

## Book Review

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### **Institutional Design and Voting Power in the European Union**

**Edited by Marek A. Cichocki and Karol Życzkowski**

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### **1. Introduction**

The book is a collection of contributed chapters on voting theory and its implications for institutional design in the EU. Its main focus is the 2007 Lisbon Treaty, which will be in force from 2014 on. This treaty changes the voting rules in the Council of Ministers (henceforth CM) and the way in which seats in the European Parliament (henceforth EP) are apportioned to member states. The main message of the book is that the voting rules in the CM are flawed, and there is essentially a unique answer to the question of what the rules should be. As for the EP, it does not advocate a unique apportionment method but discusses several alternatives given that the Lisbon Treaty does not specify a general rule.

### **2. Voting Rules in the CM**

Before the Lisbon treaty, voting rules in the CM were negotiated in an *ad hoc* manner for each enlargement. Each country was assigned a weight and decisions needed a qualified majority of votes (about 71% of the total) in order to be adopted. The 2001 **Nice treaty** modified the voting rules in connection with the Eastern enlargements and introduced a triple majority requirement in order for a decision to be taken: the combined weights of the countries voting in favor must meet a certain threshold (about 73% of the total), the countries voting in favor must constitute a majority of members, and they must contain at least 62% of the population. As Kirsch discusses in Chap. 6, the Nice system was a compromise between very different demands: Germany wanted more power after unification, France and UK wanted to keep the same weight as Germany, and the smaller countries feared a

domination of the EU by the big countries. The Nice system allocates the same weight to the four largest countries, but adds a population threshold to satisfy Germany and a majority of the states threshold to protect smaller countries. The Nice system is still *ad hoc*: the weights allocated to the countries are arbitrary, and the two additional requirements have a negligible effect since they are almost always met when the first requirement is met (see Felsenthal and Machover (2001) *Social Choice and Welfare* **18**, 431–464).

The **Lisbon treaty** establishes a double majority requirement: a decision requires the approval of at least 55% of the members whose combined populations are at least 65% of the total population in the EU. The Lisbon treaty contains a simple and general rule that can be applied to subsequent enlargements. However, the main message of the book is that the Lisbon treaty is very far from granting equal representation to all European citizens; indeed, the power distribution resulting from the Nice treaty was fairer. The book also discusses a third voting system, known as the Jagiellonian Compromise, which was sponsored by Poland during the 2007 negotiations without success. This system has the support of many voting power experts, some of whom are contributors to the volume.

The **Jagiellonian Compromise** (henceforth JC) is based on the concept of power as the probability of one's vote being crucial for the final decision. It assumes that each citizen is equally likely to vote yes or no to a given proposal, and that citizens' preferences are independent. The country's representative in the CM is then assumed to vote according to the majority view in the country. In order for a citizen to exert power, his vote must be crucial to tip the balance within the country, and the country's vote must be crucial within the CM. It turns out that the probability of a citizen's vote being crucial within a country varies inversely with the square root of the population, so that in order for each citizen to have the same chance of influencing the outcome each country's probability of being crucial (the Banzhaf measure) should be proportional to the square root of the population (Penrose's square root rule). Finding a voting rule that yields a particular ratio of countries' Banzhaf measures appears to be a difficult task; however, Słomczyński and Życzkowski (Chap. 3) have shown that there is a simple rule to achieve nearly equal powers for all citizens if the number of countries is sufficiently large: each country is assigned a voting *weight* equal to the square root of its population and the threshold is calculated by a simple function of the weights (given the current membership and population distribution, the threshold would be about 62%). Besides providing a general rule that can be applied to any future enlargements, the system is transparent in that a country's weight would be proportional to its power. Leech and Aziz (Chap. 4) show that the JC would be very close to ensuring equal representation given the current composition of the EU and also for several hypothetical future enlargements. In contrast, the Treaty of Lisbon rules favor the largest and the smallest countries. Intuitively, the largest countries are favored since the population rather than the square root of the population is taken into account;

the small countries are favored because the approval of any 55% of the members — large or small — is needed.

Besides fairness as defined above, another concern of voting power theory is efficiency, defined as the probability that a proposal passes. Assuming random voting as described above, this probability would be particularly low for the Nice rules. This has been a cause for concern because, even though some bias towards the *status quo* may be considered desirable for institutional stability (Machover, p. 40), there is a danger of paralysis if this probability is too low.

The focus on power as the probability of being decisive under the assumptions described above is prevalent in the literature and in this book. However, some of the contributors to the book have a different emphasis. It is argued that decision making in the CM is not the result of voting on a random proposal, but instead the presidency makes a proposal and modifies it until a consensus is reached (Nurmi, p. 171). Hence, blocking minorities are important, not in terms of *whether* a decision is made, but in terms of *which* decision is made (Moberg, p. 22). Given the consensual nature of decision making in the CM, the concern of political actors with their possibilities to form blocking minorities is not necessarily naive (Sozański, p. 91). The book also contains two chapters on the empirical analysis of voting patterns after the Eastern enlargements, with the Nice rules already in place. In particular Trzaskowski (Chap. 11) analyzes the effect of the new rules on efficiency and concludes that about the same number of decisions were taken in the few years before and after enlargement, contradicting the theoretical prediction of paralysis under the Nice rules. Hosli points out in Chap. 9 that the voting rules in the CM matter not only for the distribution of power among member states, but may also affect the distribution of power among EU's institutions. In particular, they may alter the balance of power between the CM and the EP. For example, suppose there is a unidimensional policy space in which CM members tend to be to the right and EP members tend to be to the left, and the alternative chosen must be acceptable to a majority in both institutions. Increasing the threshold for a majority in one of the institutions reduces the set of acceptable alternatives in its favor because of the need to convince extremists.

The assumptions of equiprobability and independence are considered the correct ones to address the normative question of how weights should be allocated. However, one may also try to measure the power of each country taking into account known information about what coalitions are likely to form. Bilbao (Chap. 7) introduces algorithms to calculate a modified power measure assuming that only some coalitions are feasible.

### 3. Apportionment in the EP

The crucial difference between the CM and the EP is that countries in the CM cannot split their votes whereas MEPs representing the same country may vote differently, so that the split of votes is closer to reflecting the split in public opinion

(alternative assumptions are considered in Chap. 8, where Fedeli and Forte consider MEPs that follow the (transnational) party line or the national interest). The most obvious way to apportion seats in the EP would be proportionally to the population of each country; the only issue then would be the rounding problem, but there is a generally accepted rounding method (the Webster method) that is not systematically biased in favor of large or small countries. However, allocation in the past and also according to the Lisbon treaty is supposed to follow the principle of “degressive proportionality”, meaning that the ratio of the number of seats of a larger and a smaller state is less or equal to the ratio of their populations, subject to the weak monotonicity condition that a larger state obtains a larger or equal number of seats than a smaller state. There are also upper and lower bounds on the number of seats for any particular country (currently 6 and 96), and a total number of 750 members (later changed to 751 in order to give one more seat to Italy; this resulted in a violation of degressive proportionality since Italy now has a more favorable ratio of seats to population than a smaller country such as Spain).

Degressive proportionality is not always achievable for a fixed number of total seats. For example, if countries have very similar populations and there is an extra seat left over after all countries have been allocated an equal number of seats, this seat must go to the largest country but then the largest country would have more seats relative to the population than the second largest country (Ramírez González, Chap. 13). To solve this problem, Słomczyński and Życzkowski (Chap. 16) propose that degressive proportionality should only be required before rounding. In order to achieve it, all we have to do is to take a function  $f$  that is nondecreasing and concave and apply it to the population shares to obtain each country’s adjusted quota. Then Webster’s method can be applied to obtain a seat distribution as close to the adjusted quotas as possible; it is not a problem if degressive proportionality is violated after rounding. There is no unique solution to the question of finding the function  $f$ . Ramírez González favors a parabolic function since it satisfies some additional degressivity conditions (p. 220); Pukelsheim (Chap. 14) favors treating citizens of different states as equally as possible, and proposes a Fix+Pro allocation where each state is given a fixed number of seats and the remaining seats are allocated proportionally to the population.

#### **4. Critical Evaluation**

The book is a good overview of the state of the art in voting theory and its implications for institutional design in the EU. In particular, the book makes a case for the JC, which is Słomczyński and Życzkowski’s novel practical implementation of the well-established Penrose square-root rule. The book also brings together the literature on voting power and optimal apportionment. It strikes a balance between formality and accessibility: most of the material is based on formal analysis but technical proofs are left out and the mathematically minded reader is referred to previous papers.

An attractive feature of the JC is that it contains a simple, closed-form expression (rather than an algorithm) to calculate weights and threshold. However, in order to justify this formula “one must make use of sophisticated mathematical concepts and results from voting power, which the vast majority of people (including EU practitioners) certainly find totally opaque” (Machover, p. 39). The crucial result on which the JC is based is that, given a set of weights, there is a threshold for which the relative voting powers of the member states are close to proportional to the weights (these weights can then be set to be proportional to any values, such as the square root of the population of each member state). The book does not attempt to provide an intuition on why weights and power are proportional for this value of the threshold, perhaps because there is no simple intuition behind this result. It does not help that, as a result of being written by different authors who may favor different approximations, the book contains *three* different formulas for the threshold that should apply according to the JC (p. 38, 51 and 69).

Machover (Chap. 2) proposes some tactics to make the square root weights politically more acceptable. Given that countries seem to be particularly interested in their blocking power, a threshold of 62% may be considered too low; however, Leech and Machover have shown that the square root weights are not far from being optimal for thresholds between 55% and 69% (Machover, p. 41), so there may be little loss in accepting a higher quota. The square root weights would remain opaque but could be acceptable as a manifestation of the principle of degressive proportionality since, luckily, in order for citizens to be treated equally, smaller countries must have a disproportionately large power.

Overall the book is a valuable contribution to the literature and makes a convincing case for the use of general, objective rules in the distribution of votes in the CM as well as seats in the EP.