EVEN MORE REASONS TO RESIST THE TEMPTATION OF POWER INDICES IN THE EU

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Dan Felsenthal and Moshé Machover’s (F&M) commentary on the 1999 Symposium in the Journal of Theoretical Politics in which we participated (Garrett and Tsebelis, 1999a, b) introduces a new element to the debate over the utility of power-index calculations to studying decision-making in the European Union. They argue that there are fundamental differences – both in terms of mathematical calculations and analytical implications – between what they call I-power (the most commonly used of which is the Banzhaf index) and P-power indices (following in the Shapley–Shubik (S–S) tradition).¹

F&M essentially concede that the criticisms we have leveled at power indices in this Journal and elsewhere (Garrett and Tsebelis, 1996; Tsebelis and Garrett, 1996) are well founded with respect to P-power indices. But they insist that our criticisms are unfounded with respect to I-power indices and that this class of power index calculations yields important insights into the politics of European integration.

We make two points in response. The first one can be stated succinctly. As we have argued before in this Journal (Garrett and Tsebelis, 1999b), power index calculations are very fragile and subject to radical changes on the basis of apparently minor changes in assumptions (about partitions of voters, for example) – as the ongoing disputes among different power-index scholars attest. F&M’s central claim that S–S-style and Banzhaf-style indices are, in fact, fundamentally different is likely to be a controversial position and will only add to these internecine debates. But it clearly underscores our basic point.

The numerical values of S–S and Bz indices in the EU Council of Ministers (assuming no voting blocs or interactions with other institutions) typically only differ at the third decimal place (Nurmi and Meskanen, 1999: Table 1). As a result, most experts use them interchangeably. This analytic and practical commingling is highlighted by the fact that F&M argue that the one index presented in the JTP symposium that was calculated on the

¹. These two categories should be construed as ‘ideal types’, because F&M classify other indices as ‘hybrids’ (F&M, p. 86).
basis of non-cooperative game theory (Steunenberg et al., 1999, henceforth SS&K) is in fact a reincarnation of the Banzhaf index. This contradicts the central point of F&M’s paper that Banzhaf-style (I-power) indices are not based on game-theoretic concepts.

We can only draw one conclusion if F&M are right that researchers ignore the real analytic differences among indices when they just go ahead and calculate scores for different actors using any or all basic types of algorithms. This conclusion is that we should join forces with F&M to propose a moratorium on the proliferation of index-based studies – unless and until practitioners can agree on what the different indices calculate and what the calculations actually imply for the EU.

The second and more important point we wish to make concerns the analytic differences between I- and P-power indices. On the basis of F&M’s characterization, it seems to us that P-power indices are potentially more appropriate and more interesting in relation to the politics of European integration – because they purport to portray strategic interactions among actors who are interested in policy outcomes.

But F&M claim that I-power is just as important to analyzing EU decision-making as P-power is. They have to do this because they concede that P-power indices cannot deliver on the game-theoretic analysis they promise – precisely for the reasons we have articulated. F&M acknowledge that our non-additivity and connected-coalitions critiques are ‘quite reasonable’ with respect to P-power (F&M, p. 87). It is unfortunate, however, that F&M do not go on to mention our most important critique of power indices. The cooperative game-theoretic assumption of enforceable agreements is institution free, while institutions are extremely important for how decisions are made in the EU. We return later to the importance of institutions with respect to I-power indices.

Is it possible to sustain the claim about the analytic relevance of I-power to European integration? To do so, F&M defend the proposition that it is just as meaningful to think of EU decision-making as a situation in which all actors vote secretly and sincerely, with no concerns about the payoffs associated with different sets of behavior, as it is to characterize treaty negotiations, the production of secondary legislation, etc. as being strategic in a simple game-theoretic sense (F&M, pp. 83–85). This seems a patently absurd position, and it is not one that analysts (other than F&M) who apply power indices to the EU try to sustain.

But what if we accept F&M’s contention that I-power (i.e. Banzhaf-style indices) may potentially be of some relevance to the EU even if they are not based on game-theoretic concepts? We have made a series of arguments against such indices. First, tastes are not taken into account most of the time. While some have attempted to incorporate different preferences into their calculations, in most studies the uniform distribution reigns supreme.
(Garrett and Tsebelis, 1999a). That is, all actors have the same probability of being located anywhere, and this questionable assumption is justified because the calculations are ‘a priori’. The uniform distribution simplifies calculations, but the costs are very high when we know, to take some consensually agreed observations, that some Council members tend to hold extreme views (such as the UK) whereas others are generally more centrally located (such as Germany), and that there are systematic differences in the voting behavior of MEPs from left- and right-wing parties in the Parliament.

Second, no power index (with the exception of SS&K’s) tries to incorporate the institutional details of decision-making into the analysis. This is a serious flaw with respect to the EU because the procedures governing legislation have been changed in each of the three treaty revisions in the past 15 years, and in no case today is law-making exclusively the domain of any one of the EU’s three legislative institutions – the Council, the Parliament and the Commission (Tsebelis and Garrett, 2000a).

F&M try to glide over this reality. They dismiss our institutional critique as follows:

This argument, even if it were correct, cannot be used against the application of power indices to the analysis of a priori power distributions within the CM in isolation, or the Parliament in isolation. Surely, this question of a priori power distribution within each of these bodies, when it operates under a given decision rule, is of considerable interest? (F&M, p. 89)

Our simple answer to this rhetorical question is ‘no’. F&M conveniently ignore the fact that the Council and the Parliament never act in isolation with respect to the production of laws. In the simplest legislative procedure (consultation), the Commission makes a proposal to the Council, using QMV to accept proposals but unanimity to amend them. Under cooperation, the Commission and the Parliament make proposals to the Council, but under the Maastricht version of codecision (I), the Council effectively made proposals to the Parliament. Under the reformed codecision (II) of Amsterdam, a committee composed of the Council and the Parliament makes proposals to both parent chambers.

Making a proposal (i.e. agenda-setting in game-theoretic terms) has nothing to do with the probabilities calculated in power indices. It is a strategic choice, and has to be calculated as such, that is, deterministically as a function of the preferences of the proposing actors and the constraints imposed by the winning coalitions among actors who must accept, reject or modify them. It may be that there is a very small area where winning proposals are located. If one were to use a probabilistic measure, locating such a point would be a low probability event. But if a rational actor controls the agenda the probability that such a point will be proposed is one.

F&M say nothing about the impact of institutions and the inadequacy of power indices in this respect. They just suggest that it is possible to take
institutions into account by modifying power-index algorithms in unspecified ways. However, as we have stated repeatedly, no power-index calculation can effectively account for the importance of institutions. This is both a fatal and congenital flaw of the whole approach. As we have shown elsewhere (Tsebelis and Garrett, 2000b) institutional arrangements affect not only the legislative process in the contemporary EU, but the adjudicating power of the ECI and the bureaucratic power of the Commission as well.

In Figure 1 we present the set of policies that cannot be upset by any coalition according to different legislative procedures. The logic of the argument is presented in Tsebelis and Garrett (2000b), but the simple point we want
to underline here is that the ‘cores’ of legislative procedures\textsuperscript{2} change significantly in shape and size from one procedure to another. As long as the status quo is located inside the relevant core, changes in positions of different actors are immaterial. In addition, none of these actors can be pivotal in modifying the status quo. In power-index terms, when the status quo is located inside the core there are zero winning coalitions, and each member state (and the other relevant actors in the Parliament and Commission) is a member of zero of them, which means that power indices for all germane actors are undefined (0/0).

How can F&M defend power indices (or if their analysis is correct, the subset of \(I\)-power indices) against these criticisms? Their answer is simply to reiterate what apparently is the mantra of index scholars about the importance of ‘a prioristic constitutional considerations’ (F&M, p. 90). F&M and other power-index scholars believe that ‘a priori’ indices can be constructed so long as we assume a uniform distribution of different actors. This generates serious problems, for two reasons.

First, we may not know exact location of actors, but we may have a ‘prior’ that is different from a uniform distribution. For example, if the EU is debating issues of integration, the UK may not always be the laggard, but it will certainly be one of the three most resistant Council members. If the matter is about market regulation in contrast, countries with left-wing governments are likely to be clustered together, as will social democrats in the Parliament, etc.

The second problem is that the shape of a distribution depends very much on the constituent units of the analysis. As we explained in our rejoinder in the Symposium (Garrett and Tsebelis, 1999b), the location of the Parliament’s median voter depends on whether the constituent unit of this parliament is considered to be the individual deputy, the cross-national ideological group, the national group or the whole parliament.

This suggests one of the major reasons that power indices are incapable of generating analytic leverage over EU politics. By aggregating across different policy profiles they eliminate the similarities and differences that are responsible for the results, that is, they eliminate our understanding of patterns. Ordinary power indices (‘simple voting games’ to use F&M’s terminology) do not account for institutions, for who controls the agenda, and for who makes the final decision. Instead they use permutations to address the underlying issues. We have made this point several times, but it seems that it is not being heard.

Here is how Banzhaf (1965: 332, emphasis added) describes his own index: ‘It also seems to incorporate \textit{no unrealistic assumptions about the}

\textsuperscript{2} The ‘core’ of a procedure is the set of outcomes that cannot be overturned using that procedure.
legislative process. Finally, by using this measure it is possible to make meaningful calculations and comparisons in actual legislative situations. While these words may have been true for Banzhaf’s original application, they are wholly inappropriate for the contemporary EU. As a result, those who apply power indices to the EU are succumbing to the law of the instrument. Researchers have been endowed by Banzhaf, Shapley–Shubik and others with a dazzling array of hammers. As a result, they want to treat every institution in the EU (beginning with the Council, moving to the Parliament, etc.) as a nail.

Consider the one index that does address agenda-setting, the SS&K approach. Unlike the other power indices, SS&K solve a series of non-cooperative games pertaining to the EU’s different legislative procedures and then aggregate across different possible policy positions of the actors. However, in these calculations there are different patterns that are aggregated and buried. For example, as Figure 1 indicates, if the status quo is located between the Parliament and the Council under codecision II the outcome cannot be changed. If the status quo is located outside the area between the Council and the Parliament, the actor located closer to the status quo is more powerful, etc. These points can be identified by a series of conditional statements, but they are completely lost in a power index, that is, a single number that aggregates across all possible cases.

We would all object to a doctor who gave us only one number for the probability that a human will get ovarian cancer because the conditional probability that a man has this form of cancer is zero. Similarly, we divide the population into smokers and non-smokers when we want to calculate lung cancer probabilities, life expectancy, etc. Why not do the same thing in terms of legislative power? Non-cooperative game-theoretic models make such partitions, and come to specific predictions in the form of conditional statements. Power indices do not. We do not know why, after using non-cooperative game theory to identify outcomes under different configurations of players and under different institutional structures, SS&K want to integrate across all possible cases to come to an overall conclusion that uses computer time to bury the patterns of interaction. Clearly, they can force a computer to do such computations in one dimension, but why?

What is revealing is that European statesmen are, in fact, applying the same partitioning mentality as non-cooperative game theory because they are deciding legislative procedures by issue. The rules on environmental policy-making are different from the rules for agriculture or for workers’ health and safety. The reason for such distinctions is that politicians understand what some in the academic community are missing, that a priori aggregations ignoring preferences and institutions do not provide any information about or understanding of the EU.

We do not assume a constant structure of preferences as F&M claim. But
we do delineate constant (game-theoretic) logics of how preferences and institutions interact. And we have provided a series of reasons why ‘a prioristic constitutional considerations’ have no objective importance with respect to understanding decision-making in the EU.

REFERENCES


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