

The Composition of the European Parliament- Methods to allocate EP seats to Member States

KEY FINDINGS

- The concept of degressive proportionality, (henceforth DP), introduced by the Lamassoure-Severin report, has a very broad meaning. For example, allocating 26 seats for each of the 28 states fulfils the requirements of the Treaty of Lisbon. Even if the least populated country gets the minimum of 6 seats and the most populated 96 seats, it is possible to set up many different allocations which can also give a wide range of results for the same state.
- This paper proposes limiting the DP concept because MEPs on occasion, vote on the basis of national preferences and on other occasions vote on the basis of ideological affinity. Depending on whether a greater influence of national preferences or ideology is desired, we can use one from a series of parametric methods. We propose allocating half of the seats in the EP in proportion to Member State populations (ideological affinity) and the other half in proportion to the square root of their populations (national preferences), rounding up with the Adams method and without minimum or maximum limitations. The minimum and maximum limitations of 6 and 96, respectively, are included in the formula.
- The current EP composition contains allocations to some states that contradict DP, for example when comparing the seats allocated to Germany with those allocated to France, UK or Spain. A new composition of the EP must reverse this situation, and this will mean either those allocated to France, UK or Spain. A new composition of the EP must reverse this situation, whereby either Germany's representation will have to decrease or the other Member States' increase (or both). Likewise, Lithuania which currently has a population of less than 3 million and Ireland with more than 4.5 million, both have 11 MEPs. This unbalanced situation is unreasonable.
- The formula to be adopted should not differ significantly from the current one, with the exception of the previously noted inconsistencies.

1. Introduction

From the very beginning of the EP's existence until now, the seat allocation for each EU Member State has always been determined through negotiations, so that after every Union enlargement, or if a state's population changes significantly, new negotiations are required.

The need for a formula to distribute seats is a deficiency that has been frequently reported over the last decades. For example, Hosli and Machover (2004) commented: "there is neither a formula to determine the vote weight of each State on the Council of the EU nor a formula to calculate the number of seats in Parliament".

The initial idea of degressive proportionality refers to assigning fewer seats to larger states than their corresponding proportion, in order to assign more seats to smaller states. Of course a country that is more populous than another cannot have fewer representatives.

In order to develop formulas for allocating EP seats and also to determine the members of the European Commission, the then EP vice-president Jacek Saryusz-Wolski proposed a meeting in 2007 that was held in the Natolin European Centre in Warsaw organised by Marek A. Cichocki and Karol Jęczkowski. The papers were made into a book (Cichocki and Jęczkowski, 2010) and, though at that time the concept of degressive proportionality was not rigorously defined, the book contains some papers that propose degressively proportional distributions which meet the established limitations. This book also contains other articles that recommend voting systems for the Council of the European Union (Słomczyński, W. and Jęczkowski K., 2010).

Also in 2007, two Members of the European Parliament Alain Lamassoure and Adrian Severin (Lamassoure and Severin, 2007) rigorously defined the term degressive proportionality (DP) which is included in a resolution of the EP (European Parliament, 2007). Specifically, the meaning adopted was that the ratio between the population and the number of seats of each Member State must be greater for the more populous state, when any two states are compared.

However, this definition does not imply a particular method of seat allocation in the EP.

That is why, after the 2009 elections, Andrew Duff, MEP and member of the AFCO Committee of the EP, tried to obtain a formula to distribute EP seats among EU member States. Specifically, he promoted a meeting of electoral systems researchers at the University of Cambridge under the coordination of Professor Geoffrey Grimmett (2011). The result of this meeting was a Report for the EU called the Cambridge Compromise (or CamCom). In it a somewhat more flexible definition of the term DP is agreed on (considering the number of seats before rounding, to obtain the ratio between population and seats). Finally, the Report provided a simple, transparent and durable formula for distribution of seats in the EP.

The journal *Mathematical Social Science* recognized the difficulty of the problem and published a special issue, No. 63 (Laslier, 2012) in which many researchers presented new proposals for allocating seats in the EP.

Many other articles have been written, before and after the cited events; however the EP has not yet accepted a particular method. The composition for the period 2014-2019 had to be agreed by negotiation in which MEPs Gualtieri, R. and Trzaskowski, R. (2013) proposed a criterion for seat distribution: "Nobody gains seats and nobody loses more than one". These two MEPs also achieved a "pragmatic solution" for the 2014-2019 parliamentary term, which was finally approved although it does not fully comply with the Lisbon Treaty provisions.

In this briefing, section 2 describes how some assignments in the current composition of the EP are contrary to the idea of DP and how others are not reasonable. In section 3 arguments are given to remove constraints (maximum 96 seats and minimum 6 seats). Section 4 defends and justifies the concept of degressive proportionality in EP seat distribution. In section 5, a parametric family of methods to obtain the composition of the EP is proposed. These methods are based on a more precise and restrictive definition of degressive proportionality than the proposal in the "Cambridge Compromise". All methods belonging to this parametric family give Malta fewer than six seats. However, as it is necessary to respect the limits imposed by the Lisbon Treaty, we have made a small modification to obtain a method, called 0.5-DPL, which respects all constraints. The results of the proposed method and those obtained with the "Cambridge Compromise" method, the parabolic method and the potential method, are compared with the current distribution and we can observe that the 0.5-DPL method gives a closer allotment to the current distribution. The proposed method is applicable to any other scenario where there are changes in the states, in their populations, and in the minimum and maximum requirements or in the size of the EP. Thus, in section 6 we show a possible composition of the EP after Brexit for which we have proposed an EP with 701 MEPs, maintaining the minimum 6 and maximum 96 for each state. We also include a table with the allocation of seats following a possible EU enlargement to several Western Balkan countries and, finally, in section 7 we present the main conclusions of this briefing.

2. NON-DEGRESSIVITY AND OTHER FORMS OF ILLOGICAL BEHAVIOUR IN CURRENT EP COMPOSITION

Currently, the population/seat ratio for the five most populous countries is:

Germany:	$81089331/96 = 844681$	Italy:	$61438480/73 = 841623$
France:	$66352469/74 = 896655$	Spain:	$46439864/54 = 859997$
UK:	$64767115/73 = 887221$		

Therefore, there is inverse degressivity when comparing Germany with France, the United Kingdom and Spain, since they all have a higher population/seat ratio than Germany although they are less populated. Specifically Spain has almost 35 million fewer inhabitants than Germany. Thus, this situation has to be reversed either by diminishing the representation of Germany or by increasing the representation of the other countries (or both).

Another important example of inverse degressivity occurs when comparing Romania with The Netherlands. The Netherlands should receive more seats or Romania's representation should be decreased.

The new composition of the EP should also lead to another major change in the unjustified allocation of seats to Lithuania, as Lithuania has a population of less than 3 million and currently has the same number of seats as Ireland whose population exceeds 4.5 million.

Apart from these considerations, the allocation obtained with the formula that is adopted should give results close to present day ones for the rest of the Member States. The formula should work well even if the constraints 6 and 96 were to be replaced by other numbers or even if they were abolished altogether.

3. WHY DOES THE MINIMUM CORRESPOND TO 6 SEATS AND THE MAXIMUM TO 96?

The Lisbon Treaty stipulates that no state may receive more than 96 seats or fewer than 6 seats.

These maximum and minimum limitations were a response to a political agreement. However, no justification of these values was given and, moreover, if they were justified it would be for a similar situation to that which existed in 2007. Also at that time, the EP had fewer powers than at present and it is now necessary to analyze these limitations. Moreover, the EU can be extended by accepting new States while other Member States may wish to leave the EU. In any event, the population of Member States can change from one election to the next, more so in some states than in others.

Therefore, the minimum and maximum limitations that the Lisbon Treaty gives to Member States concerning their number of seats in the composition of the EP are not guaranteed to last. Let us work on the assumption that a very small state, for example having about 100,000 inhabitants, were to join the EU: how could assigning 6 seats to this state be justified? If that were to happen, an MEP from this hypothetical small state would represent fewer than 16,500 inhabitants in the Union, whereas an MEP from Malta would represent 70,000 and an MEP from one of the most populous countries would represent about one million. Such differences would be difficult to justify logically.

Moreover, the same goes for the maximum limitation of 96 seats. Imagine that several of the most populated countries in the EU (but not Germany) decide to leave the EU. In that case, if the size of EP continued to be 751, then what purpose would imposing a limit of 96 seats on Germany serve?

Therefore, for the proposed method no maximum or minimum limits are set initially. In another phase, the formula can include the current limitations (of the Lisbon Treaty) or other new limitations.

4. WHY MUST THE REPRESENTATION IN THE EUROPEAN PARLIAMENT NOT BE PROPORTIONAL?

The voting behaviour of MEPs does not always follow the same pattern. Sometimes MEPs join forces with their parliamentary group, while on other occasions they tend to vote more in accordance with their nationality. Other times, finally, they follow neither of the previous two patterns.

When MEPs vote according to their ideology, as in national parliaments, proportional seat allocation to the people who elect them is justified.

However, when MEPs vote according to their nationality the most reasonable distribution is obtained in proportion to the square root of its population, because in this case a similar "citizen power" is obtained in proportion to the square root of their inhabitants [Barberá (2006), Beisbart (2007), Penrose (1946), Machover (2004), Cichocki and yczkowski (eds) (2010)].

Therefore, a proportional allocation of EP seats among Member States would be unfair to the citizens of smaller states because their power of vote, when their MEPs vote as a block, is much smaller than the power of the citizens of the most populous countries.

Moreover, the seat allocation in the EP in proportion to the square root of the population of the states would give all EU citizens more equal power if all the representatives of each state were to vote en bloc, but that is not so in many cases and therefore it would also be unfair.

The proportional allocation according to the number of inhabitants assigns more representatives to the most populous countries than proportional distribution to the square root of inhabitants, and the opposite occurs with the least populated countries.

Thus, the most populous countries are interested in allocations closest to proportional representation to inhabitants and the least populated countries are interested in an allocation closest to proportional representation to the square root of inhabitants.

Therefore, there is no justification for a set distribution in the EP in which:

1. The most populous country obtains more seats than it would obtain with a proportional allocation to its inhabitants.
2. The least populated country receives more seats than it would obtain with a proportional allocation to the square root of the number of inhabitants.

The perfect method will never exist, but perhaps a method that combines proportional representation to population with proportional representation to the square root of the number of inhabitants is one of the most suitable outcomes for determining the composition of the EP.

The question is: what combination between the two distributions should we use?

Thus, the more influence exercised by the distribution in proportion to the square root, the more degressive it will be.

Therefore, we can define the degree of DP, r , in terms of the proportion of seats allocated to the states in proportion to the square root of their population. This definition is clarified in the next section, which also contains the distribution tables corresponding to different degrees of DP.

5. THE FAMILY OF r -DP METHODS

As discussed above, a part r of the seats in the EP will be distributed in proportion to the square root of the population of each country and the other part $(1-r)$ in proportion to its population.

Thus, r is a parameter that can take any value in the interval $[0, 1]$. The corresponding method is denoted by r -DP and we shall say that this method has a degree of degressivity r . The parametric r -DP method yields different sets of seat representation for states in function of their degree of degressivity.

For example, $r = 0.4$ means to allocate 40% of seats in proportion to the square root of population and, as $(1-r) = 0.6$, 60% of seats in proportion to the population.

Specifically, once the degree of degressivity r is fixed, the representation of state i , with population p_i would be proportional to its adjusted quota q_i :

$$q_i = \frac{751 * r * \sqrt{p_i}}{\sum_{i=1}^n \sqrt{p_i}} + \frac{751 * (1-r) * p_i}{\sum_{i=1}^n p_i} \quad (1)$$

The rounding of fractions will be in accordance with the Adams method. So any Member State receives at least one seat.

Thus we obtain the value of k which verifies

$$\sum_{j=1}^n \lceil kq_j \rceil = 751 \quad (2)$$

Where $\lceil x \rceil$ is the integer number which is greater or equal to x .

And the allotment S_r is:

$$S_r = (\lceil kq_1 \rceil, \lceil kq_2 \rceil, \dots, \lceil kq_{28} \rceil) \quad (3)$$

The question now is, what value to choose for r ? Maybe it should not be a value either close to zero or one.

Degressivity of S_r

Each allotment S_r is degressively proportional as stated in the Cambridge Compromise

An important result is: $\forall r \in [0,1]$, the obtained distribution S_r is degressively proportional as indicated by the Cambridge Compromise, i.e. the ratios between populations and seats (before rounding) are decreasing as we move from more populated states to less populated ones.

$$\frac{q_i}{p_i} = \left(\frac{751 * r * \sqrt{p_i}}{\sum_{i=1}^n \sqrt{p_i}} + \frac{751 * (1-r) * p_i}{\sum_{i=1}^n p_i} \right) / p_i = \frac{c_1}{\sqrt{p_i}} + c_2 \quad (4)$$

When r is fixed, c_1 and c_2 are constants in (4). So the ratio p_i/q_i is decreasing when p_i decreases.

Some particular allocations obtained through different degrees of DP

Table 1 shows the results for various values of r ranging between 0 and 1. The last column shows the current allocation. The Adams method has been used for rounding.

Table 1. Composition of the EP with different degrees of DP and current allotment

Country	Population	S ₀ -Pro.	S _{0.40}	S _{0.50}	S _{0.60}	S ₁ =PSR	Current
Germany	81089331	118	98	93	88	68	96
France	66352469	97	83	79	75	61	74
U.K.	64767115	94	81	77	74	60	73
Italy	61438480	89	77	74	71	59	73
Spain	46439864	68	61	60	58	51	54
Poland	38005614	56	52	51	50	46	51
Romania	19861408	29	31	32	32	34	32
The Netherlands	17155169	25	28	28	29	31	26
Belgium	11258434	17	20	21	22	26	21
Greece	10846979	16	20	21	22	25	21
Czech Republic	10419743	16	19	20	21	25	21
Portugal	10374822	16	19	20	21	25	21
Hungary	9855571	15	18	19	20	24	21
Sweden	9790000	15	18	19	20	24	20
Austria	8581500	13	17	18	19	22	18
Bulgaria	7202198	11	15	16	17	21	17
Denmark	5653357	9	13	13	14	18	13
Finland	5471753	8	12	13	14	18	13
Slovakia	5403134	8	12	13	14	18	13
Ireland	4625885	7	11	12	13	17	11
Croatia	4225316	7	10	11	12	16	11
Lithuania	2921262	5	8	9	10	13	11
Slovenia	2062874	3	7	7	8	11	8
Latvia	1986096	3	6	7	8	11	8
Estonia	1313271	2	5	6	6	9	6
Cyprus	847008	2	4	5	5	7	6
Luxembourg	562958	1	3	4	4	6	6
Malta	429344	1	3	3	4	5	6
Total	508940955	751	751	751	751	751	751

Source: <http://eur-lex.europa.eu/legal-content/es/TXT/?uri=CELEX:32015D2393&qid=1482053862378>

Remarks 1

- Obviously the S_0 and S_1 values, for proportional allocation to population and proportional allocation to the square root of the population (respectively), are disposable, because they are far removed from the results obtained by negotiations in the past. However, values of r close to 0.5 lead to allocations which are very similar to current ones for all countries except those affected by the minimum limitation, inverse degressivity and Lithuania as indicated in section 2.
- In comparison with the last column, which contains the current allocation of seats, it can be observed that, when the distribution tables are calculated with the three values of r close to 0.5, France, U.K., Spain and The Netherlands are the only countries in each case which receive more seats than their current apportionment. In part this is quite logical, because the present distribution is contrary to degressive proportionality among the most populous states. For example France is the country in the EU whose MEPs represent most inhabitants, and in the case of Spain its MEPs represent more inhabitants than MEPs from Italy or Germany, even though Germany has almost double the population of Spain. By contrast, there are other countries in the five distribution tables receiving fewer seats than they actually have in the EP. They are the three least populated states (Malta, Luxembourg and Cyprus) together with Lithuania, Austria and Hungary.

- c. Perhaps the choice $r = 0.5$ is the one which is the most consistent with current allocation. However, Scully et al., (2012) states that political and ideological affiliations explain 60 per cent of the variance in the personal positions of MEPs on EU policy issues and the remaining 40 per cent is explained by national affiliations. Thus, 0.4 is another important value of r that must be considered.

On the other hand, Dniestrza ski (2014) introduces a measure of degressivity $MD(S)$ for distribution S , as

$$MD(S) = \frac{\sum_{i=1}^n \left| s_i - \frac{H^* p_i}{V} \right|}{\sum_{i=1}^n \left| \frac{H}{n} - \frac{H^* p_i}{V} \right|}$$

Here, V is the total population of the European Union.

If we calculate the measure of degressivity $MD(S_r)$ for the five previous distributions we obtain the following results:

r	0	0.40	0.50	0.60	1
$MD(S_r)$	0.02	0.21	0.26	0.30	0.50

Therefore the degree of degressivity r established in this paper reproduces the same order as the degree of degressivity established by Dniestrza ski, but the values are different.

Although the values $MD(S_r)$ in these examples, are approximately $r/2$, that is not always the case.

In fact, the rate of Dniestrza ski is more appropriate for measuring disproportionality than measuring degressive proportionality, because the formula does not distinguish whether the represented countries are the most populated or the least populated.

The proposed method

In view of the negotiations that led to the composition of the EP for the term 2014-2019, we consider that an appropriate method to distribute EP seats may be the one which has a degree of degressivity $r = 0.50$, the 0.5-DP method, (50% of the seats in proportion to the number of inhabitants and 50% in proportion to the square root of the number of inhabitants), whose distribution is obtained by applying the expressions (1)-(3) with $r = 0.5$ and $k = 0.982$. It is contained in the fifth column of Table 1.

The proposed method with the limitations 6 and 96

To obtain the allotment with the proposed methods 0.5-DP while respecting the limitations 6 and 96 we must find a value of k such that

$$\sum_{j=1}^n \text{median}(6, \lceil kq_j \rceil, 96) = 751 \tag{5}$$

We call it the 0.5-DPL method. The corresponding allocation is obtained using $k = 0.973$.

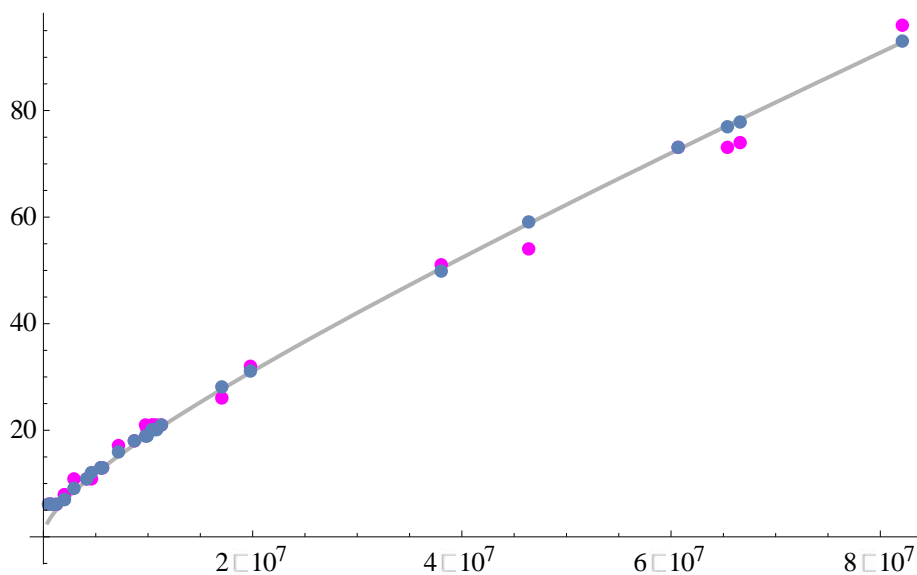
Then the assignments before rounding are in column 2 in Table 2, the allotment is in column 3 and the ratio of degressivity in column 4. Finally the degressivity for the current allotment is in the last column of Table 2.

Table 2. Degressivity of the proposed and current methods

Country	BR=Before rounding	0.5-DPL	Pop./BR	Pop./Current
Germany	91.49	92	886319	844681
France	77.74	78	853518	896655
UK	76.24	77	849516	887221
Italy	73.07	74	840817	841623
Spain	58.52	59	793573	859997
Poland	50.07	51	759050	745208
Romania	30.73	31	646320	620669
The Netherlands	27.62	28	621114	659814
Belgium	20.48	21	549728	536116
Greece	19.96	20	543436	516523
Czech Republic	19.41	20	536823	496178
Portugal	19.35	20	536167	494039
Hungary	18.68	19	527600	469313
Sweden	18.59	19	526627	489500
Austria	16.99	17	505091	476750
Bulgaria	15.09	16	477283	423659
Denmark	12.85	13	439950	434874
Finland	12.57	13	435303	420904
Slovakia	12.47	13	433291	415626
Ireland	11.27	12	410460	420535
Croatia	10.63	11	397490	384120
Lithuania	8.41	9	347356	265569
Slovenia	6.79	7	303811	257859
Latvia	6.63	7	299562	248262
Estonia	5.18	6	218879	218879
Cyprus	4.01	6	141168	141160
Luxembourg	3.18	6	93826	93826
Malta	2.73	6	71557	71557
		751		

Source: Own elaboration

Graphically, the proposed (blue) and current (red) allotments are shown in the following graph



6. THE COMPOSITION OF THE EP AFTER BREXIT

Size of the new EP in 2019

The U.K. withdrawal from the EU frees up its 73 seats and makes it easier to adopt a method which achieves DP, while also reducing EP size from the current size of 751 to 701, as is shown in this paper, because some of the current U.K. seats can be used to correct the current inverse DP between the more populous countries in order to achieve DP. In this situation, few countries lose seats and, more importantly, the number of seats that would be lost is insignificant.

In any case, it should be politically advisable to reduce the size of the EP after the departure of the U.K. so that the possible future incorporation of new states does not lead to loss of seats for current Member States. This would also be useful, if a transnational list is established, which would not require a reduction in the allocation of Member States seats.

Thus, a reduction of between 50 and 60 seats may be adequate to achieve both objectives.

Specifically we will simulate results corresponding to a reduction of 50 seats, so that the EP size is 701 seats.

Comparative allotments in 2019

Table 3 shows the results of our proposed method with limitations 6 and 96 in comparison with other important methods: the Power method (Po), the parabolic method (Pa) and the Cambridge Compromise method (CC).

Table 3. Compositions of EP after Brexit with different methods

Country	Population	S _{0.5L}	Po.	Pa.	CC	Current
Germany	81089331	96	96	96	96	96
France	66352469	82	81	83	90	74
Italy	61438480	77	76	79	84	73
Spain	46439864	62	61	63	65	54
Poland	38005614	53	52	54	54	51
Romania	19861408	33	32	32	31	32
The Netherlands	17155169	29	28	29	27	26
Belgium	11258434	22	21	21	20	21
Greece	10846979	21	21	20	19	21
Czech Republic	10419743	21	20	20	19	21
Portugal	10374822	21	20	20	19	21
Hungary	9855571	20	19	19	18	21
Sweden	9790000	20	19	19	18	20
Austria	8581500	18	18	17	16	18
Bulgaria	7202198	16	16	15	15	17
Denmark	5653357	14	14	13	13	13
Finland	5471753	13	14	13	12	13
Slovakia	5403134	13	14	13	12	13
Ireland	4625885	12	12	12	11	11
Croatia	4225316	11	12	11	11	11
Lithuania	2921262	9	10	10	9	11
Slovenia	2062874	7	9	8	8	8
Latvia	1986096	7	9	8	8	8
Estonia	1313271	6	8	7	7	6
Cyprus	847008	6	7	7	7	6
Luxembourg	562958	6	6	6	6	6
Malta	429344	6	6	6	6	6
Total	444173840	701	701	701	701	678

Remarks 2

- a. All allotments shown in Table 3, except the one in force (Current), respect the degressive proportionality as in the Cambridge Compromise Report which has been established (before rounding).
- b. The sum of the absolute differences between the seats allocated in the present-day distribution (Cur) and that obtained with each of the other four methods is:

$$\sum_{i=1}^{28} |CC_i - Cur_i| = 65 \quad ; \quad \sum_{i=1}^{28} |Pa_i - Cur_i| = 43$$

$$\sum_{i=1}^{28} |Po_i - Cur_i| = 37 \quad ; \quad \sum_{i=1}^{28} |S_{0.5Li} - Cur_i| = 35$$

In the above differences, 23 seats come from the departure of the UK (701-678 = 23), which allows for correction of the inverse degressivity, mainly between Germany vis-a-vis France and Spain. In this way, few states lose representation with respect to the 2014-2019 term.

Using the 0.5- method only DPL five states lose seats (six seats in total): Hungary, Bulgaria, Slovenia and Latvia lose one seat each and Lithuania loses two seats.

Using the Potential method only six states lose seats (seven seats in total): Czech Republic, Portugal, Sweden, Bulgaria and Lithuania lose one seat each, and Hungary loses two seats.

Using the Parabolic method only eight states lose seats (ten seats in total): Greece, Czech Republic, Portugal, Sweden, Austria and Lithuania lose one seat each, and Hungary and Bulgaria lose two seats each.

Using the Cambridge Compromise method eleven states lose seats (twenty seats in total).

So, in this sense we can say that the distribution $S_{0.5L}$, which has been obtained using the 0.5-DPL method, is the nearest to the current distribution.

In addition, the 0.5-DPL method is the only one, of the four previous methods, which does not need limitations.

On the other hand, the entry into force of the Lisbon voting system in the Council from 1 November 2014 (that is the double majority, with 55% of the EU Member States representing 65% of the EU population), favours both the most populous states and the smaller states; so the middle-size states must be compensated through a fairer representation in the EP and the most favourable method for these states is the 0.5-DPL method.

Enlargements of the EU in the 2019-2024 term

If we use the 0.5-DPL method to obtain the composition of the EP with 701 seats in the 2019-2024 term, then the value of k in (5) is $k=0.974$. So the $S_{0.5L}$ apportionment can also be obtained by using the function

$$f(p) = 0.974 \left(\frac{701 * 0.5 \sqrt{p}}{90820.4} + \frac{701 * 0.5 p}{444173840} \right) \tag{5}$$

As in the denominators of (1), the sum of the square root of the populations is 90820.4 and the sum of the populations is 444173840.

If a new country joins the EU during the period 2019-2024, its allocation is obtained by replacing the value of p in (5) by its population, and rounding upwards. If the result is greater than 96, we must allocate 96 seats, if the result does not reach 6, we must assign 6 seats. Table 4 shows the results for several countries.

Table 4. Enlargements of the EU during the 2019-2024 term

Country	P=Population	f(p)	S _{0.5L}
Turkey	78214000	93.36	94
Serbia	7103000	15.48	16
Bosnia and Herz.	3750000	10.16	11
Albania	2887000	8.61	9
Macedonia	2071000	7.01	8
Montenegro	620000	3.44	6

Source for the populations: https://en.wikipedia.org/wiki/List_of_European_countries_by_population

If the six previously mentioned States joined to the EU during the period 2019-2024, the size of the EP would temporarily exceed the maximum of 751 seats by 94 seats. In this case, for the period 2024-2029 there should be a readjustment to the 751 seats, and the results with the 0.5-DPL method would be those that appear in Table 5. In table 5 we consider four scenarios: a) the limitations are 6-96, b) the limitations change to 5-96 (as CamCom suggests), c) the limitations change to 4-96 and d) without limitations.

Table 5. Enlargements of the EU. 2024-2029 term. 0.5-DPL method

Country	Population	6-96	5-96	4-96	No Limitations	Current
Germany	81089331	85	86	86	86	96
Turkey	78214000	83	83	84	84	-
France	66352469	72	73	73	74	74
Italy	61438480	68	69	69	69	73
Spain	46439864	54	55	55	55	54
Poland	38005614	47	47	47	47	51
Romania	19861408	29	29	29	29	32
Netherlands	17155169	26	26	26	26	26
Belgium	11258434	19	19	20	20	21
Greece	10846979	19	19	19	19	21
Czech Rep.	10419743	18	18	19	19	21
Portugal	10374822	18	18	18	19	21
Hungary	9855571	18	18	18	18	21
Sweden	9790000	18	18	18	18	20
Austria	8581500	16	16	16	16	18
Bulgaria	7202198	14	14	15	15	17
Serbia	7103000	14	14	14	14	-
Denmark	5653357	12	12	12	12	13
Finland	5471753	12	12	12	12	13
Slovakia	5403134	12	12	12	12	13
Ireland	4625885	11	11	11	11	11
Croatia	4225316	10	10	10	10	11
Bosnia-Herz	3750000	9	10	10	10	-
Albania	2887000	8	8	8	8	-
Lithuania	2921262	8	8	8	8	11
Macedonia	2071000	7	7	7	7	-
Slovenia	2062874	7	7	7	7	8
Latvia	1986096	7	7	7	7	8
Estonia	1313271	6	5	5	5	6
Cyprus	847008	6	5	4	4	6
Montenegro	620000	6	5	4	4	-
Luxemb.	562958	6	5	4	3	6
Malta	429344	6	5	4	3	6
Total	538818840	751	751	751	751	678

7. CONCLUSIONS

A formula is required to assign seats in the European Parliament to the Member States of the European Union clearly and objectively.

At present, the distribution of EP seats among the 28 Member States diverges from the Lisbon Treaty provisions because it violates the principle of degressive proportionality in the sense proposed by Lamassoure and Severin, and also by the "Cambridge Compromise".

In this paper a new definition of degressive proportionality is given. In fact we establish a degree of degressive proportionality. We further propose to distribute seats in the European Parliament, which in the case of the 2014-2019 parliamentary term would be closer to the current distribution than other methods such as the Cambridge Compromise, the parabolic and the potential methods. The proposed method is transparent, simple and durable.

This paper also includes a critical analysis of the minimum and maximum limits of 6 seats and 96 seats respectively for each Member State, and suggests removing them from a future Treaty.

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