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THE POLITICAL GEOGRAPHY OF THE EUROCRISIS

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The Political Geography of the Eurocrisis

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Abstract

Contrary to the expectations from currency unions theory and historical precedent, the EURO area has failed to integrate fiscally in response to the crisis. At the same time, however, significant horizontal transfers towards financial stabilization have taken place. What explains this co-existence of persistent reluctance by domestic leaders in core EU countries to pursue fiscal integration and large scale financial transfers between nations within the union? We analyze responses to the crisis as a result of the geography of income and production. Heterogeneity of constituencies' redistribution preferences associated with a diverse economic geography accounts for the political constraints on national governments keeping them from furthering fiscal integration. In turn, cross-unit externalities in the form of potential financial risks shift the preferences of citizens potentially exposed to negative side-effects and open up the possibility of efforts towards international insurance/redistribution. The paper presents first an analytical framework to study these two mechanisms. Subsequently, we perform empirical analyses of the determinants of preferences for social insurance/redistribution, fiscal integration, and international redistribution in the aftermath of the Eurocrisis.

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I. Efficiency Gains and Redistribution in Fiscal Unions: the European Puzzles

The idea that "all successful monetary unions have eventually been associated with a political and fiscal union"[1] has a long pedigree in political economy (Popitz 1927; Dixit 1998; Perotti 2001; Drazen 2000; Casella 2005). Once markets integrate, centralized institutions are necessary to overcome transaction costs: fiscal integration ensures a more efficient allocation of services and revenue burden, facilitates the realization of economies of scale, and manages the increasing flow of labor and capital across boundaries. As factor mobility increases, regulatory restrictions and policy differentials become a source of inefficiencies and capture. They jeopardize at once workers' productivity and capital's returns. In addition, an integrated fiscal system plays the role of insurance provider, eliminating investors' uncertainties and smoothing consumption levels in hard times. By contrast, the preservation of a fragmented fiscal authority amidst a common currency area generates macro-economic imbalances and policy consequences that ultimately worsen economic and social outcomes (Krugman 1991; Eichengreen, Frieden, and Von Hagen 1995; De Grauwe 2013).

At the same time, major crises have historically created political opportunities to pursue common pool solutions.[2] Insofar as all members are hit by a common shock, there are economies of scale to be gained from coordinating the institutional response to the crisis, easing the political path towards integration (Riker 1964). That was indeed the core lesson from the experiences in the late 1930s and early 1940s: the Great Depression triggered an unprecedented increase in the fiscal role of the federal government in both Canada and the United States. Canada went all the way to undertake a constitutional reform to facilitate the adoption of a centralized unemployment insurance system in 1941. While the USA did not centralize this particular program, the relative economic weight of the federal budget and the regulatory capacity of Washington expanded massively between the late 1930s and the early 1960s. As early as 1935, the New Deal pushed for the centralization of several major fiscal and investment policies, as well as for major involvement of the federal government in the fiscal bailout of American states. To be sure, there were resistances, objections, and concerns on both ends of the US-Canada border, but they were overcome despite enormous economic diversity within both federations and constitutional limitations to the expansion of the federal government.[3]

[1] Nouriel Roubini, Financial Times, 13 June 2011, "The Eurozone heads for breakup"

[2] Ex ante, the risk of external economic shocks creates political demand for a common pool of resources such as more integrated fiscal structures (Alesina and Perotti 1998; Cremer and Palfrey 1999). In anticipation, the prospect of an external shock works to reduce the distance among regions in terms of their risk profiles. Neither the poor nor the wealthy regions know ex ante whether they will be affected by the shock. What they both know, however, is that if a negative shock hits them, they would be worse off without a common insurance scheme. In contrast, insofar as there is a cross-regional fiscal structure at work, the region negatively affected by the shock can transfer some of the cost to the common pool. Otherwise, it must fend for itself. The possibility of a shock with common effects across units/regions should foster support of a more integrated fiscal system.

[3] For a full account of these processes, see Beramendi 2012.

Seemingly working against theory and history, pre-crisis European Union has failed to realize the efficiency and insurance gains associated with fiscal integration. More importantly, the Great Recession has failed to generate political momentum in support of a shift towards fiscal integration (Hall 2012; Krugman 2012).[4]

At the same time, however, the lack of fiscal integration has not prevented significant transfers between governments as a response to the crisis. Euro-zone members have bailed out several economies within the union at significant cost. Furthermore, they devised a series of mechanisms, such as the European Stabilization Mechanism, the Securities Market Program, or the Outright Monetary Transaction from the European Central Bank, to manage similar situations. These sizable transfers are partially redistributive, since wealthier Euro members contribute a larger share to the coffers from which they are drawn.[5] Yet, to the extent that they are earmarked to bail out financial institutions in the recipient country and partly annotated as debt to be paid by national tax payers, such transfers also constitute a form of perverse redistribution within countries.[6] Net contributor Eurozone countries seem unwilling to pursue fiscal integration but at the same time are ready to develop large scale systems of financial stabilization that involve significant flows between countries.

What explains this co-existence of persistent reluctance by domestic leaders in core EU countries to pursue fiscal integration and large scale financial transfers between nations within the union? To address this puzzle, we develop two arguments on Europe's current dilemmas. First, the unfeasibility of fiscal integration reflects the constraints that (under electoral democracy) a very uneven politico-economic geography imposes on rational leaders' intent on staying in office. Europe's *perpetual stasis* is the result of a political conflict over the determination of fiscal capacity

[4]To be sure, several proposals for advancing fiscal federalism have been advanced (Pisani-Ferry, Vihriälä, and Wolff 2013; De Grauwe 2014). These proposals vary in ambition, design, and redistributive impact, but they tend to share similar political fate. A common European budget would imply a standard system of automatic stabilizers and massive redistributive transfers across the territories of the union. A second, slightly more realistic, approach would involve the mutualization of default risks through the so-called Eurobonds. Again, an actual default would imply, under such a system, a significant transfer of resources between members of the union. Finally, from a nuanced understanding of the specific constraints at work in the EU crisis, the Tommaso Padoa-Schioppa group proposed an automatic cyclical adjustment insurance fund to make palatable internal devaluations through inter-temporal, countercyclical management (Enderlein et al. 2012): the idea is to accumulate buffers in good times and use them automatically (i.e. off political controversies) in bad times. In addition, a European Debt Agency will manage according to clear criteria and strict procedures the trade-off between accessing to bailouts and the preservation of budgetary sovereignty. Again, the adoption of such a system would imply a major step towards fiscal federalism and redistribution between EU member states.

[5]For instance, Greece is to receive 197.5 billion Euro during the period 2010-2016 from the ESM. And Spain received a credit of up to 100 billion Euro of which it has used up to 41. By contrast, Germany contributes 27% of the reserves of the ESM whereas Spain makes up for 11% and Greece 2.8%. Sources: `esm.europa.eu/about/publications/index.htm`, `ec.europa.eu/economy_finance/assistance_eu_ms/index_en.htm`.

[6]For example, in the case of Spain, the cost for tax payers of the financial restructuring program is estimated (conservatively) to be between 61 billion Euro (estimates of the Bank of Spain) and 107 billion Euro (estimates by the Tribunal de Cuentas (chief auditing institution in Spain); source: report submitted to the lower chamber, Congreso de los Diputados). In either case the figures are several orders of magnitude above budgetary cuts in public spending in health and education (13.8 billions up to 2013).

within a confederation in which constituent members have veto power on any institutional development threatening their material and political status quo. Second, at the same time, the combination of the crisis and the pre-existing pattern of economic externalities across EU members create incentives for voters and leaders in core EU countries to support specific forms of international redistribution. By focusing on how potentially negative externalities shape the preferences of voters across European nations, the paper illuminates the paradoxical combination of resistance towards fiscal integration on the one hand and support of bailout transfers on the other. The crisis, the specific responses that followed, and the apparent political inability to manage markets reflect less lack of leadership or the oblivion of history (Stiglitz 2011; Blyth 2013) and more the tension among countries with very heterogeneous resources and preference sets on the balance between state and markets.

The paper makes several contributions. First, it brings the literature on federalism and endogenous fiscal institutions into the discussion about Europe's crisis, adding to the voices trying to bridge political and economic reasoning on the process (Scharpf 2011; Iversen and Soskice 2013; De Grauwe 2012, 2013; Hall 2014). Second, the paper approaches Europe's protracted institutional dilemmas as one more instance of the difficulty of endogenously building centralized fiscal capacity in the presence of divergent economic interests and risk profiles. By doing so the paper situates economic and political geography at center stage in the political economy of the EU crisis. Third, the paper makes a contribution to the emerging field of preferences for international redistribution(Bechtel, Hainmueller, and Margalit 2014): it adds a theoretical framework where the study of preferences is part of a broader analytical approach to conflicts in which politically independent nations share a common economic space. Finally, by analyzing how the politico-economic geography conditions the political implications of the crisis our paper contributes to an informed discussion of the possible options out of the sovereign debt crisis.

The rest of the paper is organized as follows. Section 2 presents the theoretical framework. Section 3 develops an analysis of the European crises from the perspective of a common currency area with a very diverse economic geography, and how those pre-crisis features shape the nature of the post-2008 contentions within the Union. This section helps frame the specifics of the Euro-zone case in the context of the model and derives empirical implications in terms of preferences for fiscal integration and preferences for international transfers/redistribution. The next two sections examine these implications empirically. Section 4 focuses on the determinants of support for fiscal integration by linking patterns of cross-national differences in economic geography to the variation in support for the delegation of fiscal authority to Brussels during the period 1995 - 2011. In turn, section 5 discusses the relationship between economic externalities and the observable transfers between member states after the crisis. We conclude with a discussion of the central implications of our analysis for ongoing debates on the ways out of the European debt crisis.

II. An Argument in Three Steps: Income, Production, and Externalities

In what follows, we argue that preferences for fiscal integration and preferences for international redistribution reflect the balance among three dimensions of economic geography: income, the degree of specialization of production within regions, and the presence of economic externalities across regions. To develop this argument, we proceed in two steps: first, we examine how the economic geography of political unions shape citizens' preferences for taxation/insurance/redistribution, thus determining the political constraints faced by democratically elected politicians. Second, on the basis of this benchmark, we study how economic externalities mediate these preferences, ultimately explaining the co-existence of resilience towards fiscal integration and large-scale international transfers in times of crisis.

The analysis builds on the following premises. We begin by considering a union with just two regions, A and B, where individuals care about their final consumption and vary in their pretax income[7]. A is poorer than B, i.e., has a lower aggregate income per capita ($W^A < W < W^B$). As a result, income varies along two dimensions: among individuals (denoted by w_i) and among regions (w_r).

Each individual has a utility function over final consumption, $u(c_i)$, which we parametrize as exhibiting (Arrow-Pratt) constant relative risk aversion, $c_i^{1-\delta}/1-\delta$. Accordingly, individual utility is defined as:

$$V_{ir} = \alpha \frac{(w_{ir}(1-t) - T(w_r - w_u))^{1-\delta_r}}{1-\delta_r} + (1-\alpha)\frac{(\frac{\alpha}{1-\alpha} t w_u - T(w_r - w_u))^{1-\delta_r}}{1-\delta_r}. \quad (1)$$

As noted above, w refers to income of either individuals (denoted by subscript i), regions (subscript r), or the overall union (denoted by subscript u). At any given time, individuals are employed with probability α (first term in eq. 1) or unemployed with probability $1-\alpha$ (the second term in eq. 1). The former have a final income defined by their post-tax work earnings. The latter obtain income equal to the benefits (b) received while being unemployed. In addition, citizens are affected by an interregional transfer (T) that, when in place, is a function of the regional average income vis-à-vis the union. Hence, citizens face a decision about two policy instruments, namely, the level of interpersonal redistribution (t), and the level of interregional transfers of resources among members of the union, i.e., the level of interregional redistribution (T).[8]

Finally, to study how the geography of economic production affects institutional choices, the model of individual preferences includes an additional insurance motive that is assumed to relate

[7] This section builds on the model of adoption of centralized fiscal structures (tax-transfer systems) within a political and economic union developed in Beramendi 2012.

[8] We use the term redistribution loosely. Both t and T are essentially insurance programs covering either individual or national level risks and generate redistribution through the fact that a share of members of whatever group of reference enjoy better coverage/transfers than could otherwise afford. On the link between redistributive taxation and social insurance, see the classical piece by Varian (1980).

directly to the degree of specialization of economic activity across subnational units. The literature in political economy repeatedly identifies risk, i.e., the possibility of a future income loss, as a key factor in driving people's redistributive preferences (Atkinson 1995; Moene and Wallerstein 2001; Iversen and Soskice 2001). We assume that there is a direct link between the level of regional economic specialization and the perceived implications of losing one's job. By specialization we refer to the extent to which employment in a particular region is concentrated in very few industries. As a result,during economic downturns, individuals will find it harder to overcome unemployment spells in highly specialized areas than in more economically diverse and dynamic regions.Through this channel, the territorial distribution of risk and risk aversion become a primary mechanism for the geography of economic production to condition the choice of fiscal institutions. We approximate these differences through the parameter δ_r in equation (1).

Solving for the optimal tax rate of individuals across different regional income distributions yields a unique interior solution of the optimal tax rate, t^*:

$$(w_{ir}(1-t^*)-T(w_r-w_u))\left(\frac{w_{ir}}{w_u}\right)^{-\frac{1}{\delta_r}}=\left(\frac{\alpha}{1-\alpha}t^*w_u-T(w_r-w_u)\right), 1>t^*>0 \qquad (2)$$

To analyze the conditions under which political integration or international redistribution become feasible we exploit this result in three steps. First, we consider a situation in which preferences are driven exclusively by income (δ_r=0). Second, we introduce variation across regions in δ_r and analyze the implications of a diverse geography of production for preferences over inter-personal (t) and inter-national redistribution (T). Finally, we consider the implications of potential cross-regional economic externalities on the preferences over international redistribution. Figure 1 displays graphically the core implications of the analysis in each of these three steps. For the purposes of illustration we assume that the levels of economic specialization and risk aversion are higher in A than in B.

A. Geography of Income

In the absence of risk aversion (δ_r=0), our model simplifies to one in which distributive concerns are dominant. This scenario is the one best capturing the distributive dimension of the problem. The following implications emerge from the analysis:

(a) any citizen in any region with income above w_u will want zero union-wide income tax rate;

(b) any citizen anywhere with income at or below $w_{ir} \leq \bar{w}_{ir} = -\frac{\beta}{\alpha}$ will want $t^* = 1$;

(c) $\frac{\partial t}{\partial w_{ir}} < 0$ for $w_u \geq w_{ir}$;

(d) the more citizens below w_u, the greater the demand for redistribution;

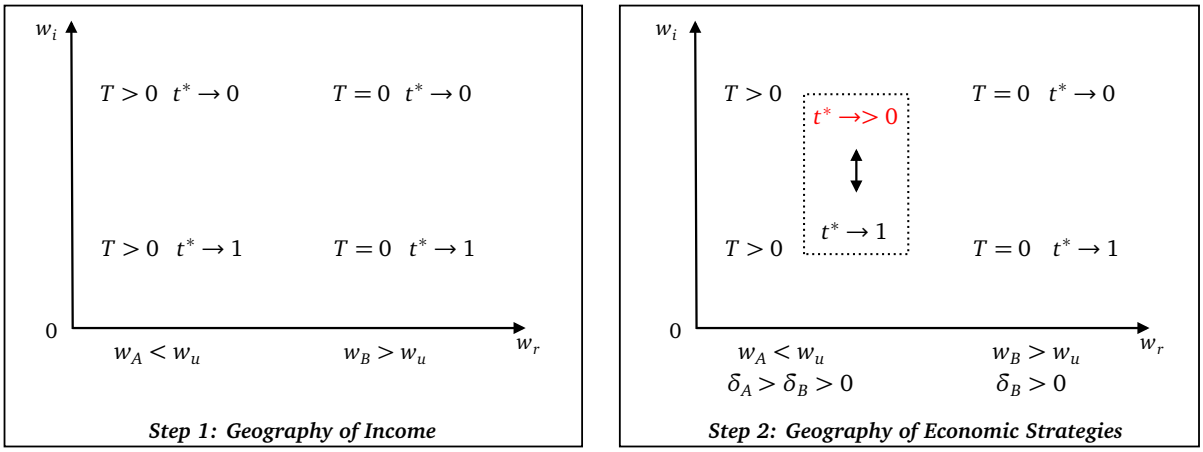

Figure 1: An Argument in Three Steps

(e) Last but not least, it is also clear that all citizens in regions with $w_r < w_u$ will support the highest value of T feasible, and those where $w_r > w_u$ will prefer $T = 0$.

As displayed in Step 1 in Figure 1, four distinctive groups emerge. At the bottom left, poor citizens in poor region *A* support both types of redistribution. They want both transfers from the rich in their region and a larger tax base to draw from. At the top right rich citizens in rich region *B*, in the absence of mobility and insurance motives, oppose all forms of redistribution. In turn, the off-diagonal features voters whose preferences are not consistent across policy tools: in the top left, the rich in a poor region oppose redistribution within the region, but support receiving a share of the resources of other members of the union (perhaps to grease their own political machines); by contrast, in the bottom right, poor citizens in a rich region support their welfare states while refusing to share their tax base with their class-comrades in other regions.

B. Geography of Production

Interestingly, this map of preferences changes slightly when the geography of production and its impact on labor market risks is taken into consideration. There is no gainsaying that most countries have three or four areas of economic development that attract large masses of workers, thereby altering their social and economic geography. Economic production tends to be concentrated in specific areas or regions due to increasing returns and the reduction of transportation costs (Hoover 1948; Krugman 1991; Venables 2001; Cai and Treisman 2005).[9] Economic concentration makes capitalist economies geographically unbalanced, and they will be more so the larger the scale of the political unit of reference. By virtue of concentration, different areas pursue different strategies: some regions, for instance, may opt for a growth strategy based on R&D investments and high labor productivity, whereas others rely on activities based on current consumption as the main driver of aggregate demand (e.g., areas specialized in tourism).The former tend to be heterogeneous in terms of employment structure and opportunities than the latter as high productivity, high skill industries require support from lower productivity industries and services. By contrast low productivity, consumption oriented industries do not require nearby pools of high skill workers. The second panel in Figure 1 (*Step 2: Geography of Production*) captures the importance of the geography of production for the political economy of integration. Three additional formal results are relevant for our understanding of how geographic concentration shapes preferences:

[9] Examples of concentrations of economic activity include fishing, farming, mining, manufacturing of particular goods (e.g., cars), or IT specialized industries such as hardware and software development.

(a) The demand for redistribution, t^*, increases with the scope of realized risks, $1-\alpha$. If the FOC is totally differentiated with respect to t^* and $\alpha/(1-\alpha)$, the result is:

$$\frac{dt^*}{d\frac{\alpha}{1-\alpha}} = -\frac{t^* w_u}{\left(\frac{\alpha}{1-\alpha} w_u + \frac{w_{ir}}{w_u}^{-1/\delta_r} w_{ir}\right)}$$

(b) The demand for redistribution increases with risk aversion. To see this, note that in the solution to the optimization problem, $\frac{\partial t^*}{\partial \delta} > 0$.

(c) As a result of risk aversion, it is also the case that $t^* > 0$ when $w_{ir} > w_u$ (as long as it is not too much greater), whereas with $\delta = 0$ any income above w_u will prefer $t^* = 0$. To see this note that if $w_{ir} = w_u$ then in the FOC $(\frac{w_{ir}}{w_u})^{-1/\delta_r} = 1$, if $\delta_r > 1$, and the FOC then implies with $w_{ir} = w_u$ that $t^* = 1-\alpha$, which is strictly positive for $\alpha < 1$. Hence, a small increase in w_{ir} above w_u implies a small decrease in t^*, and a small enough increase in w_{ir} implies that t^* must remain positive. The key analytical result is that the demand for redistribution increases with risk aversion, which suggest that for sufficiently high levels of specialization wealthier citizens may be willing to invest in insurance despite the short-term costs in tax terms.

In very specialized areas, the labor pool will find it more difficult to find alternative employment opportunities in the event of an economic downturn.[10] By implication, a higher degree of specialization in region *A* implies that workers and employers are more risk-averse (*i.e. they fear more the potential realization of unemployment risks*). All workers, including high-income ones, support some form of insurance (t), whereas the optimal level of insurance for the rich in a region with no economic specialization is necessarily lower (at the extreme $t = 0$). Accordingly, preferences over *t within A* become less polarized. In political terms, this implies that risk differentials associated with the geography of production facilitate the formation of intra-regional cross-class coalitions in defense of the dominant economic sectors and, conversely, undermine the likelihood of interregional class coalitions. Economic actors in these areas become particularly sensitive to what Alesina and Perotti (1998) defined as "political risks", namely the possibility that delegating authority to the center would increased the likelihood of a common, dysfunctional policy, distorting the workings of the local labor market. Thus, insofar as members of the union differ in the type of dominant economic activity in their areas, they will also differ in the characteristics of their domestic insurance systems, and will be wary of any process endogenously delegating fiscal capacity upwards. Empowering the center imposes too large a risk on the efficient working of their local economy, rendering fiscal integration an undesirable prospect.

[10] Krugman (1991) argues that localization provides locational insurance when increasing returns are at work. It is precisely this same mechanism that explains why previously advantageous areas for employment relocation become traps in bad economic times. As the expectations of downfall spread, the speed of the crisis and the decline in employment prospects for specialized workers reinforce each other.

Critically, the connection between the geography of production and labor markets one the one hand and political coalitions one the other feeds back directly into a distributive conflict over fiscal resources (T) between A and B. To the extent that differences in productive systems and risk profiles constrain the feasibility of endogenously creating a centralized tax and insurance policy (t), political conflict will center around the size of interregional transfers (T). As derived from the model and captured in step 2 of Figure 1, no voter in B, *whether rich or poor*, has any incentive to share their tax base with the rest of the union; the former because they are bound to become tax payers for a much larger pool of dependents; the latter because they have no incentive to share their (larger) tax base with their fellow class travelers from other nations. Importantly, differences emerging from an uneven geography of production and risk reinforce the polarizing effects of an uneven geography of income.

C. Externalities

That the case, the third and final step in the analysis involves exploring how a common external shock, such as a financial crisis, interact with the underlying economic geography of the union. The importance of economic geography, in terms of both income and production, becomes particularly apparent in the context of economic shocks. The key distinction here is whether the crisis brings members of the union closer in terms of resources and risk profiles or, by contrast, generates asymmetric effects that exacerbate pre-existing differences within the union. The issue is whether the negative socioeconomic effects associated with the common shock of the financial crisis spanned across regions or remained geographically concentrated. If the latter, the crisis will polarize regions in terms of redistributive preferences and institutional tensions. In contrast, if the social consequences of the crisis cut across regional boundaries, the crisis may act as an engine for political and fiscal integration. Which of these two scenarios is actually realized depends in large part on the scope of socio-economic externalities across regions.

Economic externalities depend primarily on the extent to which factors, labor and capital, travel across borders and their implications for countries' risk profiles. Labor flows work as a transmission mechanism of labor markets and social insurance risks between territories.[11] Capital cross-border linkages within a common economic and monetary area facilitate the exposure to financial risk, resulting from the pattern of internal lending and borrowing (Hale and Obstfeld 2014). The geography of debt flows works as a transmission mechanism of financial risks between territories.

Our analysis so far has assumed no externalities of either type. To the extent that this remains the case, in the presence of an uneven geography of production, economic shocks have differential effects on regional economies and polarize institutional preferences across member states. By

[11] By labor flows we refer to mobility of workers and potential dependents across borders. For analyses where increasing labor mobility facilitates the adoption of common social policies, see Bolton and Roland 1996; Perotti 2001; and Morelli, Yang, and Ye 2012.

contrast, to the extent that cross-regional externalities exist, such as cross-country exposure to financial risks, preferences will change to favor some level of interregional redistribution.

Consider first the case of large levels of mobility among the unemployed. In such case, the region expelling unemployed poor people increases its employment rate and average output, whereas the recipient region sees both magnitudes drop. As a result, both regions also come closer in terms of the nature of the distributive conflict among their citizens. More importantly, as the poor travel across regional boundaries, net welfare recipients in wealthier regions lose their ability to protect their tax base by keeping a decentralized insurance system and reducing interregional redistribution.[12] Regarding capital and debt flows, a similar process unfolds. If the geography of debt is such that wealthier areas are exposed to negative shock via the risk of poorer areas actually defaulting on their payments, then the risks associated with economic collapse are no longer concentrated territorially.

By acting as a multiplier of social shocks across territories, labor and capital/debt flows thus become a new source of risk against which wealthier members of the union have incentives to create some form of insurance. This is the scenario captured by the third panel in Figure 1 (*Step 3: The Role of Cross-national Externalities*). Recall that by assumption the wealthier area (B) is more economically specialized than the rest.[13] Under these circumstances, as potentially large labor and debt flows become an additional source of risk, citizens in a wealthy, economically specialized, region face a complex set of motives that pull in opposite directions.

Hence, in anticipation of negative economic externalities, rich *and* poor citizens of the wealthier region B will coalesce with rich citizens of the poorer region A on an exchange in which interregional transfers (T) are used to ensure the status quo in terms of fiscal integration and inter-personal redistribution (t), even if at the expense of the poorest members of society.[14] This is precisely the situation we referred to as "perverse redistribution" in our introduction. The goal is to contain the scope of negative economic consequences associated with migration and capital/debt flows. Such flows would undermine the viability of regionalized labor markets and welfare states.

Support for a combination of decentralized interpersonal redistribution and significant interregional transfers is likely to grow stronger only when (the expectation of) negative economic externalities and regional economic specialization co-exist. The resulting fiscal structure would be a combination of decentralized fiscal institutions with partial interregional transfers (T).[15] The actual form of T will reflect the nature of the externality to be dealt with. If the concern is

[12] Interregional mobility of dependents from economically depressed to economically prosperous areas implies by definition an interregional transfer of resources between the regions of the union.

[13] In contrast, in the absence of economic concentration across regions, large levels of mobility would facilitate a fully centralized system around a common budget (a common fiscal system, t, and no explicit interregional transfers T).

[14] This will be the optimal strategy insofar as an additional marginal increase in interregional redistribution (T) equates to the net loss due to changes in interpersonal redistribution (t) motivated by larger levels of cross-regional mobility of dependents.

[15] This logic of prospective self-insurance is also at work in the international arena: the privileged prefer to pay to keep the poor away rather than risk allowing undesired dependents into their economies.

primarily about labor flows, it will take the form of funding for infra-structural programs meant to enhance aggregate demand and the functioning of local labor markets in recipient areas (e.g., the various forms of EU Structural Funds). If the concern is primarily about financial risks and capital losses, it will take the form of targeted bailouts meant to facilitate the rebalancing of financial institutions (both private and public).[16]

III. From the theory to the case: Monetary Union, Economic Geography, and the European Debt Crisis

In this section, we present relevant background information on the EU and derive the empirical expectations from the model as applied to the European debt crisis. To analyze the role of economic geography in the crisis it is necessary to take a step back. The common currency area was purposefully created through the monetary integration of countries very diverse in terms of both economic strategies (production) and resources (income). These differences were only exacerbated by several enlargement rounds, themselves entailing distributive compromises between the beneficiaries of larger markets and those facing steeper competition while giving up significant policy autonomy (Schneider 2009). These differences in income and production are important to understand the nature of the Eurozone crisis and its political implications. Growth strategies shape labor markets and distributive conflicts within countries. Income levels, and with them state resources, matter for distributive conflicts both within and between countries.[17]

A. The Geography of Income and Production in the EU: Investment- versus Consumption-oriented Strategies

Concerning the geography of income and production in the EU, the key distinction is one between *investment* and *consumption* strategies.[18] An innovation-based strategy builds on skills upgrading in the medium run, aspires to increase productivity levels, and to sustain growth through "leading edge innovations" in Aghion and Howitt (2006) terms. In contrast, for countries behind the technology frontier growth occurs primarily via capital investments, the import of technologies developed elsewhere, and consumption-oriented policies aimed at sustaining high levels of aggregate demand (Acemoglu, Aghion, and Zilibotti 2006). Investment-oriented economies are export-oriented,

[16] Optimally, and to ensure political feasibility, these packages will feature large levels of conditionality, targeting, and inter-temporal burden sharing with recipient countries. For empirical evidence on citizens' support for different forms of bailouts see Bechtel, Hainmueller, and Margalit (2014).

[17] In terms of the formal model developed above, growth strategies speak directly to cross-national differences in the type of economic specialization δ_r; in turn, fiscal capacity speaks to cross-national differences in terms of the pool of resources necessary to undertake different types of redistribution (w, t, T in the model).

[18] These strategies are defined at the country level for national governments remain the key decision makers in the EU and control the design of domestic economic policy.

whereas consumption-oriented ones are not (see Figure 3 below).[19] Governments' choices reflect how much they privilege consumptive expenditure at the expense of future returns via investments in education, research and development, and childcare. The balance between these two sets of policy instruments is critical to understanding the political economy of growth and inequality in the postindustrial world (Beramendi et al. 2015).

Consider the origins of wealth differences among EU members at the onset of the crisis. The EMU brought together under a common currency countries with very different levels of fiscal ressources, as measured by the amount of revenue they are capable of collecting relative to the size of their economies. Besley and Persson (2011) show convincingly how legal, political, and fiscal institutions feedback on each other over the long run, shaping economic development (affecting *w* in Figure 1) in the long run. Fiscal capacity and revenue collection reflect the shadow of long-term processes, including the type of industrialization pursued, the age of democracy, and the pattern of state-society relations regarding strategies of political mobilization. Countries with early development of rule of law and democracy industrialized first and consolidated a set of political and economic institutions more conducive to investment. They are more capable of forging political coalitions to expand public goods and raise the necessary revenues (Pincus and Robinson 2014), and they are less tolerant of capture by special organized interest (North, Wallis, and Weingast 2006; Grossman and Helpman 1994). By contrast, late industrializers only achieved modernization via different forms of import substitution, which nurtured a core of well-organized interests (Altamirano, Rueda, and Wibbels 2015) that captured the political control of state institutions and used them to secure political hegemony via patronage and clientelism rather than programmatic politics (Kitschelt and Wilkinson 2007). As a result, states are weaker, their shadow economies grow larger (Schneider, Buehn, and Montenegro 2010), and both voters and parties privilege consumption over investment.

Following (Beramendi et al. 2015: 10), Figure 2 captures the relative importance countries attribute to investment-oriented policies in the pre-crisis period. Using expenditure data from the OECD from 2003 to 2007, we define consumption-oriented policy as the sum of per GDP expenditures on (i) old age pensions, (ii) survivors' pensions, (iii) unemployment benefits and incapacity pensions; investment-oriented policy as per GDP expenditures on (i) public and private research and development, (ii) tertiary education, (iii) childcare services, and (iv) active labor market policies. With those two measures in hand, we calculate the ratio of investment-oriented expenditure to total expenditure (investment + consumptive expenditure).

Four distinctive groups emerge in the right panel of Figure 2. Nations like Denmark and Sweden both make large budgetary efforts in investment and consumption, and privilege the former. A

[19] In line with this logic, we define *investment* widely as public expenditures that increase the overall productivity of the economy, and that of labor and capital in particular.The term investment refers to the future-orientation of these expenditures in the fields of education, research and development, childcare, and labor market activation(Esping-Andersen 2002). On the other hand, we consider as *consumption* expenditures social transfers to beneficiaries that (have to) use them in order to cover current needs and demands.

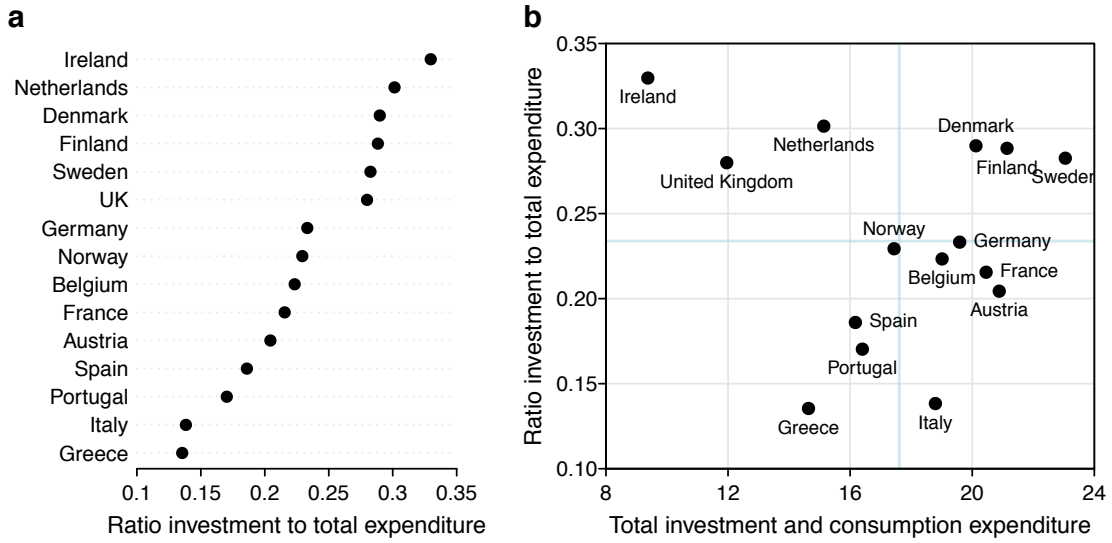

Figure 2: Configuration of economic strategies in Europe. Panel (a) shows the relative weight of spending on investment compared to total expenditure. Panel (b) plots countries' total expenditure on the abscissa, the relative weight of spending on investment in total expenditure on the ordinate. Light blue lines indicate average values.

second group of nations, like Austria, Germany or France, and to a lesser extent Italy, traditionally engage in large-scale spending but privilege consumption over investment. Symmetrically, at the other end of the spending capacity spectrum, we find nations, like Ireland, that have privileged investment over consumption, whereas others, like Spain, Portugal, and Greece, spend relatively little and devote most of their budget to short-term, consumption-oriented transfers. With declining tax revenues, investment-oriented strategies become less viable and the economy concentrates in low productivity, low technology sectors, such as construction or tourism. These differences, quite persistent over time, shape both the way different national economies react to the Great Recession and the potential patterns of economic externalities across territories. We analyze each of these in turn, thereby linking the EU experience to the key parameters in the model above.

B. Economic strategies and post-crisis outcomes

We start by analyzing how different national economies respond to the financial crisis. In the case of investment-oriented political economies, we expect a relatively lower elasticity of labor markets to economic downturns for three reasons. First, consumption and investment are not perfect substitutes: economies may choose to prioritize one over the other, but the required minimum of consumption effort is higher than the required minimum of investment effort. This reflects the constraint that democracies and markets must meet current needs before thinking about future returns. Accordingly, once an economy decides to prioritize investment, its economic structure becomes more diversified, with employment shares allocated across a wider range of

industries at any given level of overall effort. Given a minimum level of skills, this broadens the options for labor market transitions. Second, the presence of well-developed systems of active labor market policies within less rigid labor markets speeds up the adjustment, and mutes the response of the unemployment rate to economic slowdowns. Finally, those countries with an innovation-based strategy and high levels of fiscal capacity (such as Sweden, Denmark, and to a lesser extent Germany) are capable of better absorbing the negative consequences of the shock not only because the demands for budgetary intervention will be smaller, but also because their automatic stabilizers work more effectively. Accordingly, aggregate demand holds its ground, fiscal sustainability is not in question and international investors perceive these markets as safe targets for investment (Scharpf 2011).

As the investment/consumption balance shifts, the situation progressively reverses. At the other end of the spectrum, consumption-oriented countries show a much higher elasticity of unemployment relative to GDP. This is the case for two reasons, one economic, one political. Economically, by virtue of the low investment rates themselves, in consumption-oriented economies economic activity and employment are much more concentrated in low productivity sectors. Politically, labor forces also reflect the capture of regulatory policy by organized interests during the process of industrialization and are, as a result, highly dualized. In those circumstances, left parties and unions cater to the interests of insiders (Saint-Paul 1996; Rueda 2007), while less protected outsider workers provide a buffer during economic downturns. The presence of the latter group enhances the elasticity of the unemployment rate with respect to GDP. The situation becomes particularly untenable in consumption countries with low fiscal capacity, as they confront large and rapid increases in their budgetary demands with very limited margin to cope with them. With the fiscal and financial feasibility of public institutions in question, investors perceive higher risks, and these countries become attractive targets for bond market speculators.

In conclusion, past economic strategies mediate the impact of the crisis and set EU countries in rather divergent politico-economic trajectories in terms of risks, fiscal weaknesses, and distributive outcomes in ways that speak directly to the parameters of the model above. To illustrate this point empirically, Figure 3 shows the link between country differences in economic strategies prior to the crisis (on the y-axis) and politico-economic outcomes after the collapse of Lehman-Brothers. Panel (a) plots a country's gross-domestic product per capita on the y-axis, while panel (b) plots the national unemployment rate. Panel (c) shows the pre-crisis trade balance. Panel (d) shows levels of public debt as percentage of GDP. The last two panels show the distributional effects of pre-crisis economic strategies. Panel (e) plots levels of inequality (the P90/P10 income ratio), while panel (f) shows the percentage of individuals below the poverty line.

The evidence conveyed in Figure 3 clearly supports the notion of divergent responses to the crisis by investment- and consumption-oriented economies. European economies have grown apart in terms of the both the incidence of risks and the financial capacity to cope with them. Panel (a) shows a fairly strong linear relation between economic strategies and outcomes. Countries that privilege

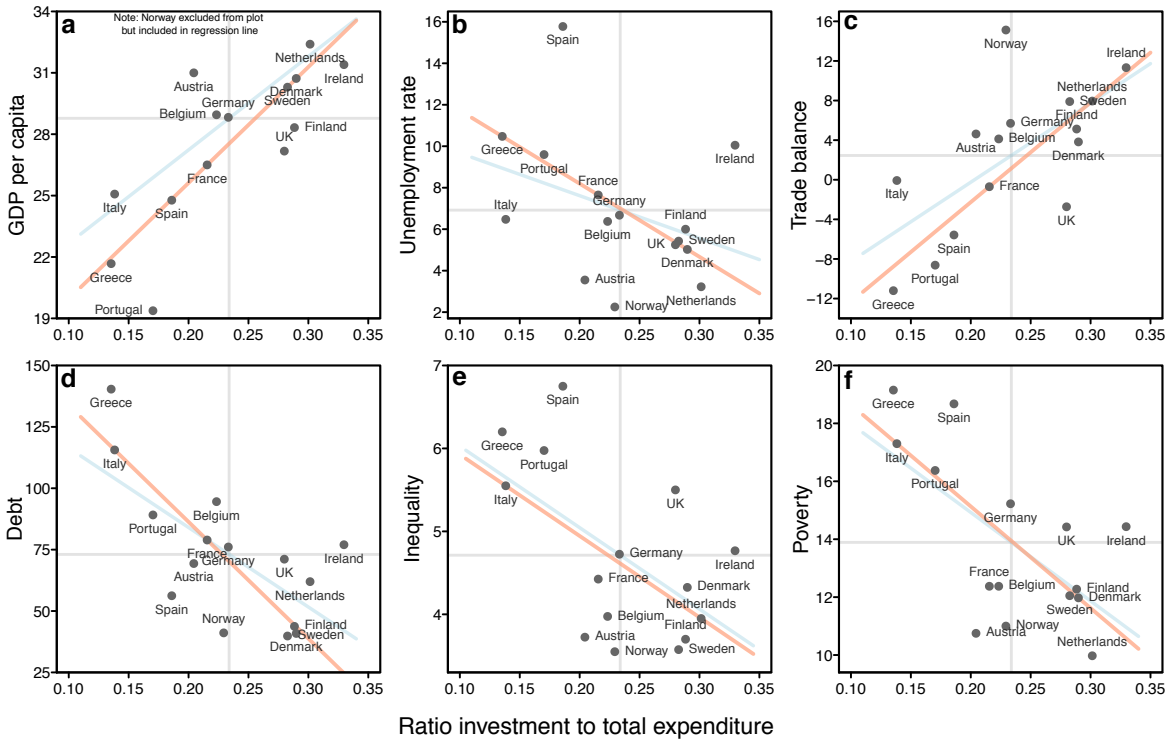

Figure 3: Effect of economic strategies on politico-economic outcomes. Panel (a) shows GDP per capita [in 1000s], panel (b) unemployment rates [in percent], panel (c) trade balance (exports minus imports). Panel (d) shows debt [in percent of GDP], panel (e) inequality [P90/P10 ratio], panel (f) percentage of individuals below the poverty line. The linear relationship between each variable and economic strategies is indicated by an OLS fit (light blue line) and an outlier-robust median regression (light red line). Light gray lines show averages of variables.

investment and trade over consumption have a markedly higher GDP (about 5000 per capita). In contrast, panel (b) of Figure 3 confirms that the countries pursuing consumption-oriented economic growth are the ones suffering the highest incidence of unemployment during 2008-2011. Consistent with the model above, in those economies with higher shares of employment specialized and concentrated in low skill, low productivity sectors oriented to short-term consumption, the incidence of labor market risks more than doubles that of investment-oriented economies.

When risks are realized, the fiscal burden associated with abrupt increases in budgetary demands of consumption-oriented states translates into rapidly increasing levels of public debt, as shown in Panel (d) of Figure 3. By contrast, investment-oriented economies face the crisis from a stronger fiscal base and experience less increases in debt.

The social consequences of this process are quite stark. Panel (e) shows that countries pursuing consumption-oriented economic growth face much higher levels of inequality, where the income of the richest 10 percent of households is five to seven times greater than that of the bottom 10 percent. In virtually every country that follows a more investment-oriented economic strategy, this ratio is considerably lower. Similarly, consumption-oriented societies are experiencing high levels of poverty, with more than 15 percent living below the poverty line.

To summarize, by combining a common financial shock with a very heterogeneous geography of production, the Euro crisis has triggered a steep polarization of risks and income across EU members. Perceptions and aversion to unemployment risks (δ_r in our model) have grown apart as have the tax bases (w), and the incidence of inequality within nations (the ratio of w_i to w).

C. Externalities

The co-existence of investment- and consumption-oriented economies under the same currency also shapes the type and incidence of economic externalities within the union. Because of the split between consumption- and investment-oriented economies, European job markets were fairly isolated in terms of labor flows prior to the crisis, except for a very small share of the high-skilled labor force. To the extent that economic strategies among EU members continue to diverge, unskilled workers from the periphery have little future in Northern investment-oriented economies. As a result, labor flows remain limited to the upper ranks of the skill distribution and do not to constitute a major source of economic externalities.[20]

In contrast, the geography of debt flows ties the fortunes of the investment-oriented economies of the core and the consumption-oriented economies in the periphery quite tightly (Hale and Obstfeld 2014).[21] Prior to the crisis, investment-oriented economies borrowed at low rates from ECB and invested in high yielding sovereign bond markets in the periphery, feeding short-term

[20] The case of refugees fleeing out of Syria is a very different one though, one that falls out of the scope of this paper.

[21] The story is well known (Fernandez-Villaverde, Garicano, and Santos 2013): Banks in core countries get money at low rates from the ECB and invest in high-yield sovereign bond markets in the periphery, feeding their consumption-oriented strategies further along the way.

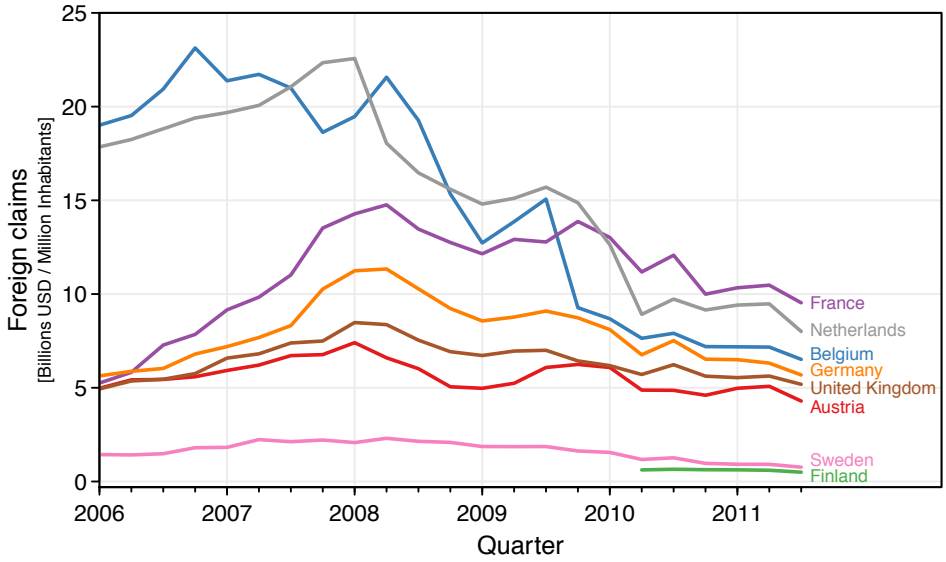

Figure 4: Post-crisis economic externalities across the European Union. Consolidated country risk exposure: Foreign claims (on ultimate risk basis) held by domestic banks [in billion US dollars per million inhabitants].

growth strategies and facilitating a sharp increase in net foreign liabilities by the periphery with respect to the core. As a result, those countries whose financial institutions have invested more aggressively in buying bonds and injecting liquidity in the peripheral economies are more exposed to the risk of a potential default by the latter. To the extent that core investors are tied in bond markets in the periphery, their economic fortunes are no longer isolated: default in the periphery entails major financial risks for key financial institutions at the core, thereby feeding back into the political process.

Figure 4 presents the evolution of this externality between the first quarter of 2006 and the third quarter of 2011. [22] Throughout this period, several core economies share a substantial degree of financial exposure to the potential collapse of South European economies. Accordingly, a potential default by one or, especially, several of these economies constitutes a major financial risks for the economies at the core. As the externalities are a source of shared risk, the transfers (T, in this case large-scale bailouts financed unevenly) work essentially as a form of insurance against the future realization of severe risks. Through the scope of potential externalities, financial linkages tie together the fortunes of the periphery and some members of the core in ways that creates political support for transfers between countries (T) oriented to protect the financial system of core economies.

[22] Using data from the Bank of International Settlements we capture the size of foreign claims (on an ultimate risk basis) of core European countries in domestic banks in Spain, Portugal, Ireland, Italy and Greece. Figure 4 plots core banks' risk exposure in billions of constant US$ relative to population expressed in millions.

D. Summary and Empirical Strategy

The Euro crisis has generated two distinctive patterns: (i) a polarization in the geography of income and risk within the union, and (ii) significant economic externalities in the form of financial risks to the core from the periphery. Analyzing these patterns through the lens of the theoretical model above yields the following empirical implications, which we will study below in a comparative analysis of Western European countries:

1. Since consumption- and investment-oriented countries diverge systematically in their post-crisis outcomes, the economic geography of the European Union becomes more polarized, and so do the preferences of its citizens: *The more countries rely on economic strategies that prioritize investment over consumption, the lower will be their citizens' support for fiscal integration (H1)*.

2. *As the scope of economic externalities from the periphery to the core increases, the support for inter-national transfers (international redistribution) increases (H2)*.

Below we evaluate the empirical validity of these two claims. Our empirical strategy proceeds in three steps. First, we provide evidence of a key premise in our theoretical model. We show that areas in which economic activities are less heterogeneous and more focused on consumption-oriented economic strategies are characterized by less polarized preferences over redistribution. Subsequently, we evaluate (H1) by analyzing the relation between economic strategies and citizens' preferences for fiscal centralization. Finally, we evaluate (H2) by studying how citizens' support for financial aid across countries (international redistribution) varies with their country's exposure to financial risks.

IV. Empirics

Before doing so we note two general points about the empirical analyses to follow. Since our population of interest are (West-) European countries, our sample size is naturally limited. While our analyses, developed below, include a large number of individuals, they are "nested" in around 14 countries.[23] This raises two related issues. First, we will be analyzing all available country cases, instead of working with a sample from a larger population. Second, the limited information contained in a small data sets makes it difficult to estimated effects of variables precisely. Both issues imply that the application of classical statistical inference "based on the long-run behavior

[23] Note that our population is Western-European countries, irrespective whether they are members of the euro area. Thus, our sample includes countries, such as Sweden or the United Kingdom. The reason for their inclusion is less one of statistical power, but driven by two substantive considerations. First, these countries make (and are affected by) decisions in the council that are relevant for the problem we are studying. Second, even non-eurozone countries are *de facto* part of the same currency union, as shown by Plümper and Troeger (2008). Both considerations suggest that their citizens' preferences over redistributive arrangements are a relevant object of study.

of some repeatable data mechanism" (Jackman and Western 1994: 412) is questionable. Thus, all our statistical analyses are conducted in a fully Bayesian framework (e.g., Gill 2014). This has the advantage that inference is conditional on the observed data only, instead of trying to generalize to some (hypothetical) super-population (cf. Gill 2001; Jackman 2009: ch.1), so that our estimates and measures of uncertainty are more credible in small samples. Stegmueller (2013) illustrates this advantage in a Monte Carlo study using data very similar to the ones used by us.

Furthermore, we will rely less on statistical testing of hypotheses (whether classical or Bayesian) and more on visual exploration of relationships.[24] Here we follow the suggestions by Bowers and Drake, who argue that scholars of comparative politics faced with limited numbers of macro units should present "compelling description of the patterns within a given dataset" by using "graphical presentations [...] rather than formal hypothesis testing" (Bowers and Drake 2005: 303).

A. The micro logic of redistribution preferences

In the first step of our analysis we start with a descriptive exploration of our theoretical models' key premise. The micro-logic of our argument implies that the income polarization of redistribution preferences is larger in countries that rely more on investment-oriented economic strategies.

In order to measure the polarization in redistribution preferences between rich and poor, we require a dataset of substantial size. We use the European Social Survey (ESS). It covers all of the countries in our analysis, and, in its pooled version, provides a large sample size of over 100,000 individuals.[25] Another advantage of using ESS data is that it contains a measure of preferences for redistribution, which is widely used in previous research (e.g., Rehm 2009). It elicits a respondent's support for the statement "the government should take measures to reduce differences in income levels" measured on a 5 point agree-disagree scale. We create an indicator variable equal to one if a respondent clearly supports redistribution (i.e., "agrees" or "strongly agrees" with the statement above).

The key variable of this section's analysis is income. To obtain a comparable, continuous measure of income, we follow the American politics literature (Hout 2004) and transform ESS income categories into midpoints.[26] Since the last income category is open ended, we impute its mid-point assuming that the upper tail of the income distribution follows a Pareto distribution (e.g., Kopczuk, Saez, and Song 2010). We then deflate incomes towards 2005 prices and re-express all currencies in purchasing power parity adjusted international dollars.

[24] See Cleveland (1993) for a discussion of how visualization can add to (or even replace) statistical inference.

[25] We use waves 1 to 6. After limiting the sample to the countries of our analysis we are left with 139,938 cases. After deleting cases with missing data, our final sample size is 109,538 individuals.

[26] Mid-point value assignments differ among survey waves. For 2004-2006 we use mid-points based on common value categories, while for 2008 and beyond, we use mid-points derived from country-specific income deciles. See appendix A for details on income questions and our transformations.

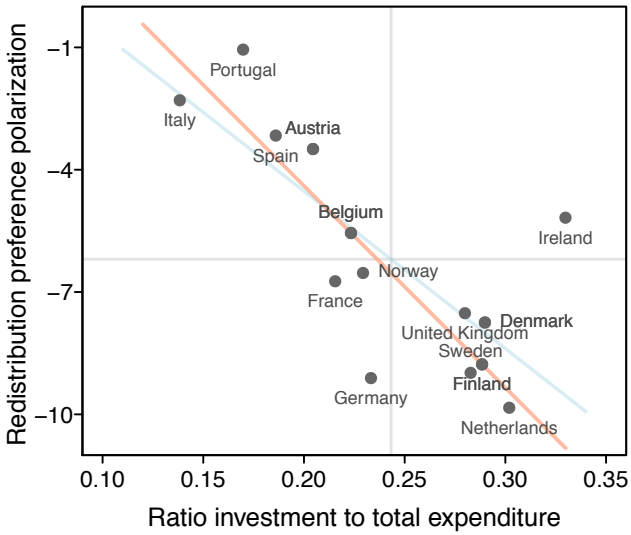

Figure 5: Polarization of redistribution preferences and its relationship to economic strategies. The y-axis plots first differences in predicted probabilities of redistribution support between poor and rich. More negative values indicate larger polarization in preferences by income. The x-axis plots investment-oriented economic strategies. The linear relationship both is indicated by an OLS fit (light blue line) and an outlier-robust median regression (light red line). Gray lines show averages of both variables.

Our dependent variable is then constructed in three steps. First, we estimate for each country in our sample a probit model of support for redistribution accounting for individuals' gender, age, years of education, and labor market status (via indicator variables for unemployment and retirement).[27] Second, for each country, we calculate the probability of supporting redistribution among the poor and the rich, defined as individuals at the 20th and 80th percentile of the income distribution, respectively. The first difference in these two probabilities is our measure of income polarization over redistribution in each country.[28]

In Figure 5 we plot our measure of polarization over redistribution between rich and poor against economic strategies in Western Europe. Larger values indicate more polarization between rich and poor. The position of countries in this plot reveals a strong relationship between economic strategies and polarization. In countries that put low priority on investment over consumption policies, such as Italy or Spain, polarization over redistribution is low to almost nonexistent (as in Portugal). By contrast, in high-investment countries, such as the Netherlands, Finland, and

[27] This amounts to what Gelman and Hill (2007) call a "completely unpooled" strategy, which is feasible here due to the large sample size available for each country.

[28] Note that the choice of percentile is of minor impact. We also obtain a qualitatively similar pattern by plotting income slopes (marginal effects) from a linear probability model against economic strategies.

Denmark, polarization is high, reaching up to a 10 percent point difference in redistribution support between rich and poor.

B. Support for a European tax system

The second step of our argument examines *(H1)*, which relates citizens' average preferences for a common European fiscal policy (i.e., the centralization of t) to countries' economic strategies. We expect that in countries that privilege investment-oriented policies citizens are less likely to support the "Europeanization" of fiscal politics. We study this expectation using data from the European Union's Eurobarometer survey, wave 74.2 fielded in autumn 2010.[29] Our sample is limited to countries for which we have data on investment- and consumption-oriented policy choices. This includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom. This sample consists of 14,079 respondents. After discarding 679 cases due to missing values on covariates our final sample size is 13,400.

Our dependent variable is an item probing respondents if they think that tax policy should be set exclusively by national governments, or jointly within the EU.[30] We create an indicator variable equal to one if respondents prefer European Union involvement in tax policy. The share of citizens in favor of fiscal centralization ranges from around 10 percent in Denmark or Finland to about 40 to 50 percent in Spain, Italy, or Portugal.

In order to account for compositional differences between countries, we include individuals' gender, age, and years of education, as well as their subjective perception of income, and indicator variables for current labor force status (unemployment, retirement).

We start with a model describing country differences in average levels of support for centralized European fiscal policy after accounting for compositional differences in citizens' characteristics listed above. This is done via a hierarchal probit model (e.g., Gelman and Hill 2007), where we regress tax preferences on individual-level covariates and add country-specific constants or intercepts. More precisely, for tax preferences y^*_{ij} of individual i ($i = 1, \ldots, n_j$) in country j ($j = 1, \ldots, J$) we specify

$$y^*_{ij} = \alpha_j + \boldsymbol{x}_i \boldsymbol{\beta} + \epsilon_{ij} \tag{3}$$

where $\boldsymbol{x}_i$ are individual-level covariates, and α_j are country-specific effects. Residuals ϵ_{ij} are white noise with unit variance to identify the probit model.[31] We treat country effects in two

[29] Fore more details see appendix A.

[30] The exact question wording is: "For each of the following areas, do you think that decisions should be made by the (*nationality*) Government, or made jointly within the European Union? 1 (*National*) Government, 2 Jointly within the EU". "Don't know" was an explicitly available option. We impute non-responses (don't know responses as well as item non-response) as part of the MCMC algorithm when estimating our models.

[31] We use a latent variable version of the probit model, where observed outcomes are generated by a threshold mechanism on the continuous latent variable y^*: $y = 1$ iff $y^* > 0$, else $y = 0$.

different ways. In the first variant, we specify a 'random-effects' structure, where α_js are drawn from a common distribution (e.g., Hsiao 2003: 255):

$$\alpha_j \sim N(0, \sigma_\alpha^2). \tag{4}$$

assuming that $\text{Cov}(\alpha_j, \epsilon_{ij}) = 0$. This induces the well-known shrinkage property of random effect models (Poirier 1995: ch.6, Jackman 2009: 309). Our second variant specifies country-specific effects akin to 'fixed' coefficients. In the Bayesian framework this amounts to specifying that

$$\forall j : \alpha_j \sim N(0, v_j) \tag{5}$$

where the hyperparameter value for the a priori variance v_j is set to a large value (Rendon 2012). This produces independent draws of α_j without inducing any shrinkage, and allows country-specific effects to be correlated with individual-level residuals. Our Bayesian model is completed by assigning vague priors to all free model parameters. We obtain the posterior distribution of all model parameters via MCMC sampling.[32] We then take estimated country-specific intercepts, α_j and plot them against countries' economic strategies in Figure 6. Its two panels correspond to our 'random' and 'fixed' country-effects specifications.

Our results paint a clear picture. Citizens in countries that focus on investment-oriented economic strategies show systematically lower support for fiscal centralization. In fact, out of the six countries with an investment-to-total-effort ratio above the overall mean, five are inhabited by citizens preferring lower than average levels of tax centralization. Out of the seven countries with an investment-to-total-effort ratio below the overall mean, six are inhabited by citizens preferring higher than average levels of tax centralization. The relationship between economic strategies and support for fiscal centralization holds in both types of model specifications (as shown by the similarity of patterns under fixed and random effects models).

We now turn to a more direct statistical test of this relationship. We extend the country-level of our previous model to

$$\alpha_j \sim N(\mathbf{z}_j'\gamma, \sigma_\alpha^2), \tag{6}$$

where $\mathbf{z}_j$ contains country-level variables, most notably our measure of economic strategies. While not producing qualitatively different insights from the ones gained by studying Figure 6, this modeling strategy accounts for the fact that country-effects are estimated with error and provides a quantitative assessment of the uncertainty in the relationship between economic strategies and citizens' preferences for fiscal centralization.

Table 1 shows results from four estimated models. We start with an 'empty' model *M0*, which accounts for compositional differences between countries, but does not include any country-level information. It serves as a useful starting point to compare other models against. Its estimates

[32] For more details on estimation, prior choices, and robustness checks, see Appendix B.

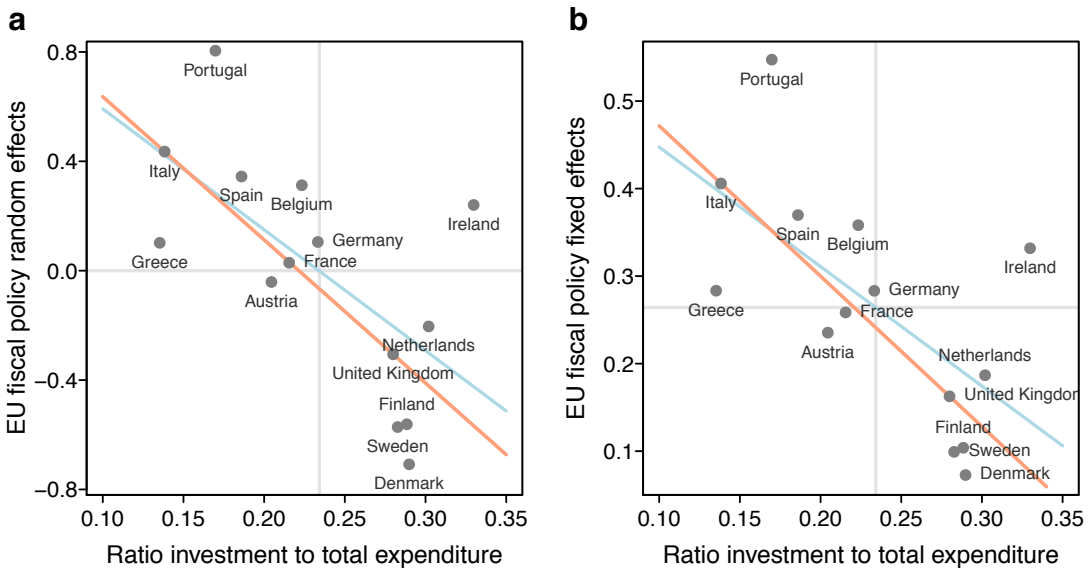

Figure 6: Europeans' support for centralized fiscal policy and its relation to country's economic strategies. Probit models of support for centralized fiscal policy with country-specific constants. Panel (a) shows country-specific random effects, panel (b) shows country-specific fixed effects. Larger values indicate more support for fiscal centralization. The linear relationship between centralization preferences and economic strategies is indicated by an OLS fit (light blue line) and an outlier-robust median regression (light red line). Gray lines show averages of variables.

country random effects variance of 0.16 shows substantial differences between average preferences for fiscal centralization: about 14% of the total variance in preferences is due to systematic (and unexplained) country differences. In *M1* we add two summary measures of countries' economic and budgetary performance.[33] Interestingly, while estimates for both variables are in the expected direction, they add little to our understanding of differences in citizens' preferences: the posterior credible interval for both is rather wide and spans zero. Furthermore, adding both summary measures (for no less than 7 country characteristics) does not appreciably reduce the systematic country variation in preferences (which remains estimated as 0.16).

We add our measure of investment-oriented economic strategies in *M2*. It shows again, quite unequivocally, the negative relationship between preferences for fiscal centralization and investment-oriented economic strategies. Our estimate for economic strategies is negative with a narrow credible interval, which does not include zero. To view the strength of the quantitative evidence

[33] These two variables are a low-dimensional summary of the following country-level characteristics: GDP per capita, unemployment rate, inequality, poverty, debt-to-gdp ratio, deficit. Including all these variables in our model is not sensible because of our limited number of countries, but also because of the fact that they are themselves the result of countries' economic strategies (so that their inclusion results in post-treatment bias). Instead, we use a singular value decomposition to create two principal components, representing economic and budgetary performance, on which we position each country. Those two dimensions represent 88 percent of the total variation in all variables. The values on these two variables are constructed such that they represent the effect of economic and budgetary issues *net* of the influence of countries' economic strategies. See appendix B.1 for technical details.

Table 1: Macro-micro models of preferences for centralization of European Union tax policy. Bayesian hierarchical probit models. Estimates, with 90% credible intervals in brackets, and Bayesian directional hypothesis tests.

	M0	*M1*	*M2*	*M3*
Economic performance[a]		0.206	0.210	0.217
		[−0.080 0.495]	[−0.013 0.438]	[−0.032 0.481]
		$Pr(\theta < 0) : 0.116$	$Pr(\theta < 0) : 0.059$	$Pr(\theta < 0) : 0.072$
Budgetary performance		0.172	0.174	0.226
		[−0.208 0.578]	[−0.134 0.480]	[−0.113 0.567]
		$Pr(\theta < 0) : 0.227$	$Pr(\theta < 0) : 0.166$	$Pr(\theta < 0) : 0.129$
Investment oriented economic strategies			−0.446	−0.549
			[−0.699 −0.202]	[−0.827 −0.251]
			$Pr(\theta > 0) : 0.004$	$Pr(\theta > 0) : 0.001$
Individual controls	yes	yes	yes	yes
Country random effects	yes	yes	yes	yes, robust[b]
Var(ξ)	0.162	0.168	0.097	0.057

Note: MCMC estimates based on 30,000 samples. Estimates are posterior means. Bayesian directional hypothesis tests $P(\theta > 0)$ if $\text{sgn}(\theta) = -1$ and $P(\theta < 0)$ if $\text{sgn}(\theta) = 1$.

[a] Scores from a SVD of covariate matrix including GDP per capita, unemployment rate, inequality, poverty, debt, deficit into two principal components. See appendix B.1 for technical details.

[b] Robust random effects, $\xi \sim t(\mu_\xi, \sigma^2_\xi, \nu)$ with $\nu = 4$.

for our argument from a different angle, we calculate the posterior probability that the relationship between fiscal preferences and economic strategies is of the opposite sign. Our results show that this probability is decisively low, being estimated at 0.4%.

This finding is replicated in *M3* where we use a random effects distribution that is more robust against outliers (cf. Lange, Little, and Taylor 1989). It again shows clear evidence for a negative relationship between economic strategies and fiscal centralization preferences. Under this model specification, the probability that the effect is of opposite sign evaluates to only 0.1%.

C. Support for international transfers

In the third step of our argument we examine *(H2)*, which argues that citizens' support for international transfers (i.e., T) is shaped by their country's exposure to financial risks. The key relationship studied in this section is between the level of exposure of the banking systems in the European core (measured as the log of the magnitudes reported in Figure 4) and the average level of citizens' support for international transfers towards countries in crisis. We test this argument using data from Eurobarometer 76.1, fielded in September 2011, which contains an item directly assessing Europeans' support for inter-regional transfers. We only include countries for which we have measures of exposure, namely Austria, Belgium, Finland, France, Germany, the Netherlands,

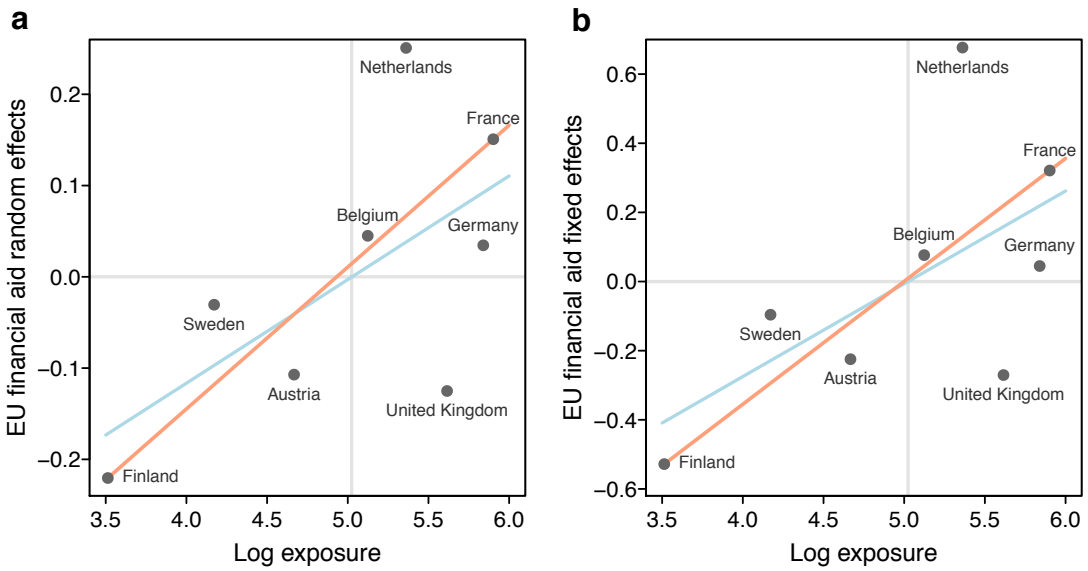

Figure 7: Europeans' support for interregional transfers and its relation to countries' exposure to risk. Probit models of preferences for international transfers with country-specific constants. The y-axis of panel (a) shows country-specific random effects, panel (b) shows country-specific fixed effects. Larger values indicate more support for transfers. The x-axis shows claims (on an ultimate risk basis) against "crisis countries" of a country's financial sector . The linear relationship between transfer preferences and risk exposure is indicated by an OLS fit (light blue line) and an outlier-robust median regression (light red line). Gray lines show averages of variables.

Sweden, and the United Kingdom. This sample is comprised of 8,461 cases. After discarding 412 cases due to missing values on covariates our final sample consists of 8,049 individuals.

Our dependent variable is an item asking respondents about their degree of support for their country providing financial help to other EU member states in economic and financial difficulties. Answers are recorded on a four-point "agree-disagree" scale, from which we create an indicator variable equal to one if a respondent clearly agrees to such inter-regional transfers.[34] The share of citizens agreeing with inter-regional transfers ranges from about 9 percent in Finland or the United Kingdom to about 22 percent in the Netherlands.

We proceed in the same way as in the previous subsection: (i) we estimate a hierarchical model of citizens' support for interregional transfers adjusting for compositional differences in age, gender, income, and labor market status; (ii) we plot the model's estimated country-specific effects against countries' exposure to risk of debtors' defaults. Figure 7 shows the resulting relationship.

[34]The exact question wording is: "To what extent do you agree or disagree with the following statement: In times of crisis, it is desirable for [country] to give financial help to another EU Member State facing severe economic and financial difficulties.". Answer options are "1 Totally agree, 2 Tend to agree, 3 Tend to disagree, 4 Totally disagree". An explicit 'Don't know' option is present. We impute missing responses on the dependent variable as part of our MCMC sampler.

Table 2: Macro-micro models of average preferences: support for interregional transfers. Bayesian hierarchical probit models. Estimates, with 90% credible intervals in brackets, and Bayesian directional hypothesis tests.

	M1	M2
Exposure [logged]	0.116	0.115
	[0.011, 0.227]	[0.009, 0.221]
	$Pr(\theta < 0) : 0.042$	$Pr(\theta < 0) : 0.042$
Individual controls	yes	yes
Country random effects	yes	yes, robust[a]
Var(ξ)	0.014	0.008

Note: MCMC estimates based on 30,000 samples. Estimates are posterior means. Bayesian directional hypothesis tests $P(\theta > 0)$ if $\text{sgn}(\theta) = -1$ and $P(\theta < 0)$ if $\text{sgn}(\theta) = 1$.

[a] Robust random effects, $\xi \sim t(\mu_\xi, \sigma^2_\xi, \nu)$ with $\nu = 4$.

Despite only being composed of eight pieces of evidence, Figure 7 provides a rather clear picture. As societies are more exposed to risks of default of their debtors, average support for international transfers increases. For example, Sweden and Austria both face a lower than average exposure to risk, while the converse is true for Germany and France. In line with our argument, citizens in Sweden and Austria are on average less supportive of international transfers than those in Germany and, especially, France. This association holds for all cases, save for the United Kingdom, whose citizens show a clear opposition to transfers.[35] Notably, this pattern obtains with both 'random' and 'fixed' effects specifications of country effects (shown in panel (a) and (b), respectively).

A stricter quantitative test of the relationship between support for transfers and financial risk exposure is provided in Table 2. Here we extend our hierarchical model to directly estimate the influence of exposure on citizens' preferences, as in equation (6) above. While we, again, hasten to caution that these are small-N results, they nonetheless provide statistical evidence for a link between exposure and support for transfers. The estimate in *M1* is positive with a credible interval that excludes zero. In addition, we calculate the probability that the relationship is of opposite sign (i.e., exposure reduces support for transfers) and find that, given the data, this probability is only 4%. We obtain almost identical results in *M2*, where we employ a robust specification of the country random effects distribution.

Our findings of a systematic country-level effect suggest a certain degree of homogeneity of support within countries. Arguably, the politics behind this process reflect a top-down process where elites, aware of the potential risks, undertake the task of convincing voters of the need and desirability of supporting the union as a collective good. For example, in the German case it was incumbent upon employers' organizations, trade unions, banking associations, and party elites to

[35] Cf. Rickard (2012), who shows that opposition in the UK to bailouts was much lower for Ireland than for other European economies.

build the case for costly bailouts towards those economies where German financial institutions were especially exposed (according to the data from the BIS reported in Figure 10 those economies would be in particular Spain, Ireland, and Italy). Quoted in March 2011, the head of the German employers' association (Dieter Hundt) criticized opposition to bailout efforts in the following way: "It's easy to demand that the rescue fund should not become bigger. But this avoids the crunch question: whether the volume is enough to clear a realistic path into the future for illiquid states."[36] A similar discourse was adopted by the main parties, which in September of that year supported the creation of the European Financial Stability Facility, a major fund to bailout European economies in need, with a majority of 523 out of 620 members of the Bundestag. By early October, the heads of the major trade unions (among others Michael Sommer, Berthold Huber (IG Metall) and Frank Bsirske (Verdi)) had endorsed the approach. Elites' discourses would trickle down to voters, who would in turn show a stronger support for international transfers towards those countries that could potentially constitute a larger risk.

Our results are also in line with a recent paper by Bechtel et al. (2014), who, on the basis of a conjoint experimental design, find that German voters do actually discriminate their support for bailouts depending upon who the recipient country is. Holding the degree of conditionality and cost-sharing across EU members constant, "bailouts face the strongest opposition when the recipient country is Greece and are most popular when the recipient country is Ireland, with Italy and Spain falling in the middle."[37] These findings are clearly consistent with the patterns reported in Figure 7.[38]

V. Conclusion

This paper has addressed the puzzling co-existence of two political processes in the EU. The member countries of the European Union, despite being bound together by a common monetary system, are surprisingly resilient against adopting a common fiscal system. At the same time significant levels of international redistribution from the core to the periphery have taken place. Our analysis suggests that the key to unlocking this puzzle lies in the combination of a heterogeneous economic geography, exacerbated by the financial crisis, and the nature of cross-regional economic externalities it generates. It is the exposure to financial risks by the core that underpins support for international transfers that are ultimately regressive from the perspective of the recipient population.

[36] *Handelsblatt*, 8 March 2011.

[37] Bechtel, Hainmueller, and Margalit 2014, p.17. Similarly, Rickard (2012) argues that parties, interest groups and citizens in the UK were much more tolerant towards the Irish bailout than to those favoring other European economies.

[38] Ultimately, though, modeling the specific mechanisms of the political process leading to a higher support for interregional transfers in more exposed countries is outside the scope of this paper.

The analysis offers one important political implication for the future. Given the economic geography of the union, the status quo hardly constitutes a stable equilibrium. Wealthy, investment-oriented economies have little incentive to pursue the agenda of fiscal integration. Moreover, to the extent that bailouts work in protecting financial institutions in core countries, political opposition to further transfers will rise. At the other end, the constraints on the political autonomy of net recipients appear hardly sustainable in the medium run. While South European incumbents face huge uncertainties and costs outside of the Euro, the possibility of a break-up is subject to the enduring patience of core voters in low capacity, high inefficiency economies, and to the strategic responses by their leaders. The recent rise of several populist political forces may suggest that voters' patience is running thin and that a different political response is required. However, given the political and economic fundamentals of the union analyzed in this paper, if the periphery of Europe were to pursue a coordinated effort (possibly with France) to renegotiate the terms of the union, net contributing, investment-oriented members would have incentives to opt out altogether. Ultimately, political integration is only feasible and sustainable under sufficiently low levels of heterogeneity in the political and economic geography of the union.

Our empirical efforts have only explored a fraction of the implications emerging from the analytical model. In particular, we have not considered exhaustively the role played by other potential sources of externalities in the process of preference formation at the micro level, or the politics of institutional design at the macro level. At the micro level, changes in patterns of labor mobility deserve further consideration. While we have argued that aggregate patterns of labor mobility have not increased significantly, this does not necessarily rule out an effect on individuals' preference formation. To assess the scope and importance of such an effect, a micro-level approach focused on areas where significant short term changes have taken place (because of migrants and refugees displacements, for instance) seems a more fruitful strategy. Similarly, at the macro level, the Syrian refugees crisis poses a major economic, social, and security challenge that cuts across EU member's borders and begs the question of what the appropriate design to cope with this challenge is. The framework in this paper can be extended to analyze the broader class of situations in which a common challenge alters incentives to preserve political autonomy.

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APPENDIX TO "THE POLITICAL GEOGRAPHY OF THE EUROCRISIS"

A. DATA DETAILS

The European Social Survey is a large scale multi-country survey administered bi-annually in European countries starting in 2002.[1] Its target population are all individuals aged 15 or over, residing in private households (regardless of nationality, language, citizenship or legal status). Interviews are conducted face-to-face. Eurobarometer 74 and 76 are large-scale population surveys administered in European countries. The target population are all individuals aged 15 and over, who are resident in any of the member states.[2]

Table A.1 below list countries and years included in our analysis using ESS data.

Table A.1: Countries and years included in ESS sample

Austria	2002–2006
Belgium	2002–2012
Denmark	2002–2012
Finland	2002–2012
France	2004–2012
Germany	2002–2012
Ireland	2004–2006, 2010–2012
Italy	2002, 2012
Netherlands	2002–2012
Norway	2002–2012
Portugal	2002–2008,2012
Spain	2002–2012
Sweden	2002–2012
United Kingdom	2002–2012

Table A.2 provides descriptive statistics for covariates in our analysis.

[1] For more information see `www.europeansocialsurvey.org/`.

[2] For more information see `http://www.gesis.org/en/eurobarometer-data-service/home/`.

Table A.2: Descriptives statistics of covariates in ESS and EB samples. Means, standard deviations, and deciles for continuous inputs; percentages for binary inputs.

			Deciles				Deciles	
	Mean	SD	1st	9th	Mean	SD	1st	9th
(A) Eurobarometer surveys								
	wave 74.2				wave 76.1			
Age	51.5	17.0	29	74	53.5	17.0	30	76
Years of education	18.8	5.9	14	25	19.6	5.4	15	26
Income [subjective]	5.6	1.6	4	8	5.7	1.6	4	8
Female		51.8%				52.1%		
Unemployed		8.9%				5.8%		
Retired		30.7%				35.2%		
(B) European Social Survey								
	waves 1-7							
Age	49.0	17.4	26	73				
Years of education	12.7	4.6	8	18				
Income [10000 USD]	3.2	2.4	1	6				
Female		51.8%						
Unemployed		5.5%						
Retired or disabled		26.1%						
Not in labor force		14.8%						

Note: Sample sizes are: ESS: 110,925, EB 74.2: 13,400, EB 76.1: 8,049.

B. Statistical model details

B.1. Reduction of covariate space

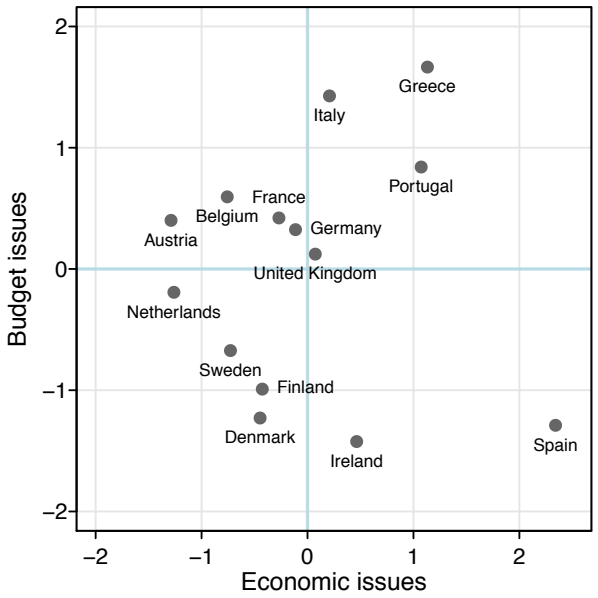
We have a matrix of covariate, $\mathbf{X}$, of size $n \times p$, where n is the number of rows and p the number of columns, i.e., variables. For simplicity set each column of $\mathbf{X}$ to have zero mean and unit variance. The singular value decomposition of $\mathbf{X}$ is (e.g., Strang 2006: 331f):

$$\mathbf{X} = \mathbf{USV}' \tag{1}$$

with $\mathbf{S} = \text{diag}(s_i)$ a diagonal matrix of singular values. The columns of $\mathbf{V}$ are principal axes, while the columns of $\mathbf{VS}/\sqrt{n-1}$ correspond to what are often called loadings in factor analysis. Our aim is to reduce the dimensionality of $\mathbf{X}$ from p to $k < p$. Thus, we select the first k columns of $\mathbf{U}$ and the $k \times k$ upper-left part of $\mathbf{S}$. The product $\mathbf{U}_k\mathbf{S}_k$ is the new $n \times k$ matrix containing the first k principal components. Substituting them into (1) and choosing the corresponding $\mathbf{V}_k$ yields

$$\mathbf{X}_k = \mathbf{U}_k\mathbf{S}_k\mathbf{V}_k' \tag{2}$$

which reconstructs the original data with k principal components. It is of size $n \times p$ but now is only of rank k. It has the lowest possible reconstruction error (see the well-known Eckart-Young theorem; Eckart and Young 1936). We now replace the p variables in $\mathbf{X}$ with the reduced set of k variables in $\mathbf{U}_k\mathbf{S}_k$. We choose $k = 2$ based on both interpretability and a statistical criterium, namely



	Correlation of covariates with	
	Axis 1	Axis 2
GDP	−0.73	−0.55
Unemployment	0.94	−0.12
Inequality	0.92	0.27
Poverty	0.90	0.33
Debt	0.06	0.92
Deficit	−0.23	−0.90

Figure B.1: Country positions on two principal axes and their correlation with original covariates

the number of eigenvalues greater than 1 (Jolliffe 2002). The eigenvalues in our decomposition are: $(3.84, 1.44, 0.32, 0.21, 0.15, 0.04)$, which clearly suggests to set $k = 2$. A two-dimensional solution captures 88% of the total variability in $\mathbf{X}$. Figure B.1 shows the position of countries on this two-dimensional vector, as well as the correlation of each column of $\mathbf{X}$ with it.

Finally, we want our newly created variables to capture the part of country differences in economic and budgetary performance which is not caused by economic strategies z (which will be included in the model as well). More precisely, we require $\mathbf{U}_k\mathbf{S}_k \perp z$, which we achieve by residualizing them

$$\mathbf{U}_k\mathbf{S}_k - E(\mathbf{U}_k\mathbf{S}_k|z). \tag{3}$$

B.2. Prior choices and sensitivity checks

The variance of individual-level residuals is unit-normal $\epsilon_{ij} \sim N(0,1)$ and fixed to identify the scale of the probit model. For all other parameters in our hierarchical models we specify "non-informative" priors. We use regression-type priors for coefficients: $\forall k : \beta_k \sim N(m_0, v_0)$ for individual-level covariates and $\forall k : \gamma_l \sim N(m_1, v_1)$. for macro-level covariates. The variance of random effects is distributed $\sigma^2_\alpha \sim G^{-1}(a_1, b_1)$. Table B.3 column (P1) below shows the parametrization of hyperparameter values. We also conduct prior sensitivity checks studying if or how much our results depend on prior choices. Two sets of hyperparameter values are given in columns (P2) and (P3): in the former we lower the a priori variance of coefficients (putting more weight on zero), in the latter we use a different parametrization of the random effects variance. The final column shows the maximum difference between coefficients in our original model and the sensitivity analyses. We find that our results are not substantively affected by prior choices.

Table B.3: Priors

Parameter	Hyperparameter values P1	P2	p3	MaxΔ[a]
$\beta_k \sim N(m_0, v_0), k = 1, \ldots, K_x$	$m_0 = 0, v_0 = 100$	$m_0 = 0, v_0 = 10$	$m_0 = 0, v_0 = 100$	0.001
$\gamma_k \sim N(m_0, v_0), k = 1, \ldots, K_z$	$m_0 = 0, v_0 = 100$	$m_0 = 0, v_0 = 10$	$m_0 = 0, v_0 = 100$	0.006
$\sigma_\alpha^2 \sim G^{-1}(a_1, b_1)$	$a_1 = 1, b_0 = 0.005$	$a_1 = 1, b_0 = 0.005$	$a_0, b_0 = 0.001$	0.001

Note: P1 are hyperparameter values used in main text.
[a] Maximum of pairwise differences of all coefficients between P1 and P2 and P3.

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