

of the 2004 enlargement on EU budget allocations, presuming that the historical model continues to work in the enlarged EU. Our findings are startling at one level, but unsurprising at another. If the EU budget is not substantially increased, our estimates suggest that the enlargement will lead to a quite massive reduction in EU spending in the old EU-15 nations to pay for new expenditures in the new member nations.

The unsurprising part of this stems from simple arithmetic. EU budget receipts under current rules amounts to about 1% of EU GDP. Since the new members are so poor, enlargement will expand the budget by less than 5% but expand the EU population by 20%. Since EU voting rules grant small nations more power than their populations would suggest, and because most of the new members are small, the newcomer power share predicted by the SSI is about 27%. If EU budget allocations are roughly proportional to power shares as they have been historically, the implications are clear. EU incumbents will see their spending shares and levels fall. Moreover, to the extent that the 'needs' view is relevant, the 27% estimate is too low since the new members are generally more agrarian and poorer than the incumbent 15.

What all this goes to say is that budget conflicts in the enlarged EU are likely to be quite marked. Just to take one specific example, CAP spending on the new member nations is now limited to €3.7 billion in their first full year of membership, 2005. This implies CAP spending of just €172 per farm in the ten new member nations. The per-farm average in the EU15 is over €5000. Similar mismatches can also be found in the per-capita structural spending figures.

## Discussion

**Juan D. Carrillo**

University of Southern California and CEPR

This paper treats a very important question concerning the role of the EU: what determines the allocation of the EU budget between countries? This issue is crucial to understand past decisions. More importantly and given the immediate enlargement of the EU, it may also help to predict future decisions. The authors consider two main hypotheses. First, the 'needs' view, which states that high-minded principles guide political decisions. Under this explanation, countries with greatest needs should benefit most from the EU budget. Two proxies for 'needs' are considered: share of agriculture in total output and income level. Second, 'power' view or the idea that the budget share of each country depends on the influence it exerts in EU decision-making.

Kauppi and Widgrén compare thoroughly the relative merits of these two explanations for the 1975–2001 period. I enjoyed very much reading the paper. It is interesting to notice that we all have opinions (based mostly on casual evidence and

particular examples) about which member states are most favoured by the EU. This paper provides solid scientific arguments to support or contradict those views.

The authors try to determine which view best captures the budget allocation game. However, my feeling is that there are several reasons for which the main regressions (Tables 2–4) are not ideal to make such comparison. First, we know that a significant fraction of the budget (but not the entirety) goes to agricultural subsidies (CAP). Thus, the theoretical prediction only based on the information we have about the existing bureaucratic rules (and therefore independently of any interpretation of the budget allocation) is that the parameter  $c$  will be strictly between 0 and 1. For this, we don't even need to run a regression. Ideally, the authors should determine what is the theoretical prediction for the effect of agriculture on budget given the existing rules. This value would then become a benchmark for comparison. If the estimated value turned out to be higher (respectively lower) than the theoretical one, then we could conclude that high-minded principles (respectively power politics) determine decisions. Second, in order to test the power politics hypothesis, it would make more sense to regress CAP revenues of countries on political power. If we believe that agricultural spendings are determined by some fixed bureaucratic rules (and not influenced by political strength), then the coefficient should not be statistically significantly different from 0. Third, it would be also interesting to regress the share received by countries from every source except CAP on political power and income. That way, we could determine whether influence and/or needs determine the other EU allocations. One could even add agricultural share in this regression, if we believe that this is the best proxy for needs. Fourth, the authors' regressions show that both political power and agricultural share are significant variables when the simple power measures are used. If these two variables are correlated (and we can presume that they are negatively, although this should be checked), then we know from statistical theory that any regression that leaves one of them out will produce biased estimates. This in turn means that the coefficients in regressions that leaves them out are not reliable. Last but not least, the way the Panel draft of the paper was written suggests that the authors want to single out one and only one explanation. What is wrong with the fact that both explanations partly account for the observed allocation? Indeed, in the final version of the paper this is the approach taken by the authors.

In my view, the most striking conclusion of the analysis is the fact that income has no predictive power in EU budget allocation. The authors note it but, unfortunately, they do not pursue the analysis very far in this direction. I guess that I miss a theoretical discussion of this point. What is responsible for this absence of effect? Is it that spendings are determined only by political influence? If this is the case, then it means that agricultural share is not a very good proxy for needs.

Last, a major strength of the paper is the agnostic approach to model power politics. The Shapley–Shubik index (SSI) is somewhat abstract and theoretical but it nicely captures the relative ability of countries to influence decision-making. In my opinion, it is definitely the best starting point. I am less thrilled by the extensions

to this index proposed by the authors. It is a very good idea to study coalitions. However, the results concerning the modified SSI do not seem that helpful. The analysis restricts the attention to two-partitions of the EU, when in fact we expect more than two coalition groups (e.g. the authors extensively describe France-Germany and Cohesion countries as likely candidates to form different coalitions). There is an obvious computational reason to limit the number of coalitions.

All in all, I think this is a highly informative and easy to read paper. I am sure that both policy-makers and academic researchers will extract invaluable and objective information from this analysis on the way politics work in the EU.

## Panel discussion

Georges de Ménil pointed out that while the tests are on budgetary allocations, as the observable outcome of EU policy, votes are taken on a wide variety of issues and this issue could actually be much broader to the extent that it applies to all EU decision making. Karen-Helene Midelfart suggested that the results might be easier to interpret if structural and CAP funds were segregated, and shares rather than totals were reported. Fiona Scott-Morton also worried about the different effects of structural and CAP spending and wondered whether a country's average income was the appropriate measure, as the criteria for distribution of structural funds are often based upon the situation in specific regions, rather than in the country as a whole. Ricardo Faini agreed, and suggested including measures of income or employment dispersion in each country to capture the effects of funds directed at poorer regions. Mika Widgrén agreed with Georges de Menil pointing out that indeed their entire purpose was to use the budget regressions as a test of power. He also replied that they had tried to explain structural and CAP spending separately, without getting significant results.

Tullio Jappelli wondered why fixed effects were not included, and pointed out that their inclusion would result in a much smaller  $R^2$ . Jonathan Haskell was concerned about the endogeneity of CAP and agricultural production. Richard Portes also addresses agriculture, wondering if it would be possible to separate meat and dairy production from crops, as he would expect to see different results for the two classes of agricultural products. Ludger Schuknecht questioned the implicit assumption of fixed funding shares, in an analysis that includes only spending. Richard Portes agreed that funding would matter, particularly for the UK, as Thatcher's demand for a refund falls within the middle of the period under analysis and so affects funding shares. The authors agreed that this was relevant, that while contributions are highly institutionalized there are changes, VAT and GDP based, as well as shocks such as the UK refund. Taking this point into consideration, they redid the analysis using net payments in the final draft (see Table 2).