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EU Budget

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ABSTRACT

It is a constant topic of debate how the European Union (EU) spends the money it collects from its member states. This paper supports the idea that the EU budget battle involves one-shot games that have persistent impacts on the budget allocations. In one way or the other, the member states are able to establish rules or contracts that restrict the budget allocation in advance. In the current status quo, France and Spain are the clearest winners of these restrictions, while Austria, Finland and Sweden, not to mention the new member states, suffer largest losses.

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# 1 Introduction

It is a constant topic of debate how the European Union (EU) spends the money it collects from its member states. Various discussants see severe problems in the EU's budget spending and argue that the budget allocation procedures should be revised. In fact, the European Commission (EC) is currently investigating foundations for such a revision. This paper focuses on the question how the budget allocation is determined in the current system. Being able to answer to this question is of fundamental importance for the assessment of the budget and for a successful reform of the budget procedures.

The recent research offers two main views on the determination of the EU budget allocation across member states. The first one, the '*needs view*,' assumes that the budget follows the declared policy objectives of the EU. In a nutshell, these objectives say that the budget should be allocated to poor EU regions. This entails solidarity on the part of the wealthiest member states. The second view, the '*power politics view*,' argues that the EU budget is primarily determined by selfishness; the member states use their political power to obtain as much return to their own country as they can rather than care about redistributing the common funds into regions where the funds are the most needed. Studies indicate that none of the two views alone can explain the EU budget allocation, while there are indications that both views might play a role in the determination of the EU budget spending. This line of research is the starting point of the present study.

A key to our analysis is a '*power distribution*' that specifies how much each member state has voting power (in relative terms) in the Council of Ministers (CM), the key decision maker of the EU budget spending. By game theoretical arguments, the '*power distribution*' yields a unique division of the cake (i.e., the EU budget). As in Kauppi and Widgrén (2008), our analysis makes use of the fact that the decision procedures on the EU budget spending differ across so called '*compulsory*' and '*non-compulsory*' expenditures. The underlying point is that CM is the primary decision maker on the former part, while the European Parliament (EP) has potential power to decide on the latter part of the budget spending. Previous analyses suggest that the members of EP (MEPs) may be more willing to promote solidarity between EU states than the representative ministers in

CM. Therefore, we expect that the allocation of the compulsory expenditure may differ significantly from that of the non-compulsory expenditure.

Using a data set covering the period 1976-2006, we find that the power distribution matches fairly well with the shares of compulsory expenditure, while it matches rather poorly with the shares of non-compulsory expenditure. Furthermore, we find that the allocation of the non-compulsory expenditure is somewhat slanted towards poor member states. These observations are consistent with previous evidence and support the hypothesis that a part of the budget spending may be attributed to power politics, while another part is likely to be driven by solidarity and the ‘needs’ of the member states. Nevertheless, when compare the actual budget shares with the power distribution in detail, we find some puzzling patterns. In particular, we note that France receives systematically more from the budget than the power distribution implies, whether we look at the compulsory spending or the total budget. We say France has ‘*excess power*’ that derives from something beyond its votes in CM. By contrast, Austria, Finland and Sweden obtain systematically smaller shares from the EU budget than their voting power shares imply. Thus, their ‘*excess power*’ is negative. We regard these persistent deviations from the power distribution as the ‘*status quo bias*’ of the EU budget. We consider potential explanations for the status quo bias.

We make a hypothesis that the EU budget allocation might be pre-determined, at least partially. The idea is that ‘*rules*’ specified by the EU Treaty and the Financial frameworks largely pre-determine how the budget will be allocated across member states. Under this scenario, CM can only have a limited intervention into the budget allocation. We leave it open how such rules or ‘*contracts*’ are enforced in practice. A central question is what is the power distribution that determines the pre-designed budget allocation. For us, this is a question: what explains that the actual budget allocation deviates so systematically from the power distribution of the voting game of the CM? What explains why France has persistent ‘*positive excess power*’ and what explains why Austria, Finland and Sweden have persistent ‘*negative excess power*’?

One possibility is that the excess power has to do with member states’ contributions to the budget. When the member states agree on the Treaty or on the Financial frameworks,

they simultaneously agree on how they share the revenue collection of the budget. For a long period of time, the member states have agreed that each state's contribution is, essentially, a fixed percentage of its GDP. Under this arrangement, rich member states end up paying a lot more to the budget per capita than poor countries. To accept such a deal, rich member states probably want to make sure that some of the money is returned them through the budget spending. They would not accept a deal, according to which all of their contributions are redistributed to poor member states. This line of reasoning suggests that the actual budget allocation may be partly related to actual contribution shares of the member states. We investigate whether this hypothesis gets empirical support.

We find that the contribution shares indeed correlate significantly with budget shares. Our statistical analyses suggest that the shares of the compulsory spending can be predicted partly by the power distribution and partly by the contribution shares. An interpretation is that member states' contributions entitle a partial '*money back*,' while the remaining part of the compulsory expenditure is allocated by the power distribution. Furthermore, we find that the shares of the non-compulsory spending are negatively correlated with the budget shares. This finding is again consistent with the idea that the non-compulsory expenditures attribute to transfers from rich member states to poor ones. This form of solidarity might be a consequence of the influence of the EP.

A remaining puzzle is still the fact that Austria, Finland and Sweden seem to do relatively poorly in all areas of budget spending; they do not receive as much as their power shares and contribution shares predict. Also, France seems to enjoy an extra premium that cannot be explained by its power or contribution share. Another persistent outlier is Spain that receives a great premium from both compulsory and non-compulsory budget spending, despite its moderate contribution share. What explains these systematic deviations?

One possibility is that the whole budget procedure is subject to fixations that are hard to change. France has gained much from CAP already since EU-9 or even earlier. The rules of the CAP policies that were written thirty years ago are still in force and thereby continue to favor France as long as CAP policies exist. When Spain entered the EU, the

structural funds were created. It seems that the allocation rules of the structural funds were written so as to favor Spain in particular. If the rules are fixed, one may assume that significant changes to the budget allocation entail a change to the budget structure. This may happen through changing the shares of the two major parts of the budget or by creating new budget funds. But is there sufficient political support for such changes? To answer to this question we must examine who benefits and who loses when such changes are made?

As a first cut on this, we assess whether CM might succeed in initiating changes in the current budget structure. That is, is it possible to find sufficient majority to support a change? To assess this question, we classify member states into “winners” and “losers.” Here our benchmark is again the power distribution. Hence, we classify a member state as a winner (a loser) if its budget share is larger (smaller) than its power share. We do this classification separately for CAP and structural funds. We consider the distribution of winners and losers across different EU periods. We find that there has been a shortage of coalitions to support a change in the budget structure over the years. This has gradually created a ‘*dead lock*’ of the EU budget. Hence, we conjecture that the EU budget battle involves ‘*one-shot games*’ that have persistent impacts on the budget allocations. In one way or the other, the member states are able to establish ‘*rules*’ or ‘*contracts*’ that are difficult to change by CM. As an example of such a rule, we point to the ‘*four percent rule*’ that was recently established to limit a member state’s budget receipts to be at most four percent of its GDP. Interestingly, we find that the actual budget shares of the new Eastern European member states are almost as large as they can under the four percent rule. This observation suggests that the four percent rule may prevent these member states from obtain as much from the budget as their power shares predict. We finish our analysis by showing that the Lisbon Treaty is unlikely to make a difference to the ‘*status quo bias*’ of the EU Budget.

The plan of the rest of the paper is as follows. In Section 2, we describe the EU budgetary procedures. Section 3 reviews the two main views, explains their foundations and discusses their performance in previous empirical studies. Section 4 reports our empirical analysis and, finally, Section 5 concludes.



## 2 The Budgetary Procedure

The EU's annual budget is guided by medium-term agreements on spending priorities, called 'financial frameworks'. The current financial framework sets out broad spending guidelines for the annual budgets from 2007 to 2013. The decision procedure of the actual annual budget is an inter-institutional arrangement between the Council of Ministers (CM), the European Parliament (EP) and the European Commission (EC). The actual decision-making procedure differs between so called 'compulsory' and 'non-compulsory' expenditure. The two types of budget spending have different implications for the decision power of the involved decision-makers.

Figures 1 and 2 illustrate the decision procedures for compulsory and non-compulsory expenditure, respectively. In both cases, EC proposes a preliminary draft budget (PDB), which is then adopted or amended by CM in its first reading. Thereafter, if EP accepts the draft budget, as adopted or amended by CM, the draft budget is adopted. If, on the other hand, EP proposes amendments to the draft the procedure continues. At this phase, the procedure concerning compulsory expenditure and the one concerning non-compulsory expenditure deviate from each other. In the former, EP needs a simple majority to propose amendments. Abstentions have no effect in EP, since the majority is counted on the basis of MEPs that are present. In the latter procedure, however, abstentions are effectively like 'nay' votes since the amendments require support from a majority of MEPs.

In compulsory expenditure, the proposed amendments can be divided into increasing modifications that try to increase the expenditure and into non-increasing modifications expenditure that try to reallocate funds between applications or acts adopted in the Treaty. In both cases, CM can adopt the proposed amendments by qualified majority voting (QMV)<sup>1</sup> or reject them. In the case of non-increasing modifications, CM must explicitly reject or change the proposed amendments to avoid adoption as amended by EP. In the case of increasing modifications, it suffices for CM to not to react to keep its mind. Thus, an adoption as amended by EP requires an active acceptance by CM using QMV.

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<sup>1</sup>Presently 255 votes of the total number of votes 345.

In non-compulsory expenditure, EP makes the last move. After EP has proposed amendments, CM can adopt or modify them in its second reading by QMV. In the former case, the expenditure is adopted as amended by EP. In the latter case, EP can reject or change CM modifications by 3/5 majority and then the expenditure is adopted as amended by EP. If EP is not able to act, the expenditure is adopted as amended by CM.<sup>2</sup>

Giving the above descriptions it is easy to see that EP's influence is very limited on the part compulsory expenditure. By contrast, in non-compulsory expenditure, EP is in a more powerful position, since it can say the last word in the procedure. It is worth noting, however, that modifications made by EP are not unlimited.

The Lisbon Treaty that was politically agreed in June 2007 dismantles the distinction between compulsory and non-compulsory expenditure. The new budgetary procedure makes CM and EP co-deciders regardless of the type of expenditure. In sum, it is reminiscent to the decision-making procedure in non-compulsory expenditure that is based on a co-decision between CM and EP. The budget procedure á la Lisbon has also similarities with the co-decision procedure that is the most used decision-making procedure in EU legislation. In recent evaluation of the co-decision procedure, Napel and Widgrén (2006) demonstrate that CM wields much more influence on decision-making outcomes than EP due to the difference in their internal decision-making rules that are much more conservative (QMV) than those in EP (simple majority). The Lisbon Treaty, however, changes the CM voting rules towards a less conservative direction. This change may have an impact on the budget allocation in favour of EP. The CM voting rules are, however, still more conservative giving CM an advantage in bargaining with EP.<sup>3</sup> A more detailed investigation of the impact of the Lisbon Treaty is, however, left for future work.

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<sup>2</sup>Note that 2/3 majority of MEPs can reject the overall budget, which restarts the procedure. In this paper we disregard this since in terms of power relations the restarted procedure is essentially similar game.

<sup>3</sup>See e.g. Napel and Widgrén (2006) and Napel and Widgrén (2008) for general considerations of CM's EP's and the Commission's aggregated preferences.

### 3 Two Baseline Views and Previous Evidence

In earlier studies, the allocation of the member states' net and gross receipts from the EU budget has been evaluated using either game theoretic power politics reasoning or by needs-based calculations. We start by discussing the needs view of the EU budget allocation.

#### 3.1 The Needs View

The needs view is justified by the declared objectives of the EU's budget policy. For example, the CAP policies state:

*“CAP aims at achieving an adequate level of production, at a reasonable cost to consumers, while ensuring a fair standard of living for the agricultural community and safeguarding the future of rural areas. Given the diversity of circumstances in the EU, it is clear that achieving these goals will not result in the same economic benefits for all member states”*<sup>4</sup>

while the policies of the structural operations say:

*“An objective of the EU is the achievement of economic and social progress across the member states. By their nature, structural actions should result in differences in expenditure between member states.”*<sup>5</sup>

The quotations indicate that the aim of CAP and structural spending is to redistribute EU's common resources to poor and rural EU regions. There are different ways to quantify the needs of individual member states (see section 3.3). The major problem of the measurement is the lack of objective theoretical grounds. Needs are subjective and as such defending them calls for bargaining when the scarce resources of the EU budget are reallocated.

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<sup>4</sup>See <http://europa.eu.int/comm/budget>.

<sup>5</sup>See <http://europa.eu.int/comm/budget>.

### 3.2 The Power Politics View

An alternative to the view based on solidarity is the view that member states care only about their own interests. Under this hypothesis, which is called the power politics view, member states use their voting power in CM to allocate as much money to their country as possible.

In the formal voting power analysis, the budget allocation problem is treated as the *dividing-up-the-cake problem*. This is one of the most investigated problems in game and bargaining theory. On the basis of game theory and previous analyses of the EU decision-making, it is most natural to evaluate member states' voting power by the *Shapley-Shubik index* (SSI) (Shapley and Shubik (1954)). The index is a special case of a broader concept the *Shapley value* (Shapley (1953)) in cooperative coalitional form games. In voting, coalitional form games usually take  $(0, 1)$ -form. In  $(0, 1)$  games a coalition gets a worth of zero, if it is a minority, and one, if it is a majority. Note that the complement of any one-valued coalition always has a worth zero, which makes the game *proper* and weakly monotonic in the size of the coalition. The SSI is based on the broad idea that an actor who is able to break a winning coalition into losing, or vice versa, exerts power. Suppose that an actor in this position is rewarded by a price, which ends up as money in the data. Then the percentage of an actor's swing positions of all swing positions predicts his/her expected influence on voting outcome and hence his/her share of the cake in cake-division or his/her share of receipts in the allocation of budget expenditure.

More formally, let  $N$  be a set of  $n$  member states in CM and let  $S \subset N$  denote any coalition of member states having  $s$  members. A voting game in CM 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 SSI value for a member state  $i$  can be written

$$SSI_i = \sum_{S \subset N, i \in S} \frac{(s-1)!(n-s)!}{n!} [v(S) - v(S \setminus i)], \quad (1)$$

where  $i = 1, \dots, n$ . The ratio in (1) gives the probability of the country  $i$  being in a potentially 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  $i$  makes it losing. Pivotal positions without this impact do not contribute to an actor's power. The SSI values sum to unity. Thus, SSI implies that the relative shares of the players' swing positions that have an impact predict their shares of the total pay-off.

### 3.3 Evidence

In the existing power politics studies on the EU budget, one can distinguish between two generations. The first generation concentrates on explaining member states' net receipts (payments) from (to) EU budget by measures of political power. The power politics explanation of the net receipts can be justified by arguing that member states' main objective in budget negotiations is to maximize their net receipts, or to '*bring the bacon back home.*' The second generation of studies concentrates on explaining the gross receipts and stems from cooperative bargaining/voting games. This approach is based on the argument that member states' contributions to the budget are highly institutionalized and can be treated as taxes.<sup>6</sup> Consequently, member states can influence their net positions only via expenditures they obtain in annual budgetary procedures.

Early attempts that apply the political power view to explain EU budget allocations are Baldwin, Berglöf, Giavazzi, and Widgrén (2001) and Baldwin, Francois, and Portes (1997). Based on OLS regressions, these studies conclude that net budget receipts per capita can be explained relatively well by measures of political power, whereas variables like the agriculture share of GDP and GDP per capita fail to have statistically significant impacts on net receipts. Kandogan (2000) studied the correlation between actual budget shares and SSI and distinguished between CAP and structural spending. He finds that a member state's adjusted percent of population in agriculture has predictive power for CAP budget shares and argues that this finding explains why some countries are receiving more agricultural funds than implied by their voting power alone. He obtained similar results for the structural funds.

The key inspiration behind the second generation models is to model EU budget

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<sup>6</sup>With an exception of the UK and Belgium member states' contributions are, in practice, one percent of GNI in each country.

allocation as a pure bargaining game or as a hybrid of a bargaining game and solidarity. The former makes use of SSI as the measure of power. Since SSI gives a prediction for the share of the expenditure that a country obtains in QMV bargaining game it is natural to analyse gross rather than net receipts. In these models, member states' needs are proxied by measures of agriculture and national income. A common result in these hybrid models is that power politics has a dominant role in explaining receipts (see Kauppi and Widgrén (2004)), while Kauppi and Widgren (2007) suggest that budget shares can be explained solely by political power if Franco-German cooperation is taken into account. In a more recent paper, Kauppi and Widgrén (2008) distinguish between the allocation of compulsory and non-compulsory expenditure, the latter being the area in which EP has a true influence (see Section 2 above). The study finds evidence that due to the potential impact of EP a (minor) part of the budget allocation may be attributed to solidarity.

## 4 Empirical Analysis

### 4.1 Preliminary Insights

The EU budget spending is divided into three parts: (i) CAP (agricultural funds), (ii) structural funds (including cohesion funds), and (iii) other things (administration, R&D etc.). Currently, CAP takes almost half of the budget, structural funds take a third, and the rest is divided across various uses. If the budget allocations follow the principle of solidarity and equality between member states, we expect that the poorest EU countries receive the largest receipts per capita. In contrast to this expectation, Baldwin (2005) finds that some of the richest EU countries obtain much larger receipts per capita than many of the poorest EU countries. In particular, he shows that the CAP receipts improve the wealth of the richest farmers of the EU rather than improve the poorest agricultural areas to catch up with the rest of the EU. These observations suggest that the EU budget spending cannot be explained by the needs view. The natural alternative view is the power politics view that says the budget allocations reflects member states' voting power in CM.

We turn to examining how the budget allocations are related to our benchmark measure of voting power, the SSI. Above we argued that there is a crucial difference between the so called compulsory and non-compulsory budget spending, as CM is the sole decision maker on the former, while also EP has its say on the latter. We argued that through the potential influence of the EP there is a chance that non-compulsory expenditure is driven by solidarity and equality between member states. To see whether there is a difference, we analyze the shares of the compulsory and non-compulsory budget spending together with the total budget shares. Since there exist no direct data on member states' shares of compulsory and non-compulsory receipts we need to proxy them by CAP and structural spending (see Section 2).

The original budget data contain annual observations for 1976-2006. This time span covers five periods that differ by the composition of the member states. The periods are (1) 1976-1980, (2) 1981-1985, (3) 1986-1994, (4) 1995-2003, and (5) 2004-2006 corresponding to EU-9, EU-10, EU-12, EU-15 and EU-25. In what follows, we consider average budget shares over these periods. We have a distinct voting power distribution (SSI) for each period.

Table 1 presents the shares of the EU budget, separately for the total, compulsory and non-compulsory expenditure, and the power distribution (SSI), all for 1995-2003, the period of EU-15. Clearly, none of the budget allocations matches one-to-one with the power distribution. As a summary measure of the difference between the budget shares and the SSI, we compute the “chi-square statistic”

$$\chi^2 = \sum_j \frac{(s_j - SSI_j)^2}{SSI_j},$$

where  $s_j$  and  $SSI_j$ , respectively, is the budget share and the SSI value of country  $j$ . Table 2 reports the results for the total budget shares, the CAP and the structural funds shares over the five periods: EU-9, EU-10, EU-12, EU-15 and EU-25. Clearly, the mismatch between the budget allocation and the power distribution is the largest for the structural funds and the smallest for the total budget. The same conclusion holds over all periods.

Another general observation is concerned with systematic patterns in the budget shares

of specific countries. Across the different compositions of the EU, we find that the total budget shares of France are clearly larger than the corresponding “power shares.” Among the other senior EU member states, the UK’s budget share is smaller than its “power share” in most periods, while the budget shares and the power shares of the remaining senior states do not exhibit so systematic relationships. When we compare the budget shares across younger member states, we find that Spain has constantly received a larger share from the budget than its power share, while Austria, Finland and Sweden obtain less than the benchmark power measure predicts.

## 4.2 Points and Questions

The above observations raise a series of points and questions. First, we note that the power distribution has really the poorest match with the structural funds shares. This suggests that issues other than our measure of power play a large role in the determination of the allocation of the structural funds. Is it possible that solidarity drives this allocation rather than political power? Our theoretical arguments above are in line with this hypothesis. EP has real influence on the allocation of structural funds, and if it cares about solidarity, then its will should translate into needs-based allocation of the structural funds. We return to this question below.

Second, the shares of the CAP match better with the SSI than the structural funds shares do. Does this mean that the power distribution drives the CAP shares? A challenge to this interpretation is that the total budget shares still match better with the SSI than the CAP shares. An alternative hypothesis is then that the total budget is in fact determined by the power distribution. In this case, it is just a technical matter how the total budget shares are obtained through the different parts of the budget. If, for some (technical) reason, a member state receives more from CAP than its SSI share implies, then this is compensated by a smaller share from the structural funds. Look at the budget shares of Table 2. The CAP share (23%) of France is double to its power share (12%), while the share of structural funds (8%) is much smaller. This is consistent with the above idea of “compensation.” Still, France obtains about 40% more from the total budget than



its “power share” predicts. Is it just a coincidence that France obtains so much more in excess to its power share? The data speaks against this assertion. We find that France receives systematically larger shares from the budget than its power share implies. We will return to this issue below.

To sum up, the above considerations suggest that both the pure power politics view and the needs view have difficulty in explaining the past budget allocations. The power distribution fits better with the total budget shares and the CAP shares than with the structural funds. On the other hand, we observe that some countries receive more and some countries receive less than their power shares. This observations suggest that the budget shares cannot be accounted for by the benchmark power distribution. While the budget shares are not consistent with the benchmark power distribution, they do not agree with the needs view either. Many member states receive more per capita than one would assume if the funds are to support the poorest regions of the EU. We are left with the hypothesis that selfish power politics is the driving force but the benchmark measure of power does not capture the power distribution right.

How do we capture the power of the member states right? An obvious idea is that member states gain power from other sources in addition to their votes in CM. One possibility is that the budget spending rules are initially fixed in a manner that it favors some countries over others. The budget priorities (the financial frameworks) are decided by the European Council, CM, EP and EC. This inter-institutional agreement (IIA) fixes the budget frame for a period of seven years and these priorities are likely to prevent CM from fully controlling how specific parts of the budget are allocated over the period. Blankart and Kirchner (2004) refer to “contractual rules.” The IIA agrees on a contract between member states and the supranational bodies of the Union that specifies how certain parts of the budget are allocated or ear-marked across the policy domains. One possibility is that the budget allocation is completely predetermined by the financial framework so that the hands of the CM are fully tied, CM could not alter the pre-defined budget allocation. But, as Blankart and Kirchner (2004) argue, all contracts are incomplete and are subject to revision. Thus, the “post-contractual decisions” of the CM induce changes to the originally agreed budget allocation. In view of these ideas, the

actual budget allocation is partly determined by the contractual rules agreed in the IIAs and partly by the power distribution.

The above hypotheses suggest various factors that may explain why the actual budget shares of specific member states deviate from the benchmark power shares. For example, the member states may agree to contribute more to the EU budget, if they are promised to receive some of the money back in the spending side. To measure this effect we will examine whether the distribution of contributions have any association with the budget shares. We now turn to some more formal statistical considerations.

### 4.3 OLS Regressions

We consider regressions of the form

$$s_{it} = \alpha + \beta SSI_{it} + \gamma CONTRB_{it} + \delta INC_{it} + \varepsilon_{it}, \quad (2)$$

where  $s_{it}$  denotes the budget share,  $SSI_{it}$  is the political power,  $CONTRB_{it}$  is the share of contributions, and  $INC_{it}$  is per capita income relative to EU-average income per capita, all for member state  $i$  in period  $t$ . The  $\varepsilon_{it}$  is an error term.

Table 3 reports estimation results for the equation (2) in three cases; column (1) is for the shares of the total budget, columns (2) and (3), respectively, are for the shares of compulsory and non-compulsory budget spending. Under the hypothesis that political power (SSI) alone determines the budget shares we expect that the coefficients in (2) satisfy the restrictions  $\beta = 1, \alpha = \gamma = \delta = 0$ . We compute the corresponding Wald test statistic using the White's heteroscedasticity-robust covariance matrix estimator. Under the assumption that the data are obtained by random sampling, the test statistic is asymptotically  $\chi^2$ -distributed (with four degrees of freedom) under the null hypothesis. Of course, the assumption of random sampling does not hold in the present setting and thus the test statistics should be interpreted with caution. Nevertheless, the p-values for the Wald tests are very close to zero for all three regressions and therefore suggest that the budget shares are not driven by the power distribution alone.

Take a closer look at estimation results of columns (1) and (2) in Table 3. Clearly, the

SSI and the contribution share are powerful explanatory variables in both regressions. It is quite interesting that their coefficient estimates are both between 0 and 1 and that their sum is almost 1. By contrast, the coefficient estimate for income is rather small and its t-ratio is well below two. A robust Wald test for the restriction  $\beta + \gamma = 1, \alpha = \delta = 0$  has a large p-value suggesting that the budget shares are well predicted by a weighted average of power and contribution. The results of the final column in Table 3 differ from those in the first two columns. The coefficient estimate of the power variable is clearly larger than one, while the coefficient estimate for the contribution share is negative. Clearly, it is difficult to give meaningful interpretations for these coefficient estimates. If anything, the negative coefficient estimate of the contribution share suggests that rich member states tend to receive smaller shares from the structural funds than poor member states. The fact that the coefficient estimate of the income variable is also negative and has a t-ratio of about 1.6 suggest that the needs view has some predictive content for the structural budget shares.

In sum, the OLS regression results suggest that power politics and contribution shares predict CAP shares, while solidarity might play a role as a determinant of structural spending shares. At the aggregate level, power politics seems to be the dominant predictor of the budget shares. It takes about 80%, while the remaining part may be attributed to member states' contributions.

As a final point, we look at the accuracy of the predictions of our regressions in more detail. Table 4 summarizes results on the total budget shares and CAP shares for France, Spain, Austria, Finland and Sweden over their membership periods. France and Spain are countries that have constantly received much larger shares from the total budget than is predicted by their power shares and contribution shares. The premium of France is the most persistent. The premium of Spain has been very pronounced since EU-15. By contrast, Austria, Finland and Sweden have obtained clearly smaller shares from the budget than their power and contribution shares predict. For example, during the ongoing regime of EU-25, Sweden has obtained a share of 1.5%, while its power measure alone or its power measure and contribution share together predict a share of 3%. There is a negative premium of 50%. The persistence of these deviations from the predictions is a

puzzle to us. What explain this ‘status quo bias’?

#### 4.4 Analysis of the Status Quo Bias

We turn to exploring the idea that the status quo bias may derive from fixations in the budget structure. The underlying assumption is that rules set by the EU treaty and especially the Financial frameworks largely determine the budget allocations. Thus, France and Spain continue to receive their premiums as long as the budget structure is tied to existing policies of CAP and structural funds. Similarly, Austria, Finland and Sweden continue to suffer from their negative premiums as long as these policies govern the budget spending. What is the reason why these biases are so persistent?

A key player in the game of budget structure is again CM since its internal decision-making is based on a higher vote threshold than in EP and EC, i.e. its aggregate preferences are more conservative than those of EP and EC. Is it possible to find sufficient majority to support a change in the budget structure? To assess this question, we classify member states into “winners” and “losers” based on their power distribution (SSI) values and realized budget shares, separately for CAP and structural funds. We do this classification in terms of the number of votes. Our results are presented in Table 5. The number of votes in group “ $\{-, -\}$ ” are for member states that receive less from CAP and structural funds than their power shares predict. These votes would favor a decrease both in the CAP and in the structural spending. By contrast, the votes in group “ $\{+, +\}$ ” are those of the members states that benefit more from CAP and structural funds than their power shares predict. Thus, votes in group “ $\{+, +\}$ ” would favor more spending in CAP and structural funds. The two groups in between “lose” in the allocation of CAP funds and “benefit” in the allocation of structural funds (group “ $\{-, +\}$ ”), or vice versa (group “ $\{+, -\}$ ”). Thus these votes have mixed preferences over the CAP and structural funds.

The results of Table 5 yield interesting insights into the dynamics of the structure of the EU budget and the persistent patterns found above. First, member states in group “ $\{-, -\}$ ” do not have a blocking minority in the periods of EU-9, -10 and -12. This situation is favorable for an increase in the size of the budget. Consistent with this, the

EU budget expanded very rapidly during those periods. The situation changed during the period of EU-15, because the UK moves gradually from group “{+, -}” into group “{-, -}”. In consequence, the group “{-, -}” becomes a blocking minority in EU-15. The same holds for “{-, +}”. Therefore, it became harder for CM to find support for an increase in the budget size. Consistent with this, we find that the size and the structure of the EU budget have remained very stable since late 1990s. The situation gets even more stacked in EU-25, as the votes in group “{-, -}” increase further in relative terms. These observations suggest that there is little hope that CM could initiate a change in the current structure of the EU budget, at least under the current voting rules of the CM.

The Lisbon Treaty modifies the voting rules of the CM quite considerably. This means that the implied power distribution will be different. It is of interest to ask whether the change could make a difference to the structure of the EU budget. It seems there is no more room for a change. The group “{+, +}” has more than 35 % of votes in EU-25 and EU-27, which is sufficient for blocking, and the group “{-, -}” consists of more than 16 member states in EU-25 and EU-27, which warrants their ability to block. A more detailed analysis of the Lisbon Treaty’s impact on EU budget is, however, left for future research.

In conclusion, the above considerations suggest that the structure of the EU budget is likely to be persistent. This means that if the existing rules of CAP and structural funds remain as they are, then France and Spain continue to enjoy extra premiums, while Austria, Finland and Sweden will suffer from negative premiums. What are the mechanisms that prevent CM from making a change in the rules? As a candidate mechanism, we point to the so called ‘*four percent rule*’ that was established prior to EU-25. According to this written rule, a member state’s budget receipts are not allowed to be larger than four percent of its GDP. Does this rule affect the EU budget allocation, that is, does the restriction bind? Interestingly, we find that the actual budget shares of the new Eastern European member states are almost as large as they can under the four percent rule. This observation suggests that the four percent rule prevents these member states from obtaining as much from the budget as their power shares suggest.

## 5 Conclusion

This paper supports the idea that the EU budget battle involves one-shot games that have persistent impacts on the budget allocations. In one way or the other, the member states are able to establish rules or contracts that restrict the budget allocation in advance. In the current status quo, France and Spain are the clearest winners of these restrictions, while Austria, Finland and Sweden, not to mention the new member states, suffer largest losses.

Despite of potential a priory restrictions on the budget, the power politics view is able to predict the member states' shares of CAP receipts and the total budget fairly well. Our results suggest that roughly 20 % of the member states' receipts derives from their contribution shares, while the remaining part is attributed to the distribution of political power. In structural spending, power politics does not give a clear prediction and we obtain evidence that member states' needs may matter in the allocation of these funds, perhaps due to the influence of the European Parliament.

Our analysis of the stability of the budget structure suggests that political power matters a great deal in EU decision-making. Indeed, power politics analysis indicates that the current 'deadlock' of the EU budget will remain stable. The new Lisbon rules wont make a difference to the status quo bias. However, the improved position of the European Parliament may have an impact on structural spending. But, this requires that the Treaty be ratified. Clearly, the EU budget battle is a sequence of interacting games. A thorough modeling of the dynamics of the 'big game' remains an interesting topic for future research.

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Table 1: Budget Allocation of EU-15

	Total	CAP	Struct.	SSI
France	.170	.232	.079	.117
Germany	.144	.146	.137	.117
Italy	.121	.118	.128	.117
UK	.088	.097	.065	.117
Belgium	.026	.027	.012	.055
Netherlands	.029	.036	.011	.055
Denmark	.022	.031	.004	.035
Ireland	.040	.043	.040	.035
Luxembourg	.002	.001	.001	.021
Greece	.074	.066	.097	.055
Portugal	.053	.018	.114	.055
Spain	.180	.132	.282	.096
Austria	.019	.022	.011	.045
Finland	.015	.015	.010	.035
Sweden	.017	.017	.009	.045

Table 2: Measuring the difference between budget allocations and the power distribution

	Total	CAP	Struct.
EU-9	.043	.073	.282
EU-10	.076	.130	.470
EU-12	.085	.179	.291
EU-15	.214	.249	.690
EU-25	.242	.413	.736

Note: The numbers are computed by the formula  $\sum_j (s_j - SSI_j)^2 / SSI_j$ , where  $s_j$  and  $SSI_j$ , respectively, is the budget share and the SSI value of country  $j$ .



Table 3: OLS Estimation Results

	Total	CAP	Struct.
Regressor	(1)	(2)	(3)
Political Power ( <i>SSI</i> )	.87 (.11)	.59 (.17)	1.77 (.28)
Contribution Share ( <i>CONTRB</i> )	.18 (.07)	.40 (.11)	-.41 (.19)
Income ( <i>INC</i> )	-.002 (.004)	.001 (.006)	-.024 (.015)
<i>Constant</i>	-.002 (.007)	-.0006 (.010)	-.001 (.01)
$R^2$	.87	.80	.64

Note: Robust standard errors are given in parentheses. The sample consists of 71 observations corresponding to the countries in EU-9 (1976-80), EU-10 (1981-85), EU-12 (1986-94), EU-15 (1995-2003), and EU-25 (2004-2006).

Table 4: Budget Share Predictions for Selected Member States

		Total			CAP	
		SSI	Reg. Fit	Share	Reg. Fit	Share
France	EU-9	17.9	18.5	20.5	18.5	21.8
	EU-10	17.4	18.1	20.2	18.2	23.2
	EU-12	13.4	14.9	18.3	16.0	22.2
	EU-15	11.7	13.0	16.5	14.0	23.2
	EU-25	9.3	10.9	13.9	12.2	20.8
Spain	EU-12	11.1	10.6	12.2	9.6	8.3
	EU-15	9.6	9.2	17.0	8.6	13.2
	EU-25	8.6	8.9	15.3	8.8	13.7
Austria	EU-15	4.5	4.2	1.9	3.7	2.2
	EU-25	3.0	2.9	1.8	2.7	2.6
Finland	EU-15	3.5	3.1	1.5	2.7	1.5
	EU-25	2.1	2.0	1.4	1.9	1.8
Sweden	EU-15	4.5	4.2	1.6	3.9	1.7
	EU-25	3.0	3.0	1.6	2.9	1.9

Notes: “SSI” is the Shapley-Shubik power index. “Reg. Fit” refers to predictions based on an OLS regression of the budget share on SSI and the contribution share (see Table 3). “Share” is the actual budget share over the indicated period.

Table 5: Numbers of votes that gain and/or lose from CAP and structural spending

	$\{\text{sgn}(s^{CAP} - SSI), \text{sgn}(s^{STR} - SSI)\}$				Total	QMV	BM
	$\{-, -\}$	$\{-, +\}$	$\{+, -\}$	$\{+, +\}$			
EU-9	7	28	23	0	58	41	18
EU-10	7	33	10	13	63	45	19
EU-12	10	25	23	18	76	54	23
EU-15	36	10	5	36	87	62	26
EU-25	169	43	12	97	321	232	90

Notes: The column “ $\{-, -\}$ ” indicates the number of Council votes for member states with shares of CAP and Structural funds less than their power (SSI) shares, the column “ $\{-, +\}$ ” indicates the number of votes for member states with shares of CAP larger than and Structural funds less than their power (SSI) shares, and so on. “Total” is the total number of Council votes, “QMV” is the quota number of votes, “BM” is the number of votes sufficient for a blocking minority.

### Compulsory expenditure

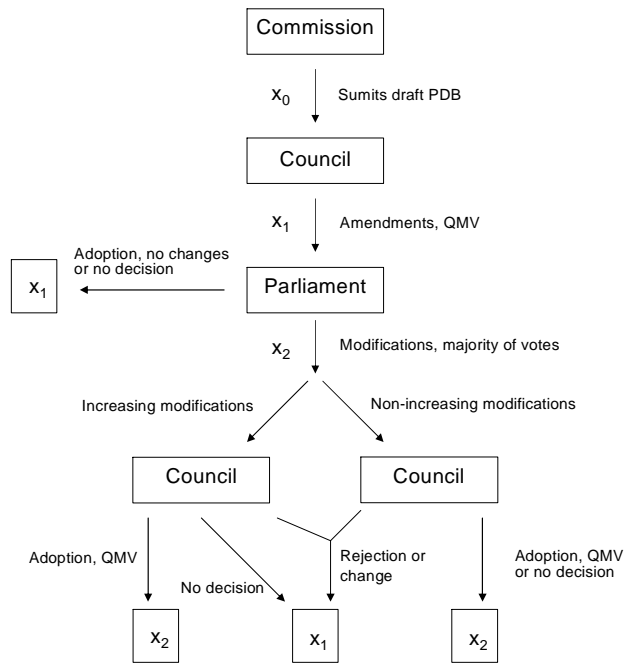


Figure 1: The Budget Procedure of the EU, compulsory expenditure

### Non-compulsory expenditure

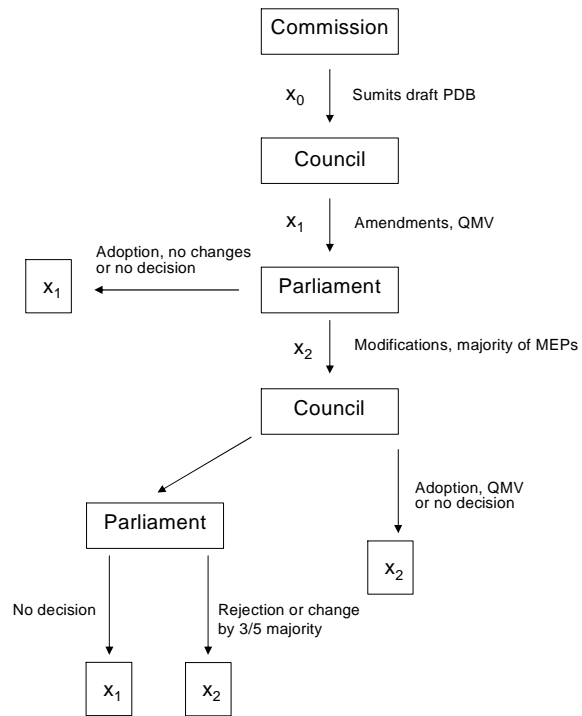


Figure 2: The Budget Procedure of the EU, non-compulsory expenditure

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