

# Compositional Proportionality among European Political Parties at European Parliament Elections

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**Abstract:** *A new method is proposed for the apportionment of seats in the European Parliament among political parties at European level: compositional proportionality. Compositional proportionality achieves two goals. Firstly, it safeguards the composition of the European Parliament, that is, it realizes the preordained allocation of seats between the Member States. Secondly, it apportions the subset of seats to which it applies proportionally to unionwide vote totals, that is, it reflects the political division of the Union citizens according to the motto “one person—one vote”. Compositional proportionality is demonstrated using the data of the 2014 elections. However, since past elections were contested by domestic parties rather than by European parties, the unionwide vote totals of those domestic parties who joined the same political group in the 2014 European Parliament are hypothetically substituted for the non-existing vote totals of political parties at European level.*

**Keywords:** *Composition of the European Parliament; Degressive Representation; Political Parties at European Level; Transnational Lists; Double Proportionality*

## 1. Introduction

Elections to the European Parliament (EP) are governed by the 1976 European Election Act. Duff (2011) reviews the history of the Election Act and includes a consolidated version of the current 2002 version. The Election Act decrees some common electoral principles that the Member States of the European Union must observe. Yet it leaves a considerable leeway for each Member State to adopt supplementary provisions at the domestic level. Right from the outset, this lack of homogeneity has been evoking proposals to raise the Act’s degree of uniformity.

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The present paper adds to these proposals a method called “compositional proportionality”. Compositional proportionality safeguards the preordained allocation of seats by Member State and, at the same time, evaluates the vote totals of political parties at Union level according to the motto “one person—one vote”. Compositional proportionality is the topic of Section 6.

Sections 2–5 set the stage by reviewing other proposals and by discussing the frame in which these proposals have to function. The most prominent proposal is the introduction of transnational lists. This concept views the European Union as a unitary entity and overcomes sectionalism by Member State (Sect. 2).

However, the EP is extremely sensitive concerning its “composition”, that is, the distribution of the EP seats by Member State (Sect. 3).

The Lisbon Treaty (European Union 2012) subordinates the EP composition to the principle of “degressive proportionality” – or rather: “degressive representation”. The principle stipulates that the citizens of more populous Member States agree to be underrepresented in order to allow the citizens of less populous Member States to be represented better. The Lisbon Treaty thus disregards equality of Union citizens as far as Member State provenance is concerned. Unfortunately, disregard of the equality principle with respect to geographical representation may have grave consequences for the parliamentary representation of the political division of the Union’s electorate (Sect. 4).

Fortunately, there exists a method attenuating the opposition of geographical representation versus political representation in a conciliatory manner: “double proportionality”. Double proportionality treats the two representation tasks as two distinct dimensions. Naturally, this more sophisticated approach is more demanding computationally. On the other hand, it caters successfully to the specific needs of EP elections (Sect. 5).

Compositional proportionality is a variant of double proportionality that allows operating with a proper subset of EP seats, rather than insisting to handle the full set of all seats. It thereby provides a further degree of freedom for the design of the EP electoral system.

## **2. Transnational lists**

The introduction of transnational lists has been in the discussion for quite some time (Duff 2011). The aim is to fill some EP seats by means of a truly European voting process:

- (1) The whole of the European Union is taken to form a single constituency.
- (2) European political parties campaign at Union level, each of them presenting a list of nominees to the Union electorate.

(3) Citizens have two votes. One vote is cast in the way that citizens are accustomed to in their Member States; the other vote is cast for a party's transnational list of nominees.

Despite of prominent proponents in the EP's Committee on Constitutional Affairs (Duff 2011; Hübner and Silva Pereira 2018) the proposal of introducing transnational lists so far failed to win a majority support in the plenum (European Parliament 2018; Duff 2018).

The reason for the failure is that the proposal raises many questions that remain unanswered. (1) What about the accountability of the deputies who are elected via a transnational list? A single Union constituency would comprise nearly half a billion citizens. A deputy cannot possibly be held accountable by a mass of people as large as this. (2) Where are the European parties that would wage a unionwide campaign at EP elections? The establishment of European political parties has been a permanent concern of the EP (European Parliament 2014; Leinen and Pescher 2014). Of course, transnational lists would provide an incentive for European parties to start proper performance at EP elections. But how would a party set up its list of nominees? Is it the party's president who decrees the list (whence deputies will feel accountable to party headquarters more than to their electorate)? Or is the list established by a nomination assembly (which to convene may pose a major challenge for a party that operates in every Member State of the Union)? (3) Are transnational lists going to be closed, flexible, or open? The proponents of transnational lists seem to aim at closed lists. However, closed lists are used in just six Member States: Germany, Spain, France, Hungary, Portugal, and Romania. All other Member States admit lists that are flexible or open (Pukelsheim 2017: 38). Flexible lists and open lists enable citizens to cast preference votes or candidate votes in favour of certain nominees. Not surprisingly, a voter might then tend to focus on nominees of her or his home state, as experiments indeed indicate (Laslier et al. 2015; Bol et al. 2016). What does this tendency imply for the selection of the nominees on a transnational list, and for the evaluation of the votes cast for each of them?

The report Hübner and Silva Pereira (2018) contemplated implementation of transnational lists by means of seats that will be vacated upon Brexit. However, several members of the Committee on Constitutional Affairs expressed their deep concern that, since the home states of the deputies thus elected are uncertain and unpredictable, transnational lists threaten to upset the allocation of seats between the Member States. Proponents of transnational lists probably would object by insisting that the whole idea is just this: to overcome Member State particularism. They believe the home state of a deputy to be irrelevant. Alas, this belief is an illusion. The stony path of the Committee on Constitutional Affairs until it agreed on the 2019 composition testifies to the contrary.

### **3. Composition of the EP**

The term “composition of the EP” designates the allocation of the seats in the EP between the Member States of the Union. The composition needs to be adjusted for every legislative period with regard to changing population figures.

Theoretically, politicians agree that the adjustment could be achieved best by applying a transparent formula that is objective, fair, and durable (Duff 2011). Various formulas were presented to the Committee on Constitutional Affairs (Pukelsheim and Grimmert 2018). Practically, politicians did not like any of them (Cartlidge 2018).

The actual composition adopted by the EP for the 2019 elections (European Parliament 2018) emerged from haggling and bargaining behind closed doors. Nobody bothered to explain and justify to the Union citizens why and how the final seat contingents were chosen. The sole property which the adopted composition may claim to its benefit is that it satisfies what in parliamentary jargon is called “degressive proportionality”. It is more meaningful to name the concept “degressive representation”. Though hailed by the EP with enthusiasm degressive representation is an opaque concept that has the potential to develop undesirable side effects.

### **4. Degressive representation**

A 2007 parliamentary resolution defines degressive representation to be a manifestation of solidarity among the citizenries of the Member States (European Parliament 2008): “The more populous states agree to be underrepresented in order to allow the less populous states to be represented better.”

The quantitative embodiment of this definition looks at the “representation ratio” of a Member State, that is, the ratio of its population figure and its seat contingent rounded to the nearest whole number. This representation ratio signifies the number of citizens who are represented by a deputy. Degressive representation demands that deputies from more populous Member States represent more citizens than deputies from less populous Member States. Therefore, representation ratios must be decreasing when passing from a more populous state to a less populous state.

In order to comply with the common principles of the European constitutional heritage, elections must observe five fundamental rules. They must be universal and direct, as well as free, equal, and secret (European Commission for Democracy through Law 2003: 13). Representation by Member State is maximally universal because it comprises the entire resident population, including minors, prisoners, and persons under tutelage, thus reaching far beyond the citizens who are enfranchised. However, degressive representation is neither direct nor equal. It is not direct because each Union citizen contributes only

indirectly, by being reweighted with regard to the population figure of his or her home state. Nor is it equal because the current author and his fellow countrymen agree to be underrepresented in order that non-German citizens are represented better. Nor is it free or secret. The current author is German; he is not free to be Czech or Maltese. The fact that he is subsumed in the German population figure is public, not secret.

Geographical representation by Member State does not qualify as an election. Its failure to comply with the five electoral principles looks irrelevant. This is not so. The lack of compliance threatens to cause dramatic spill over effects at the election proper. The 2017 election of the regional parliament of Catalonia may serve as an example.

Degressive representation, as an abstract concept, is unknown in Catalonia. Yet it is present (see Table 1). Indeed, when passing from more populous provinces to less populous provinces, the representation ratios are decreasing from 65 100 via 44 014 and 43 690 down to 28 522.

**Table 1: Degressive representation, 2017 election of the Catalan parliament**

<i>Province</i>	<i>Population 1 Jan. 2017</i>	<i>Seat Contingent</i>	<i>Representation Ratio</i>
<i>Barcelona</i>	5 533 459	85	65 100
<i>Tarragona</i>	792 256	18	44 014
<i>Girona</i>	742 728	17	43 690
<i>Lleida</i>	427 833	15	28 522
<i>Sum</i>	7 496 276	135	—

Source: <https://www.idescat.cat/pub/?id=aec&n=245> (accessed April 12, 2018)

The current law apportions seats separately in each province. Each apportionment uses the divisor method with downward rounding<sup>2</sup> (see Table 2). That is, the vote count of a party is divided by the divisor that is listed in the last column of Table 2, and the resulting interim quotient is rounded downwards to the whole number below. For instance in Barcelona the 142 934 PP-votes are divided by 36 000 to obtain the interim quotient 3.97 (not shown in Table 2), and then 3.97 is rounded downwards to 3 seats. Altogether, the election ends with a victory of the parties who decidedly opt for independence: JxC, ERC, and CUP. Their 70 seats<sup>3</sup> constitute an absolute majority in the 135-seat parliament, even though they garner fewer votes than their joint competitors!<sup>4</sup>

The victory is not owed to a popular majority; it is manufactured by degressive representation. People in less populous (rural) provinces cherish independence

<sup>2</sup> The procedure is also known as the D’Hondt method. This method is used also in Tables 2–4.

<sup>3</sup> JxC 34 + ERC 32 + CUP 4 = 70 seats.

<sup>4</sup> JxC, ERC and CUP together garner 2 079 340 votes, versus 2 228 421 votes for Cs, PSC, CeCP and PP.

more than people in more populous (metropolitan) areas. Since voters of less populous districts are overrepresented they are the ones who tip the scales.

**Table 2: 2017 election of the Catalan parliament: Seat apportionments within province**

<i>Province</i>	<i>Cs</i>	<i>JxC</i>	<i>ERC</i>	<i>PSC</i>	<i>CeCP</i>	<i>CUP</i>	<i>PP</i>	<i>Divisor</i>
<i>Barcelona</i> (85)	868 365 (24)	624 261 (17)	678 030 (18)	497 650 (13)	276 810 (7)	143 711 (3)	142 934 (3)	36 000
<i>Tarragona</i> (18)	120 825 (5)	96 031 (4)	104 832 (5)	52 017 (2)	23 653 (1)	17 687 (0)	20 188 (1)	20 160
<i>Girona</i> (17)	79 634 (4)	149 638 (7)	88 582 (4)	35 197 (1)	16 482 (0)	21 708 (1)	11 646 (0)	19 000
<i>Lleida</i> (15)	40 908 (3)	78 303 (6)	64 417 (5)	21 795 (1)	9 415 (0)	12 140 (0)	10 902 (0)	12 500
<i>Sum</i>	1 109 732 (36)	948 233 (34)	935 861 (32)	606 659 (7)	326 360 (8)	195 246 (4)	185 670 (4)	—

Note: Figures in parentheses represent the number of seats for each party

Source: Camps and Mora (2018)

Hypothetically, transprovincial lists and a comprehensive apportionment of all 135 seats would have done a better job, as far as the one person—one vote principle is concerned. The political division of the electorate would have been mirrored more faithfully. With 66 of 135 seats,<sup>5</sup> the success of the independence parties would have fitted the popular vote much closer (see Table 3).

**Table 3: Hypothetical transprovincial lists, 2017 election of the Catalan parliament**

<i>Province</i>	<i>Cs</i>	<i>JxC</i>	<i>ERC</i>	<i>PSC</i>	<i>CeCP</i>	<i>CUP</i>	<i>PP</i>	<i>Divisor</i>
<i>Votes</i> (Seats)	1 109 732 (35)	948 233 (30)	935 861 (30)	606 659 (19)	326 360 (10)	195 246 (6)	18 5670 (5)	31 000

Note: Figures in parentheses represent the number of seats in each province/for each party

Source: Camps and Mora (2018)

At this juncture, the analysis looks like stalling in antagonism. On the one hand, degressive representation does not go along well with separate seat apportionments per electoral district (where “district” means province in Catalonia, and Member State in the European Union). On the other hand, a single comprehensive seat apportionment, based on vote totals in the whole electoral area, may deviate from a preordained allocation of seats between districts.

<sup>5</sup> JxC 30 + ERC 30 + CUP 6 = 66 seats.

Fortunately, there is a way to resolve the dilemma. The solution comes under the heading “double proportionality”.

### 5. Double proportionality

Double proportionality is able to safeguard both, a preordained allocation of seats between districts and a unionwide apportionment of seats among European parties. The key step is the “sub-apportionment” of seats by district and party in such a way that each district is returned its preordained seat contingent and each party exhausts the number of seats it is globally apportioned. This is achieved by appropriately calculating two sets of divisors, district divisors and party divisors.

The vote count of a party in a district is divided by the pertinent district divisor and by the pertinent party divisor, and the resulting interim quotient is rounded downwards to the whole number below. Table 4 shows a hypothetical sub-apportionment for the election in Catalonia.<sup>6</sup> For instance, in Barcelona the 868 365 Cs-votes are divided by 34 600 and 1.0893. The interim quotient 23.04 (not shown in Table 4) justifies 23 seats.

**Table 4: Hypothetical sub-apportionment, 2017 election of the Catalan parliament**

<i>Province</i>	<i>Cs</i> (35)	<i>JxC</i> (30)	<i>ERC</i> (30)	<i>PSC</i> (19)	<i>CeCP</i> (10)	<i>CUP</i> (6)	<i>PP</i> (5)	<i>Province</i> <i>Divisor</i>
<i>Barcelona</i> (85)	868 365 (23)	624 261 (15)	678 030 (17)	497 650 (14)	276 810 (8)	143 711 (4)	142 934 (4)	34 600
<i>Tarragona</i> (18)	120 825 (6)	96 031 (4)	104 832 (4)	52 017 (2)	23 653 (1)	17 687 (0)	20 188 (1)	18 470
<i>Girona</i> (17)	79 634 (3)	149 638 (6)	88 582 (4)	35 197 (2)	16 482 (1)	21 708 (1)	11 646 (0)	18 280
<i>Lleida</i> (15)	40 908 (3)	78 303 (5)	64 417 (5)	21 795 (1)	9 415 (0)	12 140 (1)	10 902 (0)	11 330
<i>Party</i> <i>Divisor</i>	1.0893	1.2	1.136	0.9627	0.9	1	1	—

Note: Figures in parentheses represent the number of seats in each province/for each party  
 Source: Camps and Mora (2018)

The world premiere of double proportionality took place in the Canton of Zurich in Switzerland in 2006. Since then double proportionality has spread into other Swiss cantons (Pukelsheim and Schuhmacher 2011; Pukelsheim 2017: 265).

<sup>6</sup> The divisors were calculated with the free software BAZI which is available at [www.uni-augsburg.de/bazi/](http://www.uni-augsburg.de/bazi/).

Jouvenat (2016a; 2016b) strongly advocates double proportionality for future EP elections. A prerequisite is that European political parties develop visible identities that enable aggregation of their vote counts over all Member States (Pukelsheim and Oelbermann 2014). The aggregation process poses no problem in Zurich or Catalonia, but is a considerable challenge for the European Union.

Compositional proportionality is a variant of double proportionality that is meant to ease the transition from the plethora of domestic parties within Member States to a few European political parties at Union level. Compositional proportionality operates only on a small subset of EP seats, leaving the major part of the seats to be filled as in the past. If successful, the subset could later be enlarged until full double proportionality is reached.

## **6. Compositional proportionality**

Compositional proportionality apportions a subset of all seats to Member States and European Parties so as to safeguard the preordained EP composition and to reflect the unionwide electoral support of parties according to the motto “one person–one vote”. We explain compositional proportionality by example, with an hypothetical application to the 2014 EP elections (Pukelsheim 2017: 268). The election results are taken from Oelbermann and Pukelsheim (2015).

### ***a. Surrogate European “parties”***

In the 2014 EP elections European political parties were not sufficiently visible to allow an aggregation of votes from domestic levels to the Union level. Therefore, we substitute the invisible European parties by the seven political groups that formed when the 2014 EP first convened. Strictly speaking, the substitution is illegal; political groups are barred from operating as political parties. Therefore, we highlight the use of a political group as a surrogate party by enclosing it in quotes: “party”. We include the non-affiliated members of the EP as an eighth pseudo group “NI” (from French: non-inscrits) in order to incorporate these votes into the example.

Our example pretends hypothetically that the surrogate “parties” submitted unionwide lists of nominees to the electorate. We assume that in state S the votes for the list of “party” G are given by the sum of the votes for those domestic parties in S that later joined the political group G.<sup>7</sup> The unionwide vote totals of the “parties” are exhibited in the second column of Table 5.

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<sup>7</sup> For the details of this aggregation process see Oelbermann and Pukelsheim (2015) or Pukelsheim (2017: 39).



### ***b. Fictitious seats for unionwide lists***

The seats to be filled by unionwide lists are diverted from the 2014 EP composition. Compositional proportionality guarantees that each state donates as many seats to the pool of unionwide seats as are returned to the state by the final apportionment. In other words a few seats of a Member State are filled by way of unionwide party performance, and all other seats are assigned to candidates from domestic lists as in the past. Compositional proportionality thus maintains the seat allocations of the Member States and preserves the given EP composition.

Our 2014 example deals with thirty-six subjects: twenty-eight Member States plus eight surrogate “parties”. For a proportional representation system to perform reasonably well at least twice as many seats are needed as there are subjects, that is, seventy-two seats.<sup>8</sup>

We choose to assemble the seventy-two seats as follows. The Member States with a population above sixty million contribute eight seats each (Germany, France, United Kingdom, Italy), those with a population between sixty and fifteen million four seats (Spain, Poland, Romania, the Netherlands), and those with a population between fifteen and ten million two seats (Belgium, Greece, Czech Republic, Portugal). The sixteen remaining Member States contribute one seat each. Any other way of assembling seats that are to be filled by unionwide evaluations would also work.

### ***c. Super-apportionment of seats among “parties”***

The apportionment of the 72 seats among the surrogate “parties” is conducted in two steps. The first step is called the super-apportionment. The super-apportionment distributes the 72 seats among “parties” proportionally to their unionwide vote counts. The divisor method with standard rounding is used.<sup>9</sup> Every 2 080 000 votes justify roughly one seat (see Table 5).

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<sup>8</sup> See the house size recommendation in Pukelsheim (2017: 132).

<sup>9</sup> The procedure is also known as the Webster method or Sainte-Laguë method. This method is used also in Table 6.

**Table 5: Super-apportionment 2014 of 72 fictitious seats among eight surrogate “parties”**

<i>Party</i>	<i>Votes</i>	<i>Minimum</i>	<i>Quotient</i>	<i>Seats</i>
“S&D”	40 189 841	4	19.3	19
“EPP”	40 170 109	14	19.3	19
“ALDE”	13 169 384	5	6.3	6
“GUE/NGL”	11 985 225	2	5.8	6
“ECR”	11 933 741	1	5.7	6
“GREENS/EFA”	11 534 372	0	5.55	6
“EFDD”	10 822 471	1	5.2	5
“NI”	10 224 602	1	4.9	5
<i>Sum (Divisor)</i>	<i>150 029 745</i>	<i>28</i>	<i>(2 080 000)</i>	<i>72</i>

Source: Own calculation based on Pukelsheim (2017: 39)

For example the “S&D”-votes, when divided by 2 080 000, yield interim quotient 19.3. Since the fractional part .3 is below one half, the quotient is rounded downwards and justifies 19 seats. Similarly, the “GREENS/EFA”-votes yield interim quotient 5.55. With fractional part .55 larger than one half, the “GREENS/EFA” party is entitled to six seats. The “Minimum” column in Table 5 is caused by the WTO rule, as explained in Subsection *e*.

#### ***d. Sub-apportionment of seats per Member State and “party”***

The second step is sub-apportionment by Member State and surrogate “party”. It determines the number of seats per Member State and “party” in such a way that every Member State is returned just as many seats as it contributed to the generation of the 72 seats that are provided for the Union level, and that every “party” realizes its seat number from the super-apportionment.

To this end two sets of divisors are needed: state divisors and party divisors. They are shown in the rightmost column and bottom row of Table 6. Given these electoral keys it is straightforward to determine the seat numbers. First, an interim quotient is calculated by dividing the vote count of a “party” in a state by the associated state divisor and the associated party divisor. Then standard rounding is applied to obtain the relevant seat number (see Table 6).

For instance the Belgian vote count for “S&D” is 1 269 993. A division by the divisor for Belgium (2 400 000) and the “S&D” divisor (0.94) yields interim quotient 0.56 (not shown in Table 6). With fractional part .56 the quotient is rounded upwards to justify one seat.

**Table 6: Sub-apportionment 2014 by Member State and unionwide “vote” totals**

<i>Member State</i>	<i>“S&amp;D” (19)</i>	<i>“EPP” (19)</i>	<i>“ALDE” (6)</i>	<i>“GUE/ NGL” (6)</i>	<i>“ECR” (6)</i>	<i>“GREENS/ EFA” (6)</i>	<i>“EFDD” (5)</i>	<i>“NI” (5)</i>	<i>State Divisor</i>
<i>Austria (1)</i>	680 180 (0)	761 896 (1)	229 781 (0)			410 089 (0)		556 835 (0)	2 000 000
<i>Belgium (2)</i>	1 269 993 (1)	1 129 739 (0)	1 520 431 (1)		1 123 355 (0)	739 016 (0)		284 856 (0)	2 400 000
<i>Bulgaria (1)</i>	424 037 (0)	825 370 (1)	386 725 (0)		238 629 (0)				1 000 000
<i>Croatia (1)</i>	137 952 (0)	318 203 (1)	137 952 (0)		63 641 (0)	86 806 (0)			400 000
<i>Cyprus (1)</i>	47 938 (0)	97 732 (1)		69 852 (0)					130 000
<i>Czech Republic (2)</i>	214 800 (1)	392 539 (1)	244 501 (0)	166 478 (0)	116 389 (0)		79 540 (0)		430 000
<i>Denmark (1)</i>	435 245 (0)	208 262 (0)	528 789 (0)	183 724 (0)	605 889 (1)	249 305 (0)			1 000 000
<i>Estonia (1)</i>	44 550 (0)	45 765 (0)	153 268 (1)			43 369 (0)			200 000
<i>Finland (1)</i>	212 781 (0)	390 376 (0)	456 642 (1)	161 074 (0)	222 457 (0)	161 263 (0)			600 000
<i>France (8)</i>	2 650 357 (1)	3 943 819 (1)	1 884 565 (1)	1 252 730 (1)		1 696 442 (1)		4 712 461 (3)	1 880 000
<i>Germany (8)</i>	8 003 62 (3)	10 380 101 (2)	1 415 641 (0)	2 535 053 (1)	2 272 817 (1)	3 749 562 (2)		485 848 (0)	3 600 000
<i>Greece (2)</i>	836 136 (0)	1 298 948 (0)		1 518 376 (1)	197 837 (0)			886 255 (1)	1 776 000
<i>Hungary (1)</i>	478 837 (0)	1 193 991 (1)				284 980 (0)		340 287 (0)	1 300 000
<i>Ireland (1)</i>	124 168 (0)	369 120 (0)	68 986 (0)	477 316 (1)	369 545 (0)	81 458 (0)			800 000
<i>Italy (8)</i>	10 986 853 (4)	6 171 129 (1)		1 108 457 (0)			5 807 362 (2)	1 688 197 (1)	3 000 000
<i>Latvia (1)</i>	57 863 (0)	204 979 (1)			63 229 (0)	28 303 (0)	36 637 (0)		200 000
<i>Lithuania (1)</i>	197 477 (0)	199 393 (0)	335 980 (1)		92 108 (0)	75 643 (0)	163 049 (0)		500 000
<i>Luxembourg (1)</i>	23 895 (0)	76 736 (1)	30 108 (0)			30 597 (0)			100 000
<i>Malta (1)</i>	134 462 (1)	100 785 (0)							200 000
<i>Netherlands (4)</i>	446 763 (0)	721 766 (0)	1 307 001 (1)	658 333 (1)	364 843 (0)	331 594 (1)		633 114 (0)	1 000 000
<i>Poland (4)</i>	667 319 (1)	2 752 061 (1)			2 246 870 (2)			505 586 (0)	1 300 000
<i>Portugal (2)</i>	1 034 249 (1)	910 647 (1)	234 788 (0)	566 689 (0)					1 100 000
<i>Romania (4)</i>	2 093 234 (2)	2 213 046 (2)	379 582 (0)						900 000
<i>Slovakia (1)</i>	135 089 (0)	186 912 (1)	37 376 (0)		80 145 (0)				300 000
<i>Slovenia (1)</i>	32 484 (0)	166 403 (1)	32 662 (0)			41 525 (0)			200 000
<i>Spain (4)</i>	3 614 232 (1)	4 382 329 (1)	2 087 359 (0)	2 893 058 (1)		1 194 889 (1)			3 600 000
<i>Sweden (1)</i>	1 103 079 (1)	728 062 (0)	609 615 (0)	234 272 (0)		572 591 (0)	359 248 (0)		2 000 000
<i>United Kingdom (8)</i>	4 102 240 (2)		1 087 63 (0)	159 813 (0)	3 875 987 (2)	1 756 940 (1)	4 376 635 (3)	131 163 (0)	2 000 000
<i>Party Divisor</i>	0.94	1.5	1.2	1.1	1	0.65	0.8	1	

Note: Figures in parentheses represent the number of seats

Source: Own calculation

**e. Winner-take-one modification**

In general, interim quotients are subjected to standard rounding to yield the seat numbers. However, there is a noticeable exception: the winner-take-one (WTO)

rule. The WTO rule stipulates that the interim quotient of a list that is strongest in a Member State is rounded upwards to one even when it is less than one half. The WTO rule caters particularly to the sixteen Member States who contribute just a single seat. The rule makes sure that this one seat is apportioned to the strongest list. It would seem bizarre and questionable if a state's strongest list would finish without representation.

The WTO rule becomes active in Austria. The strongest Austrian list "EPP" has interim quotient<sup>10</sup> 0.3. Standard rounding would carry 0.3 to zero whence the strongest list would go away empty-handed. Owing to the WTO rule the Austrian "EPP" quotient is rounded upwards and justifies one seat.

The WTO rule has repercussions regarding the super-apportionment. The super-apportionment must provide sufficiently many seats so that a subsequent invocation of the WTO rule is feasible. "S&D" is strongest in four Member States (Italy, Malta, Portugal and Sweden) and needs at least four seats. In a similar vein, the minimum requirement for "EPP" is 14 seats etc. These requirements are listed in the "Minimum" column of Table 5. Technically, the super-apportionment does not use the divisor method with standard rounding, but its minimum restricted modification (Pukelsheim 2017: 232). Practically, the minimum restrictions are automatically fulfilled and remain dormant, as is the case in Table 5.

### ***f. Assignment of seats to candidates***

The final step is to decide which candidates are going to be assigned a seat. The details will depend on the vote pattern chosen, whether the lists are closed, flexible, or open. The 2014 vote patterns of the 28 Member States were rather diverse and non-uniform (Pukelsheim 2017: 38). There is no canonical vote pattern suggesting itself to be used for the lists of European parties.

(A) One possibility would be a single unionwide list; it may be closed, flexible, or open.

(B) Another option would be twenty-eight state lists, one within each Member State.

A melange of vote patterns is conceivable, too, for instance that every Member State applies the current vote pattern and ballot structure also to the compositional proportionality component of the electoral system.

The bottom line is that compositional proportionality allows maximum freedom for each Member State to design its ballot structure and vote pattern. Compositional proportionality does not force citizens into a uniform system to express their political preferences. Rather the goal is to permit a uniform

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<sup>10</sup>  $761\,896 / (2\,000\,000 \times 1.5) = 0.3$ .

evaluation of the vote counts of European parties according to the motto “one person—one vote”.

## 7. Conclusion

This paper aims to show that future EP elections may acquire a unionwide view without compromising a preordained EP composition. A possibility to achieve this aim is compositional proportionality. The 2014 setting by which the method is illustrated requires highly speculative assumptions that inhibit any political messages whatsoever. In order to stay close to the 2014 scenario, the example includes the United Kingdom although, after Brexit, the inclusion will be obsolete.

Compositional proportionality cannot be introduced without prior creation of a proper institutional frame. European parties must start performing with a higher degree of visibility than in 2014 in order to enable aggregation of their votes at Union level.

Another necessity is a proper functioning of the European Electoral Authority. Before the election, the Authority must decide which lists of candidates to admit at Union level and which to reject. After the election, the Authority would be responsible to aggregate unionwide votes and to execute the super-apportionment at Union level and the sub-apportionment per Member State and party. Compositional proportionality is but one building block in an electoral structure that as a whole is much larger.

Compositional proportionality does not overcome one of the major criticisms of transnational list, namely the creation of two categories of Members of the EP. One category would be elected via political parties at European level, the other category via political parties at domestic levels. In this respect compositional proportionality, handling only a subset of seats, is certainly outperformed by double proportionality, embracing the full set of all seats, as outlined in Pukelsheim and Oelbermann (2014).

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