Power Compromise

An objective, fair, durable and transparent fix for the EP composition

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KEY FINDINGS

- The **Power Compromise** is a system for the allocation of seats in the European Parliament (EP) between the Member States. The system can be applied on a permanent basis, irrespective of variations in Member States' populations, the number of Member States, and the total number of EP seats.
- The Power Compromise satisfies all criteria stipulated by primary and secondary Union law. In particular, it fulfils the requirement of **degressivity** by which the more populous States agree to be under-represented in order to allow the less populous States to be represented better.
- The population figures used in the Power Compromise conform to the **QMV-population** decreed by the Council of the European Union for usage in their Qualified Majority Voting rule. This conformity contributes to the Power Compromise being objective, fair, durable and transparent.
- The Power Compromise ensures that the most populous Member State is allocated at most just 96 seats and the least populous Member State exactly six seats, and that any preordained total of EP seats is fulfilled completely. To this end it operates with three **system parameters**: power parameter, number of base seats, and divisor.
- A sample application of the Power Compromise, using the 2023 QMV-population figures, shows that no more than seven seats need to be transferred when compared to the 2024–2029 composition as decreed by Council's decision of September 2023. Finally access to a **model calculator** is indicated.

1. POWER COMPROMISE

The Power Compromise is an allocation system to distribute the seats of the EP between the Member States. The system pays due tribute to the representation of European citizens as individuals as well as the representation of the **citizenries** of the Member States as a whole.

Collective citizenries and individual citizens are taken into account in two ways. Firstly, every Member State is allocated the same number of seats, called **base seats**. For instance, with four base seats for each of 27 Member States, 108 seats are committed. In a parliament of 720 seats, 612 seats remain available for distribution. Secondly, these remaining seats are apportioned according to the sizes of the citizenries, i.e. according to the population figures of the Member States, thereby honouring Union citizens as individuals.

However, since the Member States' population sizes differ enormously, strict adherence to population figures belittles small Member States to an extent which is deemed politically detrimental. Therefore, for the purpose of apportioning the remaining seats, the Power Compromise downsizes raw population figures to **adjusted population units**. It does so in a way such that larger Member States are scaled down relative to smaller Member States. The adjusted population units then form the source for the apportionment of the remaining seats.

The adjustment is carried out by raising any raw population figure to a certain power which is common to all Member States. As an example, the current specification of the Power Compromise applied to the 2024-2029 EP is phrased as follows: *Every Member State is assigned four base seats, plus one seat per 28,321 adjusted population units or part thereof, where the adjusted population units are obtained by raising the QMV-population figures to the power 0.8095.* Use of **power calculations** is reflected by the system's name, Power Compromise. This approach matches well the criteria stipulated by primary and secondary Union law.

2. PRIMARY AND SECONDARY CRITERIA

The allocation of the seats of the EP between the Member States is referred to in legal terms as the **composition** of the EP (Art. 14(3) TEU). The Power Compromise yields compositions respecting and abiding by the rules which govern the Union. Every Member State is allocated a number of seats between six and ninety-six (Art. 14(2) TEU). The minimum of six seats is fully utilized for the smallest State. The larger the population of a Member State, the greater its entitlement to a large number of seats. However, the Power Compromise makes use of the maximum of ninety-six seats only when necessary, such as under current circumstances. Generally, in a growing Union, ninety-six seats may become out of reach even for large States.

A politically very sensitive – and procedurally most opaque – demand is that *Representation of citizens shall be degressively proportional* (Art. 14(2) TEU). An EP resolution of 2007 interprets degressive proportionality to be an expression of *the principle of solidarity, whereby the more populous States agree to be under-represented in order to allow the less populous States to be represented better*.[1] This interpretation renders the term **degressive representation**, or simply degressivity, more meaningful than the paradoxical notion of degressive proportionality.

A workable specification was established by the European Council's decision in 2013 and reissued in 2018 and 2023.[2] Degressivity is to be defined as follows: The representation ratio of a more populous Member State is to be larger than the representation ratio of a less populous Member State, where a state's **representation ratio** is the ratio between the state's population figure and its number of seats before rounding to whole numbers. Conceptually, a Member of the EP from a more populous Member State is to represent more citizens than each Member of the EP from a less populous Member State. The tables below verify that the representation ratios are degressive. The Power Compromise thus proves to be firmly rooted in primary and secondary Union law.

3. POPULATION FIGURES

Vital input data for the Power Compromise are the Member States' population sizes. The question of whom to count, or not to count, is subtle and delicate. The European Union has answered the question for its business when setting up the Qualified Majority Voting rule for its Council. These **QMV-population** figures, as decreed by the Council, are publicized annually in December for the subsequent calendar year.[3] Since the Council and the EP are organs of the European Union with joint governance responsibility, the same population figures need to be taken into consideration when deciding on the allocation of seats in the EP.

The sample applications in Section 5 make use of the 2023 QMV-population figures since they were available in time for Council's decision on the 2024–2029 composition. Reliance on population sizes that are agreed upon by the Union and utilized in the Council, and adherence to the sequence of steps that are prescribed in the allocation calculations provide the guarantee that the Power Compromise is objective, fair, durable and transparent.

1 OJ C 207 E (4.9.2008) 132-138.

2 OJ L 181 (29.6.2013) 57–58, OJ L 165 I (2.7.2018) 1–3, OJ L 238 (27.9.2023) 114–116. Council's decisions shun any population figures. Neither concordance (i.e. more populous Member States command at least as many seats as less populous Member States) is verifiable nor is degressivity.

3 See the listing at www.math.uni-augsburg.de/htdocs/emeriti/pukelsheim/bazi/literature.html#QMV-Pop

4. SYSTEM PARAMETERS

The calculations that are called for by the Power Compromise involve three **system parameters**: the power parameter, the number of base seats, and the divisor. For instance, consider Table 1. The power value 0.8095 is determined so that the largest Member State is allocated just 96 seats. The number of base seats is set at four whence the smallest Member State receives six seats. The divisor 28,321 ensures that the sum of all seats becomes exactly equal to the size of the EP, 720.

Generally, several values for the power parameter are feasible for the above prescription, with distinct seat allocations. In Table 1, these values are 0.8095, 0.81, 0.812, 0.815, 0.817 and 0.81746. For the largest Member State, they lead to the unrounded seat numbers 95.04, 95.2, 95.5, 95.8, 95.9 and 95.9995, respectively, all of which justify 96 seats. The Power Compromise selects the smallest value, 0.8095, for the reason that, considering all 27 Member States, the accompanying composition then is most degressive. This is expressed by saying that the largest Member State realizes **just** 96 seats.[4]

It may happen someday, in an ever-larger Union, that even for large Member States their seat contingents stay well below the maximum cap of 96 seats.[5] Insistence on always fully utilizing the maximum threshold is too restrictive generally. In cases when capping is not activated the power parameter would attain the value one, adjusted population units would be plainly equal to raw population figures, and the adjustment detour could be omitted altogether. This simplified procedure is called the **Cambridge Compromise**.[6]

5. TABLES

Table 1 exhibits the Power Compromise, using the 2023 QMV-population figures to allocate a total of 720 EP seats, as in the 2023 Council decision. For the sake of readability power results and representation ratios are reported here by rounding them to the nearest whole numbers.

The effects of down-sizing are noticeable. The German population, 83,203,320, when raised to the power 0.8095, is reduced to 2,578,421 adjusted units, a drastic reduction to three per cent of the raw figure. In contrast, Malta's population 520,971 is reduced to 42,439 adjusted units, a comparatively mild reduction to eight per cent of the raw figure. Regrettably, interim population units lack any reasonable interpretation. What does it mean when the Maltese people, 520,971 human beings, are converted into 42,439 "units"? Does this mean that only eight per cent of the citizenry is accounted for? Or eight per cent of each individual? Neither understanding seems helpful, the meaning of the adjusted population units remains obscure.

The transition from raw population figures to adjusted population units reveals some tension between the principles of equality of Union citizens and direct representation (Art. 9 and 10(2) TEU), and the principle of degressivity (Art. 14(2) TEU). Equality and directness call for an equal treatment of all individual citizens irrespective of their provenance. Degressive representation permits a degree of priority to the citizens of less populous Member States. The Power Compromise delivers greater degressivity, at some cost to civic equality.

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4 Cf. [1] G.R. Grimmett/K.-F. Oelbermann/F. Pukelsheim: A power-weighted variant of the EU27 Cambridge Compromise. Mathematical Social Sciences 63 (2012) 136–140. [2] EP Directorate-General for Internal Policies, Policy Department C: The Electoral Reform of the EP: Composition, Procedure and Legitimacy. PE 510.002, February 2015. [3] EP Directorate-General for Internal Policies, Policy Department C: The Composition of the European Parliament, Workshop. PE 583.117, February 2017. [4] Sect. 12.9 "Power Compromise" in F. Pukelsheim: Proportional Representation, With a Foreword by Andrew Duff MEP, Second Edition. xxvii+342 pp. Springer 2017. [5] F. Pukelsheim/G.R. Grimmett: Degressive representation of Member States in the European Parliament 2019–24. Representation 54 (2018) 147–158. [6] A. Duff: Constitutional Change in the European Union. vii+131 pp. Springer 2022.

5 If the UK were to return and Ukraine to accede, no Member State would be eligible for 96 seats.

6 The Cambridge Compromise is the allocation system unanimously recommended by the participants of the Cambridge Apportionment Meeting, convened by AFCO in January 2011, see EP Directorate-General for Internal Policies, Policy Department C: The Allocation Between the EU Member States of the Seats in the European Parliament – Cambridge Compromise. PE 432.760, March 2011.

In contrast, the Cambridge Compromise may be viewed as prioritizing equality over degressivity, see **Table 2**. In the setting chosen, though, capping is unavoidable. There is an increased bunching of States near the maximum, disadvantaging citizens of capped Member States relative to those of other large States. Compared to the prospective 2024–2029 contingents, thirty-three seats need to be transferred, rather than seven, and losses and gains cluster in groups of States, rather than spreading randomly. The Cambridge Compromise, though more transparent, is outperformed by the Power Compromise, for the time being. Anyhow, the challenge is not mathematical power for procedural finesse, but political power for decisive action.

6. MODEL CALCULATOR

Tables 1 and 2 originate from the **model calculator** BAZI which we provide in the Internet as a free Java program. It permits control and variation of the States' population figures, the number of States, the seat total, and the apportionment method.

In order to install the program, download the file "Bazi_Version_2024.02.tar.gz" from the site www.th-rosenheim.de/bazi. Unzip the gz-file, then unpack the resulting tar-file. Open the main program file "bazi.jar" and choose a language. On the BAZI interface, open the menu "Database", select Europe > EP composition > EU27 2023pop+PowCom2024-2029, and tell BAZI to "Go!". The output panel will exhibit the allocation. You can mark the output (Ctrl+A), copy it (Ctrl+C), and embellish the layout in your favourite editor.

For more extensive experiments, one may create one's own input files. To this end, generate a file in a directory of your choice as follows. In the menu "File" select the option "Save input", thus exporting into your directory a file whose name extension is ".bazi". The file, in plain ASCII format, can be opened and edited with any editor. The organization of the material in the file is self-explanatory. Update the data in the file to your liking. Then import it into BAZI through selecting in the menu "File" the option "Open input", and "Go!".

7. FUTURE OUTLOOK

The Power Compromise provides a proposal of a system for the allocation of seats in the EP that can be applied on a permanent basis, irrespective of variations in Member States' populations, the number of Member States, and the total number of EP seats.

The versatility of the Power Compromise equips the EP with an increased freedom of choice to split the available seats into two parts. One part is allocated between the Member States and then filled by means of domestic elections. The other part is elected via transnational lists for which European political parties were to campaign in a Union-wide constituency, as declared to be the official policy of the EP in a resolution of 3 May 2022.[7] This may help paving the way to set up a European Electoral Law of novel type which embeds domestic ambitions into the overall Union and for which the attribute "European" is truly to the point.[8]

7 OJ C 465 (6.12.2022) 171–198.

8 EP resolution of 22 November 2023.

Table 1: Power Compromise

Member State	2023 QMV-Population	Adjusted Pop. Units	Base + Adj./Div.	Represent. Ratio	PowCom Seats	Seats 2024–29	Seat Transf.
Germany	83,203,320	2,578,421	4 + 91.04	875,431	96	96	0
France	67,842,582	2,185,753	4 + 77.2	835,728	82	81	+1
Italy	59,607,184	1,968,359	4 + 69.5	810,963	74	76	−2
Spain	47,432,805	1,636,009	4 + 57.8	767,935	62	61	+1
Poland	37,654,247	1,357,130	4 + 47.9	725,242	52	53	−1
Romania	19,038,098	781,367	4 + 27.6	602,668	32	33	−1
Netherlands	17,734,036	737,751	4 + 26.05	590,159	31	31	0
Belgium	11,631,136	524,350	4 + 18.5	516,606	23	22	+1
Czechia	10,603,810	486,532	4 + 17.2	500,671	22	21	+1
Sweden	10,545,457	484,364	4 + 17.1	499,722	22	21	+1
Portugal	10,440,000	480,439	4 + 16.96	497,995	21	21	0
Greece	10,352,042	477,159	4 + 16.8	496,542	21	21	0
Hungary	9,689,010	452,265	4 + 15.97	485,196	20	21	−1
Austria	8,967,500	424,803	4 + 14.9996	471,984	19	20	−1
Bulgaria	6,838,937	341,133	4 + 12.05	426,229	17	17	0
Denmark	5,864,667	301,226	4 + 10.6	400,697	15	15	0
Finland	5,541,241	287,707	4 + 10.2	391,364	15	15	0
Slovakia	5,434,712	283,221	4 + 10.0004	388,183	15	15	0
Ireland	5,060,004	267,307	4 + 9.4	376,531	14	14	0
Croatia	3,862,305	214,809	4 + 7.6	333,394	12	12	0
Lithuania	2,805,998	165,854	4 + 5.9	284,693	10	11	−1
Slovenia	2,107,180	131,534	4 + 4.6	243,763	9	9	0
Latvia	1,875,757	119,712	4 + 4.2	228,001	9	9	0
Estonia	1,331,796	90,726	4 + 3.2	184,882	8	7	+1
Cyprus	904,700	66,342	4 + 2.3	142,641	7	6	+1
Luxembourg	643,648	50,362	4 + 1.8	111,392	6	6	0
Malta	520,971	42,439	4 + 1.5	94,748	6	6	0
Sum (Param.)	**447,533,143**	**(0.8095)**	**(28,321)**	**–**	**720**	**720**	**+7–7**

Notes:

Power Compromise allocation system (PowCom):
Every Member State is assigned four base seats, plus one seat per 28,321 Adjusted Population Units or part thereof, where the Adjusted Population Units are obtained by raising the QMV-Population figures to the power 0.8095.

System parameters:
The system determines three parameters: the power parameter (0.8095), the number of base seats (4), and the divisor (28,321). They are such that the largest Member State is allocated just 96 seats and the smallest Member State exactly six seats, and that the EP size is 720 seats.

Sample calculations for Malta:
Adjusted Population Units = $520{,}971^{0.8095} = 42{,}439$.
Quotient = Base + (Adjusted Population Units / Divisor) = 4 + 1.5 = 5.5.
Representation Ratio = QMV-Population / Quotient
$= 520{,}971 / (4 + 520{,}971^{0.8095} / 28{,}321) = 94{,}748$.
Power Compromise Seats = Quotient 5.5 rounded upwards = 6 seats.

Maximum cap 96 is guaranteed since built into determination of the power parameter 0.8095.

Verification of degressivity:
All Representation Ratios, i.e. QMV-Population / Quotient before rounding, are decreasing when passing from more populous to less populous Member States.

Column "Seat Transfers" shows the difference of "PowCom Seats" and "Seats 2024–2029".

Table 2: Cambridge Compromise

Member State	2023 QMV-Population	Base + Pop./Div.	Represent. Ratio	CamCom Seats	Seats 2024-2029	Seat Transfers
Germany	83,203,320	~~5 + 110.3~~	~~721,317~~	96	96	0
France	67,842,582	5 + 89.98	714,306	95	81	+14
Italy	59,607,184	5 + 79.1	709,148	85	76	+9
Spain	47,432,805	5 + 62.9	698,484	68	61	+7
Poland	37,654,247	5 + 49.9	685,379	55	53	+2
Romania	19,038,098	5 + 25.2	629,370	31	33	−2
Netherlands	17,734,036	5 + 23.5	621,812	29	31	−2
Belgium	11,631,136	5 + 15.4	569,430	21	22	−1
Czechia	10,603,810	5 + 14.1	556,239	20	21	−1
Sweden	10,545,457	5 + 13.99	555,433	19	21	−2
Portugal	10,440,000	5 + 13.8	553,959	19	21	−2
Greece	10,352,042	5 + 13.7	552,713	19	21	−2
Hungary	9,689,010	5 + 12.9	542,797	18	21	−3
Austria	8,967,500	5 + 11.9	530,834	17	20	−3
Bulgaria	6,838,937	5 + 9.1	486,058	15	17	−2
Denmark	5,864,667	5 + 7.8	458,963	13	15	−2
Finland	5,541,241	5 + 7.3	448,715	13	15	−2
Slovakia	5,434,712	5 + 7.2	445,182	13	15	−2
Ireland	5,060,004	5 + 6.7	432,077	12	14	−2
Croatia	3,862,305	5 + 5.1	381,559	11	12	−1
Lithuania	2,805,998	5 + 3.7	321,734	9	11	−2
Slovenia	2,107,180	5 + 2.8	270,336	8	9	−1
Latvia	1,875,757	5 + 2.5	250,510	8	9	−1
Estonia	1,331,796	5 + 1.8	196,828	7	7	0
Cyprus	904,700	5 + 1.2	145,922	7	6	+1
Luxembourg	643,648	5 + 0.9	109,957	6	6	0
Malta	520,971	5 + 0.7	91,544	6	6	0
Sum (Divisor)	**447,533,143**	**(754,000)**	**–**	**720**	**720**	**+33−33**

Notes:

Cambridge Compromise allocation system (CamCom):
Every Member State is assigned five base seats, plus one seat per 754,0000 Union citizens or part thereof, imposing a maximum cap of 96 seats.

System parameters:
The system determines two parameters: the number of base seats (5), and the divisor (754,0000). They are such that the smallest Member State is allocated six seats, and that the EP size is 720 seats.

Sample calculations for Malta:
Quotient = Base + (QMV-Population / Divisor) = 5 + 0.7 = 5.7.
Representation Ratio = QMV-Population / Quotient
= 520,971 / (5 + 520,971 / 754,0000) = 91,544.
Cambridge Compromise Seats = Quotient 5.7 rounded upwards = 6 seats.

Maximum cap only active for Germany:
With quotient 5 + 110.3 = 115.3 too large, Germany is capped at 96 seats.

Verification of degressivity:
All Representation Ratios, i.e. QMV-Population / Quotient before rounding, are decreasing when passing from more populous to less populous Member States.

Column "Seat Transfers" shows the difference of "CamCom Seats" and "Seats 2024–2029".

4 February 2024