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Modeling fiscal federalism: a decomposition analysis of changes in intra-European Union budgetary transfers

George Deltas [a,*], Gregor Van Der Beek [b]

[a] *University of Illinois, 1206 South Sixth Street, Champaign, IL 61820, USA*
[b] *University of Koblenz, Universitaetsstraße 1, 56070 Koblenz, Germany*

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Abstract

We use a stylized model of inter-governmental transfers to investigate the extent to which the post-Maastricht increase in the European Union budget, and the associated increase in net transfers among the member states, has been driven by the political deepening of the European Union. We find that only two-thirds of the increase in net transfers is attributable to the increased cohesion of the Union. The remainder is due to the entry of Austria, Finland, and Sweden and changes in the relative population of member states. We also find that the convergence in member states' per capita incomes, measured in inflation-adjusted local currency, has been almost entirely offset by the devaluation of the currencies of poorer member states. Therefore, relative income considerations have played no role in the change of net transfers. The methodology introduced in this paper is of general applicability to a large number of federations.

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1. Introduction

The policies of the European Union, and in particular its agricultural and regional policies, lead to significant fiscal transfers between its member states.[1] The level of net transfers to

* Corresponding author. Tel.: +1-217-333-4586, +49-261-287-2445; fax: +1-217-244-6678.
E-mail addresses: deltas@uiuc.edu (G. Deltas), gvanderb@uni-koblenz.de (G. Van Der Beek).
URL: http://www.staff.uiuc.edu/ deltas.

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any member state is determined by a number of different factors. Some of these factors are specific to the member state, e.g., its per capita income, its population, and the degree to which economic activities in that country are covered by EU programs. Other factors are specific to the Union at large, e.g., the composition of the Union, the structure of the decision making process, and the *distribution* over the member states of population and per capita income. [2]

Over the last decade, the European Union has experienced a substantial transformation. This transformation consisted of institutional changes (the "Maastricht" process), changes in membership (the accession of Austria, Finland, and Sweden), changes in relative per capita income of member states (poorer countries have grown more rapidly than wealthier countries), exchange rate realignments (the crisis in the European Monetary System), and changes in its demographic make-up (with the population of some member states growing faster than that of others). Each of these factors had an effect on the size of the EU budget and on the volume of transfers among member states. The net-effect has been an increase in the EU budget from 58.6 billion euros in 1992 to 80.7 euros in 1998. Of this amount, net transfers to or from member states equaled 28.3 billion euros in 1992 and 36.3 billion euros in 1998.[3]

There is a perception that this increase in transfers is due to the process of progressive deepening of the European Union. Such a perception implicitly ignores the fact that all the factors listed above also contribute to changes in the level of transfers. Therefore, there exists the possibility that the volume of transfers would have increased even in the absence of any political "deepening." It is important to disentangle the contribution of changes in each aspect of the European Union, so as to determine to what extent, if any, the increase in net transfers is understated or overstated by ignoring the contributions of the other factors (and in particular, the effects of convergence in per capita income). Controlling for all these factors allows us to determine the extent to which the institutional "deepening" of the European Union has increased cohesion, as expressed in budgetary transfers.

In this paper, we calculate the incremental contribution of each of the factors to the changes in intra-European transfers by using a stylized partially structural model. This model has a number of desirable features: (a) it is parsimonious and can be estimated using the limited data that is available; (b) once the model is estimated, the level of transfers can be calculated for any configuration of the European Union, including any set of members and member characteristics, such as population and per capita income; (c) the European Union zero-budget constraint is satisfied for any such configuration. In our approach we need not specify how the programs adjust to changes in demographic and economic factors. Rather, we directly calculate the net-effect of changes in these programs. To the best of our knowledge, this is the first such model-based decomposition analysis.

Our results indicate that the strongest effect on net transfers is due to the faster increase in the per capita GDP of the relatively poorer member states. However this growth effect gets essentially completely nullified by the exchange rates realignment, which for the most part constituted a devaluation of the currencies of the poorer states. Therefore, the net contribution of these two factors in explaining the increase in net transfers is zero. The change in the willingness to transfer resources (e.g., the deepening the Union) accounts for 70% of the increase in transfers. Changes in the population in the member states account for only 10% of the increase. The remaining 20% is accounted for by the accession of Finland, Sweden and Austria (all three