
D'Hondt system for allocation of parliamentary positions

22 March 2016

Introduction

Named after a Belgian lawyer and mathematician, the D'Hondt system is a form of proportional representation widely used in continental Europe.¹ It is used extensively to convert votes won by parties or groups to seats in list proportional representative electoral systems.² The D'Hondt system is also used today to allocate other parliamentary positions, for example committee chairs or ministerial positions, proportionately to parties.

This L&RS Note outlines how the D'Hondt system works, provides examples of where it is used and describes how it is used in Northern Ireland for the allocation of ministries in the Executive and committee chairs in the Assembly. It also provides a worked example of how D'Hondt could be used to allocate committee chairs in the 32nd Dáil based on the election results (February 2016).

Use of D'Hondt system

In January 2016 the Dáil agreed to the proportionate allocation of Committee chairs using the D'Hondt system. This is intended to give Opposition TDs more powerful roles in the next Dáil as the Government will not have the same control of the Committees.³ Dáil Standing Orders 2016 include this development (SO 93).

While it is used most extensively to convert votes into seats in proportionate electoral systems (List PR), the use of the D'Hondt formula extends to the allocation of positions in parliament and, in Northern Ireland, to the allocation of cabinet positions.

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The D'Hondt system is used by 17 EU member states for their **elections** (by regional or national lists) to the European Parliament, including in the United Kingdom (except in Northern Ireland), France, Italy, Spain and Poland. It is also used to allocate seats in parliamentary elections in at least 13 EU member states, as well as in Japan and Israel.

The Scottish Parliament is elected by the Mixed Member System comprised of a first-past-the-post component, under which seats are allocated in single member constituencies, and a proportional representation (PR) component based on regional party lists. These two elements are then linked through the D'Hondt method.⁴

The D'Hondt system is also used to allocate **positions in parliaments**. The European Parliament uses it as a formula for distributing a fixed number of official posts among political groups of different numerical strengths. In some cases, it is also used to assign those posts between various delegations within the political groups.⁵ D'Hondt is also used in some parliaments to enable the proportionate allocation of Committee Chairmanships, for example in the Northern Irish and Welsh Assemblies, the Scottish Parliament and the Finnish Parliament.

In Northern Ireland, D'Hondt is uniquely used to determine the number of ministries the parties have in the Northern Ireland Executive.⁶

D'Hondt in Northern Ireland (Executive)

In Northern Ireland, D'Hondt is used for the allocation of ministerial positions in the Executive. This is provided for in the [Northern Ireland Act 1998](#). This arrangement is central to the consociational political arrangements developed for Northern Ireland with parties participating in a power sharing government.

The Northern Ireland Executive is structured to ensure power-sharing and inclusivity. It is chaired by a First Minister and deputy First Minister (who hold office jointly and are required to act jointly). It is made up of 10 other ministers appointed by the D'Hondt process in proportion to the parties' strength in the Assembly. The 11th Ministry, Justice, is not allocated on the basis of D'Hondt. It was a more recently devolved power to Northern Ireland and the portfolio was allocated to the Alliance Party.

The [Northern Ireland Act 1998](#), specifically Section 18, provides for the allocation of Ministers. Each party has a nominating officer to select the Ministerial Office and nominate the member who will hold it. The formula is as follows:

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$$\frac{S}{1 + M}$$

where—

S = the number of seats in the Assembly which were held by members of the party on the day on which the Assembly first met following its election;

M = the number of Ministerial offices (if any) which are held by members of the party.

In the case of a tie-break the number of first preference votes at the election is used in place of the number of seats gained.

Table 1. NI Assembly Election results 2011 and % of ministerial positions

Party*	vote	1st Preference vote
Democratic Unionist Party DUP	38	30%
Sinn Fein	29	26.9%
Ulster Unionist Party	16	13.2%
Social Democratic and Labour Party (SDLP)	14	14.2%
Alliance Party	8	7.7%
Traditional Unionist Voice	1	2.5%
Green Party	1	0.9%
Others	1	3%

**Other parties at the election failed to win a seat.*

Following the application of the D'Hondt formula to the election results outlined at Table 2 ministerial appointments were made in the order listed in Table 2 order on 16 May 2011.

Table 2. Distribution of ministerial portfolios⁷

Order of allocation	Party	Department
1	DUP	Finance
2	SF	Education
3	DUP	Enterprise, Trade & Investment
4	UUP	Regional Development
5	SF	Agriculture and rural development
6	SDLP	Environment
7	DUP	Social Development
8	SF	Culture, Arts Leisure
9	DUP	Health, Social services and public safety
10	Alliance	Employment and learning

In addition the First Minister position went to the DUP as the largest party and the deputy First Minister to Sinn Féin as the second largest party. Of a total 13 Ministerial positions, with 10 allocated by D'Hondt, the DUP got five, Sinn Féin four, the Alliance got two (one through D'Hondt) and the UUP and SDLP got one each. Thus the DUP got 38% of all positions (with 35% of seats and 30% first preference vote). Sinn Féin also got a greater share of ministerial positions than its share of seats or votes. The SDLP and UUP by comparison received a lesser share of positions to seats and votes. The Alliance share received double its share of ministerial positions when compared to seats and votes. See Table 3.

Table 3. % Ministerial positions by Party

Party	% of total Ministerial Positions
DUP	38.46
Sinn Féin	30.77
UUP	7.69
SDLP	7.69
Alliance	15.38

Committee chairs and D'Hondt – NI Assembly, Scottish parliament and Welsh Assembly

NI Assembly Standing Orders⁸ set out the procedures for the allocation of Committee Chair and Deputy Chair positions as required by Section 29 of the *Northern Ireland Act 1998*. As above in the case of a tie first preference votes are used instead of number of seats in the Assembly. The 1998 Act provides that parties should 'prefer' to choose Committees other

than those for which the party holds Ministerial Office; it also prevents Ministers from Chairing Committees.

The formula is—

$$\frac{S}{1 + C}$$

where—

S = the number of seats in the Assembly which were held by members of the party on the day on which the Assembly first met following its election;

C = the number of chairmen and deputy chairmen of statutory committees (if any) who are members of the party.

In a 2015 review of D'Hondt in Northern Ireland by the Assembly and Executive Review Committee⁹ a number of stakeholders found the NI Assembly Committee Structure to have an important scrutiny role which is missing in more traditional Government - Opposition models.

Wales

The [Government of Wales Act 2006](#) s.29 sets out that membership of Assembly Committees should be, in so far as possible, proportionate and sets out a way of ensuring proportionality. A motion approving the allocation of seats on each committee must be passed by a 2/3 majority of the Assembly. If the proposed membership of a particular Committee is rejected by the Assembly, the D'Hondt formula is used to allocate the seats on that particular committee.

Scotland

The Convenors of committees in the Scottish Parliament are allocated by D'Hondt as per the rules of procedure¹⁰.

Extract from Scottish Parliament Committee Procedures.

It is for the Parliament to decide, on a motion of the Bureau, the political party whose members are eligible to be the convener of each committee (or that the eligible members are those not representing any political party). The Bureau must have regard to the balance of political parties in the Parliament when making such proposals. In practice, the distribution of convenerships among the parties is done using a version of the "D'Hondt" formula. This is an algorithm that can be applied objectively to achieve fair distribution according to numerical strength. The first "round" allocates one convenership to the political party with the most MSPs; in the next round that party's numerical strength is divided by 2 (i.e. the number of convenerships it has already secured +1) and so on. The only formal restriction is that the convener of the Audit Committee cannot be a member of a Scottish Government party (Rule 6.7.2).

How D'Hondt system works

The number of votes each party wins at an election is divided first by 1 and the position is awarded to the party with the highest number of votes. Once a position has been allocated to a party their number of votes is divided by the next divisor. Divisors are 1, 2, 3, 4, 5, etc.

See Table below for illustration of how the D'Hondt system works¹¹.

TABLE 1. Allocation of seats by d'Hondt highest average method

Party	Votes	Votes divided by first divisor (1)	Votes divided by second divisor (2)	Votes divided by third divisor (3)	Votes divided by fourth divisor (4)	Total seats
A	60,000	60,000(1)	30,000(2)	20,000(4)	15,000(5)	4
B	28,000	28,000(3)	14,000			1
C	12,000	12,000				0
Total	100,000					5

The numbers in brackets after the parties' vote totals indicate the award of a seat; party A was awarded the first seat and the second, party B the third, and so on.

Step 1. The total number of votes for each party is divided by 1, Party A has the highest number of votes and is awarded the first position.

Step 2. Party A's total number of votes is divided by 2, and Party A still has the highest number of votes so it is awarded the second position. Party A's total number is now divided by 3 (third divisor) and it no longer has the highest number of votes.

Step 3. Party B now has the highest number of votes so it is assigned the third position and its total number of votes is divided by 2 (second divisor).

Step 4. At this point Party A has the highest number of votes again so it is awarded the fourth position.

Assigning Committee Chairs in the Oireachtas using D'Hondt

This section provides a worked example of how Committee chairs might be allocated using D'Hondt in the Houses of the Oireachtas based on the results of the general election 2016.

When designing a system for the allocation of committee chairs using D'Hondt, there are a number of choices to be made¹² which may work to include or exclude smaller parties as D'Hondt is recognised for favouring larger parties.

Dáil Standing Orders (2016) stipulate that only a technical group or party of seven or more members can be allocated chairman posts (SO 93 and 143). Dáil Standing Order 93 says that each group shall choose a chairman post, excluding the posts already allocated by Standing Orders or by Order of the Dáil.

Once the positions have been allocated to the party/groups *and* the party has selected their preferred Committee how will it be determined which members fill the positions once they have been allocated to the parties/groups? Will they be allocated by the party leader, elected by the committee membership or some other approach?

Using D'Hondt based on results of election 2016

We look now at assigning a maximum of 20 committee chairs to parties/groups using the D'Hondt system. **This is an example for illustrative purposes only** based on results published in the media rather than official results of the election.

In this example the **'Others' are treated as a single entity/ technical group** which may not be likely to happen but it does illustrate the need to consider how small parties/Independents would be treated in the allocation of positions. **All other registered parties with a member elected to the Dáil are treated separately.**¹³ Table 4 lists the number of TDs returned to political parties on the *Register of Political Parties 2015*. It also details the percentage first preference votes and actual first preference votes (indicative only as official results have not yet been published).

When two parties are on equal numbers under D'Hondt calculations (tie break situation) the first preference votes and number of positions already allocated to the parties are taken into account using the following formula:¹⁴

No. of first preference votes
No. of positions allocated + 1

Table 4. Election results at 2 March

Party	No. of TDs elected by Registered Party	% first preference vote	No. of first preference votes
Fine Gael	50	25.52	544,230
Fianna Fáil	44	24.35	519,353
Sinn Féin	23	13.85	295,313
Labour	7	6.61	140,893
AAA- PBP	6	3.95	84,168
Social Democrats	3	3.01	64,094
Green party	2	2.72	57,997
Independents 4 Change	4	1.47	31,365
Workers & Unemployed Action	1	0.35	7,452
Others (inc. Independent Alliance)	18	15.34	314,165
Source: Gallagher, Michael (2016) Information about Ireland election 26 February 2016 http://www.tcd.ie/Political_Science/staff/michael_gallagher/Election2016.php			

Table 5 outlines the order in which 20 committee chair positions would be allocated and Table 6 the number of positions each party/group would receive. See Appendix for the spreadsheet with the calculations, and indication of the sequence for allocating positions.

Table 5. Allocation of chair positions to parties by D'Hondt

Cabinet positions	Party
1st	FG
2nd	FF
3rd	FG
4th	SF
5th	FF
6th	Other
7th	FG
8th	FF
9th	FG
10th	SF
11th	FF
12th	FG
13th	Other
14th	FF
15th	FG
16th	SF
17 th	FF
18th	FG
19th	LAB
20th	Other

At position 20, FG, FF and Others each have an equal number (6.3), applying the formula above for tie break scenarios the Others have a greater number and are therefore allocated the position with FG getting the next position (21st) and FF the subsequent position (22nd).

$$\text{FG } \frac{544,230}{6+1} = 77,747$$

$$\text{FF } \frac{519,353}{6+1} = 74,193$$

$$\text{IND } \frac{314,165}{2+1} = 104,721$$

Table 6. No. of chairs per party

Party/Group	No. of chairs
Fine Gael	7
Fianna Fáil	6
Sinn Fein	3
Labour	1
Others	3

Appendix

D'Hondt calculations of parties as elected to 32nd Dáil. Number of seats each party won divided by 1, 2, 3 etc. Number in brackets/red denotes the sequence of allocating positions to the parties, calculated for 20 positions. Tie breaker at position 20 decided on first preferences.

Party	No. of TDs	1st Divisor 1	2nd Divisor 2	3rd Divisor 3	4th Divisor 4	5th Divisor 5	6th Divisor 6	7th Divisor 7	8th Divisor 8	9th Divisor 9	10th Divisor 10
Fine Gael	50	50 (1)	25 (3)	16.7 (7)	12.5 (9)	10 (12)	8.3 (15)	7.1 (18)	6.3 (21)	5.6	5
Fianna Fáil	44	44 (2)	22 (5)	14.7 (8)	11 (11)	8.8 (14)	7.3 (17)	6.3 (22)	5.5	4.9	4.4
Sinn Féin	23	23 (4)	11.5 (10)	7.7 (16)	5.8	4.6	3.8	3.3	2.9	2.6	2.3
Labour	7	7 (19)	3.5	2.3	1.8	1.4	1.2	1.0	0.9	0.8	0.7
AAA- PBP	6	6	3.0	2.0	1.5	1.2	1.0	0.9	0.8	0.7	0.6
Social Democrats	3	3	1.5	1.0	0.8	0.6	0.5	0.4	0.4	0.3	0.3
Independents 4 Change	3	3	1.5	1.0	0.8	0.6	0.5	0.4	0.4	0.3	0.3
Green party	2	2	1.0	0.7	0.5	0.4	0.3	0.3	0.3	0.2	0.2
Workers & Unemployed Action	1	1	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Others (inc. Independent Alliance)	19	19 (6)	9.5 (13)	6.3 (20)	4.8	3.8	3.2	2.7	2.4	2.1	1.9
Total	158										

Endnotes

¹ Victor D'Hondt (1841-1901), professor of law at Ghent University, published his *Système pratique et raisonné de la représentation proportionnelle* in 1882.

² In Proportional Representation (PR) list systems parties present lists of candidates and seats are awarded according to their party's share of the vote. Lists can be either open (voters choose candidates) or closed i.e. voters vote for the list and party determines which candidate gets any seat based on share of votes).

³ Press Release http://www.merrionstreet.ie/en/News-Room/News/Government_political_reform_package_passed_by_Dail.html

⁴ [Scottish Parliament Briefing on Electoral System](#)

⁵ http://penguincompaniontoeu.com/additional_entries/dhondt-system/

⁶ Northern Ireland Executive website <http://www.nidirect.gov.uk/the-northern-ireland-executive>

⁷ John Garry (2011) [Northern Ireland 2011 Assembly Elections and AV Referendum. Report for the Electoral Reform Society.](#)

⁸ [NI Assembly Standing Orders](#)

⁹ Review of D'Hondt, Community Designation and Provisions for Opposition (2013) http://www.niassembly.gov.uk/globalassets/documents/reports/assem_exec_review/nia-123-11-15-review-of-dhondt-community-designation-and-provisions-for-opposition.pdf

¹⁰ Scottish Parliament, Parliamentary procedure. <http://www.scottish.parliament.uk/parliamentarybusiness/24407.aspx>

¹¹ Gallagher, Michael (1991) Proportionality, disproportionality and electoral systems in *Electoral Studies* 10, 3. https://www.tcd.ie/Political_Science/staff/michael_gallagher/ElectoralStudies1991.pdf

¹² Michael Gallagher (2005) *The Politics of Electoral Systems* pp584-585 points to these choices in the context of using d'hondt or other formulas for allocating seats from votes in elections. We have applied the choices he raises to its use for the allocation of any positions..

¹³ [Register of Political Parties \(December 2015\)](#)

¹⁴ This formula is used in the event of a tie-break for the allocation of seats to the Northern Ireland Executive