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The Rationale of Qualified Majorities

The setting for our research is as follows: Finland, Norway and Sweden have submitted their membership applications to the EC and have thus expressed their wish to participate in the decision-making of, inter alia, the collective decision-making body (the council) that resorts to weighted voting and qualified majorities. Our problem is to discover the amount of influence that Finland, Norway and Sweden would have – under various scenarios – on the decisions of the council.

Qualified majorities are conservatively biased in the sense that they give the status quo a better chance than its contestants in various pairwise votings. These rules are relatively rare in contemporary national parliaments, the Finnish one – with its two-thirds and five-sixths majority requirements in certain issues – being an exception. The simple majority rule, however, has its drawbacks as well, which have been known from the days of Condorcet (1785). This rule works adequately in situations where a Condorcet winner alternative exists, but when there is no such alternative, the outcome under simple majority rule can be quite arbitrary (see, McKelvey 1979 and Nurmi 1987).

The arbitrariness of the simple majority rule can be avoided by resorting to larger qualified majorities. In the extreme case, one could require that in order to defeat the status quo some alternative has to be unanimously preferred. This would obviously do away with the possibility of ending up with Pareto-dominated outcomes (which would be possible under a simple majority rule). Kramer's (1977) important result shows that there is a fixed qualified majority (usually considerably smaller than unanimity) that guarantees both maximal decisiveness and non-cyclicity (see also Slutsky 1979). Unfortunately, the size of this majority is not fixed, but varies according to the preferences of the voters. Theoretically this result provides an important justification for qualified majorities.

Power Indices

The power indices measure the degree of influence that various actors have on the basis of their size or resources in a voting body where decisions are made with fixed decision rules. Real power, of course, is a much more elusive concept, reflecting as it does the possibility of controlling the agenda, the frequency of various types of issues and coalitions, and so forth.

Consider now a simple voting game (N, W), where N is the set of players and W the set of winning coalitions. The game may be defined by means of a characteristic function v so that $v(S) = 1$ if S is winning and $v(S) = 0$, otherwise. $v(S) - v(Si)$ denotes the value that i adds to coalition S. Si

denotes the set-theoretic difference, i.e. Si is coalition S from which i has been removed. A simple game may have a quota number – vote vector representation just in case there exists a fixed number q, so that a coalition S is winning if and only if the sum of the votes of its members exceeds q.

According to Allingham (1975), any index of power should satisfy the following conditions:

A1. Symmetry: the permutation of the players does not affect the index values, i.e. the a priori voting power is the property of a voting game.
A2. The power index value of a dummy player equals 0. A dummy player can make no losing coalition win by joining it or vice versa, i.e. he can make no winning coalition lose by leaving it.
A3. Symmetrical players have identical power index values. Two players are called symmetrical if the value that they add to any coalition by joining it is the same.
A4. If the game can be represented by a quota number and vote vector, then a player with more votes has at least as large power index value as a player with less votes. In other words, the power index value is a monotonically non-decreasing function of the number of votes.

All these requirements seem intuitively plausible. It is, therefore, not surprising that the best-known power indices satisfy them. The axioms are not, however, sufficient to characterize a unique measure of power. To guarantee uniqueness, one needs further technical requirements (see e.g. Dubey & Shapley 1979 and Allingham 1975). A1–A4, however, contain in a nutshell the basic common properties of the a priori measures of power to be discussed next.

The Indices of A Priori Voting Power

The Shapley–Shubik index value for a player is the weighted average of the value he/she (hereafter he, for brevity) adds to all possible coalitions. The weights, in turn, are the a priori probabilities of the corresponding coalitions (Shapley & Shubik 1954). For example, if coalition S consists of s members, its a priori probability is $s!(n - s)!/n!$ where n is the total number of players. Thus, $\Sigma[s!(n - s)!/n][v(S) - v(Si)]$, where the sum is taken over all coalitions S where i is a member, is i's Shapley–Shubik index value.

The Banzhaf index value of i, in turn, is simply the unweighted average of the values that i adds to various coalitions. There are two versions of the Banzhaf index. We shall resort to the standardized version in which i's Banzhaf index value equals his contributions to all possible coalitions divided by the sum of contributions of all players to all coalitions (see Banzhaf 1965).

The literature on power indices is vast (see e.g. Holler 1981; Roth 1988; Lane & Stenlund 1989). The crucial question is: are they adequate measures of voting power? In a way the answer is obviously, no. This is because the indices overlook intuitively important aspects of power: agenda control, the "real" probabilities of coalition formation, etc. The indices are a priori measures of voting power. They take into account the "sizes" of players, the distribution of resources and the decision rules, nothing else.

The theoretical importance of agenda control is demonstrated by McKelvey's result (1979) for closed agenda systems. It shows that under fairly general conditions the majority rule can lead from any outcome x to any other outcome y if the agenda-setter has complete freedom in designing the sequence of voting alternatives and all the voters are sincere. Although the vagaries of the agenda-setter may to some extent be counteracted through sophisticated voting, it is obvious that the power to propose alternatives, to determine the way in which comparisons between them are made, and to combine or separate issues can considerably influence voting outcomes (see e.g. Plott & Levine 1978).

Another important issue which is overlooked by the power indices is the distribution of voter preferences. The groups of voters with similar preferences are likely to form coalitions. The power indices make specific theoretical assumptions concerning the probability that various coalitions are formed. These do not necessarily coincide with the frequencies with which various coalitions will be encountered in real world voting bodies.

The Distribution of Power Index Values in the EC Council of Ministers

Brams & Affuso (1985) and Widgren (1991) have studied the power index value distribution in the EC Council of Ministers throughout the history of this body. Their analyses are based on the qualified majority requirement (roughly 70 percent). Unanimity is in fact required in certain types of issues. In the following, however, we shall join the above authors in restricting ourselves to qualified and simple majority rules since the unanimity rule renders the a priori voting power of all countries equal.

On the basis of Brams and Affuso's analysis it turns out that in the first council (from 1958 until 1973) Luxembourg was a dummy player. Another observation is that after 1973 Luxembourg's relative share of votes diminished, whereas its power index value increased. These somewhat paradoxical features have been pointed out by Brams & Affuso (1976).

Another interesting feature is that after 1981 the countries with three votes (Denmark and Ireland) had no more a priori voting power than the country with two votes (Luxembourg). Moreover, after 1986 the power

Table 1. The Distribution of Power Index Values for Two Decision Rules (58/83 and 42/83) in the EC Council of Ministers, Assuming that Finland and Sweden Join and Receive Three and Four Votes Respectively.

Country	Decision Rule 58/83 S'.apley–Shubik	Banzhaf	42/83 Shapley–Shubik	Banzhaf
Italy	0.122	0.118	0.125	0.123
France	0.122	0.118	0.125	0.123
Germany	0.122	0.118	0.125	0.123
Belgium	0.058	0.061	0.058	0.059
Holland	0.058	0.061	0.058	0.059
Luxembourg	0.020	0.022	0.025	0.026
UK	0.122	0.118	0.125	0.123
Denmark	0.034	0.039	0.032	0.033
Ireland	0.034	0.039	0.032	0.033
Greece	0.058	0.061	0.058	0.059
Spain	0.102	0.099	0.094	0.094
Portugal	0.058	0.061	0.058	0.059
Sweden	0.045	0.046	0.055	0.055
Finland	0.039	0.039	0.032	0.033

index values of Denmark and Ireland increased, despite the fact that their numbers of votes remained the same as previously and that Spain and Portugal joined the EC as new members.

Table 1 gives the distribution of power indices under the assumption that Finland and Sweden join the EC and that their votes in the Council of Ministers are three and four, respectively. The decision rule is assumed to be 58/83 (columns 1 and 2) or simple majority (42/83). In Table 2 the power index distributions for 59/84 and 43/84 decision rules are based on the assumption that Sweden has five votes.

Again, the differences between values of the two indices are very small. It is of some interest to note that the possibility of Sweden having five votes instead of four would be beneficial not only to Sweden but to Denmark, Finland and Ireland as well. However, this observation holds solely for the 70 percent decision rule, not for the simple majority rule.

It is well known that Finland and Sweden are not the only realistic member candidates to the EC. The application of Austria is also under consideration. Table 3 reports the distribution of power index values provided that Austria, Finland and Sweden join the EC. The number of votes of these countries is assumed to be four, three and four, respectively. The decision rules considered are 61/87 (or 70 percent) and 44/87 (or simple majority). We observe that Austria's membership would benefit Luxembourg and Sweden.

Table 4 reports the distribution of power index values under the assump-

Table 2. The Distribution of Power Index Values for Two Decision Rules (59/84 and 43/84), Assuming that Sweden has Five Votes

	Decision Rule			
	59/84		43/84	
Country	Shapley–Shubik	Banzhaf	Shapley–Shubik	Banzhaf
Italy	0.119	0.115	0.124	0.123
France	0.119	0.115	0.124	0.123
Germany	0.119	0.115	0.124	0.123
Belgium	0.056	0.059	0.058	0.059
Holland	0.056	0.059	0.058	0.059
Luxembourg	0.016	0.015	0.025	0.026
UK	0.119	0.115	0.124	0.123
Denmark	0.042	0.043	0.031	0.033
Ireland	0.042	0.043	0.031	0.033
Greece	0.056	0.059	0.058	0.059
Spain	0.104	0.100	0.094	0.093
Portugal	0.056	0.059	0.058	0.059
Sweden	0.056	0.059	0.058	0.059
Finland	0.042	0.043	0.031	0.033

Table 3. The Distribution of Power Index Values for Two Decision Rules (61/87 and 44/87) if Austria (Four Votes), Finland (Three Votes) and Sweden (Four Votes) Join the EC.

	Decision Rule			
	61/87		44/87	
Country	Shapley–Shubik	Banzhaf	Shapley–Shubik	Banzhaf
Italy	0.112	0.113	0.118	0.117
France	0.112	0.113	0.118	0.117
Germany	0.112	0.113	0.118	0.117
Belgium	0.056	0.057	0.056	0.056
Holland	0.056	0.057	0.056	0.056
Luxembourg	0.022	0.025	0.022	0.022
UK	0.112	0.113	0.118	0.117
Denmark	0.031	0.034	0.033	0.033
Ireland	0.031	0.034	0.033	0.033
Greece	0.056	0.057	0.056	0.056
Spain	0.092	0.091	0.092	0.091
Portugal	0.056	0.057	0.056	0.056
Austria	0.046	0.048	0.046	0.047
Sweden	0.046	0.048	0.046	0.047
Finland	0.031	0.034	0.033	0.033

tion that Sweden has five votes, *ceteris paribus*. Sweden's fifth vote would be bad news for Austria and Luxembourg. It would, however, marginally benefit three-vote countries.

Table 5 gives the power index value distribution in a hypothetical council

Table 4. The Distribution of Power Index Values for Two Decision Rules (62/88 and 45/88), Assuming that Sweden Has Five Votes.

	Decision Rule			
	62/88		45/88	
Country	Shapley–Shubik	Banzhaf	Shapley–Shubik	Banzhaf
Italy	0.119	0.112	0.117	0.116
France	0.119	0.112	0.117	0.116
Germany	0.119	0.112	0.117	0.116
Belgium	0.056	0.058	0.055	0.055
Holland	0.056	0.058	0.055	0.055
Luxembourg	0.018	0.023	0.022	0.022
U.K.	0.119	0.112	0.117	0.116
Denmark	0.033	0.036	0.032	0.033
Ireland	0.033	0.036	0.032	0.033
Greece	0.056	0.058	0.055	0.055
Spain	0.094	0.092	0.091	0.091
Portugal	0.056	0.058	0.055	0.055
Austria	0.034	0.037	0.047	0.047
Sweden	0.056	0.058	0.055	0.056
Finland	0.033	0.036	0.032	0.033

Table 5. The Distribution of Power Index Values for Two Decision Rules (66/94 and 48/94) in a 17-Member EC.

	Decision Rule			
	66/94		48/94	
Country	Shapley–Shubik	Banzhaf	Shapley–Shubik	Banzhaf
Italy	0.110	0.103	0.110	0.109
France	0.110	0.103	0.110	0.109
Germany	0.110	0.103	0.110	0.109
Belgium	0.052	0.054	0.052	0.052
Holland	0.052	0.054	0.052	0.052
Luxembourg	0.021	0.022	0.020	0.020
UK	0.110	0.103	0.110	0.109
Denmark	0.030	0.033	0.031	0.031
Ireland	0.030	0.033	0.031	0.031
Greece	0.052	0.054	0.052	0.052
Spain	0.085	0.085	0.086	0.086
Portugal	0.052	0.054	0.052	0.052
Austria	0.043	0.044	0.041	0.042
Sweden	0.043	0.044	0.041	0.042
Finland	0.030	0.033	0.031	0.031
Norway	0.030	0.033	0.031	0.031
Switzerland	0.030	0.033	0.031	0.031

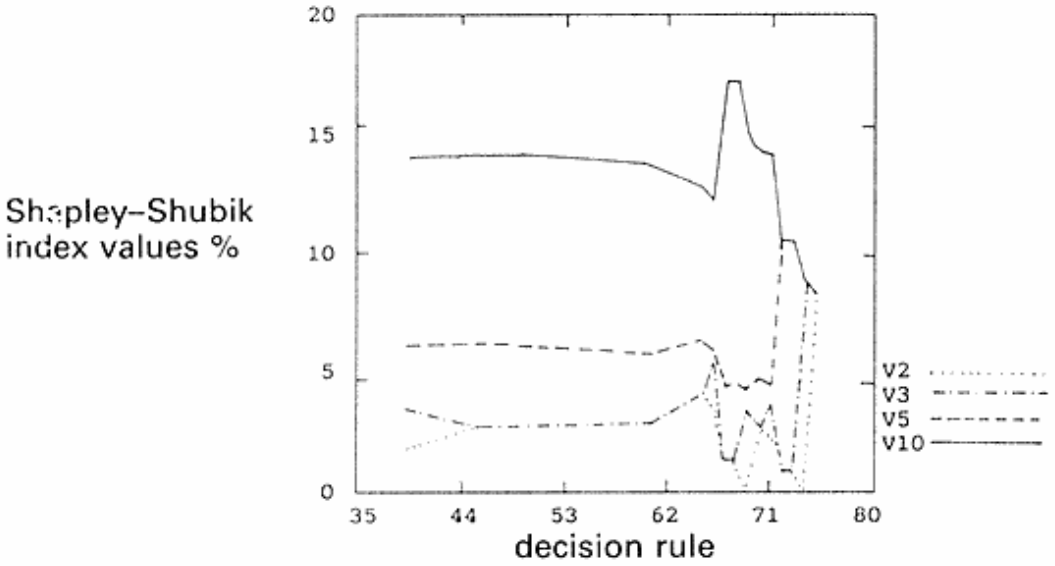

Fig. 1. The Shapley–Shubik Index Values (in Percentages) of Countries with 2 Votes (V2), 3 Votes (V3), 5 Votes (V5) and 10 Votes (V10) in the Current 12-Member EC Council of Ministers as Functions of the Decision Rule.

consisting of 17 members. It is assumed that Austria and Sweden would have four votes, while Finland, Norway and Switzerland have three votes. As previously, two decision rules – 70 percent and simple majority – are considered.

The computational capacity needed to obtain exact power index values for 17-member weighted voting bodies is very large. In particular, the Shapley–Shubik index computation becomes cumbersome. Approximation formulae are therefore needed for determining a priori voting power distributions in bodies with more than 17 members (see e.g. Owen 1988).

Varying Decision Rules in the Council of Ministers

As the decision rules affect the distribution of a priori voting power, it is in the interests of existing and prospective members to discover which rules would maximize their influence in the Council of Ministers. We have above reported the 70 percent and simple majority rules. The differences between voting power distributions under these two rules seem marginal. To the extent that they differ, they would seem to suggest that the current 70 percent rule is slightly biased in favour of the ten-vote countries at the expense of the smaller ones.

Figure 1 depicts the Shapley–Shubik index values – expressed in percentages – of countries with ten votes (represented by the curve V10), five votes (V5), three votes (V3) and two votes (V2) respectively in the current

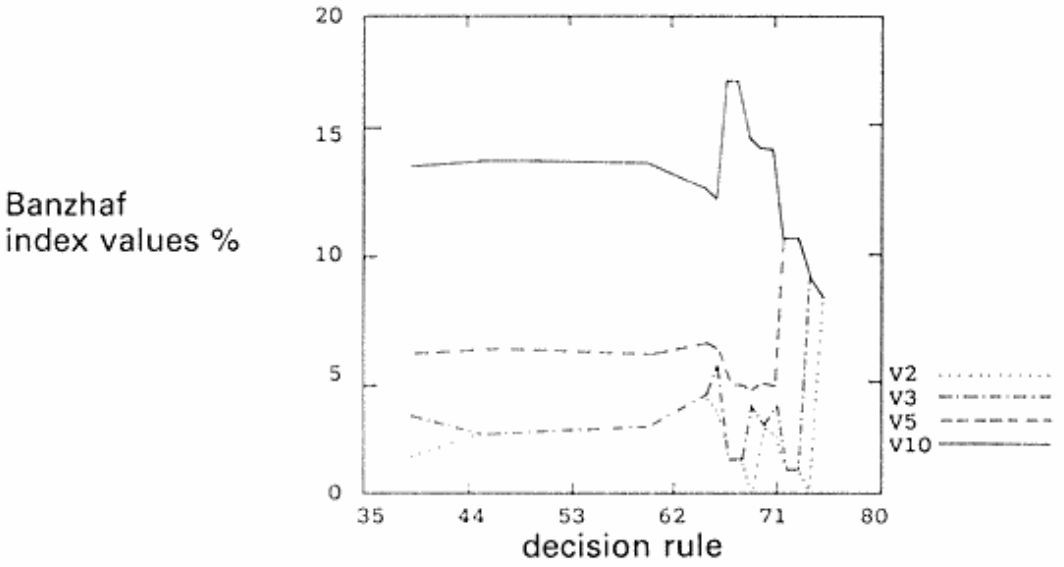

Fig. 2. The Banzhaf Index Values (in Percentages) of Countries with 2 Votes (V2), 3 Votes (V3), 5 Votes (V5) and 10 Votes (V10) in the Current 12-Member EC Council of Ministers as Functions of the Decision Rule.

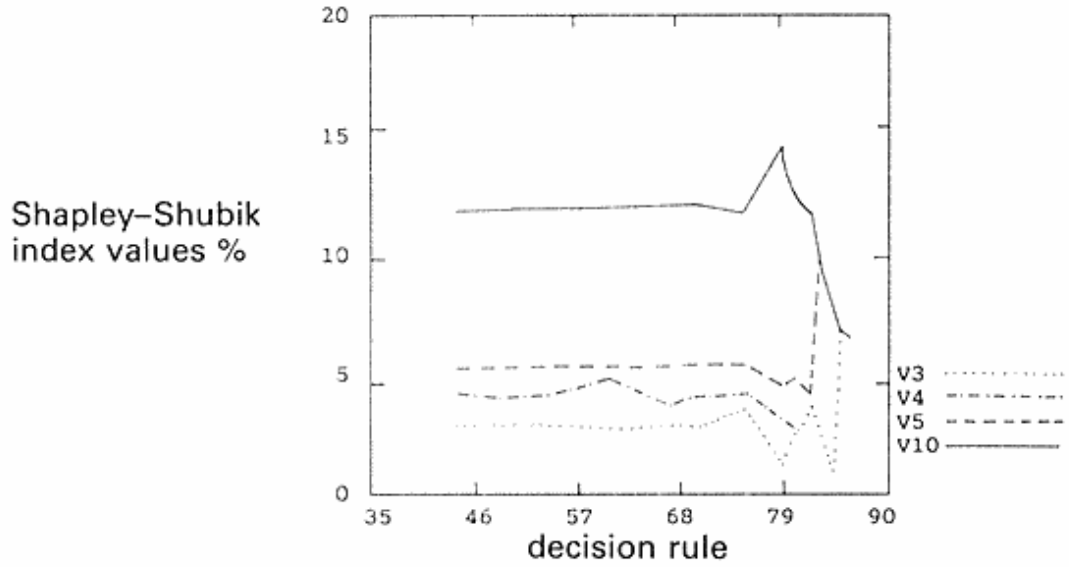

Fig. 3. The Shapley–Shubik Index Values (in Percentages) of Countries with 3 Votes (V3), 4 Votes (V4), 5 Votes (V5) and 10 Votes (V10) in a Hypothetical 15-Member EC Council of Ministers as Functions of the Decision Rule.

12-member EC. These values have been calculated as functions of alternative decision rules which are expressed as the number of votes that are needed to carry a motion. The corresponding Banzhaf index values are indicated in Figure 2. Figures 3 and 4 give the power index curves for the

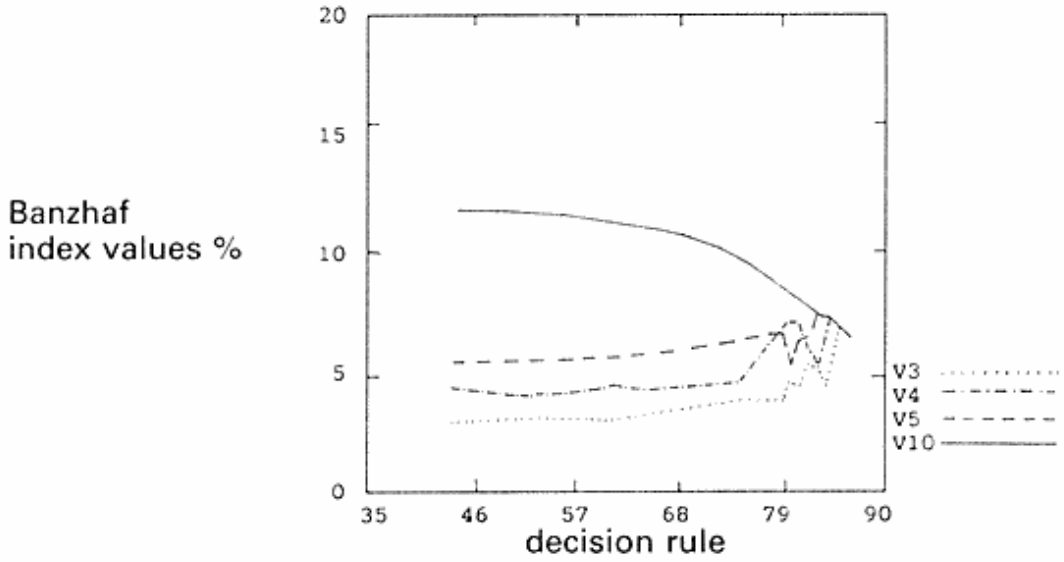

Fig. 4. The Banzhaf Index Values (in Percentages) of Countries with 3 Votes (V3), 4 Votes (V4), 5 Votes (V5) and 10 Votes (V10) in a Hypothetical 15-Member EC Council of Ministers as Functions of the Decision Rule.

hypothetical EC in which Austria and Finland have 3 votes and Sweden 4 votes. Thus, the V3 and V4 curves represent the power index values of Austria, Finland and Sweden respectively.

Figures 1 and 2 show that the variations in the power index values in the interval from simple majority to 70 percent rule are in general marginal. The ten-vote countries do well in terms of a priori voting power inasmuch as their share of voting power exceeds their relative share of votes in this interval. The voting power maximum, however, is well outside this interval. The Shapley–Shubik index reaches its maximum when the player in question becomes a vetoer. This is not always the case with the Banzhaf index although Figure 2 does not indicate this (Laakso 1978).

In the 15-member EC the Banzhaf index values of the ten-vote countries diminish with an increase in the decision rule, whereas these values for smaller countries increase. In terms of the Shapley–Shubik index the variation in the 50–70 percent interval is very small. The ten vote countries maximize their Shapley–Shubik index value at the decision rule where no coalition that does not include all ten member countries is not winning. We see that the behaviour of the two power indices is markedly different in the 15-member EC. The difference, however, appears only in the range of very large qualified majorities.

Power Distribution in the European Parliament

Compared to the Council of Ministers and the Commission, the European

Table 6. The Distribution of Seats, Shapley–Shubik and Banzhaf Indices in the European Parliament of 1979 under Simple Majority Rule.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	122	0.295	0.276
Christian Democrats	116	0.295	0.276
Liberals	40	0.095	0.103
Conservatives	64	0.162	0.172
Left-wing	48	0.095	0.103
Democrats	22	0.029	0.035
Right-wing	5	0.000	0.000
Independents	17	0.029	0.035

Table 7. The Distribution of Seats, Shapley–Shubik, and Banzhaf Indices in the European Parliament of 1984 under Simple Majority Rule.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	166	0.348	0.327
Christian Democrats	132	0.226	0.193
Liberals	43	0.072	0.083
Conservatives	49	0.102	0.112
Rainbow	20	0.037	0.043
Left-wing	49	0.102	0.112
Democrats	29	0.054	0.063
Right-wing	17	0.037	0.043
Independents	13	0.022	0.026

Parliament is a body of fairly limited powers. In the Single European Act of 1987 the influence of the parliament was to some extent increased. The Maastricht Treaty enhances the position of the parliament considerably, although one would still be hard pressed to consider it a legislative body *sensu stricto*.

Tables 6–8 report the seat, Shapley–Shubik and Banzhaf index value distributions of the political groupings in the European Parliament after 1979, 1984 and 1989 elections assuming that a simple majority rule is used. The discrepancies between the Banzhaf and Shapley–Shubik index values are in general very small. Even though Democrats in 1979 had a smaller relative number of seats than in 1989, their power index values were larger in the latter year than in the former. Otherwise, there are no counterintuitive features in the tables. It is noteworthy, though, that the extreme right was a dummy player in 1979.

Tables 9 and 10 indicate the seat and power index distributions before

Table 8. The Distribution of Seats, Shapley–Shubik, and Banzhaf Indices in the European Parliament of 1989 under Simple Majority Rule.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	180	0.401	0.393
Christian Democrats	122	0.187	0.154
Liberals	43	0.089	0.094
Conservatives	34	0.058	0.068
Rainbow	41	0.089	0.094
Left-wing	42	0.089	0.094
Democrats	21	0.037	0.043
Right-wing	22	0.037	0.043
Independents	13	0.015	0.017

Table 9. The Distribution of Seats, Shapley–Shubik, and Banzhaf Indices in the European Parliament of 1992 under Simple Majority Rule.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	180	0.401	0.393
Christian Democrats	122	0.187	0.154
Liberals	43	0.089	0.094
Conservatives	34	0.058	0.068
Rainbow	41	0.089	0.094
Left-wing	42	0.089	0.094
Democrats	21	0.037	0.043
Right-wing	22	0.037	0.043
Independents	13	0.015	0.017

Table 10. The Distribution of Seats, Shapley–Shubik, and Banzhaf Indices in the European Parliament after the Formation of the Coalition by Conservatives and Christian Democrats in 1992 under Simple Majority Rule.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	180	0.343	0.322
Coalition	156	0.243	0.220
Liberals	43	0.110	0.119
Rainbow	41	0.110	0.119
Left-wing	42	0.110	0.119
Democrats	21	0.043	0.051
Right-wing	22	0.043	0.051
Independents	13	0.000	0.000

Table 11. The Distribution of Seats, Shapley–Shubik, and Banzhaf Indices in the European Parliament under Simple Majority Rule Assuming that Finland Joins with 16 Seats Distributed Among Groupings in Proportion to the Seat Distribution in the Finnish Parliament.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	184	0.346	0.326
Coalition	160	0.239	0.216
Liberals	48	0.113	0.123
Rainbow	42	0.106	0.114
Left-wing	44	0.106	0.114
Democrats	21	0.039	0.047
Right-wing	22	0.046	0.055
Independents	13	0.004	0.004

and after the coalition between Conservatives and Christian Democrats was formed in the spring of 1992. As was to be expected, the power index values are non-decreasing functions of the seats. However, the so-called paradox of quarrelling members occurs, viz. the sum of the power index values of coalition partners is larger than the power index value of the coalition (see, Brams 1975; Brams 1976; Kilgour 1974). On the other hand, all the other groupings with the exception of Socialists and Independents, benefit from the coalition of Conservatives and Christian Democrats; surely a somewhat unexpected result. We also notice that despite their 13 seats, the Independents become dummy players in the situation following the formation of the coalition between Christian Democrats and Conservatives.

Table 11 gives the seat and power index value distribution in the hypothetical European Parliament which is obtained by making the following *Gedankenexperiment*: Finland joins the parliament and is given 16 seats which, in turn, are distributed among the existing political groupings in proportion to the relative seat distribution of the corresponding parties in the Finnish parliament. In other words, if party y has p percent of the seats in the Finnish parliament, then it is assumed that the number of seats of the grouping closest to y is increased by $16 \times p/100$.

Similar thought experiments could easily be performed assuming that other potential EC entrants were given seats according to the existing system and that their seats would be allocated to parties in proportion to their support in the respective countries. We shall, however, refrain from further experiments and turn to the issue of interpreting the results reported above.

Discussion and Conclusion

Which index of a priori voting power is the right one? This is an important

Table 12. The Distribution of Seats, Shapley–Shubik, and Banzhaf Indices in the European Parliament under Two-thirds Majority Rule, Assuming That Finland Joins with 16 Seats Distributed Among Groupings in Proportion to the Seat Distribution in the Finnish Parliament.

Party grouping	Seats	Shapley–Shubik	Banzhaf
Socialists	184	0.506	0.458
Coalition	160	0.339	0.430
Liberals	48	0.030	0.021
Rainbow	42	0.030	0.021
Left-wing	44	0.030	0.021
Democrats	21	0.030	0.021
Right-wing	22	0.030	0.021
Independents	13	0.006	0.007

question if one is looking at the above data from the view point of policy-making. The two voting power indices do not differ very much in those situations we have focused upon in the preceding presentation. This does not mean, however, that they would always give power distributions that are close to each other. Table 12 gives an example where the seat distribution is the same as that in Table 11, but the decision rule is two-thirds.

The differences between the power index values are by no means dramatic, but in some cases substantial. When considering very large qualified majorities, we encounter an interesting phenomenon, which was alluded to earlier, viz., one of the maximum values of the Shapley–Shubik index is always to be found at the smallest decision rule where the party in question is needed in every winning coalition (Laakso 1978). Consider as an example a 100-member voting body in which party A has 25 seats. Now the Shapley–Shubik index value of party A is maximized at a decision rule of 76, i.e. at the point where each winning coalition contains A. Strangely enough, this point is not necessarily the maximum of the Banzhaf index value of A. Figures 3 and 4 show the variation in the Banzhaf and Shapley–Shubik index values for selected members of the EC Council of Ministers as functions of the decision rule.

Obviously, the maximum of the Shapley–Shubik values is located in the "appropriate" place, while the Banzhaf index maximum is not. The reason for this discrepancy is, of course, in the definitions of the indices. The (standardized) Banzhaf index value is determined by two numbers: (1) the number of swings of the party in question, and (2) the total number of swings of all parties. Although (1) reaches its maximum at the decision rule where the party becomes a vetoer, (2) may counteract so that the index value *in toto* is not maximized. Resorting to the absolute or non-normalized Banzhaf index is a way out of this difficulty as it means that the denominator

(2) is replaced by 2^{n-1}. If this index is used, then the discrepancy with respect to the location of the maxima disappears. The same can be accomplished by replacing the denominator with the number of winning coalitions, whereupon one obtains an index with the property that a dummy player's index value is zero while that of a vetoer is 1 (see Nevison *et al.* 1978).

The power indices are, *per definitionem*, based on assumptions concerning the probabilities of various coalitions or issue dimensions. In some contexts these assumptions seem blatantly counterfactual. Therefore, efforts have been made to replace these assumptions with other, more "realistic" ones. In the case of the EC, one could, for example, assume that the Nordic countries – being fairly "similar" in many socio-political respects – would likely form coalitions with each other. On the other hand, one could argue that the very similarity creates competitive pressures that would counteract such coalitions. Similarly, one could speculate on what would happen to the a priori voting power distribution in the European Parliament if various coalitions of ideologically "adjacent" party groupings were to be formed. It is quite obvious that the voting index value of a coalition of countries can be no less than that of each member of the coalition.

In our opinion such exercises are misleading insofar as they divert our attention away from the original and well-argued purpose of the power indices. These indices are primarily measures of the theoretical a priori influence of player groups upon the outcomes ensuing from the decision-making apparatus. They are extensional in the sense of taking account of only the resource distribution over the players as well as the decision rule. Thus, they provide a structural description of the decision-making bodies. How the concrete outcomes then arise out of the body, is determined not only by the structural features but by a number of intensional ones.

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