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A volatility-based theory of fiscal union desirability

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ABSTRACT

Heterogeneous countries may rationally choose to form a currency union first, and a fiscal union later. We find, and illustrate empirically for the EMU countries, reasonable volatility conditions under which this sequencing in the deepening process is indeed rationalizable. Changes in the distribution of expected income shocks require a reassignment of political weights to restore unanimous support for an added fiscal dimension. The bargaining space depends on countries' relative income, size, and cross correlation of shocks.

1. Introduction

A set of heterogeneous countries may choose a sequential path of integration, both in terms of admission (or *widening*) and in terms of institutional integration (or *deepening*). The sequential widening process undertaken by the European Union between 1957 up to the 1990s can be explained by the observation that a slowly enlarging Union made it "cheaper" to admit the initially left out countries, because of a negative externality mechanism.[1] This paper focuses instead on the potential and rationale for sequential deepening of a Union. The adoption of a single currency can be seen as a first step in the direction of substantial deepening of the economic integration process. The interesting question then becomes: Why did Europe choose to deepen in the monetary front first, and only later bring to the fore the possibility of further fiscal and political integration?[2]

We argue that the decision to form a currency union without further integration can be rationalized if volatility of income shocks is relatively low, as perceived at the time of the creation of the European Central Bank (henceforth ECB). However, a later realization that the volatility of income shocks is much higher than initially expected, can make deepening in the fiscal front a necessary step for the survival of the union. An illustration of our argument requires us to consider three regimes, namely policy independence (or autarky), monetary union, and monetary union combined with fiscal union, and focusing on how preferences

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[1] In any given period, the current members of a union have greater access to (and credibility on) making and receiving side payments within the union, and greater trade among themselves, causing negative externalities on the trade opportunities of non members. This increasing disadvantage for outsiders makes the bargaining power of the initial insiders overall higher with a sequential admission process than admitting them all at once. See Morelli (2012).

[2] See Spolaore (2013) for a discussion of the political economy aspects of European integration, including Monnet's chain mechanism of progressive integration. See Silbert (1992), Sims (1999) and Bottazzi and Manesse (2002) for standard macro arguments in favor of the inseparability of monetary and fiscal policy, leading to the conjecture that going for monetary union alone could lead to dangerous decoupling. See Bordo et al. (2011) for the history of several monetary unions, including the EMU, and de Grauwe (2011) for the implications of a fragile Eurozone for its governance.

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of different countries of varying income and size over these different regimes vary with volatility.

By a fiscal union we mean here a level of institutional integration that permits to establish a mechanism that involves the determination of counter-cyclical transfers across countries or regions.[3] Our goal in this paper is to highlight that introducing some elements of a fiscal union may be essential to sustain the benefits of a common currency in a scenario of increased income volatility. If one or more countries' income volatility increases sufficiently, their preferences might change so that a fiscal union is preferred, and, if that is not possible, they would want to revert to autarky, bringing the whole currency union to collapse. However, we argue, negotiation over economic and political incentives can sustain the common currency. In other words, there exist reallocations of political weights to convince all countries to adhere to the fiscal union. We highlight the role of heterogeneity in income per capita and population size, both in terms of the positive analysis of country preferences, and in terms of normative analysis of the type of reallocations of decision power that would make a fiscal union consensus feasible. We find that, given each country policy independence threat point, countries with large relative incomes and large relative sizes will demand a higher decision weight in the fiscal union.

The consensus bargaining space (henceforth CBS) consists of the set of all vectors of country weights that guarantee a higher utility to all countries in the fiscal union relative to reverting to autarky and independent policy making.[4] The likelihood of a consensus favorable to the formation of a fiscal union decreases with the degree of countries' heterogeneity in income and population size, and decreases with the correlation between countries' shocks. We also use simulations to illustrate that, for a union formed by heterogenous countries with given shock correlations, there exist voting weights in the non-empty bargaining space that make all countries better off when moving toward fiscal union.

When volatility is relatively low for all countries, we show that it is difficult to sustain unanimous support in favor of a fiscal union. Any proposal in this direction would be defeated. Tables 1 and 2 in this paper show that, after a few years of monetary policy unification, volatility of GDP per capita and volatility of individual consumption have increased dramatically for most European countries, and this may have altered their regime preferences.[5] Our model will allow us to predict (1) which countries will be unhappy with the common currency, namely, the status quo; (2) how these countries rank the different options, namely fiscal union independent policy making; and (3) the extent to which some countries are willing to lose political weight in exchange for unanimous adoption of the fiscal union.

The pioneering work of Gordon (1983) presented a now classic argument highlighting the insurance benefits of a common fiscal policy.[6] The ensuing literature focused on the possible negative co-movement of output across jurisdictions and on the value of institutions providing insurance against such negative co-movements. However, a common fiscal policy involves *both* risk sharing and redistribution.[7] If on the one hand the so called "economic risk" can be reduced by a fiscal union, on the other hand the common tax rate could become more volatile and alter incentives. This effect can be termed "political risk", and is what often discourages the establishment of a common fiscal policy. The mechanism is simple: faced with non-synchronous fluctuations in output over time, countries or regions decrease economic risk by sharing budgetary decisions and stabilizing the tax base; however, the non-synchronous shocks may lead the country which holds decision power to respond to a negative shock by imposing a higher tax rate on the union. In sum, in fiscal unions among heterogeneous jurisdictions, there might be a trade-off between economic insurance and political risk. Even if shocks are negatively correlated, a country holding little decision power may prefer to stay away from a fiscal union.

Table 1
Columns 2 and 3 in Table 1 compare the average volatility of GDP per capita in two periods: 13 years before (1986–1998) and 13 years after (1999–2011) the adoption of the euro. Columns 4 and 5 compare the average volatility of GDP per capita in two alternative periods: 2002–2006 and 2007–2011.

GDP per cap. volatility	1986–1998	1999–2011	2002–2006	2007–2011
Austria	1.66	4.24	1.29	3.51
Belgium	3.39	5.25	1.29	2.56
Finland	9.56	5.85	3.03	6.48
France	4.60	7.80	1.93	2.73
Germany	5.61	4.02	1.87	3.03
Greece	6.67	14.94	9.29	14.10
Ireland	16.29	63.35	8.99	10.31
Italy	10.63	13.50	2.20	3.27
Luxembourg	17.31	21.93	2.36	5.13
Netherlands	4.12	9.53	1.39	3.87
Portugal	19.38	23.00	1.01	2.70
Spain	9.54	18.91	3.80	4.96

Our model examines how the allocation of voting power across jurisdictions interacts with the correlation of shocks and heterogeneity in income and population size to determine the likelihood of unanimous adhesion to a fiscal union. Our work is in the tradition of constitutional design exemplified by Buchanan and Tullock (1967) and Curtis (1972), where economic and political fundamentals are incorporated to show that certain allocations of voting rights enlarge the set of parameters for which a fiscal union is formed. In a sense, we enlarge the parameter set so that Gordon (1983) and Alesina and Perotti (1998) can be seen as particular cases of our broader discussion, where economic risk, political risk, and voting weights are jointly considered.

Voting weights in collective decision making are a central part of treaties,[8] and there is recent work on reallocations of voting weights when countries are faced with the prospect of *widening* of the Union.[9] However, the issue of weights ascribed to countries of differing size and economic conditions has never been explicitly related to the case of deepening integration by creating a fiscal union. We contribute to the literature on fiscal federalism by explicitly discussing the relationship between voting arrangements on the one hand, and the decision over adopting a joint fiscal policy or abandoning the existing common policy — in this case, a monetary union.

[3] For an early and powerful argument in favor of the inter-regional transfer role of fiscal policy, see Kenen (1969). This concept is substantially different from the idea of a "fiscal stability union" debated by the EU leaders, or from the fiscal compact, as discussed, for instance, by Paul Krugman in The New York Times (December 10, 2011): "*Rather than creating an inter-regional insurance mechanism involving counter-cyclical transfers, the version on offer would constitutionalize pro-cyclical adjustment in recession-hit countries, with no countervailing measures to boost demand elsewhere in the eurozone. Describing this as a "fiscal union," as some have done, constitutes a near-Orwellian abuse of language*".

[4] Even though the consensus rule is the one most likely to be considered, we also consider, in our working paper version (Luque et al. (2012)), an alternative scenario where the support by a fraction of countries is sufficient to form the fiscal union.

[5] See also Persson et al. (1997) for a discussion of different preferences over deepening of European policy-making in diverse policy areas.

[6] Shiller (1995) presented an empirical study of risk hedging possibilities across countries. Fidrmuc (2004) studied the effects of shock correlation and persistence on the optimality of fiscal unions.

[7] Bolton and Roland (1997) and Alesina and Spolaore (1997) analyze how the threat of secession by the rich imposes a binding constraint on federal fiscal policy, in a model of pure interregional redistribution, whereas Persson and Tabellini (1996a) investigate the trade-off between risk sharing and redistribution when jurisdictions are asymmetric as far as aggregate risk parameters are concerned. Persson and Tabellini (1996b) focus instead on the trade-off between interregional risk sharing and the presence of moral hazard in local government behavior. See Casella (1992a, 2001) for different formalizations of the main issues at stake, and Ruta (2005) for a survey.

[8] See Felsenthal and Machover (2001), and references therein.

[9] See e.g. Sutter (2000) and Barsan-Pipu and Tache (2009).