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Aboa Centre for Economics

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ABSTRACT

The member states have self-interested objectives and they use their voting power in the Council of Ministers (CM) to maximize their shares from the EU budget, whereas European Parliament (EP) uses its power to support benevolent objectives and equality between member states. Given the current decision procedures of the EU, EP has effective power on non-compulsory expenditure covering structural spending, but not on compulsory expenditure consisting mainly of agricultural spending. We use this fact to assess how the assumed benevolent objectives of EP turn into member states' budget receipts in a power politics based model.

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1 Introduction

Recent research indicates that the distribution of voting power in the Council of Ministers (CM) explains past EU budget allocations largely, but not completely.[1] More specifically, this public choice or *power politics* approach argues that EU budget allocations among member states derive from to the distribution of voting power in the CM, which is the key decision-maker on the EU budget.[2] This argument is further strengthened by the fact that the major part of the EU expenditure is devoted to specific policies with a strong redistributive bent, i.e., the common agricultural policy (CAP) and structural operations. This gives CM members strong incentives to affect their receipts from the budget, while the true needs deriving from low income regions and poor agricultural conditions obtain only a minor role.

This paper asks whether deviations from the voting power prediction of the EU budget allocation might be attributed to the influence of the European Parliament (EP). We make use of the fact that EP has effective budgetary power on non-compulsory (i.e., structural spending, internal and external policies and administration) but not on compulsory (i.e., to the most part, agricultural) expenditures.[3] Our hypothesis is that the budgetary decisions of the EP, unlike those of CM, have benevolent, redistributive objectives. Consistent with this hypothesis, we find that while the allocation of the non-compulsory expenditures reflects voting power shares, it is partly determined by member states' income levels. By contrast, for the compulsory expenditures the prediction based on the power politics explanation is not improved by such measures.

The current stage of power politics approach[4] can be criticized due to lack of institutional details in the models of EU's budgetary procedures. Although CM is usually considered as the main stakeholder in the budgetary decision making, EP obtained a role in budgetary decision-making already in the 1970s and has gained importance ever

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[1]See Kauppi and Widgrén (2004, 2007) and references therein

[2]For recent applications that evaluate the distribution of voting power in the Council of Ministers, see Widgrén (1994), Laruelle and Widgrén (1998), Felsenthal and Machover (2001, 2003), Leech (2002), Baldwin and Widgrén (2004a, 2004b) and references therein.

[3]The Lisbon Treaty removes this distinction and presumably strengthens Parliament's influence.

[4]See Kauppi and Widgrén (2004, 2007) for a survey of power politics and needs approaches with regard to the EU budget.

since due to decreasing share of CAP in the EU budget. In fact, the budget procedure was the first area of EU decision-making where EP obtained effective influence. Moreover, Members of the European Parliament (MEPs) enjoy a unique position, as they are likely to gain credit for expenditures agreed by the EP, but at the same time, they do not have to incur the related costs. Enderlein and Lindner (2006) give the EU budget an expenditure-led description that combines EP's incentives to suggest new expenditure programmes and CM members' incentives to reduce their contributions. Earlier, in particular, the quantitative literature has mostly disregarded the role of EP in budgetary decision-making and despite numerous descriptive analyses of EP's role and incentives in budgetary procedures previous studies lack in a quantification of EP's impact on budget allocation.[5]

In this paper, our aim is to bring in the qualitative descriptions of the EP's role in budgetary procedures to a power politics driven model and quantify its impact. Hence, we assess the determination of receipts from EU budget by considering a richer institutional structure than in earlier studies. We rely on earlier evidence suggesting that, in their voting behavior, MEPs follow partisan rather than national views (see Roland and Noury (2002)). This evidence together with qualitative descriptions of EP's work suggest that MEPs promote benevolent aspects in their decisions on the EU budget.

The purpose of this paper is not to propose alternative rules, which is certainly an interesting question even on the bases of evidence from historical data. In the literature there are some theoretical examples that propose changes for the existing rules. For example, Feld et al. (2002) support budget referenda for the EU. They find that it would not imply dramatic changes in spending but, nevertheless, it would prevent the extreme deviations from median voter's, i.e. citizens' preferences. Feld et al. (2002) are, however, investigating the total spending (without the distinction between compulsory and non-compulsory spending) and, moreover, not the allocation of spending between the member states, which is the purpose of this paper. Naturally it would be interesting to combine

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[5]Note that EP's role in the legislative procedures of the EU has been analysed and quantified using game theoretic approaches (e.g. Napel and Widgrén (2006), Steunenberg et al. (1999) and Tsebelis (1994).

the analysis of reforms and allocation questions but this is beyond the scope of this paper.

Our empirical identification scheme makes use of the fact that the EU budget divides into two portions, *non-compulsory* and *compulsory* expenditures. It turns out that EP has effective influence on the former, but not on the latter. This point follows from an analysis of actual decision-making procedures that are applied in the two types of expenditures. In a nutshell, CM has the last word on the determination of the compulsory expenditures, while EP has the last word on the determination of the non-compulsory expenditures. Given this, if MEPs have benevolent objectives, we expect that at least a part of the non-compulsory expenditures reflect member states' true needs. On the other hand, member states' shares on the compulsory expenditures should merely attribute to their voting power in CM.

We test our hypotheses by regressing EU states' shares of the *non-compulsory* and *compulsory* expenditures on measures for voting power and needs of the member states. We apply the Shapley-Shubik index (SSI) as the main measure for voting power in CM. The SSI treats the budget allocation problem as a dividing-up-the-cake problem and tells what are the expected shares of individual voters when each uses his voting power to allocate as much resources for himself as possible. Previous research indicates that SSI does not necessarily reflect the true power distribution among member states. In particular, there is evidence that strong cooperative patterns between France and Germany should be incorporated into the standard power politics prediction deriving from SSI alone. In line with this, we consider augmented budget share regressions with corrective terms on the part of France and Germany. As a measure for needs, we apply the member states' income per capita relative to the EU wide average income per capita.

Our results are clear. Consistent with our primary hypothesis, we find that while the allocation of the non-compulsory expenditures reflects voting power shares, it is partly determined by member states' income levels. By contrast, for the compulsory expenditures the prediction based on the power politics explanation is not improved by such measures. Our results have interesting implications. On the one hand, they indicate that EP indeed can promote benevolent objectives in determining a part of the budget allocations. Looking this from another perspective, EP's influence prevents CM from implementing

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a complete power politics based sharing of the EU cake. On the other hand, the results indicate that CM indeed prevents EP from achieving its benevolent objectives in a variety of decisions. Thus, the results of the paper point out, once again, that for understanding the workings of the EU decision-making one must understand the workings of the forces of political power among member states.

We compare our predictions with those from previous EU budget analyses. In contrast to earlier studies, we find that, indeed, benevolent objectives have a role in determining the budget allocation. However, we also find that the impact is relatively small, only about 7 percent of the total spending.

The rest of the paper is organized as follows. Section 2 describes the current budgetary procedure and explains why the power distribution between CM and EP is different for non-compulsory and compulsory expenditures. Section 3 lays out the foundation of our empirical budget share models deriving in part from political power and in part from the needs of the member states. Section 4 reports our empirical results, while Section 5 concludes with discussion on topics for future research.

2 The Budgetary Procedure

The point of departure of our analysis is that EU budget shares are primarily determined by the distribution of political power among member states in the CM, and not as much by their needs for support to rural and low-income regions. However, since EP exerts power in the budgetary procedure as well, the determination of member states' receipts contains a benevolent element. Since EP has, in practise, its say in the determination of non-compulsory expenditure that is closely linked to structural spending we assume that it cares about member states income levels. Compulsory expenditure accounts approximately 45 per cent of the EU budget.[6] It is based on EU legislation and, therefore, it is plausible to assume that the distribution of power in CM determines compulsory budget receipts.[7]

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[6]This is approximately equal to the percentage of agricultural spending total expenditure.

[7]Note that EP has powers in the codecision procedure. It is, however, only seemingly an equal co-decider with CM due to different internal decision-making rules in these two bodies. Using game

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Compulsory expenditure

Commission

x_0 | Sumits draft PDB

Council

x_1 | Amendments, QMV

Adoption, no changes
or no decision

x_1 ← Parliament

x_2 | Modifications, majority of votes

Increasing modifications | Non-increasing modifications

Council | Council

Adoption, QMV | Rejection or change | Adoption, QMV or no decision

No decision
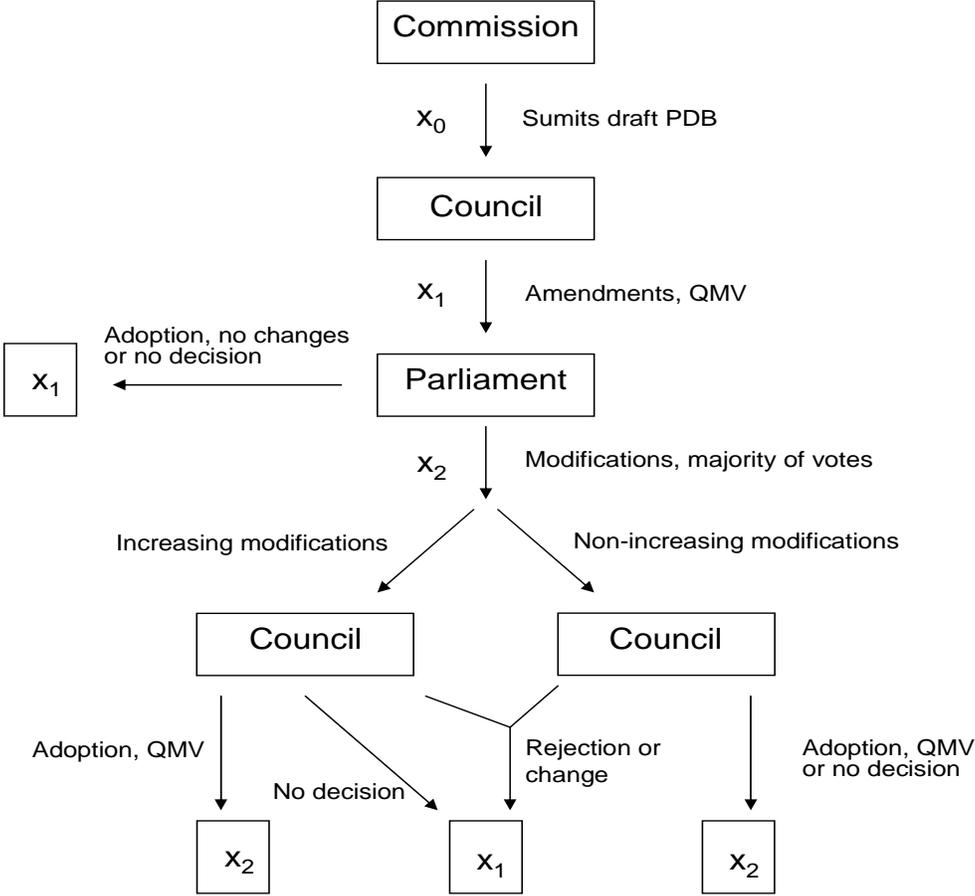
x_2 | x_1 | x_2

Figure 1: The Budget Procedure of the EU
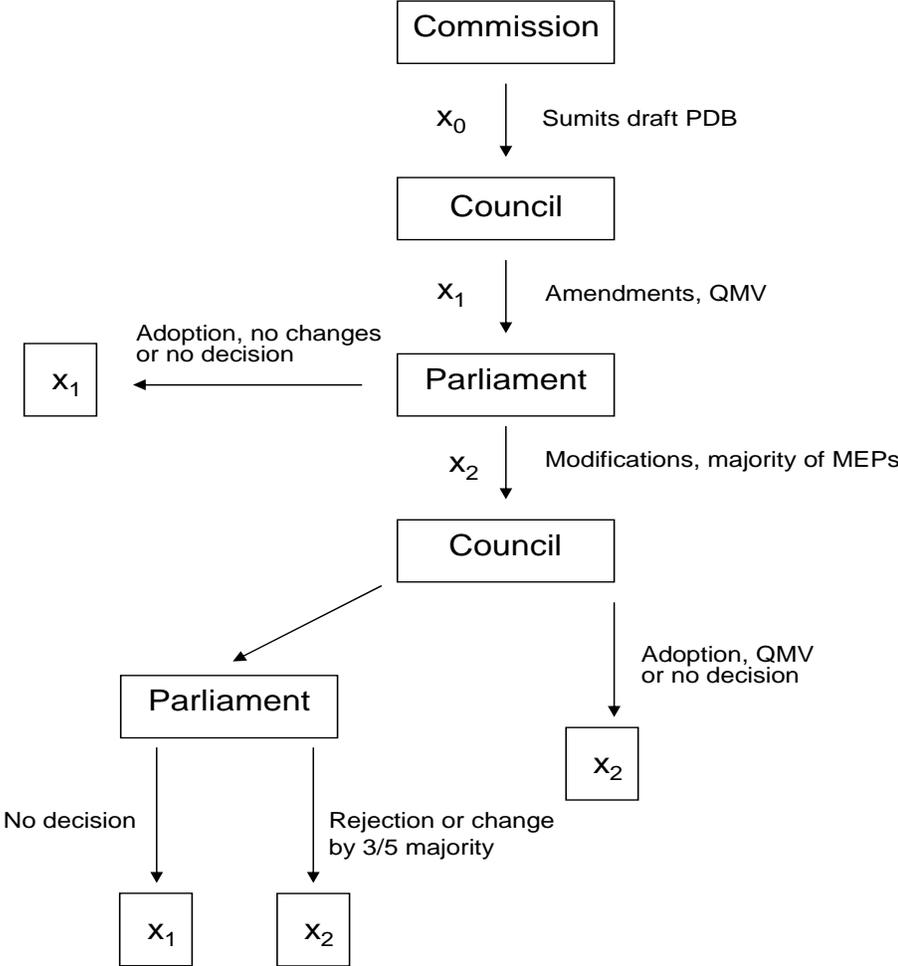
Non-compulsory expenditure

Figure 2: The Budget Procedure of the EU

Figures 1 and 2 show the budget procedures for compulsory and non-compulsory expenditure respectively. In both cases, the European Commission (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 procedure concerning non-compulsory expenditure deviate from each other. In the former, EP needs a simple majority to propose amendments. Abstentions have no effect in the 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, proposed amendments can be divided into increasing modifications that try to increase the expenditure that directly results from Treaty application or acts adopted on the basis of the Treaty and into non-increasing modifications expenditure that try to reallocate between applications or acts adopted in the Treaty. In both cases, CM can adopt the proposed amendments by qualified majority voting (QMV)[8] 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 but in the case of increasing modifications it suffices for CM to not to decide. Thus, in this case adoption as amended by EP requires an active acceptance by CM using QMV.

In non-compulsory expenditure, EP makes the last move. After EP has proposed amendments CM can in its second reading adopt them by QMV or make modifications by QMV as well. In the former case, the expenditure is adopted as amended by EP. In the latter case, EP can adopt CM's modifications by making no decision or it can reject or change the modifications by 3/5 majority and then the expenditure is adopted

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theoretic reasoning Napel and Widgrén (2006) show that, indeed, CM takes the lion's share of influence in codecision procedure. Moreover, compulsory expenditure is mainly used for CAP that is based on decisions made using consultation procedure in which EP has no power. For a non-cooperative game theoretic modelling of the consultation procedure actors' influence in it see e.g. Steunenberg (1994) or Napel and Widgrén (2008).

[8]Presently 255 votes of the total number of votes 345.

as amended by EP.[9]

By comparing these two procedures it is easy to see that in compulsory expenditure EP's influence is very limited. In non-compulsory expenditure, EP is in much more powerful position since it can say the last word in the procedure. It is worth noting, however, that to obtain a majority of MEPs support to propose amendments might be much more difficult than to obtain a majority of present MEPs. Moreover, the modifications of EP are limited by the maximum rate of increase in expenditure.

We assume that the member states use their influence in the CM to allocate as much money to their home country as possible. As the description of the procedures demonstrates this works at best in compulsory expenditure. In determination of non-compulsory budget receipts we assume that they can be explained by power politics in CM and benevolent goals of EP. Since non-compulsory expenditure is closely related to cohesion, structural spending, external and internal policies and administration we assume that EP cares about the relative income levels of member states (for details see subsection 3.4 below).

3   Elements in Predicting the Allocation of the EU Budget Expenditure

In the earlier literature, the allocation of member states' net and gross budget receipts from the EU budget have been evaluated using either game theoretic power politics reasoning (e.g., Kauppi and Widgrén 2007 or Baldwin et al. 2001) or simply mechanical calculations that mirror the EU's budget structure to country characteristics (e.g., relative importance of agriculture and income level) that supposedly have influence on countries' contributions and receipts. In the latter approach, a more advanced attempts to define plausible measures for member states' needs in the main headings of EU expenditure are used to explain member states' receipts.

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[9]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.

3.1 Earlier Empirical Evidence

The existing power politics literature on EU budget can be divided into two generations. The first generation models concentrated on explaining member states net receipts (payments) from (to) EU budget. The main inspiration of these models was a simple statistical observation that power and net budget flows coincide. The second generation models concentrate on gross receipts and stem from cooperative bargaining/voting games. In these models it is assumed that member states' contributions are highly institutionalised and can be treated as taxes. Consequently, member states can influence their net positions via annual budgetary procedures concerning the expenditures and EU decision-making in general that turn into member states' gross receipts.

Baldwin et al. (1997) made, to our knowledge, the first attempt to use the political power view to explain EU budget allocations empirically. Using observations for 1993 and 1994, they regressed per capita receipts on a constant, per capita voting power, and a dummy variable for poor member countries. They used the Shapley-Shubik index (SSI) to proxy member states' voting power.[10] They found that the SSI explains member states gross receipts and that member states contributions to the budget can be explained as a fixed share of GDP. Subsequently, Baldwin et al. (2000, 2001) carried out similar regressions for the periods 1992-94 and 1995-99, separately. In the latter papers also the normalized Banzhaf index (NBI) of cooperative games were used as a measure of voting power.[11] Based on OLS regression analyses these studies concluded that per capita net budget receipts can be explained pretty well by measures of political power, while variables like the agriculture share of GDP and GDP per capita fail to be statistically significant or GDP per capita even got a wrong sign in some model versions.

Kandogan (2000) studied the correlation between actual budget shares and SSI and distinguished between the two most important expenditure headings, the CAP and structural spending. His empirical analysis were conducted for years 1976-85. He regressed the ratio of the budget shares in CAP expenditures to the voting power for each country

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[10]For a formal definition of the measure see subsection 3.2 below for details.

[11]For the SSI, see below, Shapley (1953) and Shapley and Shubik (1954). For the NBI, see Penrose (1946) and Banzhaf (1965).

against a constant, deviation of that country's adjusted percent of population in agriculture from the EU-average and the logarithm of the voting power (SSI). He argued that this regression can explain why some countries are receiving more agricultural funds than implied by their voting power alone. He run a similar regression for the structural funds and obtained the same conclusion as on the CAP shares. In a way Kandogan's (2000) analyses indicate that the budget shares cannot be explained by power politics alone. Nevertheless, it is difficult to see from his analysis what part of the budget shares can be explained by power politics and what determines the rest of the shares. Also, a major part of the variation in the budget shares remains unexplained in these regressions.

Some recent studies attempt to combine the power politics and needs views in explaining the receipts. A common result in these hybrid models is that power politics has a dominant role in explaining the receipts (e.g. Kauppi and Widgrén 2004, Baldwin et al. 2001). In the existing studies that apply power politics or hybrid models, the distribution of voting power in CM represents the power politics view. Needs are usually taken into account by some quantitative measures that mimic the overall structure of the budget, like output in agriculture and income levels. Kauppi and Widgrén (2004) make the first attempt to explore the relative importance of the two hypotheses. For this purpose, Kauppi and Widgrén propose simple relative measures for the needs of the member states and then combine these with the SSI to estimate weights for the two views of the EU budget allocation. In their baseline model, political power explains about 60% of the member states' budget receipts and the remaining 40% derive from member states' needs.[12] This result is obtained using annual observations for 1976-2001, a larger data set than in any previous empirical paper on EU budget. The novel feature of the study is to examine whether the power politics explanation can be improved by taking possible cooperation patterns between EU countries into account. Kauppi and Widgrén find that even 95% of the budget shares can be explained by voting power measures that allow for correlated preferences and cooperative voting patterns between the member states. Interestingly, the

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[12]The predictive power of the pure SSI improves to 70 percent if the UK rebate is taken into account. A modified version of the SSI that draws on Straffin (1977, 1988) improves the predictive power of pure power based explanation to 90 percent (see Kauppi and Widgrén 2004 for details).

paper identifies stable cooperation patterns between France and Germany. Altogether, Kauppi and Widgrén conclude that selfish power politics is likely to drive EU's decision making in general and the allocation of EU budget in particular, while needs play at most a minor role. In a more recent paper, Kauppi and Widgrén (2007) argue that budget shares can be explained solely by political power if Franco-German cooperation is taken into account.

Besides the benevolent aspects power politics approach for modeling budget shares can also be challenged by one more point. The critical question is whether the SSI measure gives accurate enough description of the actual power distribution of the member states. The SSI assumes that the voters' preferences (probabilities of voting yes) are correlated in the same way regardless of the group of actors. However, in reality some countries may have more similar interests together than with others in many issues. Hence, they may find it beneficial to cooperate on a wide range of issues more closely. If such cooperative groupings of EU member states are formed continuously, the standard SSI may yield an imprecise measure of true power distribution among the member states.[13]

3.2 Self-interested Governments and Power Politics in CM

In the formal power politics 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. The literature is very wide ranging from cooperative to non-cooperative game theory with several applications. In recent years, these methods have been applied to study different aspects CM decision-making or decision-making procedures of the EU. Here we adopt the cooperative approach and assume that game theoretic power politics approach applies only for the CM. That is a plausible assumption since CM is

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[13]In Kauppi and Widgrén (2004),we considered modified SSI values under the assumption that the EU is divided into two opposite groups of member states. We computed corresponding modified SSI measures for all possible bi-partitions of the EU countries. Interestingly we found that such modified power measures provide significantly better match with the past EU budget shares than the pure SSI provided that France and Germany are on the same side. In practice, close cooperation between France and Germany was a necessary and founding condition for the development of European integration after WWII. Later, it has been a point of departure in several steps towards deeper integration, like the EMU, and Internal Market but also in the development of the EU budget. Franco-German cooperation is also highly institutionalised and accepted by other member states (see Blankart and Kirchner 2004 and Schoutheete (1990).

an inter-governmental body that represents directly member states' governments. The redistributive nature of the EU budget further supports the applicability of the power politics assumption.

A widely applied measure to evaluate 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 values (usually one and zero respectively). 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 but also prevent a coalition from achieving them. In voting games, in particular, these actors are said to be in a swing position as they are capable to swing a majority into minority and vice-versa by changing their vote. Suppose that a swing 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. Despite of their abstractness there is some recent evidence that power indices are able to capture actors' influence on the outcome in voting games and predict decision outcomes in a meaningful way (e.g. Pajala and Widgrén 2004, Thompson et al. 2006 or Kauppi and Widgrén 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 ϕ_i of a member state i can be written [14]

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

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

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

$$SSI_i = \sum_{S \subseteq N, i \in S} \frac{(s-1)!(n-s)!}{n!}[v(S) - v(S \smallsetminus i)], \tag{2}$$

where $i = 1, ..., n$ indicates a member state i. 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.[15] The individual actors' SSI values sum up to unity.[16] Thus, SSI implies that the relative shares of the players' swing positions predict their shares of the total pay-off. In our application, the total pay-off constitutes the EU's compulsory budget spending. We, thus, expect the member states' shares of compulsory expenditure to have one-to-one correspondence to SSI. [17]

3.3 Franco-German cooperation

As noted above standard power indices disregard different cooperation patterns among the member states in CM. Earlier studies on the distribution of power in CM provide some investigations on the impact of cooperation between member states having similar preferences in several policy areas (see e.g. Widgrén 1994, 1995) or differentiated preferences that are based on some country-characteristics (e.g. Kirman and Widgrén 1995, Hosli 2002).[18]

The most prominent example of a deep collaboration between the EU member states is formed on the basis of Franco-German dialogue. It was first a necessary condition for

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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).

[15]One characterization of the SSI refers to actors' permutations that are equally likely. This is not, however, a generic property of the index.

[16]The SSI obeys four axioms. The dummy axiom states that a player without any contribution (swings) to any coalition is powerless. The efficiency axiom states that the cake is fully allocated and there is no surplus left. The symmetry axiom states that the names of the players do not affect the allocation but only their voting rights and, finally the transfer axiom gives the way to combine games. Another classical power index, the Banzhaf index, obeys all these except the efficiency axiom (see Dubey and Shapley 1979 and for an alternative characterization Laruelle and Valenciano 2001).

[17]Here it is important to see that the EU budget (the cake) can be taken as fixed when decisions on its allocation are made in the Council. For a careful explanation see Kauppi and Widgrén (2004, p. 230).

[18]Note that the literature that applies spatial voting in the EU often uses differentiated preferences (e.g. Passarelli and Barr 2007).

European integration but later the cooperation between France and Germany has become a highly recognised, predictable and institutionalised since the Elysée Treaty (1963) *sub-system* within the EU.[19] Other potential sub-systems that have often been mentioned are the Benelux and the Nordic cooperation. They are both institutionalised and they have collaborated intensively in areas that has gone beyond the EU integration. The Benelux countries started to pursue common external trade policy in 1950 and liberalised their capital and labour movements in 1954 and 1956 respectively. The Nordic countries have formed a common labour market since 1954 and a passport union since 1958 (agreed in 1954).

In this paper we consider the impact of Franco-German cooperation on the EU budget allocation. We disregard the Benelux and Nordic cooperation since the EU budget policies do not belong to those where the countries most likely show their cooperation on permanent basis. Franco-German axis differs in that respect since the early development of the EU budget was influence of tacit collusion of France and Germany having opposite preferences, the former advocating agricultural support to protect rural regions from more intensified competition and the latter having its interests mainly on well-functioning Internal Market that would benefit German manufacturing industries. On the other hand France's and Germany's joint participation in European integration was essential. Therefore, France's and Germany's emerging cooperation in the 1950s and 1960s had an easy task to extend the domain of European to wide range of policies having a direct impact on the development of European integration. For the purposes of this paper an interesting question is whether Franco-German cooperation has an influential role also in the EU's budget policies and, if it has, is it similar in compulsory and non-compulsory expenditure.

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[19]Sub-systems are bilateral or wider coalitions within the EU that are durable, intensive and more organised than coalitions that form in the quest for particular short-term interests. Moreover, formation of these coalitions are predictable in decision-making. See Schoutheete (1990) for the definition of sub-systems in the EU more in detail. He argues that there are no other bilateral sub-systems in the EU than Franco-German axis.

3.4 Benevolent MEPs and the Impact of EP

As noted in previous section, the major impact of EP on budget allocation comes through the decision-making in non-compulsory expenditure. In compulsory expenditure, that is mainly channeled to CAP, CM is the main actor although EP is not completely neglected. Since national interests play the key role in CM we expect that budgetary decision-making in compulsory expenditure rests on power politics rather than benevolent support to rural areas. This is even regardless of the declared objectives of CAP:

"*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.*"[20]

The power politics assumption behind CAP transfers is further supported by the fact that compulsory expenditure is based on EU legislation mainly decided by CM.[21] However, for the sake of completeness we evaluate EP's impact on the allocation of compulsory and non-compulsory expenditure.

In EP, national dimension does not play a substantial role. Roland and Noury (2002) provide a throughout investigation on determinants of MEPs voting behaviour. They argue that party discipline in EP is comparable to that observed in the U.S. House of Representatives whereas MEPs nationality has only a minor impact on their voting behaviour. Therefore, it is plausible to assume that EP does not care the national distribution of power but try to pursue benevolent needs-based policies based of political dimension, especially, in structural spending.

Citing the EU budget policy declarations in structural operations:

"*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.*"[22]

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[20]See http://europa.eu.int/comm/budget.

[21]For EP's general influence in EU legislation see Napel and Widgrén (2006).

[22]See http://europa.eu.int/comm/budget.

Hence, the aim of structural spending is to redistribute EU's common resources from rich countries and regions to poor countries and regions. If EP has substantial impact on structural spending (non-compulsory expenditure) and if it pursues benevolent policies, income differences should have impact on national non-compulsory budget receipts. To see whether this impact exists, we apply proxy for member states' needs. The proxy denoted by INCOME is computed as the ratio of the country's GDP per capita and the EU wide GDP per capita.[23]

We expect the non-compulsory budget shares to be negatively related to ι and positively related to power SSI. We also expect that EP's presence favours poor countries and disfavours rich countries.

3.5 Empirical Model

A simple test of the power politics, needs and close cooperation is be based on two regressions, one for compulsory spending and another for non-compulsory expenditure. Since there exist no data on member states' shares of compulsory and non-compulsory spending we need to proxy them using CAP and other spending as noted above.

Write the empirical specification of our hybrid model as follows

$$s_{it}^k = \alpha^k + \beta^k SSI_{it} + \gamma^k INCOME_{it} + \delta^k FG + \varepsilon_{it}, \tag{3}$$

where s_{it}^k denotes country i's share of compulsory ($k = C$) or non-compulsory ($k = NC$) expenditure at period t. On the right-hand side, SSI_{it} denotes the power of country i at period t as defined in equation (3) above, $INCOME_{it}$ denotes the needs measure as defined above, FG denotes the Franco-German axis getting the value 1 for France and Germany and zero otherwise. The term ε_{it}^k is a mean zero stochastic error that should capture all the short run variation of compulsory or non-compulsory expenditure shares that cannot be explained by *SSI*, *INCOME* and *FG*. To this end, note that should the voting power distribution explain the budget shares all alone, we should have the restrictions $\alpha^k = 0$, $\gamma^k = 0$, $\delta^k = 0$ and $\beta = 1$ we have one to one correspondence between

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[23]We use PPP corrected real income data (see Kauppi and Widgrén 2004).

Table 1: OLS Regression Results for Compulsory Budget Shares in 1976-2003

Variable	(1)	(2)	(3)	(4)
SSI)	1.129	0.839	1.160	0.790
	(10.42)	(8.01)	(10.92)	(6.47)
INCOME			0.021	-0.013
			(1.87)	(-1.18)
FG		0.072		0.079
		(4.29)		(4.23)
CONSTANT	-0.011	0.001	-0.036	0.018
	(-1.52)	(0.21)	(-2.39)	(1.00)
R^2	0.74	0.85	0.75	0.85

Note: Robust t-values are given in parentheses. The sample consists of 46 observations corresponding to the countries in EU-9 (1976-80), EU-10 (1981-85), EU-12 (1986-94), and EU-15 (1995-2003).

power and budget receipts(see Kauppi and Widgrén 2004). In the following, we assess the roles of political power, Franco-German cooperation and benevolent income-related views as determinants of member states' gross receipts from the EU budget.

4 Results

Pooled OLS estimates of the parameters of (3) for compulsory non-compulsory)spending are reported in tables 1 and 2, respectively. The 95% confidence interval of the SSI parameter is $[.93, 1.33]$. This interval includes 1.0, and thus, is in line with our theoretical expectations in compulsory spending. The same holds for non-compulsory spending in which the corresponding 95% confidence interval of the SSI parameter is $[.88, 1.48]$

In addition to the pure power politics models, tables 1 and 2 present three different models for both types of expenditure having also relative real income per capita and Franco-German cooperation as explanatory variables. The former attempts to capture the needs view and benevolent aspects of budget allocation whereas the latter captures well known deeper collaboration between the two core countries of European integration.[24]

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[24]Note that Franco-German axis is not the only potential implicit form of deeper cooperation. The Benelux and the Nordic countries are also often mentioned (see de Schoutheete 1990 for discussion on

Table 2: OLS Regression Results for Non-compulsory Budget Shares in 1976-2003

Variable	(1)	(2)	(3)	(4)
SSI	1.185	1.524	1.094	1.394
	(5.72)	(5.98)	(6.04)	(5.01)
INCOME			-0.063	-0.035
			(-3.26)	(-2.02)
FG		-0.084		-0.064
		(-2.89)		(-1.97)
CONSTANT	-0.011	-0.031	0.057	0.013
	(-1.23)	(-2.16)	(3.01)	(0.50)
R^2	0.57	0.68	0.65	0.70

Note: Robust t-values are given in parentheses. The sample consists of 46 observations corresponding to the countries in EU-9 (1976-80), EU-10 (1981-85), EU-12 (1986-94), and EU-15 (1995-2003).

but left here out of the analysis.

The second columns of tables 1 and 2, report the models in which political power and a priori collaboration of France and Germany explain the budget receipts. The latter is captured by a dummy variable that takes on the value one for France and Germany and zero otherwise. The parameter coefficient is significant in both compulsory and non-compulsory expenditure. Note, however, that the sign of the Franco-German parameter estimate is positive in compulsory and negative in non-compulsory expenditure. The former is in line with the argument that the expansion of CAP during the early years of European integration, especially in the 1970s and early 1980s, was an implicit contract between France and Germany. Germany was in favour of developing the Single Market since Germans emphasized the benefits of deeper trade integration on their manufacturing industry. On contrary, France feared potential losses that might arise from more open trade policy and intensified competition within the Single Market and argued in favour of protecting formerly sheltered sectors and agriculture, in particular. Indeed, Blankart and Kirchner (2004) argue that the consequent inplicit Franco-German deal gave birth to CAP and its rapid expansion: French exit would have been a disaster for the Community and

these sub-systems and Widgrén 1994 for their quantitative impact on the distribution of power in the EU council).

their threats of leaving the EC were credible enough to obtain EC support for farmers.[25] Based on this background it is not surprising to note that the internal allocation of CAP receipts between France and Germany is strongly favourable to France.

In the third columns of tables 1 and 2, we have added the INCOME variable, which also gets opposite signs regarding the type of expenditure. In compulsory expenditure, the parameter estimate of the income variable is not statistically significant and, moreover, gets an unexpected positive sign. In non-compulsory expenditure, the sign is negative, as expected, and statistically significant at 1 percent level. The former confirms an earlier observation that agricultural spending tends to be allocated towards richer member states (e.g. Baldwin 2005), which is in contradiction with the needs view as rural areas tend to be poorer than EU average. In non-compulsory expenditure, the estimation results confirm that benevolent aspects have an impact on budget allocation when the EP has influence on the determination of member states' receipts. Note here that the intercept is statistically significant suggesting that each member state has a fixed share of receipts to start bargaining with.

In the full model (column (4)), political power and Franco-German collaboration remain significant determinants of budget allocation whereas the income variable, whose parameter estimate is of expected sign, is not significant. In non-compulsory expenditure, the intercept turns insignificant again while in compulsory expenditure it is not significant. This suggests that in the model where benevolent aspects matter (non-compulsory expenditure) the budget shares are based on political power and a fixed share. Franco-German cooperation brings a fixed cost for each member state and if the relative income levels are taken into account member states get a fixed benefit. In the full model, these effects off-set each other. This suggests Franco-German collaboration yields a cost for member states that materialises through CAP and the compensation is obtained mainly by the poorest member states through structural spending. Note that structural spending started to expand rapidly in the mid-1980s after Greece's and later Spain's and Portugal's entry. These countries claimed for support for the adjustment process into a more com-

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[25]French empty chair policy in late 1965 and early 1966 was one realisation of these threats.

Table 3: OLS Regression Results for Total Budget Shares in 1976-2003

Variable	(1)	(2)	(3)	(4)
SSI (ϕ)	1.119	1.003	1.116	0.993
	(19.17)	(15.01)	(18.34)	(12.65)
INCOME (ι)			-0.002	-0.019
			(-0.22)	(-2.18)
FG (FS)		0.029		0.039
		(2.82)		(3.86)
CONSTANT (C)	-0.011	-0.005	-0.008	0.019
	(-2.06)	(-1.05)	(-0.73)	(1.45)
R^2	0.87	0.89	0.87	0.90

Note: *** shows statistical significance of the regression coefficient at 1 percent level, ** at 5 percent level and * at 10 percent level respectively.
Note: Robust t-values are given in parentheses. The sample consists of 46 observations corresponding to the countries in EU-9 (1976-80), EU-10 (1981-85), EU-12 (1986-94), and EU-15 (1995-2003).

petitive environment of the Internal Market. As the engines of EU integration, France and Germany wanted to secure smooth progress of the Internal Market integration and beyond to monetary union and eastern enlargement by supporting the adjustment of three new-born democracies into the Internal Market via structural spending and later via cohesion funds. Another motive might be the willingness to avoid domestic conflicts and the raise of radical views against EU integration in Spain, Portugal and Greece.

Using the regressions in (3) we obtain the predictions for member states total budget shares $\hat{s}_i^k$ as follows

$$\hat{s}_i = c\hat{s}_i^C + (1 - c)\hat{s}_i^{NC} \tag{4}$$

where c denotes the share of compulsory expenditure in EU budget and $\hat{s}$ the OLS fit for member states' budget shares for compulsory (k=C) and non-compulsory (k=NC) budget shares, respectively.

Table 3 reports the estimation results for total budget shares. The idea is to investigate if the distinction between the two types of expenditure helps us to predict member states' budget shares more accurately. This approach also brings the benevolent objectives of
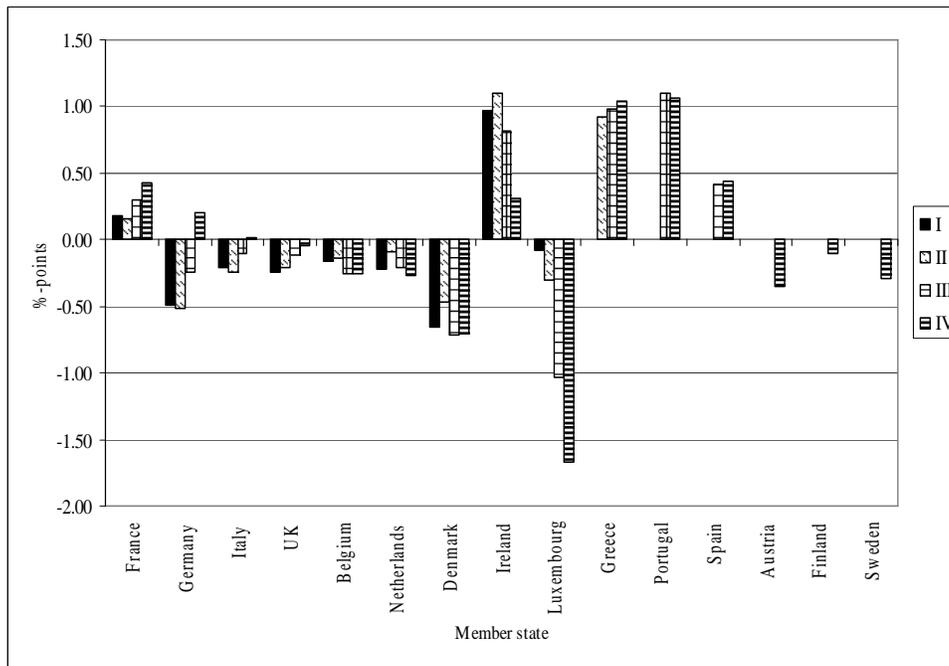
Figure 3: The differences between predictions of the full model (table 3) and power politics model of Kauppi and Widgrén (2007)

EU budget more explicitly to the analysis than in previous studies.[26]

Table 3 demonstrates that, indeed, the two main variables that explain member states' receipts from EU budget are political power and Franco-German collaboration. Interestingly, the income variable does not have any explanatory power if we omit Franco-German dummy and its explanatory power turns out to be significant if we add collaboration of France and Germany to the right-hand side of the regression.

In sum, our estimation results suggests that member states budget receipts can be explained very well by political power and Franco-German collaboration. The latter is in line with more qualitative analysis of the development of the EU budget (see e.g. Blankart and Kirchner (2004)). Benevolent aspects have impact on non-compulsory expenditure but political power has a clear dominance as a determinant. The results also demonstrate that benevolent aspects have gained importance via structural spending. This suggests that they might gain even more importance in the future when the division line between compulsory and non-compulsory expenditure is vanishing and the role of the EP in budgetary process is likely to be strengthened.

The predictions in table 3 allows us to assess the impact of benevolent objectives to budget allocation. Figure 3 shows country by country differences between the predictions using the model shown in column (1)[27] and column (4) of table 3. The figure clearly demonstrates that the cohesion countries get higher predictions in the latter model. Using the predicted budget shares the estimate for the impact of benevolent objectives in budget allocation is still only 7 per cent computed as the absolute difference between the two predictions.

5   Concluding Remarks

In this paper, we split the EU budget spending to compulsory and non-compulsory part. Doing so we were able to evaluate the potential role of the European Parliament or benevolent objectives in determination of member states' budget receipts. We assumed that the Parliament's goal is to pursue benevolent goals whereas the Council's objectives

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[26]See, however, Kauppi and Widgrén (2004).

[27]See Kauppi and Widgrén 2007 for details

are based on national interests and bargaining between member states. More detailed description of the EU budget allocation shows that benevolent objectives have a role in the determination of EU budget allocation via structural spending and that spreads to budget allocation in general. As, however, national interests have a major role in both compulsory and non-compulsory expenditure the overall impact of benevolent objectives remains moderate.

This paper concentrates on pre-enlargement budget. It is likely that the EU budget allocation will face revisions in the future. The recent trend in two decades has been a shift from CAP to structural spending. This paper suggests that this tendency together with the recent enlargements might open an avenue for increasing power of the European Parliament in budget allocation. This paper suggests that it is still quite small.

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