



# MIXED ELECTORAL SYSTEMS: DESIGN AND PRACTICE

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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.

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**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.