinations of design choices. The majoritarian system used for all the simulations is based on that of 2012.

The base framework defines 47 majoritarian seats (62% of the total) using the 29 electoral districts of 2020, allocating two seats using Block Vote in the 18 districts that currently elect three members, and one seat using FPTP in the 11 districts that currently elect two members. In this 47/29 split, the List PR component of 29 seats is based either on a single nationwide district, or on four subnational districts that have been created for illustrative purposes. The effects of a 38/38 even split and of 29 majoritarian and 47 PR seats (a 29/47 split) are also explored.

The effect of a mixed system

- In both 2016 and 2020, the expected effects of adding a List PR component arise. The outcomes of the MMP options approach proportionality much more closely than the outcomes of the Parallel options. However, even the most proportional MMP systems do not achieve perfect proportionality, essentially as a consequence of 14% of the vote in 2016 and 12% of the vote in 2020 going to a wide variety of independent candidates.
- In 2020, under Block Vote, the largest party polls 51% of the votes cast for candidates affiliated to parties and gains 82% of the seats. When a mixed system is simulated using one nationwide district for the List PR seats and LR Hare (the mechanism used in Mongolia in 2012 for the List PR component), the seat share shown for the largest party in 2020 is 72% under the Parallel system with a 47/29 split, falling to 67% with a 29/47 split. Under MMP, it is 51%, matching the party's share of the vote cast for party candidates. The details for the Parallel system are found in Annex 2 in the simulations numbered 1, 2 and 3, and for MMP in those numbered 6 and 7.

The balance between majoritarian and PR seats

- In a Parallel system, different values of the ratio of majoritarian to proportional seats produce the expected changes in seats won by the parties. As the proportional element of the system gets larger, the full result moves further towards overall proportionality and smaller parties in particular gain a greater voice.
- However, in any mixed system, if the number of majoritarian seats is reduced, the electorate of individual majoritarian seats increases. While the precise effect of this depends on the detailed assumptions used to create the simulated majoritarian seats, it becomes progressively more difficult for independents to win majoritarian seats. At the same time, the usual practice is that only political parties contest the List PR component. In Mongolia, a system in which it is already difficult for independents to win (only one did so in 2020) is changed to one where it becomes highly unlikely for this to happen at all. Further detailed illustration of this effect is found in Annex 2 in the simulations numbered 1, 2 and 3.

National or subnational List PR districts

- The level of government below national level in Mongolia is the aimag. This would not be a practical subnational level for the List PR component of a Parallel system as most if not all aimags would qualify for just one list member. It is by definition impossible to achieve any kind of proportionality when just one seat is available: the seat is taken by the winner.

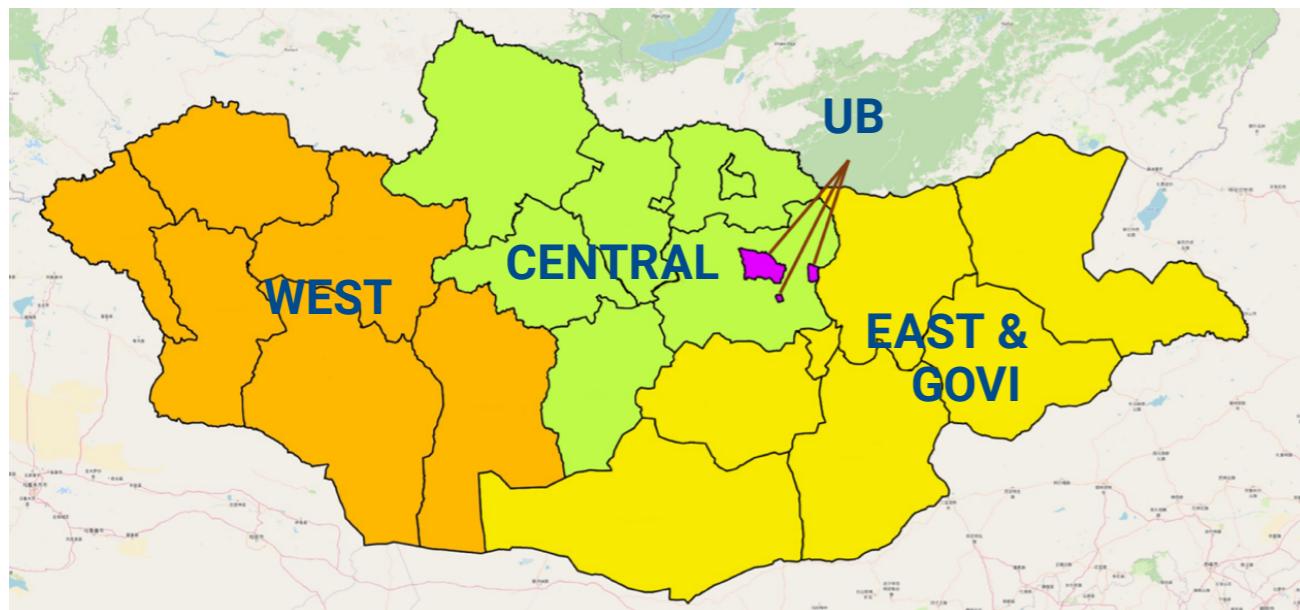


Illustration of the four subnational districts used in the simulations created using the Electoral Redistricting App (era.idea.int)

It would however be feasible to define larger subnational districts by combining aimags. The simulations for 2020 demonstrate this, using an illustration in which the whole of Ulaanbaatar forms one subnational district and the rest of Mongolia is divided into three further districts. Further detailed illustration is found in Annex 2 in the simulations numbered 12, 13 and 14 for the Parallel system, and in those numbered 15 and 16 for the MMP system.

This set of four districts—or indeed any alternative illustrative set of larger subnational districts—does not represent any current institutions or structures on the ground, which would be a clear potential weakness if this approach were adopted in practice. It would however be possible to create a similar illustrative simulation to accompany any existing or future proposal for administrative devolution, such as the five districts proposed in 2001.

The mechanism used to count the List PR vote

- The expected differences between LR and HA mechanisms appear in the simulated results. They are clear but relatively limited in scale. HA d'Hondt delivers a noticeable benefit to the largest party. LR Hare is clearly more effective than either HA mechanism in ensuring the representation of the smaller parties. Using either HA mechanism, representation of smaller parties is reduced when the four smaller districts in the subnational model replace the single nationwide district—a change that does not occur when LR Hare is used. Further detailed illustration is found in Annex 2 in the simulations numbered 1, 4 and 5 for the Parallel system, and in those numbered 6, 7, 8 and 9 for the MMP system.
- Under MMP, the overhang seats that are likely to accompany the existence of a strong party with about half the vote appear, as do the effects of balancing mechanisms. Using LR Hare in one national List PR district, the largest party wins two overhang seats. If a balancing mechanism is added, two further seats are added, bringing the increase in the size of the legislature to 5%. With the four subnational districts, 16 additional seats are required to achieve overall proportionality, an increase of 21% in the size of the legislature. Further detailed illustration can be found in Annex 2 by comparing the simulations for the MMP system numbered 6 and 7 with those numbered 15 and 16.
- Using HA Sainte-Laguë in MMP with one national List PR district, the largest party wins two overhang seats. However,

there is only one overhang seat when HA d'Hondt is used. Further detailed illustration is found in Annex 2 in the simulations for the MMP system numbered 8 and 9.

- MMP using the Additional Member System is the only version of MMP that elects exactly 76 members of the legislature. The results obtained are slightly less proportional than those derived from the other versions of MMP.

The choice between Closed and Open List PR

- It is difficult to address the choice between Closed and Open List PR without a level of analysis beyond the scope of this paper. However, a rough measure of the demand by voters for candidate choice can be derived from the 2020 results by considering the extent of ticket splitting in the majoritarian Block Vote constituencies. It is straightforward to compare the highest and lowest votes polled by candidates on the same party ticket, where this consists of either two or three candidates.

The comparison shows that the lowest polling candidate of the two biggest parties polled on average more than 70% of the vote of her/his most successful colleague; for the two smallest parties, this figure was less than 40%. It is also evident that voters' desire to split the ticket is considerably stronger in Ulaanbaatar. The smaller parties are stronger in Ulaanbaatar but it is not clear whether this Ulaanbaatar effect causes the small party effect, whether the reverse is true or whether both effects exist alongside each other. These questions would require significantly deeper analysis.

This focuses attention on the electoral system chosen for the majoritarian component. With a 47/29 split between the majoritarian and PR components, and to a more limited extent with a 38/38 split, there will be two majoritarian seats in many aimags. There is therefore a choice between defining two FPTP seats or using Block Vote for a two-member seat. The options in the simulations mostly use Block Vote, following practice in the 2020 election and in the majoritarian component of the 2012 election.

In an environment where loyalty to party is very strong, Block Vote is a system that hands enormous advantages to large parties. Where party loyalty is less strong, it might be sensible to consider whether Block Vote could, by facilitating ticket splitting, in practice facilitate the greater inclusion of

independents and of locally strong individual candidates representing the smaller parties. This might be an issue that it is desirable to revisit over time, as the strength of electoral loyalty to party—and the underlying issue of the level of party institutionalization—could change in response to the two choices between a Closed List or an Open List and between FPTP or Block Vote.

The existence of a formal threshold for representation in the legislature

- In neither 2016 nor 2020 did the smallest party poll less than 5% of the party vote nationwide. If there had been a formal threshold in force, it would have had no direct effect.

If the List PR component consists of 29 seats in a single nationwide district, the quota using the LR-Hare mechanism would be $1/29 = 3.45\%$. A party with this level of support would be guaranteed a seat: a party polling just under 2% would stand a roughly even chance of winning a seat. A party polling less than 1% would be unlikely to do so.

Out of country voting

- If out of country voting were to be introduced alongside any mixed system, an assessment of administrative capacities and resources would be necessary to ensure they are sufficient to meet the requirements created by the details of the chosen electoral system. For more information about out of country voting and its practices around the world, see International IDEA's publications "[Voting from Abroad](#)" and "[Out-of-country voting: Learning from Practice](#)", as well as the "[Voting from Abroad database](#)".

Malapportionment

- Malapportionment is built into the Mongolian electoral system, although it appears no longer to be required by legislation as was previously the case. In 2020, there were 37,266 electors per seat in Ulaanbaatar, compared to 21,274 in the rest of the country. The natural effect of this is to advantage parties with percentage votes in Ulaanbaatar that are lower than in the rest of Mongolia, and disadvantage parties with percentage votes in Ulaanbaatar that are higher than in the rest of Mongolia. The representation of parties with percentage votes in Ulaanbaatar and percentage votes in the rest of Mongolia that are very similar is unlikely to have been affected. Stakeholders can

experiment with alternative electoral district boundaries that might address malapportionment using International IDEA's latest tool, the Electoral Redistricting App (ERA).

ELECTORAL SYSTEM DESIGN IN THE CONSTITUTION

Legal instruments would need to be enacted to put provisions for a new electoral system into practice. The question arises as to what should go into the constitution and what should go into the electoral law and its subsidiary regulations.

The global practice is that constitutions almost always contain provisions that establish an elected legislature and specify its size. However, most leave the definition of the electoral system to legislation, often by means of a specific provision requiring an electoral law.

The common view is that specifying the electoral system in the constitution, especially at a time of political flux and transition, might make it overly difficult to make amendments later, even if they are of a minor nature. The need for a supermajority—or a different kind of high threshold—to pass a constitutional amendment could by itself make building enough support a challenge. More challenging still can be a political dynamic derived from a constitutional settlement that has been the result of negotiation and compromise. Even those actors who perceive the benefit of a proposed amendment might be reticent when faced with the possibility that reopening constitutional debate could undermine agreements reached on difficult constitutional issues unrelated to the electoral system.

There are, however, a few examples of constitutions that contain detailed specifications on the electoral system. These include Mexico's mixed Parallel system, Nigeria's use of FPTP and the mixed Parallel system in the Philippines, the major component of which is FPTP. Also worth noting is the Constitution of Georgia, which defines a unicameral legislature elected by a system of proportional in a single multi-member district for the period until Georgia recovers control over all of its territory. At this point, the legislature will become bicameral, the electoral system will remain proportional but the provision on a single multi-member district disappears.

Constitutional provisions that specify the electoral system family to be used but leave the detail to legislation could be worthy of consideration. In addition to the long-term provision in Georgia, further examples exist in Poland and South Africa.

SUMMARY

- Any discussion of electoral system design is **fundamentally an issue of priorities**. Mixed electoral systems are well established as options within the range of electoral systems. They are intended to bring together the perceived advantages of majoritarian and proportional electoral systems.
- Successful electoral system design recognizes that **the devil is in the detail**. Lack of clarity on exactly how the system will work can be a recipe for electoral disputes and consequent damage to legitimacy and credibility. It is rarely if ever appropriate to leave issues unclear in order that two parties to a difficult negotiation can offer different explanations and interpretations of what is meant.
- It is often good practice to **outline the broad elements of the electoral system at the constitutional level** in order to promote certainty. It is usually **less desirable to put great detail in constitutional form**. Much of this can be included in the electoral law, with additional clear provisions that give the electoral authorities power to develop implementing regulations.
- **Once the decision to adopt a mixed system—either Parallel or MMP—has been made, many more decisions must follow**. Some are part of the process of defining the electoral system itself—the balance of seats between the majoritarian and List PR components, the counting mechanism for the List PR component, the choice between a closed or an open list and the possibility of a threshold. Others relate to external parts of the electoral framework, such as organization of the electoral administration to manage both components of the system, and the effect on other parts of the electoral framework such as out of country voting.
- **There are no universal right answers** to electoral system design. What works well in one context might work very differently in another. It is rarely wise to 'fly in an electoral system in a flatpack box' and assume that it will work the same way as it did where it came from, or indeed at all.
- It is however essential that whatever priorities are determined and whatever electoral system is chosen, there is **continuing transparency, discussion and communication** between electoral administrators and electoral stakeholders and **a commitment to ongoing civic and voter education**.

ANNEX 1. MIXED ELECTORAL SYSTEMS: SIMPLE EXAMPLES AND RESOURCES

One sort of mixed system: Parallel

- A Parallel System has two different and separate elements
- Some representatives are elected through a plurality/majority system, others through a PR system
- There can be one ballot paper on which the voter chooses a candidate associated with a party – or two ballot papers, one for the constituency candidates and one for the party choice.

Parallel System example (1)

	Cons- tituency MPs	% of vote	List MPs	Total MPs
Party A	24	40%		
Party B	6	16%		
Party C	10	24%		
Party D	20	20%		
Total	60	100%		100

Parallel System example (2)

	Cons- tituency MPs	% of vote	List MPs	Total MPs
Party A	24	40%	16	
Party B	6	15%	6	
Party C	10	25%	10	
Party D	20	20%	8	
Total	60	100%	40	100

Parallel System example (3)

	Constituency MPs	% of vote	List MPs	Total MPs
Party A	24	40%	16	40
Party B	6	15%	6	12
Party C	10	25%	10	20
Party D	20	20%	8	28
Total	30	100%	20	100

Another sort of mixed system: MMP

- A Mixed Member Proportional (MMP) system has two different elements which are linked.
- Some representatives are elected through a plurality/majority system, others through a List PR system.
- The List PR system is used to compensate for the disproportionality in the results from the plurality/majority system.
- Needs strong parties to work!
- There can be one ballot paper on which the voter chooses a candidate associated with a party – or two ballot papers, one for the constituency candidates and one for the party choice.

MMP System example (1)

	Cons- tituency MPs	% of vote	List MPs	Total MPs
Party A	24	40%		
Party B	6	15%		
Party C	10	25%		
Party D	20	20%		
Total	60	100%		100

MMP System example (2)

	Cons- tituency MPs	% of vote	List MPs	Total MPs
Party A	24	40%		40
Party B	6	15%		15
Party C	10	25%		25
Party D	20	20%		20
Total	60	100%		100

MMP System example (3)

	Constituency MPs	% of vote	List MPs	Total MPs
Party A	24	40%	16	40
Party B	6	16%	10	16
Party C	10	24%	14	24
Party D	20	20%	0	20
Total	60	100%	20	100

Mechanisms for counting List PR

Largest Remainder List PR

- Seats depend on quotas of votes
- Hare quota: divide total vote by number of seats
- Examples: Cambodia, Indonesia, Tunisia
- 100 votes, 4 seats: 25 votes win a seat
- Droop quota: divide total vote by number of seats + 1
- Example: South Africa
- 100 votes, 4 seats: 20.01 votes win a seat (5 parties cannot all achieve this)
- Final seats allocated according to votes (less than a quota for every party) which remain
- Very approximate rule of thumb: a party needs half a quota of votes to have a 50/50 chance of winning a seat

Largest Remainder Method: Hare Quota

$$\text{Quota (Q)} = \frac{\text{Total Votes}}{\text{Total Seats}} = \frac{180,000}{9} = 20,000$$

Total seats	Seats won with remainder	Remainder	Seats won with quota	Votes	Party
3	0	6000	3	66000	A
3	0	2000	3	62000	B
2	1	9000	1	29000	C
1	0	3000	1	23000	D
9	1		8		Total

Highest Average List PR

- **D'Hondt method:** total vote divided by 1, then 2, then 3, then 4...
- If 300 votes wins the first seat, then 150 wins the second, 100 the third, 75 the fourth...
- Examples: Belgium, Mozambique, Timor Leste
- **Sainte-Laguë method:** divide total vote by 1, then 3, then 5, then 7...
- If 300 votes wins the first seat, then 100 wins the second, 60 wins the third...
- Examples: Latvia, Norway, Sweden
- More favourable to large parties than Largest Remainder – especially D'Hondt Method

Highest Average Method: d'Hondt

Formula: Votes divided by 1, 2, 3, 4, 5

Party	Votes									Total seats
A	66000	33000	33000	22000	22000	22000	22000	16500	16500	4
B	62000	62000	31000	31000	20666	20666	20666	20666	15500	3
C	29000	29000	29000	29000	29000	14500	14500	14500	14500	1
D	23000	23000	23000	23000	23000	23000	11500	11500	11500	1
Total	180000									9

Highest Average Method: Sainte-Laguë

Formula: Votes divided by 1, 3, 5, 7

Party	Votes									Total seats
A	66000	22000	22000	22000	22000	13200	13200	9428	9428	3
B	62000	62000	20666	20666	20666	20666	12400	12400	7857	3
C	29000	29000	29000	9666	9666	9666	9666	9666	9666	2
D	23000	23000	23000	23000	7666	7666	7666	7666	7666	1
Total	180000									9

Comparison of Results

	Party A	Party B	Party C	Party D
	Votes			
	66000	62000	29000	23000
	Seats			
LR - Hare	3	3	2	1
HA - D'Hondt	4	3	1	1
- Sainte-Laguë	3	3	2	1

Legitimacy

- The fundamental test of any electoral system is whether the people regard the legislature that is elected as credible, legitimate and reflecting the will of the people

Keeping one step ahead

- The bad guys are always trying to find a way to use the rules to their advantage and to find ways round them – and there is no perfect system that will stop them
- Electoral framework design needs to keep in front – a permanent leapfrog exercise

Beware

The detailed workings of every electoral system depend on the country context. If you fly a system in, take it out of the box and assemble it, it probably won't do quite what you want!

ANNEX 2: MIXED SYSTEM RESOURCES AND SIMULATIONS

Examples of mixed electoral systems

Parallel System

Countries	Majoritarian component			PR component			Other seats	Details	Number of ballot papers	PR component								Voting arrangements for out of country residents					
	Maj. seats	Maj. System	%	PR seats	PR System	%				Participants	List PR Threshold	Open/closed list	Level of district(s)	Number of districts	District magnitude			Notes	Who	For where	Which elections	How	Notes
															Av.	Min.	Max.						
Italy	232	FPTP	36.8%	386	List PR - LR Hare	61.3%	12	Overseas seats: List PR, open list	1	Only parties	3% nationally for parties: 10% for coalitions	Closed	Subnational	63	6.1	4	9	Except that one district has only a single member. Some commentaries give district size between 3 and 8, but the actual results contain these figures	Any qualified elector	One of four zones within overseas section	Overseas component	Issued by and posted back to embassy/consulate	Also option to register to return to Italy to vote in last electoral district of residence
Japan	289	FPTP	62.2%	176	List PR - HA d'Hondt	37.8%			2	Only parties	No	Closed	Subnational	11	16.0	6	30		Any qualified elector	Last electoral district of residence	Both components	Polling at embassy/consulate OR issued by and posted to responsible EMB in Japan	PR component only until 2005 Supreme Court decision ruled this invalid
Kyrgyzstan	36	FPTP	40.0%	54	List PR - LR Hare	60.0%			2	Only parties	5% nationally and 0.5% in each of the 9 districts	Open	National	1				No party may win more than 27 of the PR seats	Any qualified elector	Nationwide	PR component only	Polling at embassy/consulate	
Lithuania	71	TRS	50.4%	70	List PR - LR Hare	49.6%			2	Only parties	5% nationally	Open	National	1					Any qualified elector	Electoral district where Parliament is located	Both components	Polling at embassy/consulate OR issued by and posted back to embassy/consulate	
Nepal	165	FPTP	60.0%	110	List PR - HA Sainte-Laguë with modified divisors	40.0%			2	Only parties	3% nationally	Closed	National	1					None				
Mongolia 2012	48	BV	63.2%	28	List PR - LR Hare	36.8%			2	Only parties	5% nationally	Closed	National	1				BV in 26 districts. Winning candidates in BV seats required to have polled over 28%. One physical ballot paper containing separate ballots for the BV and List PR votes.	None				

MMP System

Countries	Majoritarian component			PR component			Number of ballot papers	Participants	List PR Threshold	Open/closed list	Level of district(s)	Number of districts	PR component					Voting arrangements for out of country residents				
	Maj. seats	Maj. System	%	PR seats	PR System	%							District magnitude	Overhang and balance seats		Notes	Who	For where	Which elections	How		
														Av.	Min.						Max.	at most recent election
Germany	299	FPTP	50.0%	299	List PR - customised LR	50.0%	2	Only parties	5% nationally or three FPTP seats	Closed	Subnational	16	18.7	3	91	138	138	Number of seats for each Land is determined from the count as part of the calculation of number of overhang and balance seats. Base number of seats in both FPTP and List PR categories to be reduced from 299 to 280 for next election. Balance seats introduced after system with only overhang seats held invalid by Constitutional Court in 2013	Any qualified elector	Last electoral district of residence (no more than 25 years previously)	Both components	Issued by and posted to responsible EMB in Germany
Lesotho	80	FPTP	66.7%	40	List PR - LR Hare	33.3%	1	Only parties	No	Closed	National	1				0	0		Diplomats posted overseas, their dependants and employees	Electoral district of registration	Both components	Polling at embassy/consulate
New Zealand	72	FPTP	60.0%	48	List PR - HA Sainte-Laguë	40.0%	2	Only parties	5% nationally or one FPTP seat	Closed	National	1				0	2	No requirement to balance overhang seats	Any qualified elector	Last electoral district of residence	Both components	Online OR overseas polling place OR issued by EMB and posted to overseas polling place
Scotland	73	FPTP	56.6%	56	List PR - HA d'Hondt	43.4%	2	Parties and independents	No	Closed	Subnational	8	7.0	7	7	n/a	n/a	MMP Additional Member System	None			

Mongolia General Election 2016

FPTP: 76 seats

		MPP/MAN	DP/AN	MPRP/MAKN	Total Ind	Total	Percentage	Number of candidates
1	Bayangol 1	9268	8295	3139	4316	20702		3
2	Bayangol 2	10614	6661	1731	2970	19006		3
3	Bayangol 3	6190	7477	1797	5855	15464		3
4	Bayangol 4	7672	6687	1281	7427	15640		3
5	Bayanzurkh 1	7616	6282	2357	7563	16255		3
6	Bayanzurkh 2	11408	7461	1434	2437	20303		3
7	Bayanzurkh 3	8660	4784	2446	5914	15890		3
8	Bayanzurkh 4	8985	7755	2471	6240	19211		3
9	Bayanzurkh 5	7677	8491	1616	3391	17784		3
10	Bayanzurkh 6	6574	4105	1283	14383	11962		3
11	Chingeltei 1	12704	7548	3548	6768	23800		3
12	Chingeltei 2	6590	4804	2192	3630	13586		3
13	Chingeltei 3	6058	3479	2194	5537	11731		3
14	Chingeltei 4	6844	4713	2485	6586	14042		3
15	Khan-Uul 1	6331	5548	2296	4511	14175		3
16	Khan-Uul 2	9648	5517	1006	4040	16171		3
17	Khan-Uul 3	4318	5296	1667	6403	11281		3
18	Khan-Uul 4	5688	5174	2308	3038	13170		3
19	Songinokhairkhan 1	9241	5166	2127	6804	16534		3
20	Songinokhairkhan 2	9486	5753	2436	2477	17675		3
21	Songinokhairkhan 3	9577	4132	2014	2536	15723		3
22	Songinokhairkhan 4	8106	5659	3455	5240	17220		3
23	Songinokhairkhan 5	9673	6277	7360	2780	23310		3
24	Songinokhairkhan 6	12190	7883	2844	1284	22917		3
25	Sukhbataar 1	8043	5084	1202	3048	14329		3
26	Sukhbataar 2	8299	5146	1197	3058	14642		3
27	Sukhbataar 3	7340	5570	1464	2228	14374		3
28	Sukhbataar 4	8233	7834	1621	4839	17688		3
29	Arkhangai 1	9817	6434	167	496	16418		3
30	Arkhangai 2	7036	4816	945	797	12797		3
31	Arkhangai 3	9704	5252	886	0	15842		3
32	Bayankhongor 1	7138	6491	216	240	13845		3
33	Bayankhongor 2	6845	6747	344	200	13936		3
34	Bayankhongor 3	7900	7679	226	188	15805		3
35	Bayan Olgii 1	8441	7992		0	16433		2
36	Bayan Olgii 2	8143	7129		597	15272		2
37	Bayan Olgii 3	6880	7251	924	0	15055		3
38	Bulgan	16329	10293	1595	1230	28217		3
39	Darkhan-Uul 1	6553	3128	452	5344	10133		3
40	Darkhan-Uul 2	6716	3640	2145	1871	12501		3
41	Darkhan-Uul 3	6320	4209	1399	2609	11928		3
42	Dornod 1	8964	7311	2073	0	18348		3
43	Dornod 2	8094	4454	749	3716	13297		3

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		MPP/MAN	DP/AN	MPRP/MAKN	Total Ind	Total	Percentage	Number of candidates
44	Dornogovi 1 - Govisumber	8900	6040	777	171	15717		3
45	Dornogovi 2	15606	5543	778	425	21927		3
46	Dundgovi	6437	6559	3115	6263	16111		3
47	Govii-Altai	14439	9814	239	3772	24492		3
48	Khentii 1	6623	4885		309	11508		2
49	Khentii 2	6232	4246	436	810	10914		3
50	Khentii 3	5841	5426	1050	0	12317		3
51	Khovd 1	4050	4342	368	2502	8760		3
52	Khovd 2	6602	5370	1356	199	13328		3
53	Khovd 3	7914	7757	453	193	16124		3
54	Khovsgol 1	10711	7290	362	797	18363		3
55	Khovsgol 2	14291	7218	440	332	21949		3
56	Khovsgol 3	12075	7691	547	249	20313		3
57	Orkhon 1	5751	3413	3112	3650	12276		3
58	Orkhon 2	2882	3188	4222	4336	10292		3
59	Orkhon 3	4725	4628	1830	3660	11183		3
60	Selenge 1	7616	6550	679	2063	14845		3
61	Selenge 2	7962	4319	3962	777	16243		3
62	Selenge 3	6466	7145	1730	0	15341		3
63	Sukhbataar	16133	14402	435	234	30970		3
64	Tov 1	8289	4278	1000	526	13567		3
65	Tov 2	7896	4053	1779	0	13728		3
66	Tov 3	8154	6463	2371	0	16988		3
67	Omnogovi 1	7434	6640	1036	0	15110		3
68	Omnogovi 2	6912	6847	867	0	14626		3
69	Ovs 1	8358	7737		159	16095		2
70	Ovs 2	8021	5648		0	13669		2
71	Ovs 3	7611	5532	217	0	13360		3
72	Ovorkhangai 1	10139	6932	1058	979	18129		3
73	Ovorkhangai 2	9655	2994	449	2043	13098		3
74	Ovorkhangai 3	9391	7158	404	3196	16953		3
75	Zavkhan 1	8466	8599	2500	811	19565		3
76	Zavkhan 2	6643	7077	425	3232	14145		3
Total		636138	467191	113089	194279	1410697		498
% party vote		52.30%	38.41%	9.30%		100%		
% total vote		45.09%	33.12%	8.02%	13.77%	100%		
Seats won		65	9	1	1			
Total UB		224800	160747	61350	130464	599888	42.52%	
% party vote		50.16%	36.29%	13.55%				
% total vote		38.85%	28.10%	10.50%	22.55%	100%		
Seats won		24	3	0	1			
Total Rest of Mongolia		396462	291533	49693	55744	810809	57.48%	
% party vote		53.62%	39.72%	6.67%		100%		
% total vote		49.72%	36.83%	6.18%	7.27%	100%		
Seats won		41	6	1	0			

Mongolia General Election 2020

Block Vote: 76 seats

Elected candidates **Also elected in 47 majoritarian seats using BV and FPTP (simulations 1, 4 to 11)**
Not elected in simulations of 47 majoritarian seats using BV and FPTP (simulations 1, 4 to 11)
Average vote per candidate in 2020 of the best performing party
9 largest electorates (for simulation 2)

#		Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Total Ind.	Elect-ed Ind. candi-dates	Total votes cast	Votes cast for party candi-dates	Votes cast for Ind.	Top Ind.		
1	Arkhangai	61194	45469	21849	17155	4552	4115	518	18451							
				21478	10663	3378	1053	171	0							
				20204	10041	2545			0							
	Average party vote			21177	12620	3492	2584	345	0	117722	2.59	117722	86.5%	18451	13.5%	5.5%
	Bottom candidate as % of top			92.5%	58.5%	55.9%	25.6%	33.0%	0							
2	Bayan Olgii	59386	49993	23379	22448	6678	2679		2731							
				22662	21185	3042	757		0							
				22239	18203	2977	693		0							
	Average party vote			22760	20612	4232	2065		0	146942	2.94	146942	98.2%	2731	1.8%	1.0%
	Bottom candidate as % of top			95.1%	81.1%	44.6%	25.9%		0							
3	Bayankhongor	56574	45318	24029	21427	4517	900	313	6403							
				18790	19076	1510	780	204	0							
				18080	18490	898	315		0							
	Average party vote			20300	19664	2308	998	259	0	129329	2.85	129329	95.3%	6403	4.7%	3.6%
	Bottom candidate as % of top			75.2%	86.3%	19.9%	35.0%	65.2%	0							
4	Bulgan	40877	29499	15624	8807	2292	672	4661	2932							
				14305	8158	960	453		0							
	Average party vote			14965	8483	1626	563		0	55932	1.90	55932	95.0%	2932	5.0%	0.0%
	Bottom candidate as % of top			91.6%	92.6%	41.9%	67.4%		0							
5	Govi-Altai	37488	28376	14801	12763	1637	296	1104	323							
				14235	10620	875			0							
	Average party vote			14518	11692	1256	296	1104	0	56331	1.99	56331	99.4%	323	0.6%	0.0%
	Bottom candidate as % of top			96.2%	83.2%	53.5%			0							

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#		Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Total Ind.	Elect-ed Ind. candi-dates	Total votes cast	Votes cast for party candi-dates	Votes cast for Ind.	Top Ind.			
6	Dundgovi	40824	28066	14091	9180	1855	5802	426	4970								
				10175	7402	334	1765		0								
	Average party vote			12133	8291	1095	3784	426	0		51030	1.82	51030	91.1%	4970	8.9%	8.0%
	Bottom candidate as % of top			72.2%	80.6%	18.0%	30.4%		0								
7	Dornod	52159	36106	16798	9797	4455	2770	502	9681								
				16245	9439		2018	275	0								
	Average party vote			16522	9618		2394	389	0		62299	1.73	62299	86.6%	9681	13.4%	7.0%
	Bottom candidate as % of top			96.7%	96.3%		72.9%	54.8%	0								
8	Dornogovi	44633	31479	21238	5867	959	4572	496	4328								
				17411	5801	686	1428		0								
	Average party vote			19325	5834	823	3000	496	0		58458	1.86	58458	93.1%	4328	6.9%	4.8%
	Bottom candidate as % of top			82.0%	98.9%	71.5%	31.2%		0								
9	Zavkhan	47388	37823	18828	13539	716	9258	848	3225								
				14350	12597	585	1495	335	0								
	Average party vote			16589	13068	651	5377	592	0		72551	1.92	72551	95.7%	3225	4.3%	2.8%
	Bottom candidate as % of top			76.2%	93.0%	81.7%	16.1%	39.5%	0								
10	Ovor-khangai	74367	53286	32808	17824	4454	10077	1104	1768								
				30020	17433	2219			0								
				23560	17277	897			0								
	Average party vote			28796	17511	2523	10077	1104	0		157673	2.96	157673	98.9%	1768	1.1%	0.7%
	Bottom candidate as % of top			71.8%	96.9%	20.1%			0								
11	Omnogovi	44821	32098	15929	15239	1413	1060	406	1723								
				14059	12888	1066	301		0								
	Average party vote			14994	14064	1240	681	406	0		62361	1.94	62361	97.3%	1723	2.7%	0.9%
	Bottom candidate as % of top			88.3%	84.6%	75.4%	28.4%		0								
12	Suhbataar Aimag	40731	33052	13214	19451	925	576	278	86								
				12998	17395	553	442		0								
	Average party vote			13106	18423	739	509	278	0		65832	1.99	65832	99.9%	86	0.1%	0.1%
	Bottom candidate as % of top			98.4%	89.4%	59.8%	76.7%		0								
13	Selenge	70283	49097	22865	14678	7857	1788	670	16167								
				22583	14548	6409	879	640	0								
				19412	13499	4010	527	396	0								
	Average party vote			21620	14242	6092	1065	569	0		130761	2.66	130761	89.0%	16167	11.0%	4.9%
	Bottom candidate as % of top			84.9%	92.0%	51.0%	29.5%	59.1%	0								

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#		Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Total Ind.	Elected Ind. candidates	Total votes cast	Votes cast for party candidates	Votes cast for Ind.	Top Ind.			
14	Tov	61738	43827	18531	16125	8512	1456	1710	17972								
				15842	12427	8148	1176		0								
				14586	9649	4041	961		0								
	Average party vote			16320	12734	6900	1198		0		113164	2.58	113164	86.3%	17972	13.7%	10.0%
	Bottom candidate as % of top			78.7%	59.8%	47.5%	66.0%		0								
15	Uvs	52121	43703	22562	26644	1930	311	918	6685								
				21378	15682	1703	249	203	0								
				19221	12403	569	235	170	0								
	Average party vote			21054	18243	1401	265	430	0		124178	2.84	124178	94.9%	6685	5.1%	2.1%
	Bottom candidate as % of top			85.2%	46.6%	29.5%	75.6%	18.5%	0								
16	Khovd	54247	42910	18464	22549	4203	4697	1740	5196								
				16702	18578	3422	2621		0								
				15733	12950	1883	436		0								
	Average party vote			16966	18026	3169	2585		0		123978	2.89	123978	96.0%	5196	4.0%	2.3%
	Bottom candidate as % of top			85.2%	57.4%	44.8%	9.3%		0								
17	Khovsgol	85997	62506	33783	18111	4347	6897	1724	31652								
				29351	13099	2597	3249	1084	0								
				27931	9077	2367	1865		0								
	Average party vote			30355	13429	3104	4004	936	0		155482	2.49	155482	83.1%	31652	16.9%	9.9%
	Bottom candidate as % of top			82.7%	50.1%	54.5%	27.0%	62.9%	0								
18	Khentii	49633	35099	25356	12255	2855	437		201								
				25169	10080	1987	314		0								
				19887	6495	1619	280		0								
	Average party vote			23471	9610	2154	344		0		106734	3.04	106734	99.8%	201	0.2%	0.2%
	Bottom candidate as % of top			78.4%	53.0%	56.7%	64.1%		0								
19	Darkhan-Uul	65074	45118	24026	8933	3772	3729	2483	27198								
				22347	6231	2471	1249	2455	0								
				19824	5726	1914	923	1758	0								
	Average party vote			22066	6963	2719	1967	2232	0		107841	2.39	107841	79.9%	27198	20.1%	11.3%
	Bottom candidate as % of top			82.5%	64.1%	50.7%	24.8%	70.8%	0								
20	Orkhon	66731	45691	22621	9281	17034	3113	3022	29735	19595							
				15300	4666	7786	659	1017	0								
				14273	2547	4625	402	749	0								
	Average party vote			17398	5498	9815	1391	1596	0		107095	2.34	107095	78.3%	29735	21.7%	14.3%
	Bottom candidate as % of top			63.1%	27.4%	27.2%	12.9%	24.8%	0								

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#		Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Total Ind.	Elected Ind. candidates	Total votes cast	Votes cast for party candidates	Votes cast for Ind.	Top Ind.			
21	Bakhangai-Baganuur-Nalaiih	44540	32016	21969	4912	4348	2203	1554	2908								
				15576	4599	4023	1384	372	0								
				18773	4756	4186	1794	963	0		60940	1.90	60940	95.4%	2908	4.6%	2.3%
	Average party vote			18773	4756	4186	1794	963	0		60940	1.90	60940	95.4%	2908	4.6%	2.3%
	Bottom candidate as % of top			70.9%	93.6%	92.5%	62.8%	23.9%	0								
22	Bayanzurkh 1	109820	81697	36364	18170	4168	4087	23479	23259								
				25228	12339	3707	3740	6493	0								
				30796	15255	3938	3914	14986	0		137775	1.69	137775	85.6%	23259	14.4%	3.0%
	Average party vote			30796	15255	3938	3914	14986	0		137775	1.69	137775	85.6%	23259	14.4%	3.0%
	Bottom candidate as % of top			69.4%	67.9%	88.9%	91.5%	27.7%	0								
23	Bayanzurkh 2	111938	78045	41004	17012	4667	19237	9732	21254								
				35472	14115	4313	6368	3335	0								
				30870	13472	3437	5947	3213	0								
	Average party vote			35782	14866	4139	10517	5427	0		212194	2.72	212194	90.9%	21254	9.1%	1.7%
	Bottom candidate as % of top			75.3%	79.2%	73.6%	30.9%	33.0%	0								
24	Sukhbataar Duureg	86814	64289	25333	15403	7061	3116	11705	23649								
				23637	13061	5671	2868	11218	0								
				20584	11880	4993	2746	9540	0								
	Average party vote			23185	13448	5908	2910	10821	0		168816	2.63	168816	87.7%	23649	12.3%	2.8%
	Bottom candidate as % of top			81.3%	77.1%	70.7%	88.1%	81.5%	0								
25	Chingeltei	96639	69133	33356	12422	6226	16680	10246	39664								
				27339	9888	4493	2278	3528	0								
				23365	9012	4022	1792	2620	0								
	Average party vote			28020	10441	4914	6917	5465	0		167267	2.42	167267	80.8%	39664	19.2%	6.0%
	Bottom candidate as % of top			70.0%	72.5%	64.6%	10.7%	25.6%	0								
26	Bayangol	134872	103789	50073	27143	9229	11401	15706	66584								
				48624	17031	5301	2657	7867	0								
				26890	12607		2362	7337	0								
	Average party vote			41862	18927	4843	5473	10303	0		244228	2.35	244228	78.6%	66584	21.4%	8.3%
	Bottom candidate as % of top			53.7%	46.4%	57.4%	20.7%	46.7%	0								
27	Songino-khairkhan 1	84476	58233	32962	9105	12172	1274	6523	9730								
				24867	8709	7913	785	2078	0								
				28915	8907	10043	1030	4301	0		106388	1.83	106388	91.6%	9730	8.4%	0.0%
	Average party vote			28915	8907	10043	1030	4301	0		106388	1.83	106388	91.6%	9730	8.4%	0.0%
	Bottom candidate as % of top			75.4%	95.7%	65.0%	61.6%	31.9%	0								

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#		Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Total Ind.	Elect-ed Ind. candi-dates	Total votes cast	Votes cast for party candi-dates	Votes cast for Ind.	Top Ind.			
28	Songino-khairkhan 2	110853	81923	53651	10761	22991	4242	5621	43207								
				36785	7324	10951	2953		0								
				32031	6132	7469	1093		0								
	Average party vote			40822	8072	13804	2763	5621	0		202004	2.47	202004	82.4%	43207	17.6%	4.7%
	Bottom candidate as % of top			59.7%	57.0%	32.5%	25.8%		0								
29	Khan-Uul	114446	89034	37476	19275	12460	12557	24449	53692								
				37457	9062	5238	5086	5235	0								
				23606	7848	4561	3824	4874	0								
	Average party vote			32846	12062	7420	7156	11519	0		213008	2.39	213008	79.9%	53692	20.1%	5.4%
	Bottom candidate as % of top			63.0%	40.7%	36.6%	30.5%	19.9%	0								

#		Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	All independents	Illustrative four regional districts for simulations 12 to 16
1	Arkhangai	61194	45469	63531	37859	10475	5168	689	18451	C
2	Bayan Olgii	59386	49993	68280	61836	12697	4129	0	2731	W
3	Bayankhongor	56574	45318	60899	58993	6925	1995	517	6403	W
4	Bulgan	40877	29499	29929	16965	3252	1125	4661	2932	C
5	Govi-Altai	37488	28376	29036	23383	2512	296	1104	323	W
6	Dundgovi	40824	28066	24266	16582	2189	7567	426	4970	E&G
7	Dornod	52159	36106	33043	19236	4455	4788	777	9681	E&G
8	Dornogovi	44633	31479	38649	11668	1645	6000	496	4328	E&G
9	Zavkhan	47388	37823	33178	26136	1301	10753	1183	3225	W
10	Ovorkhangai	74367	53286	86388	52534	7570	10077	1104	1768	C
11	Omnogovi	44821	32098	29988	28127	2479	1361	406	1723	E&G
12	Suhbataar Aimag	40731	33052	26212	36846	1478	1018	278	86	E&G
13	Selenge	70283	49097	64860	42725	18276	3194	1706	16167	C
14	Tov	61738	43827	48959	38201	20701	3593	1710	17972	C
15	Ovs	52121	43703	63161	54729	4202	795	1291	6685	W
16	Khovd	54247	42910	50899	54077	9508	7754	1740	5196	W
17	Khovsgol	85997	62506	91065	40287	9311	12011	2808	31652	C
18	Khentii	49633	35099	70412	28830	6461	1031	0	201	E&G
19	Darkhan-Uul	65074	45118	66197	20890	8157	5901	6696	27198	C
20	Orkhon	66731	45691	52194	16494	29445	4174	4788	29735	C
21	Bakhangai-Baganuur-Nalaih	44540	32016	37545	9511	8371	3587	1926	2908	UB
22	Bayanzurkh 1	109820	81697	61592	30509	7875	7827	29972	23259	UB
23	Bayanzurkh 2	111938	78045	107346	44599	12417	31552	16280	21254	UB
24	Sukhbataar Duureg	86814	64289	69554	40344	17725	8730	32463	23649	UB
25	Chingeltei	96639	69133	84060	31322	14741	20750	16394	39664	UB
26	Bayangol	134872	103789	125587	56781	14530	16420	30910	66584	UB
27	Songinokhairkhan 1	84476	58233	57829	17814	20085	2059	8601	9730	UB
28	Songinokhairkhan 2	110853	81923	122467	24217	41411	8288	5621	43207	UB
29	Khan-Uul	114446	89034	98539	36185	22259	21467	34558	53692	UB

	Electorate	Valid votes	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	All independents		Electors per seat
Total	2000664	1476675	1795665	977680	322453	213410	209105	475374	3993687	26325
% of party vote			51.04%	27.79%	9.16%	6.07%	5.94%			
% of total vote			44.96%	24.48%	8.07%	5.34%	5.24%	11.90%		
Total UB	894398	658159	764519	291282	159414	120680	176725	283947	1796567	37267
% of party vote			50.54%	19.26%	10.54%	7.98%	11.68%			
% of total vote			42.55%	16.21%	8.87%	6.72%	9.84%	15.80%		
Total Rest of Mongolia	1106266	818516	1031146	686398	163039	92730	32380	191427	2197120	21274
% of party vote			51.41%	34.22%	8.13%	4.62%	1.61%			
% of total vote			46.93%	31.24%	7.42%	4.22%	1.47%	8.71%		
Total West	307204	248123	305453	279154	37145	25722	5835	24563	677872	19200
% of party vote			46.75%	42.73%	5.69%	3.94%	0.89%			
% of total vote			45.06%	41.18%	5.48%	3.79%	0.86%	3.62%		
Total Central	526261	374493	503123	265955	107187	45243	24162	145875	1091545	22881
% of party vote			53.20%	28.12%	11.33%	4.78%	2.56%			
% of total vote			46.09%	24.37%	9.82%	4.14%	2.21%	13.36%		
Total East and Govi	272801	195900	222570	141289	18707	21765	2383	20989	427703	20985
% of party vote			54.72%	34.74%	4.60%	5.35%	0.59%			
% of total vote			52.04%	33.03%	4.37%	5.09%	0.56%	4.91%		
Bottom candidate as % of top										
All Mongolia			76.8%	70.8%	49.9%	38.9%	38.4%			
UB			61.0%	62.5%	54.8%	36.8%	32.8%			
Rest of Mongolia			83.8%	74.6%	47.6%	42.3%	42.9%			
West			85.5%	74.6%	45.6%	32.4%	41.1%			
Central			81.0%	67.7%	43.6%	36.2%	41.8%			
East and Govi			86.0%	83.8%	56.3%	60.7%	54.8%			

Simulations 2016

FPTP

Total majoritarian seats
Total List PR seats
Combined total seats
Overhang seats

	MPP/ MAN	DP/AN	MPRP/ MAKN	Ind		
Great Hural: Actual seats won under FPTP 2016	65	9	1	1	76	
	85.5%	11.8%	1.3%	1.3%		
Great Hural: Seats if fully proportional to total vote	34	25	6	11	76	
	44.7%	32.9%	7.9%	14.5%		
Great Hural: Seats if party seats fully proportional to party vote	39	29	7	1	76	
	51.6%	37.9%	9.2%	1.3%		
Parallel						
BV/FPTP and List PR - LR Hare, one national List PR district						
<i>Majoritarian</i>						
18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	45	2	0	0	47	
List PR						
% of party vote	52.30%	38.41%	9.30%			
Hare quota						3.45%
	15.17	11.14	2.70			
29 seats using List PR - LR Hare	15	11	3		29	
Total Great Hural	60	13	3	0	76	
	78.9%	17.1%	3.9%	0.0%		
MMP						
BV/FPTP and List PR - LR Hare, one national List PR district						
No proportionality compensation for overhang seats						
% of party vote	52.30%	38.41%	9.30%			
Hare quota						1.32%
	39.74	29.19	7.07			
76 seats	40	29	7		76	
<i>Majoritarian</i>						
18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	45	2	0	0	47	
List seats	0	27	7		34	
Total Great Hural	45	29	7	0	81	
Overhang seats	5				5	
	55.6%	35.8%	8.6%	0.0%		

Simulated results in 47 majoritarian seats

BV/FPTP

Seats where winning party for all seats in the district appears clear
Seats with possible narrow margin between second and third candidate in the two member district

Majoritarian seats

					Members	MPP/MAN	DP/AN
1	Arkhangai	26557	16502	1998	2		
2	Bayan Olgii	23464	22372	924	2		
						MPP/MAN or DP/AN	
3	Bayankhongor	21883	20917	786	2		
4	Bulgan	16329	10293	1595	1		
5	Govi-Altai	14439	9814	239	1		
6	Dundgovi	6437	6559	3115	1		
7	Dornod	17058	11765	2822	1		
8	Dornogovi	24506	11583	1555	1		
9	Zavkhan	15109	15676	2925	1		
10	Ovorkhangai	29185	17084	1911	2		
11	Omnogovi	14346	13487	1903	1		
12	Sukhbataar Aimag	16133	14402	435	1		
13	Selenge	22044	18014	6371	2		
14	Tov	24339	14794	5150	2		
15	Ovs	23990	18917	217	2		
16	Khovd	18566	17469	2177	2		
17	Khovsgol	37077	22199	1349	2		
18	Khentii	18696	14557	1486	2		
19	Darkhan-Uul	19589	10977	3996	2		
20	Orkhon	13358	11229	9164	2		
						MPP/MAN or MPRP/MAKN	
21	Bakhangai-Baganuur-Nalaih (Chingeltei *1)	12704	7548	3548	1		
22	Bayanzurkh 1 (B 2, 3, *5)	27745	20736	5496	1		
23	Bayanzurkh 2 (B 1, 4, 6)	23175	18142	6111	2		
						MPP/MAN or Ind	
24	Sukhbataar Duureg	31915	23634	5484	2		
25	Chingeltei (C 2, 3, 4)	19492	12996	6871	2		
26	Bayangol	33744	29120	7948	2		
27	Songinokhairkhan 1 (S 1, 2, 3)	28304	15051	6577	1		
28	Songinokhairkhan 2 (S 4, 5, 6)	29969	19819	13659	2		
29	Khan-Uul	25985	21535	7277	2		
	Total	636138	467191	113089		45	2

Simulations 2020

Simulation number		MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Ind		
	Great Hural: Actual seats won under BV 2020	62	11	1	0	1	1	76	
		81.6%	14.5%	1.3%	0.0%	1.3%	1.3%		
	Great Hural: Seats if fully proportional to total vote	34	19	6	4	4	9	76	
		44.7%	25.0%	7.9%	5.3%	5.3%	11.8%		
	Great Hural: Seats if party seats fully proportional to party vote	38	21	7	5	4	1	76	
		50.0%	27.6%	9.2%	6.6%	5.3%	1.3%		
	Total majoritarian seats								
	Total List PR seats								
	Combined total seats								
	Overhang seats								
	Balancing seats								
	Regional district seats before balancing								
	Regional district seats after balancing								
	Mixed system with one national List PR district								
	Parallel								
	BV/FPTP and List PR - LR Hare, one national List PR district								
	<i>Majoritarian</i>								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	<i>List PR</i>								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	Quota							121321	
		14.80	8.06	2.66	1.76	1.72		3.45%	
	29 seats using List PR - LR Hare	15	8	2	2	2		29	
1	Total Great Hural	55	14	2	2	2	1	76	
		72.4%	18.4%	2.6%	2.6%	2.6%	1.3%		
	Parallel								
	BV/FPTP and List PR - LR Hare, one national List PR district								
	<i>Majoritarian</i>								

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	9 BV districts with two members (those with the largest electorates in 2020) and 20 FPTP districts (remaining districts). Seats awarded to party of highest polling individual candidate in 2020. If average party vote is used instead, seat totals are MPP/MAN 36, DP/AN 2	35	3	0	0	0	0	38	
	<i>List PR</i>								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	Quota								92587
		19.39	10.56	3.48	2.30	2.26			2.63%
	38 seats using List PR - LR Hare	19	11	4	2	2		38	
2	Total Great Hural	54	14	4	2	2	0	76	
		71.1%	18.4%	5.3%	2.6%	2.6%	0.0%		
	Parallel								
	FPTP and List PR - LR Hare, one national List PR district								
	<i>Majoritarian</i>								
	29 FPTP districts	27	2	0	0	0	0	29	
	<i>List PR</i>								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	Quota								74858
		23.99	13.06	4.31	2.85	2.79			2.13%
	47 seats using List PR - LR Hare	24	13	4	3	3		47	
3	Total Great Hural	51	15	4	3	3	0	76	
		67.1%	19.7%	5.3%	3.9%	3.9%	0.0%		
	Parallel								
	BV/FPTP and List PR - HA d'Hondt, one national List PR district								
	<i>Majoritarian</i>								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	<i>List PR</i>								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	29 seats using List PR - HA d'Hondt	16	9	2	1	1		29	
4	Total Great Hural	56	15	2	1	1	1	76	
		73.7%	19.7%	2.6%	1.3%	1.3%	1.3%		
	Parallel								
	BV/FPTP and List PR - HA Sainte-Laguë, one national List PR district								
	<i>Majoritarian</i>								

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	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	List PR								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	29 seats using List PR - HA Sainte-Laguë	14	8	3	2	2		29	
5	Total Great Hural	54	14	3	2	2	1	76	
		71.1%	18.4%	3.9%	2.6%	2.6%	1.3%		
	MMP								
	BV/FPTP and List PR - LR Hare, one national List PR district								
	No proportionality compensation for overhang seats: German model pre 2013								
	Majoritarian								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	List PR								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	Quota							46911	
								1.33%	
	Overall seat entitlement	38.28	20.84	6.87	4.55	4.46			
	Independents						1	1	
	75 seats using List PR - LR Hare	38	21	7	5	4		75	
	List seats	0	15	7	5	4		31	
	Independents						1	1	
	75 seats using List PR - LR Hare	38	21	7	5	4		75	
	Overhang seats	2						2	
6	Total Great Hural	40	21	7	5	4	1	78	
		51.3%	26.9%	9.0%	6.4%	5.1%	1.3%		
	Proportionality compensation for overhang seats: German model post 2013								
	Quota							44536	
								1.27%	
	Minimum number of party based seats to eliminate disproportionality: 79	40.32	21.95	7.24	4.79	4.70			
		40	22	7	5	5		79	
	Independents						1	1	
	Majoritarian seats	40	6	0	0	0	1	47	
	List seats	0	15	7	5	4		31	
	Additional balancing list seats		1			1		2	
7	Total Great Hural	40	22	7	5	5	1	80	
		50.0%	27.5%	8.8%	6.3%	6.3%	1.3%		

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	BV/FPTP and List PR - HA d'Hondt, one national List PR district								
	No proportionality compensation for overhang seats								
	Majoritarian								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	List PR								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	Independents						1	1	
	75 seats using List PR - HA d'Hondt	39	21	7	4	4		75	
	Overhang seats	1						1	
	Majoritarian seats	40	6	0	0	0	1	47	
	List PR seats	0	15	7	4	4		30	
8	Total Great Hural	40	21	7	4	4	1	77	
		51.95%	27.27%	9.09%	5.19%	5.19%	1.30%		
	BV/FPTP and List PR - HA Sainte-Laguë, one national List PR district								
	No proportionality compensation for overhang seats: New Zealand model								
	Majoritarian								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	List PR								
	Party vote	1795665	977680	322453	213410	209105			
	% of party vote	51.04%	27.79%	9.16%	6.07%	5.94%			
	Independents						1	1	
	75 seats using List PR - HA Sainte-Laguë	38	21	7	5	4		75	
	Overhang seats	2						2	
	Majoritarian seats	40	6	0	0	0	1	47	
	List PR seats	0	15	7	5	4		31	
9	Total Great Hural	40	21	7	5	4	1	78	
		51.95%	27.27%	9.09%	6.49%	5.19%	1.30%		
	Additional Member System								
	BV/FPTP and List PR - HA d'Hondt, one national List PR district								

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	Majoritarian								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	List PR								
	29 additional seats using List PR - HA d'Hondt	0	15	6	4	4		29	
10	Total Great Hural	40	21	6	4	4	1	76	
		52.6%	27.6%	7.9%	5.3%	5.3%	1.3%		
	Additional Member System								
	BV/FPTP and List PR - HA Sainte-Laguë, one national List PR district								
	Majoritarian								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)	40	6	0	0	0	1	47	
	List PR								
	29 additional seats using List PR - HA Sainte-Laguë	0	14	7	4	4		29	
11	Total Great Hural	40	20	7	4	4	1	76	
		52.6%	26.3%	9.2%	5.3%	5.3%	1.3%		
	Mixed system with four regional districts								
	Parallel								
	BV and List PR - LR Hare, four regional districts								
	List PR								
	UB								
	6 BV districts with two members (those with three members in 2020) and 3 FPTP districts (those with two members in 2020)	15	0	0	0	0	0	15	
	24 seats in total: 15 majoritarian seats								
	Party vote	764519	291282	159414	120680	176725			
	% of party vote	50.54%	19.26%	10.54%	7.98%	11.68%			
	Quota for 9 List PR seats								168069
	% of party vote								11.11%
		4.55	1.73	0.95	0.72	1.05			
	9 seats using List PR - LR Hare	4	2	1	1	1		9	
	West								
	4 BV districts with two members (those with three members in 2020) and 2 FPTP districts (those with two members in 2020)	6	4	0	0	0	0	10	
	16 seats in total: 10 majoritarian seats								
	Party vote	305453	279154	37145	25722	5835			
	% of party vote	46.75%	42.73%	5.69%	3.94%	0.89%			
	Quota for 6 List PR seats								108885
	% of party vote								16.67%

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		2.81	2.56	0.34	0.24	0.05			
	6 seats using List PR - LR Hare	3	3	0	0	0		6	
	Central								
	7 BV districts with two members (those with three members in 2020) and 1 FPTP district (with two members in 2020)	13	1	0	0	0	1	15	
	23 seats in total: 15 majoritarian seats								
	Party vote	503123	265955	107187	45243	24162			
	% of party vote	53.20%	28.12%	11.33%	4.78%	2.56%			
	Quota for 8 List PR seats								118209
	% of party vote								12.50%
		4.26	2.25	0.91	0.38	0.20			
	8 seats using List PR - LR Hare	4	2	1	1	0		8	
	East and Govi								
	1 BV district with two members (with three members in 2020) and 5 FPTP districts (with two members in 2020)	6	1	0	0	0	0	7	
	13 seats in total: 7 majoritarian seats								
	Party vote	222570	141289	18707	21765	2383			
	% of party vote	54.72%	34.74%	4.60%	5.35%	0.59%			
	Quota for 6 List PR seats								67786
	% of party vote								16.67%
		3.28	2.08	0.28	0.32	0.04			
	6 seats using List PR - LR Hare	3	2	0	1	0		6	
	Total majoritarian seats	40	6	0	0	0	1	47	
	Total List PR seats	14	9	2	3	1		29	
12	Total Great Hural	54	15	2	3	1	1	76	
		71.1%	19.7%	2.6%	3.9%	1.3%	1.3%		
	Parallel								
	BV and List PR - HA d'Hondt, four regional districts								
	List PR								
	UB								
	6 BV districts with two members (those with three members in 2020) and 3 FPTP districts (those with two members in 2020)	15	0	0	0	0	0	15	
	24 seats in total: 15 majoritarian seats								
	Party vote	764519	291282	159414	120680	176725			
	% of party vote	50.54%	19.26%	10.54%	7.98%	11.68%			
	9 seats using List PR - HA d'Hondt	5	2	1	0	1		9	

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	West								
	4 BV districts with two members (those with three members in 2020) and 2 FPTP districts (those with two members in 2020)	6	4	0	0	0	0	0	10
	16 seats in total: 10 majoritarian seats								
	Party vote	305453	279154	37145	25722	5835			
	% of party vote	46.75%	42.73%	5.69%	3.94%	0.89%			
	6 seats using List PR - HA d'Hondt	3	3	0	0	0			6
	Central								
	7 BV districts with two members (those with three members in 2020) and 1 FPTP district (with two members in 2020)	13	1	0	0	0	0	1	15
	23 seats in total: 15 majoritarian seats								
	Party vote	503123	265955	107187	45243	24162			
	% of party vote	53.20%	28.12%	11.33%	4.78%	2.56%			
	8 seats using List PR - HA d'Hondt	5	2	1	0	0			8
	East and Gavi								
	1 BV district with two members (with three members in 2020) and 5 FPTP districts (with two members in 2020)	6	1	0	0	0	0	0	7
	13 seats in total: 7 majoritarian seats								
	Party vote	222570	141289	18707	21765	2383			
	% of party vote	54.72%	34.74%	4.60%	5.35%	0.59%			
	6 seats using List PR - HA d'Hondt	4	2	0	0	0			6
	Total majoritarian seats	40	6	0	0	0	0	1	47
	Total List PR seats	17	9	2	0	1			29
13	Total Great Hural	57	15	2	0	1	1	1	76
		75.0%	19.7%	2.6%	0.0%	1.3%	1.3%		
	Parallel								
	BV and List PR - HA Sainte-Laguë, four regional districts								
	List PR								
	UB								
	6 BV districts with two members (those with three members in 2020) and 3 FPTP districts (those with two members in 2020)	15	0	0	0	0	0	0	15
	24 seats in total: 15 majoritarian seats								
	Party vote	764519	291282	159414	120680	176725			
	% of party vote	50.54%	19.26%	10.54%	7.98%	11.68%			
	9 seats using List PR - HA Sainte-Laguë	4	2	1	1	1			9

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	West								
	4 BV districts with two members (those with three members in 2020) and 2 FPTP districts (those with two members in 2020)	6	4	0	0	0	0	0	10
	16 seats in total: 10 majoritarian seats								
	Party vote	305453	279154	37145	25722	5835			
	% of party vote	46.75%	42.73%	5.69%	3.94%	0.89%			
	6 seats using List PR - HA Sainte-Laguë	3	3	0	0	0			6
	Central								
	7 BV districts with two members (those with three members in 2020) and 1 FPTP district (with two members in 2020)	13	1	0	0	0	0	1	15
	23 seats in total: 15 majoritarian seats								
	Party vote	503123	265955	107187	45243	24162			
	% of party vote	53.20%	28.12%	11.33%	4.78%	2.56%			
	8 seats using List PR - HA Sainte-Laguë	5	2	1	0	0			8
	East and Gavi								
	1 BV district with two members (with three members in 2020) and 5 FPTP districts (with two members in 2020)	6	1	0	0	0	0	0	7
	13 seats in total: 7 majoritarian seats								
	Party vote	222570	141289	18707	21765	2383			
	% of party vote	54.72%	34.74%	4.60%	5.35%	0.59%			
	6 seats using List PR - HA Sainte-Laguë	4	2	0	0	0			6
	Total majoritarian seats	40	6	0	0	0	0	1	47
	Total List PR seats	16	9	2	1	1			29
14	Total Great Hural	56	15	2	1	1	1	1	76
		73.7%	19.7%	2.6%	1.3%	1.3%	1.3%		
	MMP								
	BV and List PR - LR Hare, four regional districts								
	German model pre 2013								
	Majoritarian								
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)								
	UB - 24 seats								
	Majoritarian	15	0	0	0	0	0	0	15
	List PR								
	Party vote	764519	291282	159414	120680	176725			
	% of party vote	50.54%	19.26%	10.54%	7.98%	11.68%			
	Quota								63026
	% of party vote								4.17%
		12.13	4.62	2.53	1.91	2.80			

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List PR seats	0	5	2	2	3		12
24 seats using List PR - LR Hare	12	5	2	2	3		24
Overhang seats	3						3
Total UB	15	5	2	2	3	0	27
West - 16 seats							
Majoritarian	6	4	0	0	0	0	10
List PR							
Party vote	305453	279154	37145	25722	5835		
% of party vote	46.75%	42.73%	5.69%	3.94%	0.89%		
Quota							40832
% of party vote							6.25%
	7.48	6.84	0.91	0.63	0.14		
List PR seats	1	3	1	1	0		6
16 seats using List PR - LR Hare	7	7	1	1	0		16
Total West	7	7	1	1	0	0	16
Central - 23 seats							
Majoritarian	13	1	0	0	0	1	15
List PR							
Party vote	503123	265955	107187	45243	24162		
% of party vote	53.20%	28.12%	11.33%	4.78%	2.56%		
Quota							42985
% of party vote							4.55%
	11.70	6.19	2.49	1.05	0.56		
List PR seats	0	5	2	1	1		9
Independents						1	1
22 seats using List PR - LR Hare	12	6	2	1	1		22
Overhang seats	1						1
Total Central	13	6	2	1	1	1	24
East and Govi - 13 seats							
Majoritarian	6	1	0	0	0	0	7
List PR							
Party vote	222570	141289	18707	21765	2383		
% of party vote	54.72%	34.74%	4.60%	5.35%	0.59%		
Quota							31286
% of party vote							7.69%
	7.11	4.52	0.60	0.70	0.08		
List PR seats	1	3	1	1	0		6

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	13 seats using List PR - LR Hare	7	4	1	1	0		13
	Total East and Govi	7	4	1	1	0	0	13
15	Total Great Hural	42	22	6	5	4	1	80
		52.5%	27.5%	7.5%	6.3%	5.0%	1.3%	
	MMP							
	BV and List PR - LR Hare, four regional districts							
	German model post 2013							
	Majoritarian							
	18 BV districts with two members (those with three members in 2020) and 11 FPTP districts (those with two members in 2020)							
	UB - 24 seats							
	Majoritarian	15	0	0	0	0	0	15
	List PR							
	Party vote	764519	291282	159414	120680	176725		
	% of party vote	50.54%	19.26%	10.54%	7.98%	11.68%		
	Quota							63026
	% of party vote							4.17%
		12.13	4.62	2.53	1.91	2.80		
	List PR seats	0	5	2	2	3		12
	24 seats using List PR - LR Hare	12	5	2	2	3		24
	Overhang seats	3						3
	Total UB	15	5	2	2	3	0	27
	Minimum number of seats to eliminate disproportionality: 29	14.66	5.58	3.06	2.31	3.39		
	Quota							52159
	% of party vote							3.45%
		15	6	3	2	3		
	Majoritarian seats	15	0	0	0	0	0	15
	List seats	0	5	2	2	3		12
	Additional balancing list seats		1	1				2
	Total UB	15	6	3	2	3		29
	West - 16 seats							
	Majoritarian	6	4	0	0	0	0	10
	List PR							
	Party vote	305453	279154	37145	25722	5835		
	% of party vote	46.75%	42.73%	5.69%	3.94%	0.89%		
	Quota							40832
	% of party vote							6.25%
		7.48	6.84	0.91	0.63	0.14		

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List PR seats	1	3	1	1			6
16 seats using List PR - LR Hare	7	7	1	1	0		16
Total West	7	7	1	1	0	0	16
Minimum number of seats to maintain interprovincial proportionality: 19	8.88	8.12	1.08	0.75	0.17		
							34385
							5.26%
	9	8	1	1	0		
Majoritarian seats	6	4	0	0	0	0	10
List seats	1	3	1	1	0		6
Additional balancing list seats	2	1					3
Total West	9	8	1	1	0		19
Central - 23 seats							
Majoritarian	13	1	0	0	0	1	15
List PR							
Party vote	503123	265955	107187	45243	24162		
% of party vote	53.20%	28.12%	11.33%	4.78%	2.56%		
Quota							42985
% of party vote							4.55%
	11.70	6.19	2.49	1.05	0.56		
List PR seats	0	5	2	1	1		9
Independents						1	1
22 seats using List PR - LR Hare	12	6	2	1	1		22
Overhang seats	1						1
Total Central	13	6	2	1	1	1	24
Minimum number of seats to maintain interprovincial proportionality: 28	14.36	7.59	3.06	1.29	0.69		
One independent elected							
Quota							35025
% of party vote							3.70%
	14	8	3	1	1		
Majoritarian seats	13	1	0	0	0	1	15
List seats	0	5	2	1	1		9
Additional balancing list seats	1	2	1				4
Total Central	14	8	3	1	1	1	28
East and Govi - 13 seats							
Majoritarian	6	1	0	0	0	0	7
List PR							

Party vote	222570	141289	18707	21765	2383			
% of party vote	54.72%	34.74%	4.60%	5.35%	0.59%			
Quota								31286
% of party vote								7.69%
	7.11	4.52	0.60	0.70	0.08			
List PR seats	1	3	1	1	0		6	
13 seats using List PR - LR Hare	7	4	1	1	0		13	
Total East and Govi	7	4	1	1	0	0	13	
Minimum number of seats to maintain interprovincial proportionality: 16	8.76	5.56	0.74	0.86	0.09			
Quota							25420	
% of party vote							6.25%	
	9	5	1	1	0			
Majoritarian seats	6	1	0	0	0	0	7	
List seats	1	3	1	1	0		6	
Additional balancing list seats	2	1					3	
Total East and Govi	9	5	1	1	0		16	
Total all Mongolia								
Majoritarian seats	40	6	0	0	0	1	47	
List seats	2	16	6	5	4		33	
Additional balancing list seats	5	5	2				12	
16 Total Great Hural	47	27	8	5	4	1	92	
	51.1%	29.3%	8.7%	5.4%	4.3%	1.1%		

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Highest Average: Details of the count

Seat allocated at each successive stage of the count

ONE NATIONAL DISTRICT

Stage of the count	d'Hondt	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	
1		1795665	977680	322453	213410	209105	1					
2		897833	977680	322453	213410	209105		1				
3		897833	488840	322453	213410	209105	1					
4		598555	488840	322453	213410	209105	1					
5		448916	488840	322453	213410	209105		1				
6		448916	325893	322453	213410	209105	1					
7		359133	325893	322453	213410	209105	1					
8		299278	325893	322453	213410	209105		1				
9		299278	244420	322453	213410	209105			1			
10		299278	244420	161227	213410	209105	1					
11		256524	244420	161227	213410	209105	1					
12		224458	244420	161227	213410	209105		1				
13		224458	195536	161227	213410	209105	1					
14		199518	195536	161227	213410	209105				1		
15		199518	195536	161227	106705	209105					1	
16		199518	195536	161227	106705	104553	1					
17		179567	195536	161227	106705	104553		1				
18		179567	162947	161227	106705	104553	1					
19		163242	162947	161227	106705	104553	1					
20		149639	162947	161227	106705	104553		1				
21		149639	139669	161227	106705	104553			1			
22		149639	139669	107484	106705	104553	1					
23		138128	139669	107484	106705	104553		1				
24		138128	122210	107484	106705	104553	1					
25		128262	122210	107484	106705	104553	1					
26		119711	122210	107484	106705	104553		1				
27		119711	108631	107484	106705	104553	1					
28		112229	108631	107484	106705	104553	1					
29		105627	108631	107484	106705	104553		1				
Total (29 seats)							16	9	2	1	1	29
30		105627	97768	107484	106705	104553			1			
31		105627	97768	80613	106705	104553				1		
32		105627	97768	80613	71137	104553	1					
33		99759	97768	80613	71137	104553					1	
34		99759	97768	80613	71137	69702	1					
35		94509	97768	80613	71137	69702		1				
36		94509	88880	80613	71137	69702	1					

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37		89783	88880	80613	71137	69702	1					
38		85508	88880	80613	71137	69702		1				
39		85508	81473	80613	71137	69702	1					
40		81621	81473	80613	71137	69702	1					
41		78072	81473	80613	71137	69702		1				
42		78072	75206	80613	71137	69702			1			
43		78072	75206	64491	71137	69702	1					
44		74819	75206	64491	71137	69702		1				
45		74819	69834	64491	71137	69702	1					
46		71827	69834	64491	71137	69702	1					
47		69064	69834	64491	71137	69702				1		
48		69064	69834	64491	53353	69702		1				
49		69064	65179	64491	53353	69702					1	
50		69064	65179	64491	53353	52276	1					
51		66506	65179	64491	53353	52276	1					
52		64131	65179	64491	53353	52276		1				
53		64131	61105	64491	53353	52276			1			
54		64131	61105	53742	53353	52276	1					
55		61919	61105	53742	53353	52276	1					
56		59856	61105	53742	53353	52276		1				
57		59856	57511	53742	53353	52276	1					
58		57925	57511	53742	53353	52276	1					
59		56115	57511	53742	53353	52276		1				
60		56115	54316	53742	53353	52276	1					
61		54414	54316	53742	53353	52276	1					
62		52814	54316	53742	53353	52276		1				
63		52814	51457	53742	53353	52276			1			
64		52814	51457	46065	53353	52276				1		
65		52814	51457	46065	42682	52276	1					
66		51305	51457	46065	42682	52276					1	
67		51305	51457	46065	42682	41821		1				
68		51305	48884	46065	42682	41821	1					
69		49880	48884	46065	42682	41821	1					
70		48531	48884	46065	42682	41821		1				
71		48531	46556	46065	42682	41821	1					
72		47254	46556	46065	42682	41821	1					
73		46043	46556	46065	42682	41821		1				
74		46043	44440	46065	42682	41821			1			
75		46043	44440	40307	42682	41821	1					
Total (75 seats)							39	21	7	4	4	75

	Sainte-Laguë	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE		
1		1795665	977680	322453	213410	209105	1						
2		598555	977680	322453	213410	209105		1					
3		598555	325893	322453	213410	209105	1						
4		359133	325893	322453	213410	209105	1						
5		256524	325893	322453	213410	209105		1					
6		256524	195536	322453	213410	209105			1				
7		256524	195536	107484	213410	209105	1						
8		199518	195536	107484	213410	209105				1			
9		199518	195536	107484	71137	209105					1		
10		199518	195536	107484	71137	69702	1						
11		163242	195536	107484	71137	69702		1					
12		163242	139669	107484	71137	69702	1						
13		138128	139669	107484	71137	69702		1					
14		138128	108631	107484	71137	69702	1						
15		119711	108631	107484	71137	69702	1						
16		105627	108631	107484	71137	69702		1					
17		105627	88880	107484	71137	69702			1				
18		105627	88880	64491	71137	69702	1						
19		94509	88880	64491	71137	69702	1						
20		85508	88880	64491	71137	69702		1					
21		85508	75206	64491	71137	69702	1						
22		78072	75206	64491	71137	69702	1						
23		71827	75206	64491	71137	69702		1					
24		71827	65179	64491	71137	69702	1						
25		66506	65179	64491	71137	69702				1			
26		66506	65179	64491	42682	69702					1		
27		66506	65179	64491	42682	41821	1						
28		61919	65179	64491	42682	41821		1					
29		61919	57511	64491	42682	41821			1				
Total (29 seats)							14	8	3	2	2	29	
30		61919	57511	46065	42682	41821	1						
31		57925	57511	46065	42682	41821	1						
32		54414	57511	46065	42682	41821		1					
33		54414	51457	46065	42682	41821	1						
34		51305	51457	46065	42682	41821		1					
35		51305	46556	46065	42682	41821	1						
36		48531	46556	46065	42682	41821	1						
37		46043	46556	46065	42682	41821		1					
38		46043	42508	46065	42682	41821			1				
39		46043	42508	35828	42682	41821	1						
40		43797	42508	35828	42682	41821	1						
41		41760	42508	35828	42682	41821				1			
42		41760	42508	35828	30487	41821		1					
43		41760	39107	35828	30487	41821					1		
44		41760	39107	35828	30487	29872	1						

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45		39904	39107	35828	30487	29872	1						
46		38206	39107	35828	30487	29872		1					
47		38206	36210	35828	30487	29872	1						
48		36646	36210	35828	30487	29872	1						
49		35209	36210	35828	30487	29872		1					
50		35209	33713	35828	30487	29872			1				
51		35209	33713	29314	30487	29872	1						
52		33880	33713	29314	30487	29872	1						
53		32648	33713	29314	30487	29872		1					
54		32648	31538	29314	30487	29872	1						
55		31503	31538	29314	30487	29872		1					
56		31503	29627	29314	30487	29872	1						
57		30435	29627	29314	30487	29872				1			
58		30435	29627	29314	23712	29872	1						
59		29437	29627	29314	23712	29872					1		
60		29437	29627	29314	23712	23234		1					
61		29437	27934	29314	23712	23234	1						
62		28503	27934	29314	23712	23234			1				
63		28503	27934	24804	23712	23234	1						
64		27626	27934	24804	23712	23234		1					
65		27626	26424	24804	23712	23234	1						
66		26801	26424	24804	23712	23234	1						
67		26024	26424	24804	23712	23234		1					
68		26024	25069	24804	23712	23234	1						
69		25291	25069	24804	23712	23234	1						
70		24598	25069	24804	23712	23234		1					
71		24598	23846	24804	23712	23234			1				
72		24598	23846	21497	23712	23234							
73		23942	23846	21497	23712	23234	1						
74		23320	23846	21497	23712	23234		1					
75		23320	22737	21497	23712	23234				1			
76		23320	22737	21497	19401	23234	1						
Total (75 seats)							38	21	7	5	4	75	

ONE NATIONAL DISTRICT: ADDITIONAL MEMBER SYSTEM

	d'Hondt	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Ind	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	
		1795665	977680	322453	213410	209105							
	47 majoritarian seats	40	6	0	0	0	1						
	Initial divisor	41	7	1	1	1							
1		43797	139669	322453	213410	209105				1			
2		43797	139669	161338	213410	209105					1		
3		43797	139669	161338	106755	209105						1	
4		43797	139669	161338	106755	104553				1			
5		43797	139669	107558	106755	104553					1		
6		43797	122099	107558	106755	104553						1	
7		43797	108533	107558	106755	104553							1
8		43797	97679	107558	106755	104553				1			
9		43797	97679	80669	106755	104553					1		
10		43797	97679	80669	71170	104553						1	
11		43797	97679	80669	71170	69702							1
12		43797	88799	80669	71170	69702							
13		43797	81399	80669	71170	69702							
14		43797	75138	80669	71170	69702					1		
15		43797	75138	64535	71170	69702							1
16		43797	69771	64535	71170	69702						1	
17		43797	69771	64535	53378	69702							1
18		43797	65120	64535	53378	69702							
19		43797	65120	64535	53378	52276							
20		43797	61050	64535	53378	52276					1		
21		43797	61050	53779	53378	52276							
22		43797	57458	53779	53378	52276							
23		43797	54266	53779	53378	52276							
24		43797	51410	53779	53378	52276							
25		43797	51410	46096	53378	52276						1	
26		43797	51410	46096	42702	52276							1
27		43797	51410	46096	42702	41821							
28		43797	48840	46096	42702	41821							
29		43797	46514	46096	42702	41821							
	Total (29 seats)							0	15	6	4	4	29

	Sainte-Laguë	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Ind	MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	
		1795665	977680	322453	213410	209105							
	47 majoritarian seats	40	6	0	0	0	1						
	Initial divisor	81	13	1	1	1							
1		22169	75206	322453	213410	209105						1	
2		22169	75206	107484	213410	209105							1
3		22169	75206	107484	71137	209105							1
4		22169	75206	107484	71137	69702						1	
5		22169	75206	64491	71137	69702							1
6		22169	65179	64491	71137	69702							1
7		22169	65179	64491	42682	69702							1
8		22169	65179	64491	42682	41821							1
9		22169	57511	64491	42682	41821							1
10		22169	57511	46065	42682	41821							1
11		22169	51457	46065	42682	41821							1
12		22169	46556	46065	42682	41821							1
13		22169	42508	46065	42682	41821							1
14		22169	42508	35828	42682	41821							1
15		22169	42508	35828	30487	41821							1
16		22169	39107	35828	30487	41821							1
17		22169	39107	35828	30487	29872							1
18		22169	36210	35828	30487	29872							1
19		22169	33713	35828	30487	29872							1
20		22169	33713	29314	30487	29872							1
21		22169	31538	29314	30487	29872							1
22		22169	29627	29314	30487	29872							1
23		22169	29627	29314	23712	29872							1
24		22169	29627	29314	23712	23234							1
25		22169	27934	29314	23712	23234							1
26		22169	27934	24804	23712	23234							1
27		22169	26424	24804	23712	23234							1
28		22169	25069	24804	23712	23234							1
29		22169	23846	24804	23712	23234							1
	Total (29 seats)							0	14	7	4	4	29

Simulations summary

2016		MPP/MAN	DP/AN	MPRP/MAKN			Ind		MPP/MAN	DP/AN	MPRP/MAKN			Ind
	Great Hural: Actual seats won under FPTP	65	9	1			1	76	85.5%	11.8%	1.3%			1.3%
	Great Hural: Seats if fully proportional to total vote	34	25	6			11	76	44.7%	32.9%	7.9%			14.5%
	Great Hural: Seats if party seats fully proportional to party vote	39	29	7			1	76	51.6%	37.9%	9.2%			1.3%
	Parallel													
	BV/FPTP and List PR - LR Hare, one national List PR district	60	13	3			0	76	78.9%	17.1%	3.9%			0.0%
	MMP													
	BV/FPTP and List PR - LR Hare, one national district													
	No proportionality compensation for overhang seats : German model pre 2013	45	29	7			0	81	55.6%	35.8%	8.6%			0.0%
2020		MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Ind		MPP/MAN	DP/AN	YAOC/TBE	NC/SE	RPEC/ZHEE	Ind
	Great Hural: Actual seats won under BV	62	11	1	0	1	1	76	81.6%	14.5%	1.3%	0.0%	1.3%	1.3%
	Great Hural: Seats if fully proportional to total vote	34	19	6	4	4	9	76	44.7%	25.0%	7.9%	5.3%	5.3%	11.8%
	Great Hural: Seats if party seats fully proportional to party vote	38	21	7	5	4	1	76	50.0%	27.6%	9.2%	6.6%	5.3%	1.3%
Simulation number	Parallel													
	One national List PR district													
1	38 BV/FPTP, 29 List PR - LR Hare	55	14	2	2	2	1	76	72.4%	18.4%	2.6%	2.6%	2.6%	1.3%
2	47 BV/FPTP, 38 List PR - LR Hare	54	14	4	2	2	0	76	71.1%	18.4%	5.3%	2.6%	2.6%	0.0%
3	29 FPTP, 47 List PR - LR Hare	51	15	4	3	3	0	76	67.1%	19.7%	5.3%	3.9%	3.9%	0.0%
	47 BV/FPTP, 29 List PR: One national List PR district													
1	BV/FPTP and List PR - LR Hare	55	14	2	2	2	1	76	72.4%	18.4%	2.6%	2.6%	2.6%	1.3%
4	BV/FPTP and List PR - HA d'Hondt	56	15	2	1	1	1	76	73.7%	19.7%	2.6%	1.3%	1.3%	1.3%
5	BV/FPTP and List PR - HA Sainte-Laguë	54	14	3	2	2	1	76	71.1%	18.4%	3.9%	2.6%	2.6%	1.3%
	47 BV/FPTP, 29 List PR: Four regional List PR districts													
12	BV/FPTP and List PR - LR Hare	54	15	2	3	1	1	76	71.1%	19.7%	2.6%	3.9%	1.3%	1.3%
13	BV/FPTP and List PR - HA d'Hondt	57	15	2	0	1	1	76	75.0%	19.7%	2.6%	0.0%	1.3%	1.3%
14	BV/FPTP and List PR - HA Sainte-Laguë	56	15	2	1	1	1	76	73.7%	19.7%	2.6%	1.3%	1.3%	1.3%
	MMP													
	BV/FPTP and List PR - LR Hare, one national district													
6	No proportionality compensation for overhang seats: German model pre 2013	40	21	7	5	4	1	78	51.3%	26.9%	9.0%	6.4%	5.1%	1.3%
7	Proportionality compensation for overhang seats: German model post 2013	40	22	7	5	5	1	80	50.0%	27.5%	8.8%	6.3%	6.3%	1.3%
	BV/FPTP and List PR, HA, one national district													
8	BV/FPTP and List PR - HA d'Hondt	40	21	7	4	4	1	77	51.9%	27.3%	9.1%	5.2%	5.2%	1.3%
	No proportionality compensation for overhang seats													
9	BV/FPTP and List PR - HA Sainte-Laguë	40	21	7	5	4	1	78	51.9%	27.3%	9.1%	6.5%	5.2%	1.3%
	No proportionality compensation for overhang seats: New Zealand model													
	BV/FPTP and List PR - LR Hare, four regional districts													
15	No proportionality compensation for overhang seats: German model pre 2013	42	22	6	5	4	1	80	52.5%	27.5%	7.5%	6.3%	5.0%	1.3%
16	Proportionality compensation for overhang seats: German model post 2013	47	27	8	5	4	1	92	51.1%	29.3%	8.7%	5.4%	4.3%	1.1%
	Additional Member System													
	One national List PR district													
10	BV/FPTP and List PR - HA d'Hondt	40	21	6	4	4	1	76	52.6%	27.6%	7.9%	5.3%	5.3%	1.3%
11	BV/FPTP and List PR - HA Sainte-Laguë	40	20	7	4	4	1	76	52.6%	26.3%	9.2%	5.3%	5.3%	1.3%

ABOUT THE AUTHOR

ANDREW ELLIS is a senior consultant adviser on the design and implementation of electoral systems and processes and of constitutional frameworks. Successively Head of Electoral Processes, Director of Operations and founder Asia and the Pacific Director of International IDEA, he edited and contributed to many International IDEA electoral handbooks, including those covering electoral system design, electoral management design, voting from abroad, direct democracy and electoral justice. He has worldwide experience as a technical adviser in democratic transitions, including long-term assignments in Bosnia and Herzegovina, Cambodia, Indonesia, and Palestine.

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ABBREVIATIONS

AMS	Additional Member System
BV	Block Vote
DP	Democratic Party
ERA	Electoral Redistricting App
FPTP	First Past The Post
GE	General Election
HA	Highest Average
LR	Largest Remainder
MMP	Mixed Member Proportional
PR	Proportional Representation
TRS	Two Round System
YACO	You and Us Coalition
NC	New Coalition
RPEC	Right Person Electorate Coalition

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ISBN 978-91-7671-609-0 (PDF)



International IDEA
Stromsborg
SE-103 34 Stockholm
Sweden
+46 8 698 37 00
info@idea.int
www.idea.int