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# The Impact of Council's Internal Decision-Making Rules on the Future EU

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**ABSTRACT**

This paper deals with the voting rules in the EU Council. Both internal and external impact of the voting rules are evaluated. Internal impact affects the distribution of power among the member states and external impact affects power relations between the main decision-making bodies in the EU. One of the main lessons of the analysis is clearly to explain why the design of Council voting rules has required so much bargaining and cumbersome marathon negotiations.

JEL Classification: C70, D71, H77

Keywords: European integration, Council of Ministers, power

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# 1 Introduction

The Council of Ministers (CM) has traditionally considered the main decision-making body of the European Union (EU). CM represents the national views and interests within the EU whereas the other two bodies involved with EU legislation, namely the European Parliament (EP) and the Commission (EC), represent EU citizens' and general EU interests respectively. The EC's power stems from its role as the agenda-setter or the initiator of EU legislation and its executive function. It can also create new legislation using the so-called administrative route in trade and competiton policies.[1]. The EP has a legislative function like the CM. In recent years EP has gained power and there are even some recent claims that the expanding use of codecion procedure has significantly increased EP'r power at the expense of CM's power (e.g. Tsebelis and Garrett (2000)).

In this paper, we evaluate the impact of CM voting rules in broader context. More specifically, we analyse the internal and external impact of CM voting rules on the internal distribution of power in CM and on inter-institutional distribution of power between the three main decision-making bodies of the EU. Moreover, we investigate the impact of the eastern enlargement under various voting schemes in CM. The inter-governmental nature of CM has made the design of its internal decision-making rules a central issue that raises passions and reforming the CM voting rules has lead to tough negotiations among the governments in the recent past.

In academic literature, CM decision-making has inspired both a great number of applied studies and vigorous methodological debate. Quantitative applications that evaluate CM's internal decision-making rules are usually applying standard measures of voting power of cooperative coalitional form games, i.e. the Banzhaf (BI) or Shapley-Shubik index (SSI) [2]. These studies that are based on so-called cooperative approach consider CM in isolation from other EU decision-making bodies. These studies started to mushroom in the early 1990s and are mostly inspired by EU enlargements and institutional reforms in which, indeed, CM has been the key institution.

In this paper we apply the SSI. With an exception of Greece membership in 1981 CM voting rules have been under debate in every enlargement and, in particular, CM voting rule reform was set as pre-condition for the eastern enlargement in 2004 and 2007. Standard power indices disregard voters' preferences. There are some attempts to add preferences in coalitional form games setup. One alternative is probabilistic. If there are good grounds to expect that some countries are consistently more willing to accept Commission proposals in integration-disintegration scale,say, than some other countries that can be modelled by giving each country a different acceptance rate for proposals or by dividing member states into two groups of integrationist and anti-integrationist countries (see Kauppi and Widgrén (2004), Widgren (1995) and Kirman and Widgrén (1995)) for applications. Another alternative assumes specific spatial preferences. One tool for this kind of analysis is the Shapley-Owen power index. The index is due to Owen (1972) and

[1]This is discussed more in dept e.g. in Baldwin, Berglöf, Giavazzi, and Widgrén (2001)

[2]For examples see e. g.Widgren (1994), Laruelle and Widgrén (1998), Felsenthal and Machover (2001), Felsenthal and Machover (2004), Leech (2002), Baldwin and Widgren (2004)

Shapley (1977) that explicitly uses spatial preferrences. For a recent application to the EU see Passarelli and Barr (2007).

When CM's inter-action with the other two bodies is considered the inter-institutional analysis is usually carried out using spatial voting games framework. This also involves EU's decision-making procedures. In spatial analysis, the focus is either on inter-institutional equilibrium analysis of the EU procedures (see e. g. Steunenberg (1994), Tsebelis (1994) or for an extensive survey in Steunenberg and Selck (2006) and references therein). [3]

In sum, the above examples demonstrate that probabilistic[4] cooperative approach fits to purely aprioristic intra-institutional analysis and spatial non-cooperative approach to equilibrium analysis either at inter- or intra-institutional level. Moreover, some randomisation scheme is necessary to evaluate a priori power. This implies that if one wants to assess a priori power at inter-institutional level one needs to integrate cooperative and non-cooperative approaches. Indeed, the most recent line of research concerning power relations in the EU is based on the so-called unified approach, which combines cooperative and non-cooperative approaches. The approach evaluates, especially, the distribution of power at inter-institutional and intra-institutional level simultaneously. Here the first attempt is Steunenberg, Schmidtchen, and Koboldt (1999) who define power as the expected utility (using spatial preferences) that an actor obtains in the procedure when preferences are randomised. More recent attempt is based on the *strategic measure of power* (SMP) that was introduced in Napel and Widgrén (2004) and applied in inter-institutional analysis of EU codecision in Napel and Widgrén (2006). The latter is based on equilibrium analysis of procedural spatial voting games. Power is defined as an actors marginal contribution to the equilibrium outcome, i.e. how big the outcome shift would result from an actor's marginal preference shift. This gives the so-called ex-post power which is turned into ex-ante power by randomising preferences.

In this paper, we have three research questions that apply the methods described above. The common nominator is intra-CM decision making. The rules that we consider are the Nice rules as in the Treaty of Nice and the rules as in the in the inter-governmental agreement that was reached in June 2007. First, and most straightforwardly, we investigate how different intra-CM voting rules affect the distribution of power within CM. Here we apply the SSI.[5] Let us refer to this as the intra-CM effect. Here, we also assess what are the prospects of future enlargements under considered voting rules. Here we apply standard power measures but the issue of interest is to compare power distributions under different rules and compositions of the EU. Second, we evaluate how different intra-CM voting rules

[3]An example of a study on inter-institutional power in spatial context is Steunenberg, Schmidtchen, and Koboldt (1999).

[4]Note that more classical approach in cooperative games is axiomatic. In this paper we adopt the probabilistic approach.

[5]Most studies that evaluate the distribution of power in CM apply BI which based on simpler voting assumptions than SSI. Actually BI assumes no information on voting behaviour. An often-heard and plausible justification for this choice is that BI fits to constitutional analysis and institutional design. In this paper, our objective is not institutional design but rather the impact of given rules. The SSI fit to this better. It assumes that voters' probalities of accepting a random proposal are correlated (see subsection 2.1.

affect inter-institutional balance of power in the EU. The main emphasis of the analysis is on the relationship between CM and EP. Here we apply spatial voting analysis and the unified approach in particular. Let us refer to this as inter-institutional effect.

The remainder of the paper is organized as follows: Section 2 introduces the tools that we apply in our analysis. Section 3 first introduces intra-Council decision-making. As it forms the core of our analysis some basic facts are needed. Section 4 describes then the our assumptions on inter-institutional or CM-EP relations and introduces a simple model which aim to capture the crucial aspects of the procedure. These sections also introduce the equilibrium outcome of the model that is then used to intra-Council investigation. Section 5 deals with the results of our assessment in two parts: for intra-CM inter-institutional analysis respectively. Finally section 6 makes some concluding remarks.

# 2 Evaluation Methods for CM's Internal Voting Rules

## 2.1 The Shapley-Shubik Index

A commonly used measure for actors' voting power is the *Shapley-Shubik index* (SSI) Shapley and Shubik (1954). It can be seen as a special case of a broader concept the *Shapley value* Shapley (1953) in cooperative coalitional form games. SSI is restricted to so-called simple games that are usually used to model voting games. In simple voting games, winning and losing coalitions have different worth (usually one and zero respectively). Thus, all winning coalitions have the same worth and all losing coalitions have the same worth.

The SSI is based on the broad idea that an actor that can break a winning coalition into losing, or vice versa, exerts power. These actors are critical in the sense that they may help a coalition to achieve its goals. Suppose that this help is rewarded by a price, which ends up as power.Despite of their abstractness there is some recent evidence that power indices are able to capture actors' power and that they can be used to predict decision outcomes in a meaningful way (e.g. Kauppi and Widgren (2007).

More formally, let $N$ be a set of $n$ member states in the Council and let $S \subset N$ denote any coalition of member states having $s$ members. A voting game in the Council can be characterized by a set function $v(S)$ taking on value 1 when a coalition $S$ forms a qualified majority and zero otherwise. In this simple setting, the Shapley-Shubik index $\phi_i$ of a member state $i$ can be written

$$\phi_i = \sum_{S \subseteq N, i \in S} \frac{(s-1)!(n-s)!}{n!}[v(S) - v(S \setminus i)], \tag{1}$$

where $i = 1, ..., n$. The first term in the sum gives the probability of country $i$ being in a pivotal position in coalition $S$ and the latter term counts those pivotal positions where country $i$ is able to swing a winning coalition into losing, i.e. $S$ is winning and the removal of $i$ from it makes it losing.

Thus, SSI implies that the relative shares of the players' swing positions predict how powerful they are.[6]

In the classical voting power literature of institutional design, either the Banzhaf Index is more often applied than the SSI. An often heared reasoning behind this choice stems from *behind veil of ignorance* argument. The Banzhaf Index considers all possible coalitions of actors equally likely, i.e. all coalitions have have equal weight in power calculations. This ignores among other things actors' preferences, which can be considered as clear benefit in the design of voting rules. The SSI does not assume any particular preferences either but it gives equal weights to different coalition sizes from one to $n$ if $n$ gives the number of actors and, moreover, all coalitions that are of equal size, say $m \leq n$, have equal weights. One can argue that this requires more specific information than the assumptions behind the Banzhaf Index. However, the SSI has a very close link to strategic aspects of power (see the next subsection below), which can be seen as its strength.

## 2.2 The Strategic Measure of Power

When there are more than one decision making institutions involved or when one is investigating the interaction between several institutions classical power index approach faces problems as it assumes that players are voting or moving simultaneously, which is rarely the case in decision making procedures. As mentioned above, the non-cooperative approach serves as an alternative for investigating decision-making institutions. In the literature, the criticism towards the co-operative approach is two-fold. First, the cooperative approach cannot take strategic inter-institutional or procedural aspects of EU decision-making into account and, second, it does not explicitly consider players' preferences but rather attempt to model voting behavior more directly for instance using axioms or acceptance probabilities. The latter drawback is not, however, necessarily severe in the design of constitutional rules. It can also be seen as a reason to support abstract cooperative approach but the former has to be taken more seriously even in constitutional analysis.

The criticism towards classical power indices above does not mean, however, that the core of the traditional power index approach, namely a player's marginal contribution to the outcome, is useless. For this reason, Napel and Widgrén (2004) propose to extend above analysis from the simple coalition framework of a priori power measurement and the very basic voting game to a more general framework. First, take a player's marginal contribution as the best available indicator of his potential or ability to make a difference, i. e. his *a posteriori power*. Second, if this is of normative interest or a necessity for lack of precise data, calculate a priori power as expected a posteriori power. Expectation can be

[6]Another power measure is the so-called Penrose-Banzhaf measure. It can be written as

$$\frac{\partial f(x_1, \ldots, x_n)}{\partial x_i} = \sum_{S \in \mathcal{M}_i} (\frac{1}{2})^{n-1} = \beta_i. \tag{2}$$

It can be interpreted as player $i's$ probability of having a *swing* in a *vulnerable coalition*, i.e. in a coalition that can be turned from winning into losing by at least one of its members. PBM, like SSI, does not sum up to unity. Therefore to assess relative power or the distribution of power the PBM is often normalized and then referred to as the (normalised) Banzhaf index (NBI).

with respect to several different aspects of a posteriori power such as actions, preferences, or procedure.

In this unified approach, impact is relative to a what-if scenario or what Napel and Widgrén (2004) call the shadow outcome. The shadow outcome is the group's decision which would have resulted if the player whose power is under consideration had chosen differently than he a posteriori did, e. g. if he had stayed out of coalition $S$ when he a posteriori belongs to it. Assume spatial preferences. Then each player has a ideal policy position on unit interval, say. In this paper, we assume that a unit interval represents a policy space, i.e. the set of possible policy outcomes in one issue, and a set of mutually independent unit intervals in several issues.

To illustrate this more in detail, let $\Lambda = (\lambda_1, \ldots, \lambda_n)$ be the collection of $n$ players' ideal policy positions on unit interval. In a policy space $[0, 1]$, the opportunities even for only marginal changes of preference are manifold. A given ideal point $\lambda_i$ can locally be shifted to $\lambda_i + h$ where $h$ is an arbitrary small shift either to the left or right.

Let $x^*$ be the equilibriun outcome in codecision procedure as described above. One can now define

$$D_i(\Lambda) = \frac{\partial x^*(\lambda_i, \lambda_{-i})}{\partial \lambda_i}. \tag{3}$$

as a reasonable measure of player $i$'s ex post power. More specifically, let $\gamma, \mu, \pi$ represent the ideal aggregate policy positions of EC, CM and EP respectively. Due to respective internal decision-making rules $\gamma$ is the ideal policy position of the median Commissioner,$\mu$ is the ideal ,policy position of the pivotal minister (assuming QMV) in CM and $\pi$ is the ideal policy of the median MEP. Using the ex post power above we can define a corresponding ex ante measure as

$$\xi_i = \int D_i(\gamma, \mu, \pi) dP. \tag{4}$$

Using a suitable probability distribution of players' ideal policy positions. Napel and Widgrén (2004) refer to this index to as *Strategic measure of power* (SMP).

# 3 Internal Decision-Making Rules in CM

Let us briefly summarise CM's decision-making procedures. CM has always applied weighted voting unless, in some cases, when unanimous consent of member states is required. In weighted voting, each member state is assigned with a specific number of votes that has traditionally increased logarithmically by population (see Widgren (1994)). The Treaty of Rome weighted voting scheme in CM was practically unchanged until the Treaty of Nice that came into force in November 2004.[7] The Nice agreement introduced re-weighting

[7]When the UK, Denmark and Ireland entered in 1973 the original votes of the founding member states were multiplied by 2.5 with an exception of Luxembourg whose number of votes was multiplied by 2. This was to make the difference between new small member states Denmark and Ireland that are clearly bigger than Luxembourg but smaller than Belgium or the Netherlands who had one and two votes in the original

scheme that reallocated voting rights from the smallest to the biggest nations. The majority quota has traditionally been approximately 71 per cent of votes.[8] The Nice rules maintain this *qualified majority voting* QMV framework, but add two extra criteria concerning the number of yes-votes and the share of EU population they represent. Specifically, the vote threshold was increased to 73.9 percent, i.e. 255/345 votes. Moreover, acceptance of a simple majority of Member States (14 members) and countries representing 62 percent of the EU population are required for a proposal to pass. The second and third requirements have, however, only a negligible effect on the possible winning coalitions (see e. g. Baldwin et al. (2001) or Felsenthal and Machover (2001)). The numbers of votes and member states' populations in EU27 are shown in Table 3.

The determination of voting weights in CM looks seemingly simple and automatic (see 3) but, in practise, it is far from that. With this respect there are three striking features. First, new entrants' voting rights have always been negotiated as a part of their accession treaties and, second, as the system - both before and after Nice - puts member states into clusters all countries within one cluster having the same number of votes, the assignment of groups to the new entrants have always been a tough question in membership negotiations. Third striking aspect is that the current system, still in power when the first wave of enlargement took place, has not been updated to reflect changes in member states relative sizes. The determination of voting weights is based on clustering of member states. France and Germany belong to the same cluster despite their more than 20 millions difference in populations and the same used to hold for the Netherlands and Belgium with their six million population difference. The Nice rules devoted one more vote to the Netherlands compared to Belgium but did not correct the population difference between Germany and France. In short, eastern enlargement was used to reform the old voting scheme without regarding the shortcomings of the system.[9]

To make CM voting rules more transparent the *Constitutional Treaty* (CT), that was agreed inter-governmentally in June 2004, made a fundamental revision to CM voting rules. Specifically, CT made a switch from weighted voting into a dual majority system spiced with additional requirements. In fact, CT introduced a quadric majority: A winning coalition must represent at least 55 percent of EU members and 65 percent of the EU population. Moreover, during the final negotiations two last-minute Summit compromises [10] were inserted. They are the requirement of at least 15 members vote 'yes' to pass proposals and at least four countries are required to block decisions. They both have an impact in EU27 as 15 members is 55.6 percent of the membership but in computations the

system respectively. The new system gave 10 votes for the three biggest member states, five votes for the medium sized the Netherlands and Belgium and two votes for Luxembourg. Among the new entrants the UK got 10 votes, Denmark and Ireland three votes each. After the 1 May 2004 enlargement the votes of new entrants were intrapolated on the basis of the old scheme but this transitory weighting was in use only till 31 October 2004.

[8] In practise, CM usually tries to find unanimous compromises but still one can argue that bargaining that leads to a compromise involves voting weights as member states capacities. This *shadow voting* argument leads us to concentrate on QMV.

[9] See Kauppi and Widgren (2007) for discussion about related aspects.

[10] The *keys* in EU jargon.

Table 1: The Council Votes in EU27 under the Treaty of Nice Rules

| Member state | Population in 100,000s | Nice weight |
|---|---|---|
| Belgium | 10396.4 | 12 |
| Bulgaria | 7801.3 | 10 |
| Czech Republic | 10211.5 | 12 |
| Denmark | 5397.6 | 7 |
| Germany | 82531.7 | 29 |
| Estonia | 1350.6 | 4 |
| Greece | 11041.1 | 12 |
| Spain | 42345.3 | 27 |
| France | 61684.7 | 29 |
| Ireland | 4027.5 | 7 |
| Italy | 57888.2 | 29 |
| Cyprus | 730.4 | 4 |
| Latvia | 2319.2 | 4 |
| Lithuania | 3445.9 | 7 |
| Luxembourg | 451.6 | 4 |
| Hungary | 10116.7 | 12 |
| Malta | 399.9 | 3 |
| Netherlands | 16258.0 | 13 |
| Austria | 8114.0 | 10 |
| Poland | 38190.6 | 27 |
| Portugal | 10474.7 | 12 |
| Romania | 21711.3 | 14 |
| Slovenia | 1996.4 | 4 |
| Slovakia | 5380.1 | 7 |
| Finland | 5219.7 | 7 |
| Sweden | 8975.7 | 10 |
| United Kingdom | 59651.5 | 29 |
| Total | | 345 |
| QMV | | 255 |

effect turned out to be very small. French and Dutch referenda, however, rejected the Constitutional Treaty. In 2007, it was restructured and renamed and the inter-governmental agreement (IGA) was reached in June 2007. The agreement maintains CM voting rules as in IGA but postpones the date when they come into force till 2014, even 2017 if at least one member state requires that.

# 4 The Codecision Procedure

[11]

European Union's codecision procedure was introduced by the Treaty of Maastricht that came into force in late 1993. The current version of the procedure is due to the Treaty of Amsterdam and has been used since 1999. Currently, codecision procedure is the most important and most often used decision-making procedure in the EU. Therefore, we illustrate inter-institutional interaction using this procedure. [12]

The codecision procedure is initiated by a policy proposal of the European Commission. Then the procedure involves up to three readings of proposed legislation by EP and CM. First, EP can approve this proposal or replace it with an amended version of its own. Then, CM either approves the proposal on the table or initiates a second stage of decision-making by making amendments. This new proposal – CM's 'common position' in EU parlance – is either approved by EP or, again, amended. If in the latter case CM does not accept EP's proposal,[13] The *Conciliation Committee* represents the final chance to seek a shift from the status quo. The Committee is composed of all 27 members of CM and an equal size delegation of members of EP (MEPs). The committee is co-chaired by an EP Vice-President and the Minister holding the Council Presidency without any fixed negotiation protocol. EC's role in the committee is only to draft proposals requested by CM and EP. If CM and EP agree on a compromise, it is submitted to CM and EP for acceptance in a third reading in which CM and EP use their typical qualified and simple majority rules, respectively. In this paper, we adopt Napel and Widgrén (2006) extensive form game model for the procedure (see Fig. 1). The bargaining outcome that EP, CM, and also the EC expect to result from invoking the Conciliation Committee plays a crucial role at earlier stages of the procedure. Using backward induction it is straightforward to conclude that it is indeed *the* determinant of any codecision agreement if all players act strategically. Accepted new legislation will usually come into effect at some date in the medium-term future. Therefore, it is plausible to assume that neither EP nor CM has a pronounced preference for agreeing on a policy change a few weeks sooner rather than later. The codecision outcome can then be identified with the policy which CM and EP expect to agree on in Conciliation (either a new policy or the status quo, in which case a Commission with rational expectations need not even initiate the procedure). Therefore,

[11] This section draws heavily on Napel and Widgrén (2006)

[12] Another important procedure is called consultation procedure, which is an interplay between CM and EC (see Napel and Widgren (2008) for preliminary investigation)

[13] The Commission – by a negative opinion on EP's proposal – can require CM to accept unanimously.

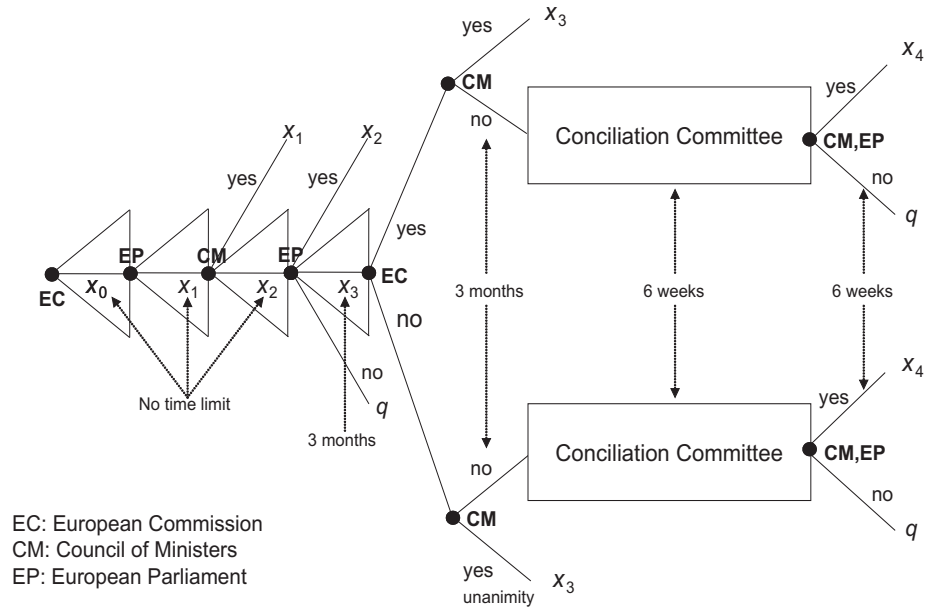


Figure 1: Stylized codecision game tree

our quantitative analysis of EP's and CM's influence on codecision outcomes can actually be confined to the Conciliation stage.

We use the *symmetric Nash bargaining solution* to predict the Conciliation agreement as we see no reasons to consider either EP or CM a more impatient or skilled bargainer. Using backward induction, the codecision outcome. For the benchmark case of a unidimensional policy space and utility that linearly decreases with distance the symmetric Nash bargain corresponds to agreement on the ideal point which is closer to the status quo whenever there are gains from trade, i. e.

$$sign(q-\pi) = sign(q-\mu) \Longrightarrow x^*(\pi,\mu) = \begin{cases} \pi; & \rho(\pi,q) \leq \rho(\mu,q) \\ \mu; & \rho(\pi,q) > \rho(\mu,q). \end{cases}$$

At the inter-institutional level we assume that CM, EP and EC[14] agree on their respective bargaining positions using their respective voting rules. The European Parliament needs to approve any Conciliation compromise by simple majority. Entering negotiations with CM about some policy change to the right of the status quo $q$, some of the potential positions of the EP delegation are such that a majority of MEPs would find it beneficial to intervene and select a different delegation. More concretely, denote the ordered ideal points of all MEPs by $\pi_{(1)} \leq \pi_{(2)} \leq \ldots \leq \pi_{(785)}$ and consider a provisional bargaining position $\pi$ with $q < \pi < \pi_{(393)}$. Parliamentarians with ideal points $\pi_{(392)}, \ldots, \pi_{(785)}$ then have the necessary majority and common interest to instead select some delegation with $\pi \geq \pi_{(392)}$ as EP's position for Conciliation negotiations. Similarly, parliamentarians with

[14]Note that a simple majority of member states or MEPs can request the Commission to make proposals on EU legislation. Hence it does not exert gate-keeping power of not proposing legal acts that it dislikes.

ideal points $\pi_{(1)}, \ldots, \pi_{(393)}$ would block a position $\pi > \pi_{(393)}$. One can hence restrict EP's ideal point in negotiations about policies $x > q$ to $\pi \in [\pi_{(392)}, \pi_{(393)}]$. According to the strategic bargaining model of the previous section it is the institution whose ideal point is closer to the status quo which is determining the Conciliation agreement. With this in mind we take the influence-maximizing $\pi = \pi_{(392)}$ to be EP's position in negotiations about $x > q$ and refer to the corresponding MEP as EP's *pivotal player*. By analogous reasoning, we identify EP with position $\pi = \pi_{(393)}$ for policies $x < q$.[15]

One characterization of the SSI refers to actors' permutations that are equally likely. When weighted voting in CM is assumed one cannot determine CM's pivotal player by looking only at a fixed order statistic $\mu_{(i)}$. Rather, one needs to aggregate voting weights of the players in the right order. Small countries, on the one hand, exert power in relatively small coalitions (with the help of relatively big countries) and big countries, on the other hand, exert power in relatively big coalitions containing relatively big number of small countries. This phenomenon makes it unclear, how well the SSI and SMP correspond. One thus finds the endogenous *pivotal position* $p$ which then allows to use $\mu_{(p)}$ as a reasonable proxy for CM's position. Since we are assuming weighted voting in CM throughout the paper we can let us denote this position ny $\mu$ for short.

# 5 Internal and External Impact of CM Rules

## 5.1 Internal Effect on CM Distribution of Power

Let us first assess the intra-CM impact of two different Council voting rules that are relevant. We concentrate on the Nice rules that are currently in use and the IGA rules that refer to a dual majority scheme whereby 55 per cent of membership representing 65 per cent of EU population is required to pass proposals as agreed in June 2007. According to the inter-governmental agreement, the Nice rules are in force at least till 2014 and there is an option to have the Nice rules in use until 2017.

Figure 2 compares the power distributions, on the one hand, between the Nice and IGA rules an, on the other hand, between the Nice and SQR65_55 rules. The upper panel shows the differences in SSIs and the lower panel in NBIs. When the CT and Nice rules are considered (solid curves) comparison of the the upper and lower panels reveals that the shapes of the differences are very similar. The difference between the IGA and Nice rules follows a U-shaped pattern demonstrating that the middle-sized countries lose the most when the Nice rules are replaced by the dual square-root rules in 2014 or 2017 Romania being an exception. Although the shapes of IGA-Nice curves are similar there are two significant differences though. First, NBI suggests that the smallest countries would gain power under CT compared to Nice whereas SSI gives them practically zero differences. Second, the magnitudes of big countries' power gains are considerably higher when SSI is used for the evaluation. This can be explained by the underlying voting models behind the

[15]Conciliation does not involve the Commission. Using backwards induction argument the Commission is, in fact, a dummy player having zero power.

Table 2: The SSIs in the EU-27 under the Treaty of Nice rules and IGA rules, %

| Country | Treaty of Nice | IGA |
|---|---|---|
| Germany | 8.74 | 16.29 |
| United Kingdom | 8.70 | 10.88 |
| France | 8.72 | 10.82 |
| Italy | 8.69 | 10.56 |
| Spain | 8.02 | 7.05 |
| Netherlands | 3.67 | 3.20 |
| Greece | 3.40 | 2.35 |
| Belgium | 3.40 | 2.30 |
| Portugal | 3.40 | 2.27 |
| Sweden | 2.81 | 2.08 |
| Austria | 2.81 | 1.97 |
| Denmark | 1.95 | 1.52 |
| Finland | 1.95 | 1.49 |
| Ireland | 1.95 | 1.27 |
| Luxembourg | 1.10 | 0.75 |
| EU15 | 69.31 | 74.81 |
| Poland | 7.99 | 6.92 |
| Romania | 3.98 | 4.35 |
| The Czech Republic | 3.40 | 2.32 |
| Hungary | 3.40 | 2.29 |
| Bulgaria | 2.81 | 1.99 |
| Slovak Republic | 1.95 | 1.52 |
| Lithuania | 1.95 | 1.27 |
| Latvia | 1.10 | 1.07 |
| Slovenia | 1.10 | 1.00 |
| Estonia | 1.10 | 0.91 |
| Cyprus | 1.10 | 0.80 |
| Malta | 0.82 | 0.75 |
| New Member States | 29.31 | 26.80 |
| Total | 100.00 | 100.00 |

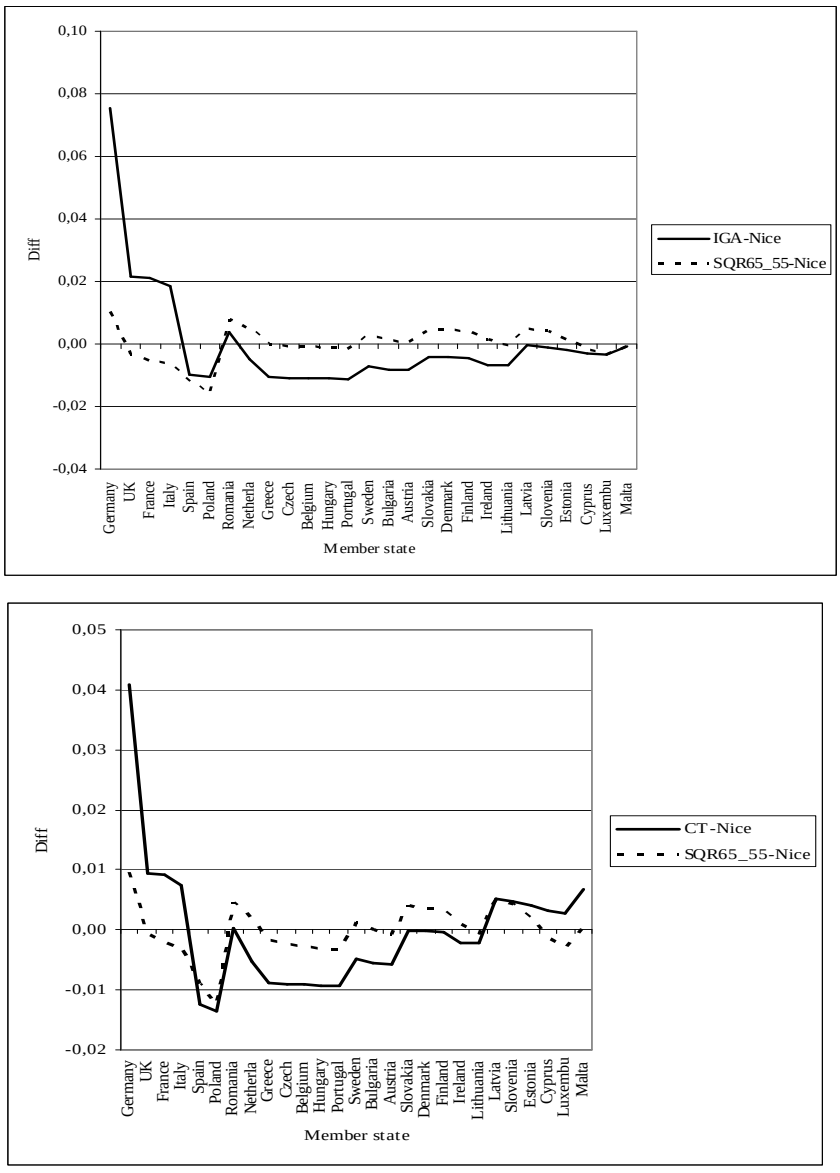


Figure 2: The Difference between Shapley-Shubik (upper panel) and Normalised Banzhaf Indices (lower panel) in the Nice and IGA Rules and in Nice and CT and SQR65&55 Rules in EU27

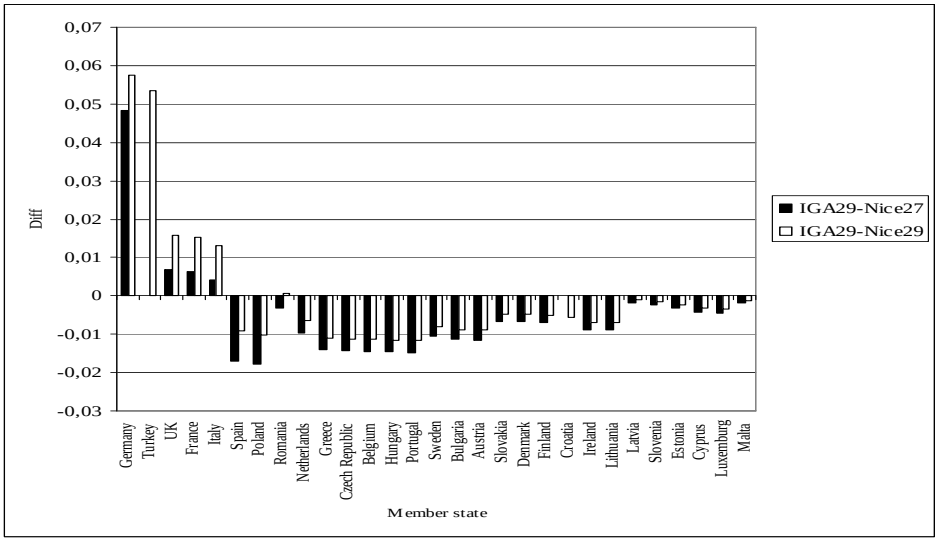


Figure 3: The Difference between Shapley-Shubik in the Nice and IGA Rules and in EU27 and EU29

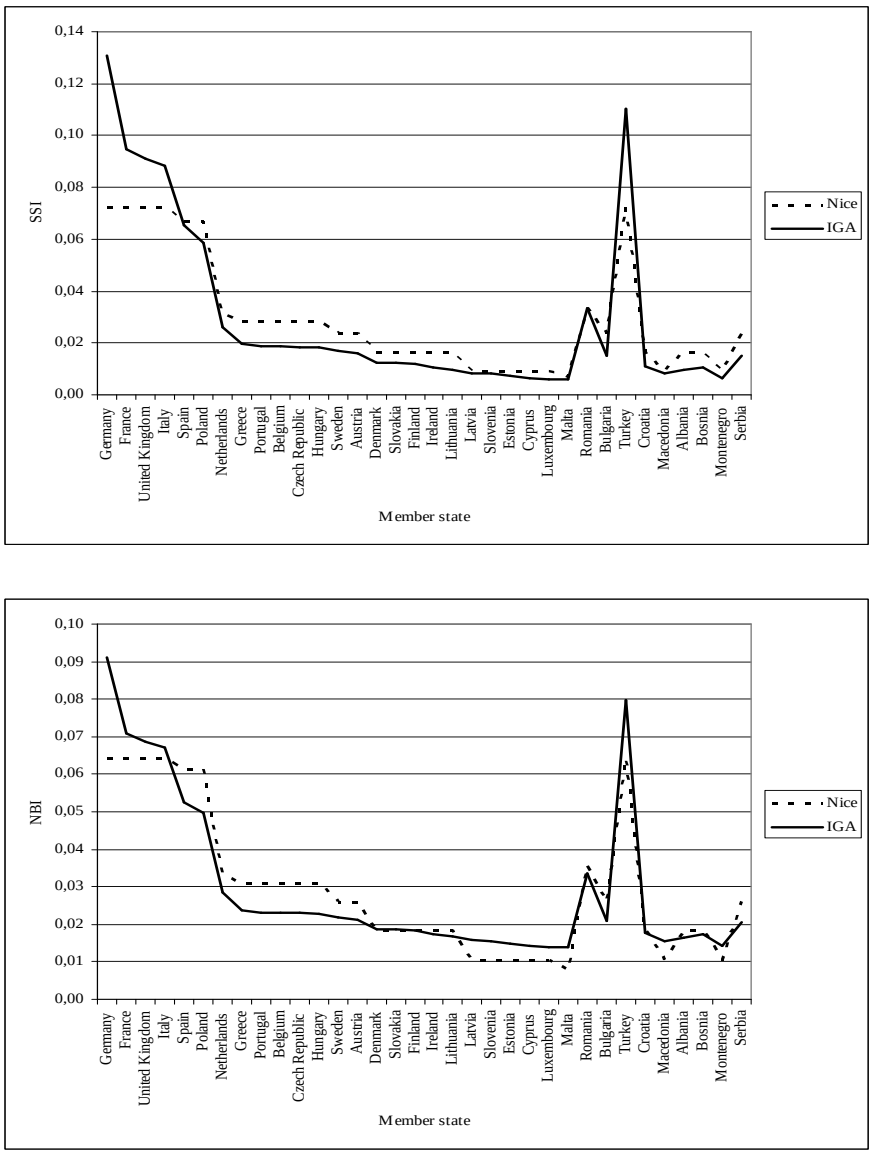


Figure 4: Shapley-Shubik (upper panel) and Normalised Banzhaf Indices (lower panel) in the EU34

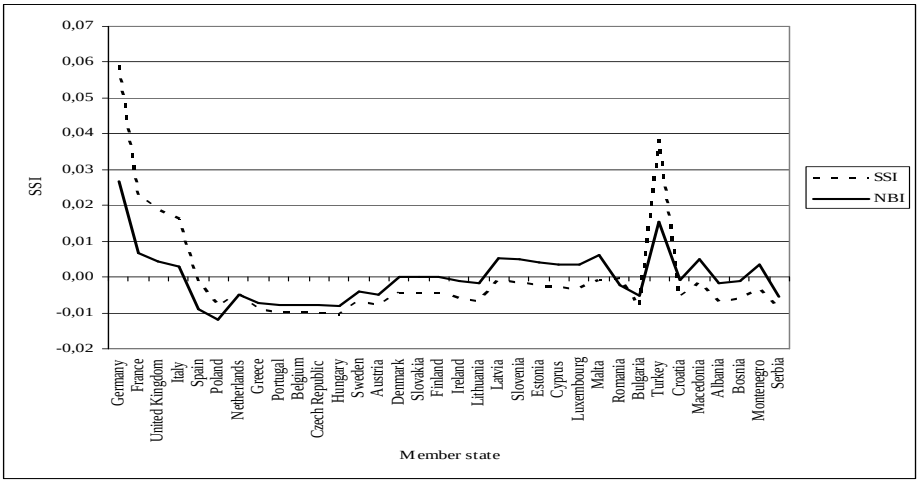


Figure 5: Shapley-Shubik and Normalised Banzhaf Indices in the EU34, differences between the CT and Nice rules

indices. SSI gives more weight to coalitions having relatively small number of members than NBI that puts most weight to coalitions having close to $n/2$ voters. Since big countries are more likely to be at pivotal position in coalitions having relatively small number of members than the small ones SSI gives them more power.

When the SQR65_55 and Nice rules are compared (dashed curves) figure 2 suggests that the magnitude of the difference is much lower than in comparison between the Nice and IGA rules. Moreover, there is no systematic pattern as in the differences between the Nice and CT rules. In sum, both indices suggest that the compromise solution (SQR65_55) would practically restore the distribution of power to the Nice distribution. The major impact of the SQR65_55 rule is that it would significantly improve CM's ability to act. That is often measured by the so-called *passage probability* which simply computes the percentage of majority coalitions to all coalitions using the Banzhaf assumption on voting, i.e. all coalitions are equally likely. It evaluates how often a randomly chosen coalition is winning. Of course, the passage probability values as such are meaningless since the proposals that are voted on are not random. However, the comparison of two passage probability values gives meaningful information how CM's ability to act changes when the rules are changed. In EU27, the passage probability value is 2.0 per cent. The respective figures for IGA and SQR65_55 rules are 17.1 and 10.0 per cent. The IGA rules would, thus, significantly improve decision-making efficiency in the CM The potential drawback of the switch from the Nice to IGA rules is, however, significant redistribution of power. That is likely to postpone the switch till 2017 or even put the whole shift to jeopardy. On the other hand, the shift from the Nice rules to SQR65_55 rules would also improve decision-making efficiency considerably without affecting the distribution of power as much. It is worth noting, however, that by adopting the SQR65_55 rule instead of the IGA rule the power gains of the biggest countries would be cut.

Figure 5 shows the SSIs and NBIs for the EU34, which is the current EU27 plus Croatia, Turkey, Macedonia, Albania, Bosnia, Montenegro and Serbia. Comparison of the Nice and CT rules demonstrates the same pattern as before. First, the big countries are clearly winning from the CT rules and, second, the SSI shows once again bigger differences between the two rules, especially in the case of the biggest member states. Although the figures follow the same pattern the gains and losses are roughly doubled when we compare the SSI and NBI. Which index is then more appropriate? They both give roughly the same message but the magnitude is different. The SSI puts much more weight to the big countries and also the small country gains, which creates a true u-curve. A common wisdom is that NBI is more appropriate for institution design as it completely disregards preferences and takes all coalitions equally likely. In this paper, we are not interested in institution design as such but rather the consequences and, therefore, the SSI values are the ones that should be looked at. Moreover, the SSI, first, has non-cooperative foundations, and therefore more reliable and, second, like Kauppi and Widgren (2007) showed the SSI explains EU budget receipts very well. To conclude, there is a huge difference between the voting rules in CM that are in the Treaty of Nice and inter-governmental agreement of June 2007. It is not who loses and who gains, it is the magnitude.

## 5.2 External Effect on Inter-Institutional Power

Let us next turn to inter-institutional relationship between the main decision-making bodies of the EU. There are two questions of interest here. First, what is the distribution of power between CM and EP in codecision procedure and, second, how the procedure affects the power measures and the distribution of power in CM.

The two first columns of table 5.2 show SMPs in codecision under the Nice and IGA rules respectively. The two next columns normalise SMPs in CM. The purpose of this normalisation is to analyse CM in isolation using strategic power approach. What one might expect is that we get the SSI but as the two right-most columns demonstrate that is not true. The two last columns give the relative difference between the SSI and normalised SMP (NSMP) in CM. The latter can be interpreted as the probability of being pivotal in CM given that we take stategic considerations and spatial preferences into account. The absolute differences between NSMP and SSI are not big [16] but there are considerable relative differences especially for small countries. The figures in two last columns also demonstrate that the relative differences between the SSI and NSMP differ according to the procedure and the size of the country. Under the Nice rules, NSMP tends to give higher figures to the biggest nations whereas the reverse holds for the IGA rules. In both cases the relationship is monotonic: the bigger a country is the more NSMP exceeds SSI under the Nice rules and the more it falls below under the IGA rules.

Let us next turn to assess claims that the gradual extension of the codecision procedure to more of the EU's policy areas has moved EU decision making towards a balanced bicameral system. The codecision procedure is clearly that of the EU's legislative procedures in which EP's influence is greatest. Still, it is very small. The last two rows of two first columns demonstrate that the arguments that EP and CM are equal co-deciders are simply wrong. Under the Nice rules EP is almost powerless and under the IGA rules, despite of relatively large gain compared to the Nice rules, still much less powerful than CM. The use of QMV gives an advantage to CM since it is much more difficult to get acceptance from CM than from EP that applies simple majority. Noteworthy, however, EP is more powerful than any single member state under the IGA rules, which is not the case under the Nice rules. Also, the comparison of EP's figures demonstrate that EP obtains considerable power gains from IGA rules compared to the Nice rules. But this does not mean that codecision works like a balanced bicameral system. If this is the goal the internal decision-making rules, i.e. the majority quotas, in EP and CM should be approximately the same.

It is worth noting that the SMPs do not sum up to unity. The overall sum is 0.55 under the Nice rules and 0.69 under the IGA rules respectively. The difference between one and the sum of SMPs can be interpreted as a measure of status quo bias. Note that the SMP, like the SSI, measure constructive power. In the case of SSI, status quo bias is ruled out.[17] In SMP context, a sufficient condition to this is to fix the status quo to 0 when unit interval describes the policy space. In the computations of table 5.2, the status quo is, however,

[16] Note that the SSI values are not given here. They are shown in table 5.1 above

[17] In axiomatic approach, the efficiency axiom guarantees that.

Table 3: Strategic power in the EU27 under the Nice and Constitutional Treaty rules and the intra-CM difference to SSI in codecision procedure

| Member state | SMP Nice | SMP IGA | NSMP Nice | NSMP IGA | (NSMP - SSI)/ SSI, % Nice | NSMP - SSI)/ SSI, % IGA |
|---|---|---|---|---|---|---|
| Belgium | 0.0181 | 0.0129 | 0.0345 | 0.0232 | -1.69 | -0.26 |
| Bulgaria | 0.0151 | 0.0104 | 0.0287 | 0.0187 | -2.12 | 0.20 |
| Czech Republic | 0.0181 | 0.0127 | 0.0345 | 0.02282 | -1.69 | -0.22 |
| Denmark | 0.0105 | 0.0084 | 0.0200 | 0.0150 | -2.67 | 0.80 |
| Germany | 0.0448 | 0.0888 | 0.0852 | 0.1589 | 2.45 | -0.23 |
| Estonia | 0.0059 | 0.0048 | 0.0113 | 0.0086 | -3.31 | 3.88 |
| Greece | 0.0181 | 0.0135 | 0.0345 | 0.0242 | -1.69 | -0.31 |
| Spain | 0.0415 | 0.0426 | 0.0788 | 0.0763 | 1.64 | -0.28 |
| France | 0.0448 | 0.0635 | 0.0851 | 0.1136 | 2.33 | -0.40 |
| Ireland | 0.0105 | 0.0073 | 0.0200 | 0.0131 | -2.67 | 1.37 |
| Italy | 0.0447 | 0.0589 | 0.0850 | 0.1054 | 2.20 | -0.53 |
| Cyprus | 0.0059 | 0.0043 | 0.0113 | 0.0077 | -3.31 | 4.78 |
| Latvia | 0.0059 | 0.0056 | 0.0113 | 0.0101 | -3.31 | 2.82 |
| Lithuania | 0.0105 | 0.0066 | 0.0200 | 0.0118 | -2.67 | 1.90 |
| Luxembourg | 0.0059 | 0.0040 | 0.0113 | 0.0072 | -3.38 | 5.27 |
| Hungary | 0.0181 | 0.0126 | 0.0345 | 0.0225 | -1.69 | -0.18 |
| Malta | 0.0044 | 0.0039 | 0.0084 | 0.0071 | -4.01 | 5.37 |
| Netherlands | 0.0196 | 0.0183 | 0.0373 | 0.0327 | -1.59 | -0.77 |
| Austria | 0.0151 | 0.0109 | 0.0287 | 0.0196 | -2.12 | 0.12 |
| Poland | 0.0414 | 0.0374 | 0.0787 | 0.0669 | 1.46 | -0.08 |
| Portugal | 0.0181 | 0.0130 | 0.0345 | 0.0233 | -1.69 | -0.28 |
| Romania | 0.0212 | 0.0233 | 0.0403 | 0.0417 | -1.26 | -0.62 |
| Slovenia | 0.0059 | 0.0053 | 0.0113 | 0.0096 | -3.31 | 3.10 |
| Slovakia | 0.0105 | 0.0083 | 0.0200 | 0.0149 | -2.67 | 0.82 |
| Finland | 0.0105 | 0.0082 | 0.0200 | 0.0147 | -2.67 | 0.89 |
| Sweden | 0.0151 | 0.0116 | 0.0287 | 0.0208 | -2.12 | -0.04 |
| United Kingdom | 0.0447 | 0.0607 | 0.0850 | 0.1086 | 2.23 | -0.48 |
| Council aggregate | 0.5265 | 0.5591 | 1.0000 | 1.0000 | 0.00 | 0.00 |
| European Parliament | 0.0214 | 0.1307 | n.a. | n.a. | n.a. | n.a. |

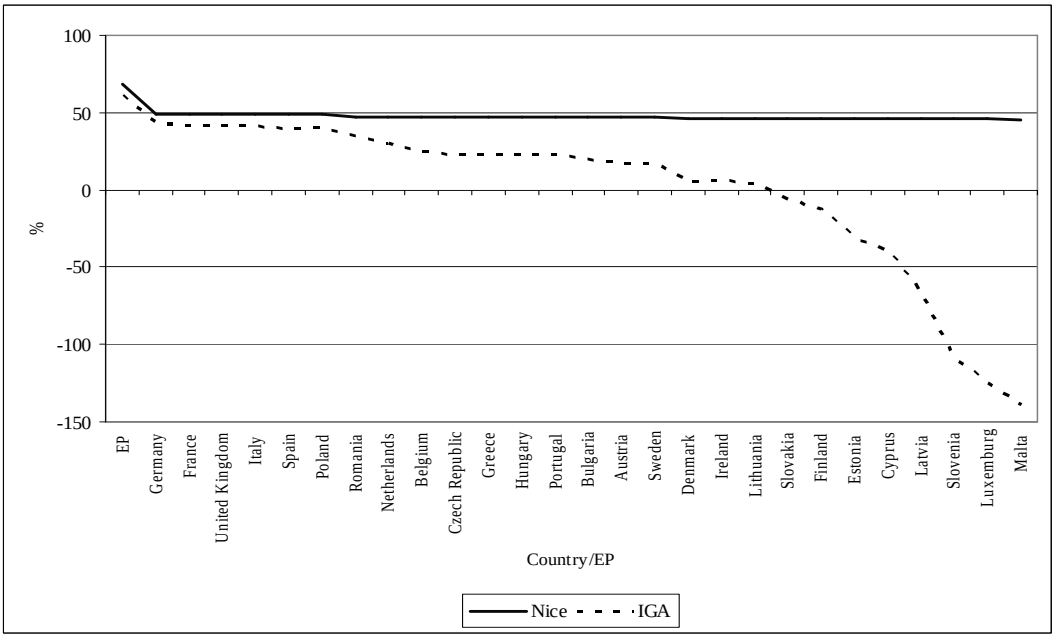


Figure 6: Relative losses of power due to the status quo bias and strategic interaction

randomised and it follows uniform distribution on $[0, 1]$. This makes possible that status quo prevails and that none of the actors exerts constructive (strategic) power.[18]

Let us next have a closer look at the impact of status quo bias and strategic aspects on EP's and member states' power. Figure 6 makes a comparison between 'status quo bias free' SSI and non-normalised SMP figures. The curves in the figure show the relative loss of power that is due to strategic interaction and status quo bias, i.e. $(SSI - SMP)/SSI$. The figure demonstrates an interesting difference between the Nice and IGA rules. Under the former the relative losses are almost constant with an exception of EP that loses the most. This is another way to express the result of Napel and Widgrén (2006): higher quota clearly benefits CM when strategic aspects and the possibility of status quo bias are considered.

The picture is completely different in codecision procedure. A common feature is that EP loses the most but otherwise the losses decrease monotonically in the size of the country. The smallest countries even gain when strategic aspects and strategic aspects are taken into account. Note that the status quo bias is smaller under IGA rules and under the Nice rules. That also gives the intuition why small countries gain or lose less than the big countries. Because it is mainly the big countries that are able to exert destructive power, i.e. to block decisions, decrease in status quo bias improves small countries' position since their overall power is based constructive, not destructive, power.

# 6 Concluding Remarks

In this paper, we have dealt with the internal and external impact of voting rules in the EU Council. The results of the paper demonstrate that voting rules matter. Even in simple non-strategic environment small changes in voting rules may have unexpected implications on the distribution of power among the actors. Dual majority rules, like the IGA rules, are especially challenging since membership and population criteria that form the base of such rules give less a priori advice than voting weights for expected consequences.

The design of CM voting rules become even more crucial when they are evaluated in strategic inter-institutional environment. As the paper shows CM voting rules have considerable impact on EP's power and capability to influence policy outcomes. In sum, one of the main lessons of the analysis is clearly to explain why the design of Council voting rules has required so much bargaining and cumbersome marathon negotiations.

[18] Napel and Widgrén (2006) simulate the impact of CM's majority threshold on EP's and CM's SMP. They find that EP's SMP decreases monotonically whereas CM's SMP follows an inversely U-shaped pattern with respect to its majority quota. Hence, CM faces a trade-off in terms of its own majority quota. There is a majority quota (roughly 65 per cent in EU27) that maximises its SMP. Lower quotas than that give EP more advantageous position and at higher quotas status quo bias has a negative impact on CM's constructive power.

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