Cultural Differences and Institutional Integration☆

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ABSTRACT

If citizens of different countries belonging to an economic union adhere to different and deeply rooted cultural norms, when these countries interact they may find it impossible to agree on efficient policies, especially in hard times. Political leaders are bound to follow policies that do not violate their country's cultural norms. This paper provides a simple positive theory and a compelling case study of the Euro area crisis to highlight the importance of cultural clashes when economies integrate. We also provide a normative argument about the desirability of institutional integration: a political union, with a common enforcement agency, is the more beneficial the greater is cultural diversity in an economic union.

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'Europe will be forged in crises and will be the sum of the solutions adopted for those crises' (Jean Monnet).

1. Introduction

Over the past 20 years there has been a remarkable increase in economic unions and trade integration driven by the prospect that integrating countries would benefit from economies of scale and access to a larger market. This process has taken a variety of forms. Some, like the proliferation of bilateral trade agreements, are relatively contained in scope. At the other extreme, economic and currency unions, such as those set up by the Caribbean countries and most notably by the Euro area countries, have far reaching implications for the nature of the interactions in the merged pool of heterogenous populations. These latter agreements can be viewed as part of a process that leads geographically close but still institutionally and culturally different countries to allow their people to interact with each other at many levels while each country maintains political control and sovereignty. This implies that national governments are in charge of and are responsible for macroeconomic decisions and outcomes. A step further in the integration process is to

delegate some of the power of the national governments to federal institutions designed to manage the decision process of area-wide relevant issues.[1]

In this paper we study the problem faced by two countries that are culturally distant from each other and face the opportunity to join a union. We will call *economic* union any economic integration where constraints to international exchanges and relationships are lifted, but no power is given to any central institution in terms of fiscal policy, political decisions, regulations, etc.; we will call *political* union, a union where every citizen of the various countries in the union comes to consider the central institutions as the only relevant one vis-a-vis key policies of relevance for the whole union, eliminating continuous negotiations between the leaders of the members of the union.

Following Guiso et al. (2006) we define "culture" broadly as a set of norms and beliefs that guide the behavior of the members of a social group and that are transmitted fairly unchanged from generation to generation. This definition captures a key feature of these values and beliefs: their slow moving nature. We argue that an economic union offers great prosperity opportunities for each side but also entails the risk of exposing their populations to a "clash of cultures" — i.e. a conflict arising from the interaction of people with different cultural values. The contrast we describe happens at the level of private interactions between

[1] Switzerland is an example of such a political integration arrangement: a set of culturally distinct countries (the cantons) share a common currency and a common market while federal institutions are designed to manage area relevant decisions, including the re-composition of conflicts that the different cultures may give rise to (Bertola, 2014).

individuals as well as at the level of political leaders that must conform to the cultural norms and beliefs of their electorate: leaders cannot pursue strategies that go against deeply rooted norms and beliefs even when doing so could be welfare-improving for their citizens[2]. This *conformity constraint* becomes salient in particular when leaders of two countries with different cultures come to negotiate about policies or rules that do not fit well with some traits of their original cultures. The possibility that the optimal course of action entails policies welcomed by one electorate but opposed by the other on cultural grounds, is a major political impasse which we denote as *cultural clash*. As noted in Huntington (1996), cultural conflict is one of the most important types of conflict to consider going forward, and our goal is to examine how it interacts and evolves with economic integration and institutional development.[3]

We develop a simple evolutionary theory of culture formation in order to evaluate what happens when two countries, on different cultural steady states, merge into an economic union. When the two economies merge, the primary problem is the clash between citizens and conforming leaders of different cultures. We show how the choice itself of the level of economic integration depends on the cultural distance and on the business cycle. In particular, we show a successful economic union may be formed when economic benefits from integration are relatively large and cultures not too distant. Furthermore, while the formation of an economic union (*without* common institutions) may be the optimal outcome initially, if the ex-post realization of the economic benefits is lower than initially anticipated – i.e. a "crisis" realizes – then the cultural clash may surface. In fact, the generalized loss of welfare due to the clash, which is increasing in the degree of cultural heterogeneity, becomes more salient during bad economic times and cannot vanish rapidly given the inertia of cultural norms. In such circumstances countries may reconsider participation in the union, facing the choice of either breaking up and reverting to autarchy or otherwise providing it with a set of federal institutions that grant greater political integration. The latter solution, we show, is more desirable the higher is the cultural distance, or the costs of the clash, and thus the benefit of mitigating it. Thus, for instance, the fact that Europe has countries with more heterogeneous cultures than it was the case for individual states within the US at the time of the US Constitution should push towards an a *fortiori* argument in favor of centralization, rather than the other way round, which is more the common sense.

Our view of the cultural clash and its consequences for the debate about new institutions has a clear application to the Euro crisis context. In Europe, a greater frequency and salience of principal agent relationships between individuals or agencies rooted in different cultures was clearly determined by the lower transaction and mobility costs associated to the introduction of the common currency. Merging into an economic union carries benefits in terms of enlargement of the total available opportunities due to economies of scale and scope (see e.g. Baldwin, 2006) which translate in larger (expected) payoffs to interacting parties. The cost is the potential exposure to a cultural clash which increases with the cultural distance between the merging countries. The discovery in October 2009 that the previous Greek government cooked the books, hiding half of the government fiscal deficit, raised the awareness in Germany about the pervasiveness of moral hazard at all levels in Greece, and the anger led to a clear desire to punish. According to various observers, early action would have contained the crisis both in scope and length, but the culture of responsibility,

enforcement and punishment present in Germany made it almost impossible even for the political leaders to go against that sentiment and help the situation right away.

German political leaders are well aware of the dangers of delaying the resolution of a local debt crisis, and can foresee the possible consequences of the "punishment" strategy for their own country, but are bound by a conformity constraint: the need to conform with the widely shared and deeply rooted cultural norms of their fellow citizens that, as we document in detail in the paper, establishes punishment of the group "cheaters", which in this case happen to be the Greeks.[4]

One of the messages of this paper is that if an economic union is complemented by forms of political union, then we should expect much better management of cultural clashes. Indeed, a political union entails the creation of some type of central authority that by definition eliminates the game between sovereign states, freeing them from the conformity constraint and overcoming the materialization of the cultural clash. Put differently, the central authority is not bound to any of the sovereign cultures and would thus avoid reliance on excessive punishment as well as excessive moral hazard, softening the costs of the cultural clash.

The choice to form an economic union in Europe rather than a political union is now being criticized on multiple grounds, but the importance of managing cultural clashes is an important and largely overlooked problem. Culturally heterogeneous countries economically united without joint political and legal institutions are more clash prone and this clash becomes more intense and apparent in times of crisis. The sequential integration choices in Europe as well as other monetary unions such as the African Monetary Union project[5], are far from ideal and can only be explained by a reluctance to lose sovereignty by the individual states.[6]

In our model we treat agent interactions not as symmetric bilateral *exchanges,* but as principal–agent interactions, thus highlighting the counterparty risk. In fact, these are the type of interactions where the cultural traits we want to highlight matter the most. A culture is represented in our framework as "what strategies people play when they interact." This way we capture the notion developed in North (1991), that culture constrains human interactions when cooperation is hard to achieve. The focus on interactions allows us to trace the evolution of culture using replicator dynamics (as in Boyd and Richerson, 1985, 2005).[7] Given this view of an economy as a collection of principal–agent relationships (state vs. tax payer, bank vs. borrower, firm vs. employee, etc.), we model interactions as sequential move games where the agent can cheat and the principal can punish, and the cheat-punish outcome is always suboptimal. We show that evolution can bring a population to multiple steady states with low or high levels of efficiency, cheatforgive and no-cheat respectively. Our focus is on what happens when two populations acting in accord to different steady states representing different cultural norms integrate into one economy. In this case the integrated economy faces a cultural clash, which takes the form of a cheatpunish outcome in many interactions, an outcome not observed in the

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[2] Microfounded models of political pandering have been formalized extensively in political economy (see e.g. Maskin and Tirole, 2004). We do not microfound the conformity constraint of the politicians in this paper.

[3] For example, it would be very difficult for India's leaders to pass a law that forces Indian food firms to produce beef formula when a famine hits the country. Even if political representatives knew this may be the best policy from a nutritional point of view, it would simply fail to pass or, even if passed, it would fail to succeed because it would not be followed by most of the people. Anticipating this reaction, the leader would just avoid proposing it and pander to the prevailing public opinion.

[4] Some political leaders may try to ease the conformity constraint by steering public opinion, but this usually takes time, which unavoidably delays action.

[5] The 1991 Abuja treaty created the African Economic Community and called for an African Economic Community (AEC) with a single currency, now planned for 2023. The AEC would absorb the two regional currency unions in Africa (the West African CFA franc and the Central African CFS franc), an example of staged integration.

[6] The current political debate in Europe is consistent with the implications of the theoretical model. During the unfolding of the sovereign debt crisis in the euro area the creation of a more integrated fiscal union has gained momentum as a policy option (see, e.g. Marzinotto et al., 2011 and Ferguson and Barbieri, 2012). Most interestingly, in reaction to the crisis, in January 2014 the EU has decided to adopt a single banking supervisory mechanism and a single banking crisis resolution authority - what is called the banking union. Though the scope and reach of this institution is still being hotly debated, its adoption is exactly what our model captures when predicting the adoption of a single enforcement federal authority, in the direction of a political union.

[7] We ignore instead the evolution of individual values that does not relate directly to behavior in strategic situations. For models on the transmission of individual values, see Tabellini (2008b), Bisin and Verdier (2000b, 2001), Guiso et al. (2008), possibly accounting for learning through socialization (Bisin and Verdier, 2000a,b).

steady state of a culturally homogeneous country. The normative results we derive are based on a key aspect of cultural norms. That is, cultural norms evolve very slowly compared to the speed of change of formal institutions, particularly those related to governance (Williamson, 2000): while culture evolves gradually institutions can jump. This feature is what makes the creation of a new institution a viable response to mitigate a cultural clash, which would otherwise persist in time.

The paper is organized as follows. In Section 2 we discuss the relationship with the literature. In Section 3 we develop our evolutionary model of culture in any economy, our theory of the cultural clash and highlight the incentives to form new and common institutions at the cost of loss in sovereignty. In Section 4 we apply the model to interpret the recent Euro area history focusing on the cultural clash between Greece and Germany. Section 5 concludes.

2. Relation to the literature

This paper is related to several strands of literature. First, it contributes to a burgeoning set of studies on the role of culture in explaining differences in economic prosperity across countries and communities (see among others Greif, 1994; Landes, 1999; Mokyr, forthcoming; Tabellini, 2008a; Guiso et al. (2004, 2013); Gorodnichenko and Roland, 2011; and Nunn, 2012). These papers rely on the persistence of culture to explain enduring effects of old historical episodes on current differences in economic success. While we retain cultural persistence, we focus on the role that slow-to-change cultural norms and beliefs can play in dealing with shocks that are likely to occur at the business cycle frequency. Hence it bears a link with the few papers that have attempted to insert culture into macroeconomic models (e.g. Akerlof, 2007) or test empirically whether culture can be a cause of macroeconomic imbalances (Buetzer et al., 2012). Furthermore, while most of these papers view cultural norms as affecting economic prosperity because they support cooperation and thus facilitate exchange among people (e.g. Tabellini, 2008a; Guiso et al., 2004, 2013; Landes, 1999), or because they enhance individual motivation (Gorodnichenko and Roland, 2011), or because they dictate directly individual behavior (Akerlof, 2007), in our case cultural norms affect macroeconomic outcomes because they are a constraint on policy makers and institutions, limiting their freedom to adopt the best policy in the given circumstances. This is a clear example of the more general view that we propose, that cultural norms can be a potentially important source of friction in political economy. These frictions need to be studied even if one had the general belief that the main source of cross country differences in prosperity stem from differences in institutions design (see e.g. Acemoglu and Robinson, 2012): in fact, the type of problems we identify and deal with relate to the consequences, rather than the causes, of cultural clashes. Our contribution highlights how cultural clashes can result in changes in sentiments towards other groups and nations. We show that the Greeks cheating behavior triggers a desire to punish them among the Germans that was absent before the Greeks cheated; in turn, Germany punishing behavior triggers resentment among the Greeks who expect forgiving. These changes in sentiments are the manifestation of the clash between different and unadapted cultural norms. Indeed, we use changes in sentiments to document the clash of cultures.

Second, our work relates to various papers that rely on cultural distance to explain patterns of international trade (e.g. Guiso et al., 2009; Fisman et al., 2012). We highlight the fact that the conformity constraint is more likely to be identified when two (or more) cultures are merged – as when a pool of countries decide to enter an economic or monetary union – and thus a cultural clash can occur and become visible.

Third, the paper relates to a number of contributions that study the interplay between cultural norms (informal institutions) and legal norms (formal institutions) and their mutual influences. Several papers stress the fact that culture and legal institutions tend to coevolve (Tabellini, 2008b; Gorodnichenko and Roland, 2016; Bisin and Verdier,

2012). In our model too in the long run institutions and culture may move together, but the process may be far from smooth. In our model institutions can change discretely — or at least at a much faster speed than culture. Hence, they may adjust in response to a potentially harmful cultural clash when a culturally heterogenous community is hit by a shock. Culture may subsequently and slowly adapt, possibly affected by the new institutional set up.

Finally, our contribution is related to the literature on the formation and integration of states. As in the literature on the formation and integration of states (Alesina and Spolaore, 2003 and Spolaore, forthcoming) we also emphasize the tradeoff between economies of scale from merging economies and the costs of combining heterogeneous populations (in our case heterogeneity in cultures). We argue that the desire to improve the terms of this trade off provides a basis for a novel argument in favor of a political/fiscal union. Fiscal union can be beneficial for a variety of reasons; because it may produce greater equality (Morelli et al., 2012); because it provides stability and insurance (e.g. Luque et al., 2014; Fahri and Werning, 2012); or because it may have a discipline effect — in the sense that when the policy is conducted at the union level the scope for local moral hazard by the participant countries is reduced. We stress instead that a fiscal union, much like a banking union or any other centralization of governance or harmonization of rules, would play an important role in tempering and managing frictions in a culturally non homogeneous community that is already bound by a single currency or a free trade agreement. Said differently, faster to change institutions can be the solution to the costs imposed by slow to adjust cultural norms in response to a change in the environment.

3. Theory

3.1. The role of culture

We develop a simple evolutionary theory of the integration of cultures and institutions. In the long time frame we consider, institutions are malleable and can be potentially adjusted while cultures have inertia. There is evidence that: (1) culture evolves slowly;[8] (2) different cultures can (and often must) coexist.[9] We adopt a simple evolutionary model where indeed (1) cultures, simply defined as profiles of strategies in an economy, evolve slowly and (2) may have to coexist. In particular, (1) is achieved by assuming that behavior adjusts following replicator dynamics, as in Boyd and Richerson (1985, 2005). In our setup, as in many others with different frictions (see e.g. Tabellini, 2008b), the presence of different cultures is described as different steady states in the evolutionary process.

While there are many models of multiplicity of cultures as multiple equilibria or multiple steady states, the first innovation here is that we ask what happens when two different cultures have to "merge", for example due to an economic or monetary union between countries. Our broad view is that while cultures of countries evolve slowly hence this merge of culture alone generates a cultural clash, the leaders of countries with different cultures have the ability to *agree* on a change of institutions. The new institutions have the potential to change fairly

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[8] A growing literature provides models of how culture is transmitted and why it persists. In Bisin and Verdier (2000a) cultural transmission is explained by parents' desire to transmit to their children their own traits. Tabellini (2008b) identifies the source of cultural persistence in the fact that parents use their own preferences in deciding which set of values to instill in their children. Guiso et al. (2008) model persistence in trust beliefs as opposed to norms. A parallel empirical literature documents the persistence of cultural attitudes over several centuries by showing that current cultural traits are correlated with long-gone historical episodes (Nunn and Wantchekon, 2011; Voigtländer and Voth, 2012; Grosjean, 2011; Alesina et al., 2011; Guiso et al., 2013) or across three or four generations (e.g. Tabellini, 2008a), Algan and Cahuc (2010).

[9] Coexistence of cultures is a common phenomenon documented for many countries. A few examples are the US "melting pot", modeled in Bisin and Verdier (2000a), Switzerland multiple religions (Basten and Betz, 2012), Italy's north–south cultural divide (Putnam et al., 1993).
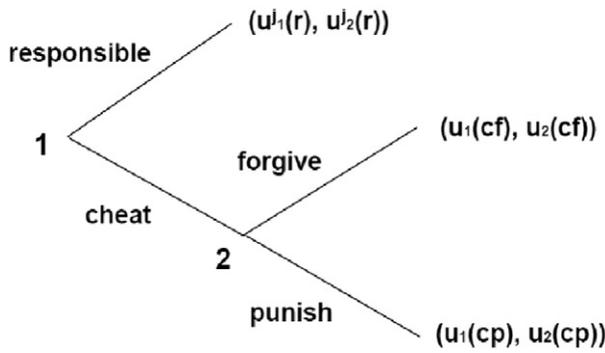
Fig. 1. Basic game structure.

quickly and ideally mitigate the effects of the clash due to the merging of cultures.[10]

Our leading example is the Eurozone: the creation of the Eurozone is a shock to the type and frequency of interactions among agents with different cultures. In particular, we take Greece and Germany as the most salient exponents of two opposing cultures, and we will later document the cultural clash between them and its consequences. Additional national or international institutions might help mitigate this clash, as we will argue.

3.2. The economic interactions

We describe an economy as a set of bilateral interactions between pairs of agents that are programmed to play specific strategies. We assume that an economy is described as a set of bilateral principal–agent transactions, as in North (1991). In each match of two players, there is one having to choose first between a *responsible action* (e.g. when an agent chooses the action desired by the principal without moral hazard or simply when an agent decides to respect the law) and a *cheating action* (e.g. when an agent shirks or falls for the temptation of short run gains); then the second player (a principal or a counterpart in a contract of whatever kind or the State itself) having to decide (or implementing) a reaction, which we describe by the choice between *punishment* and *forgiveness*. We divide the many types of private exchanges and public relationships that constitute an economic system in two sets $j = A, C$, described below. The representation (see Fig. 1) of the basic principal-agent interaction for every type of game j is as follows:

Assumption 1. $u_1(cp) < u_1^j(r)$; $u_2(cp) < u_2(cf) < u_2^j(r)$.

The first part of assumption 1 states that for any agent in any game the utility of cheating and being punished is always lower than the utility of a responsible action, an assumption necessary in order to make the punishment action payoff relevant. The second part of assumption 1 states that for a principal punishing is costly and, of course, the utility of a responsible action by the agent is higher than the utility of forgiving a cheating action.

What remains unspecified is the relationship between $u_1(cf)$ and $u_1^j(r)$. We assume that $u_1^j(r)$ varies with the type of game j:

$$u_1^C(r) < u_1(cf) < u_1^A(r).$$

That is, we distinguish between:

1. Aligned-interest games (*A* games, henceforth) where $u_1(cf) < u_1^A(r)$; and

2. Cheating-prone games (*C* games, henceforth), where $u_1(cf) > u_1^C(r)$.[11]

Economies can differ in terms of the fraction and relative importance of A trades with respect to C trades: denoting by $\theta \in (0, 1)$ the fraction of A trades, an economy with a higher θ is less exposed to the consequences of moral hazard compared to an economy with a lower θ. In a given economy, the frequency of C trades and A trades depends, intuitively, on the state of the economy: when things go well and the economy is in a boom, there are more opportunities and hence higher opportunity costs of cheating. So our premise is that θ is larger in good times. However, the incentive to cheat tends to be higher when opportunities of enrichment are lacking from the market. Thus, we will assume that θ is positively correlated with the business cycle. In other words, the scope of cheating grows during crises.[12]

Type *A* games trivially lead to responsible actions in every culture: the unique equilibrium outcome is r. Given assumption 1, *C* games have two Nash Equilibria: The first Nash Equilibrium, (c, f), is subgame perfect; the other equilibrium, (r, p), is not subgame perfect as it involves the commitment by player 2 to punish the cheating action of player 1. Responsible actions are in most interpretations associated with higher total welfare, hence we assume that:

Assumption 2. $\sum_i u_i(cf) < \sum_i u_i^C(r) < \sum_i u_i^A(r)$

The unique Subgame Perfect Nash Equilibrium in a *C* game in the absence of commitment is suboptimal in the utilitarian sense. The equilibrium (c, f) is preferred by a player in role 1, but it does not maximize total welfare. We think of different cultural values as crucial ingredients that may generate different equilibria. In particular, certain cultural values may generate the ability to commit to enforce contracts, laws and responsibility, hence allowing to achieve the higher welfare Nash Equilibrium. As standard in the literature, we consider different cultures as different equilibria. In what follows our notion of equilibrium will be evolutionary stability.

3.3. Culture-based selection

We analyze the evolution of strategies in *A* and *C* games starting from any initial condition, i.e. starting from any set of initial strategies according to standard replicator dynamics. Consider first an economy in isolation. Suppose that such an economy is large, in the sense that there are a large number of random matches between players, and in every such random match one player is in the position of player 1 and the other one in the shoes of player 2. Pairs of individuals, one from the population of agents (role 1) and one from the population of principals (role 2), are randomly matched to play the game above. Each individual is programmed to play one of the two pure strategies available to her. Denote by $x \in [0, 1]$ the fraction of first movers programmed to play Cheat, and by y the fraction of second movers programmed to play Forgive. A state of the world is fully characterized by the population split (x, y). Starting from any initial population split (x, y), we want to see how this population split evolves over time and whether it converges to a steady state. The replicator dynamics logic implies that for any given population split (x, y) the proportion of individuals playing Cheat (x) increases if and only if

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[11] Some bilateral relationships are more cheating prone than others: incentive to cheat on taxes or free riding on contributions greatly vary across cultures and levels of institutional enforcement, but the moral hazard temptation is often there. In private exchanges of observable goods or services the gains from trade are more symmetric, and hence alignment of interest in exploiting the gains from trade tends to prevail. Borrowing money and effort provision by employees are part of private exchanges that are sort of in between, in the sense that there is an element of gains from trade and an element of moral hazard opportunity, which once again may vary with culture and with institutional enforcement.

[12] Several papers document a countercyclical behavior of criminal activities broadly defined (e.g. Cook and Zarkin, 1985; Fougère et al., 2009; Raphael and Winter-Ebmer, 2001) and some are able to show a causal effect of a deterioration of economic opportunities on dishonest or illegal activities (Bignon et al., forthcoming).

the average payoff to playing Cheat is larger than the average payoff of first movers. Namely, evolutionary dynamics assumes that individual-types that are fitter than average types thrive, and conversely. More precisely, the relative change in x is proportional to the fitness of the strategy Cheat, i.e. the difference in payoffs between Cheat and the current average payoff of first movers, namely

$$\frac{\dot{x}}{x} = (u_1(cf)y + u_1(cp)(1-y)) - \left(u_1^j(r)(1-x) + u_1(cf)xy + u_1(cp)x(1-y)\right)$$

Likewise, according to replicator dynamics the relative change in y is proportional to the fitness of the action Forgive relative to the average fitness, namely:

$$\frac{\dot{y}}{y} = \left(u_2(cf)x + u_2^j(r)(1-x)\right) - \left(u_2^j(r)(1-x) + u_2(cf)xy + u_2(cp)x(1-y)\right)$$

where the first term is the payoff of Forgive against a proportion $(x, 1-x)$ of first movers, the second is the average fitness or payoff of the population $(y, 1-y)$ against a proportion $(x, 1-x)$. Normalizing, without loss of generality, $u_i(cp) = 0 \; \forall i$, the system can be written as

$$\frac{\dot{x}}{x} = \left(u_1(cf)y - u_1^j(r)\right)(1-x), \quad \frac{\dot{y}}{y} = (u_2(cf)x)(1-y)$$

Starting from any initial interior population split (x_0, y_0) the system evolves in the following way: y is non-decreasing always, x decreases (and eventually reaches zero) as long as $y < \bar{y}^j$, with $\bar{y}^j = u_1^j(r)/u_1(cf)$, otherwise x increases (and eventually reaches one) if $y > \bar{y}^j$. In words, *a high enough population of Forgivers makes the Cheaters survive and thrive, a high enough population of Punishers makes the Cheaters die and the Responsible thrive*. Note that $\bar{y}^C \in (0, 1)$ and that $\bar{y}^A > 1$, hence:

Lemma 1. *For each economy in isolation there are two types of steady states in C games.* **Steady state 1:** *all Cheaters and Forgivers ($x = 1$, $y = 1$); and* **Steady state 2:** *all Responsible first movers and a mass $(1-y_2)$ of Punishers: $x = 0$, $y_2 \in [0, \bar{y}^C]$. In A games only* **Steady state 2** *exists.*

Proof. Omitted. ∎

To understand the above result, note that any mutation in a population that arrived to steady state 1, e.g. a small percentage of Punishers or of Responsible agents, would die out. Similarly, any mutation in a population that arrived to steady state 2, e.g. a small percentage of Cheaters first movers would die out because they faced costly Punishment (this punishment is costly to the second movers as well). The Fig. 2 below
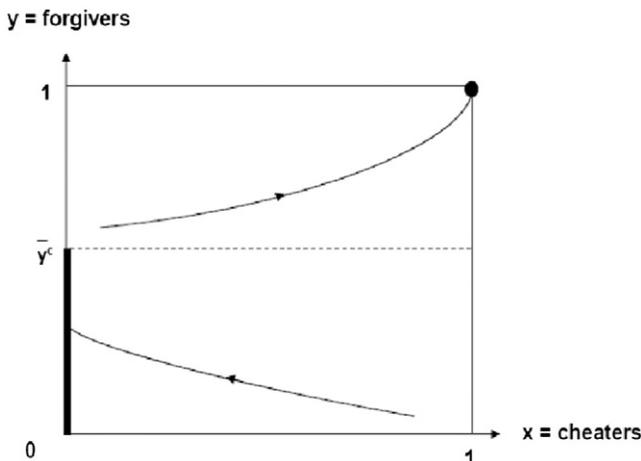

Fig. 2. Evolutionary dynamics and steady-states.

is an illustration of the evolution and of the two types of evolutionary stable equilibria for C games (in which $\bar{y}^C \in (0, 1)$)

For A games there is only one type of equilibrium, as can be seen because the horizontal boundary $\bar{y}^j$ (dashed line) for $j = A$ lies above 1.

Summarizing the above analysis, if a first mover is presented with an A type interaction, he always acts honestly regardless of the second mover response. In steady state, if a first mover is presented with a C type interaction he may act differently depending on the environment: the propensity of an agent whose economy has converged to steady state 2 is to act honestly and the propensity of an agent whose economy of observation has converged to steady state 1 is to cheat. This is supported by the different propensities of second movers to punish in different cultures, as prescribed by the different evolutionary stable strategies in C games. The different steady states represent different cultures that may prevail in different countries. In particular, we think of steady state 1 as the "Greek steady state" characterized by cheating and forgiving and of steady state 2 as the "German steady state" characterized by a high level of punishment and no cheating.

3.4. Merging cultures: economic union

We want to analyze here the welfare effects of an economic union, as when countries, such as Greece and Germany for instance, decide to join a new single currency area. This situation corresponds to one in which transactions between players (agents and principals) of two countries previously isolated (or with large frictions making cross-country matches unlikely or undesirable) become all of a sudden much more frequent. Our first goal is to understand what happens when interactions between agents of these two culturally different countries emerge in the absence of new institutions appropriately created to regulate or mediate these new interactions.

We label with superscript $k = 1, 2$ the country which converged to steady state k in the C game, i.e. the country with culture k. Namely, think of Greece as country 1 and Germany as country 2, for instance. The cultural diversity between the two economies that reached the two different steady states in C interactions can be defined as $D \equiv (1-y_2)$. When the two economies are separate, their welfare is

$$U^1 = \theta\left(u_1^A(r) + u_2^A(r)\right) + (1-\theta)(u_1(cf) + u_2(cf))$$

$$U^2 = \theta\left(u_1^A(r) + u_2^A(r)\right) + (1-\theta)\left(u_1^C(r) + u_2^C(r)\right)$$

Lemma 2. *For any $\theta \in (0, 1)$: 1. $U^2 > U^1$; 2. $\frac{dU^k}{d\theta} > 0 \quad \forall k$; 3. $\frac{d(U^2 - U^1)}{d\theta} < 0$*

Proof. Omitted. ∎

Consider now the problem of merging the two economies. The matches between players of different cultures may provoke what we call a *cultural clash*: when an agent coming from culture 1 interacts with a principal from culture 2, and they match up in a C game, their actions clash, generating an inefficient cheating and punishment outcome. This outcome is costly for both players and yields the worst possible outcome. We characterize now the total welfare from integration.

Proposition 1. *The total welfare from an economic union decreases with: cultural difference D; the frequency of C games $(1 - \theta)$; and, if $N^2 > N^1$, the relative size of the populations N^1/N^2.*

Proof. See Appendix A. ∎

This simple result establishes that the cultural clash due to economic integration of countries is costly, and it qualifies when it is more costly. The cultural clash is stronger the greater the cultural difference between countries 1 and 2, as it generates more Cheat-Punish welfare reducing

matches. Moreover, the cultural clash between 1 and 2 is exacerbated during bad times when the cheating prone *C* matches become more frequent. [13]

Economic integration of countries 1 and 2 typically generates a surplus due to additional gains from trade. Only if there is an enlargement of the total available opportunities due to economies of scale or scope, can both countries enjoy mutual benefit from merging the economies. The surplus boost from the economic union can be easily modeled with a surplus multiplier parameter (say, $\lambda > 1$, which has the effect of scaling up the payoff from cross country interactions.[14] The presence of a surplus multiplier ($\lambda > 1$) mitigates the effect of the cultural clash as it enhances payoffs when the clash does not arise, while not mitigating the frequency of the clashes. Absent this additional surplus creation, forming an economic union would make sense possibly for country 1 (Greece), but not for country 2 (Germany). Namely, it is easy to show that if an economic union does not imply additional surplus ($\lambda = 1$), then the citizens of 1 are the only ones that may benefit from the union.[15]

3.5. From culture to institutions: political union

We assume now that the different cultures translate into different institutions in countries 1 and 2. In particular, culture 1 with higher forgiveness (Greece) breeds institutions with looser rules and/or less efficient enforcement of these rules, while culture 2 of higher punishment (Germany) breeds institutions with stricter rules and/or more stringent enforcement of these rules.[16] In each country the principal is now the government who sets its own institution according to the prevailing culture in his country. Hence, the two different *institutions,* corresponding to the previously described steady-states 1 and 2, are:

$$I_1 = 1, \qquad I_2 = y_2.$$

If in country *k* the government's enforcement of punishment is relegated to its corresponding institution I_k[17] then the evolution of the propensity to cheat *x* can be written as

$$\frac{\dot{x}}{x} = u_1(cf)\left(I_k - \overline{y}^j\right)(1-x)$$

Namely, the level of punishment by the principal is replaced by the country-specific institution I_k. The two different institutions I_1 and I_2 have impact on economic outcomes in C games but not in A games, as respectively:

$$\overline{y}^A \geq 1 \geq I_k, \qquad I_1 \leq \overline{y}^C \leq I_2$$

Hence in C interactions the evolution of the propensity to bypass the rules *x* is different in countries 1 and 2. That is, cheating behavior in bad times may thrive ($x^C \to 1$) in Greece where institution $I_1 = 1$ is characterized by leniency and low enforcement of rules, but not in Germany

where institution $I_2 = y_2$ is characterized by a higher level of punishment/enforcement causing cheaters to disappear in the long run ($x^C \to 0$).

An economic union involves a slow and costly adjustment process, due to the fact that *agents* country 1 may clash in C games with *institutions* of country 2, and vice versa. Therefore an agreement that replaces the local institutions with a new set of appropriately designed institutions is desirable to mitigate the clash. A *political union*, involves the creation of new institutions which, among other functions, have the crucial role of enforcement authority. The extent of such authority should be agreed upon by all member countries in the political union.

We show that countries 1 and 2 would benefit from choosing a political union with a *joint intermediate institution I′*, providing a level of punishment/enforcement intermediate between the two countries. Political union may be beneficial even if the new authority entails a cost $S > 0$ which can be thought of as both the cost of creation of such an institution and the cost of lost sovereignty.[18] The higher the initial cultural difference *D*, the greater the space of parameters where an authority with exogenous forgiveness *I′* can be beneficial.

Proposition 2. *(I) A necessary condition for two countries in an economic union to prefer the creation of a new enforcement authority I′ is $I' \geq y_2$. (II) Conditional on adding a common enforcement authority $I' \geq y_2$, the utilitarian welfare of such an institutional addition is increasing in $(1 - \theta)$ and in the cultural distance.*

Proof. See Appendix A.   ∎

The above proposition avoids making precise statements about what the "optimal" institution *I′* is, whenever there exist conditions for the desirability of a common enforcement authority. In fact, such an "optimal" institution depends on several factors, such as the importance of the long run versus short run or the discount factor. Given the evolution of *x*, i.e.,

$$\frac{\dot{x}}{x} = u_1(cf)\left(I_k - \overline{y}^j\right)(1-x)$$

the dependence of the optimal institution on θ is clear: In bad times $\overline{y}^C (<1)$ matters more frequently, hence the ideal institution is $I' = \overline{y}^C$, as this institution mitigates the clash (short run concern) while at the same time preventing cheating behavior *x* from growing to the inefficient steady state 2 (long run concern). In good times $\overline{y}^A (>1)$ matters more frequently, hence the cheating rate *x* drops to zero regardless (steady state 2) hence there is no long run concern, but milder institutions that mitigate the (less frequent) clash today also affect the speed of convergence to steady state 2.

3.6. Discussion: which union is preferable?

The advantage of a newly created institution is that it guarantees a mutually agreed upon enforcement level, such that clashes between agents of country 1 following cultural norm 1 and institutions of country 2 based on cultural norm 2 can be mitigated, and conversely.[19] Of course, the main cost of a supra-national institution is a partial loss of sovereignty. If θ is expected to be high (good economic perspectives), the cultural clash, which applies to *C* games only, is unlikely to worry

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[13] Thirdly, the welfare improves the larger N^2/N^1, as long as $N^2 > N^1$. If on the contrary $N^2 < N^1$, then increasing N^2 while improving responsible actions, exacerbates the cultural clash (i.e. the frequency of cheat-punish matches) hence may reduce welfare.

[14] Alternatively we could assume that not only the cross-country ones but all interactions are scaled up with the union. This would not change our results.

[15] Intuitively, from matching with a first mover from a responsible culture in a *C* game, a principal from the opposite culture always benefits with respect to "matching at home"; but matching with principals with the punishing culture the agents from a cheating culture suffer an expected punishment loss, which is smaller the more lenient are the institutions and private agents of the responsible culture.

[16] This assumption can be seen, for instance, as a reduced form of a full fledged model where parents choose optimally the cultural norms to transmit to their kids given the amount of enforcement chosen by the available institutions and the latter is chosen through voting, given the prevailing norms. Tabellini (2008b) shows that in equilibrium communities with strong norms of cooperation choose high level of enforcement, and vice versa, in communities with high enforcement (strong institutions) families choose tight norms of cooperation.

[17] This idea of people from one culture clashing with mis-matched institution links closely with the work on identity (see Akerlof and Kranton, 2000).

[18] The literature in political economy is full of seminal works emphasizing the importance of strategically targeting different groups in society — see e.g. Lindbeck and Weibull (1987), Dixit and Londregan (1995), Lizzeri and Persico (2001). Giving up fiscal policy determination is therefore costly for politicians.

[19] Another argument for a more integrated union that comes out of this framework is a reduction in the number of bilateral relationships that need to work out. If, e.g., we have N principals and one agent, and some distribution of cultural norms across principals, then mechanically the likelihood of a cultural clash increases with N. Instead, in a political union there is only one principal. We thank an anonymous referee for pointing this out.

Table 1

Greece and Germany: cultural difference.

The table documents differences in a set of cultural traits between Germany and Greece. Panel A shows three measures of civic values (attitudes towards: a) claiming government benefits one is not entitled to; b) avoiding a fare on public transport; c) cheating on taxis); three measures of cultural traits adopted by Tabellini (2010) and a belief measure of culture (generalized trust towards fellow citizens). All these measures are obtained from the 1999–2000 World Values Survey (WVS). The measures of civic values are the answers to the question "Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between". Answers are on a scale between 1 and 10, where 10 means never justified and 1 always justified.

"Obedience", "Respect" and "Unselfishness", are the fraction of respondents that mention these traits as being important to the question: "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five". "Control" is the average response in each country to the question: "Some people feel they have completely free choice and control over their lives, while other people feel that what we do has no real effect on what happens to them. Please use this scale (from 1 to 10) where 1 means "none at all" and 10 means "a great deal" to indicate how much freedom of choice and control in life you have over the way your life turns out. "Trust" is the percentage of respondents who answer that "Most people can be trusted" to the question "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?".

Panel B shows summary statistics of a specific cultural attitude – the attitude towards punishment – in Germany and Greece. The three measures of willingness to punish wrongdoers are averages of the answers to the questions asked in the European Social Survey, Wave 2010 (Round 5) to a sample of 3031 Germans and 2715 Greeks: "Imagine that you were out and saw someone push a man to the ground and steal his wallet. A) How likely would you be to call the police to call the police? B) How willing would you be to identify the person who had done it? C) How willing would you be to give evidence75 in court against the accused?". Answers are on a scale between 1 (Not at all likely (willing)) and 4 (Very likely (willing)).

Variables	Germany	Greece	Difference Germany–Greece	t-test for the difference
A. Civic values, cultural norms and trust beliefs				
Measures of civic values				
Claiming Government benefits you are not entitled to	9.00	6.96	2.04	24.7
Avoiding a fare on public transport	9.04	7.57	1.47	19.19
Cheating on taxes	8.63	7.83	0.80	9.27
Accept a bribe	9.06	9.07	−0.01	−014
Tabellini (2010) cultural norms indicators				
Respect	0.71	0.52	0.19	10.42
Obedience	0.14	0.11	0.03	2.51
Control	7.25	7.00	0.25	3.70
Unselfishness	0.09	0.26	−0.18	−13.32
Beliefs				
Generalized trust	0.38	0.24	0.14	7.58
B. Willingness to participate in punishment of wrongdoers				
Measures of participation in punishment				
How likely to call the police if you see a man get his wallet stolen?	3.75	3.47	0.28	16.61
How willing to identify person who had done it?	3.66	3.24	0.42	22.32
How willing to give evidence in court against the accused?	3.55	2.90	0.65	29.07

(low realization of θ) is perceived to be temporary, the need for new institutions is less important, but if θ low is perceived to be permanent, then the need for new institutions is paramount.

4. Cultural clash in the Euro area

We will now apply the simple theory of culture and institutions developed in the previous section to an important and recent cultural clash in the Euro area and relate it to the Euro area prolonged economic crisis.

4.1. Evidence of cultural difference between Greece and Germany

We start by documenting a significant cultural distance between Germany and Greece — a precondition for the cultural clash.[20] Table 1 panel A shows summary statistics on several measures of cultural traits in a sample of Germans and a sample of Greeks taken from the World Values Survey. We report about three sets of values and beliefs: measures of civic values, measures of cultural norms constructed by Tabellini (2008a) and a measure of people trust in other fellow citizens. The last two columns report the difference in these measures between Germany and Greece and the value of the *t*-test for the differences. The table documents a remarkable systematic difference between the values that are shared by the Germans and those shared by the Greeks: with the exception of whether accepting a bribe is justifiable (which is equally not justifiable in Germany as in Greece) all other values are highly statistically different in the two countries. The Germans tend to have higher civic values and stronger cultural traits (respect, obedience and control) that ought to encourage welfare enhancing social interactions (Tabellini, 2008a). Furthermore, the Germans tend to trust other Germans more than the Greeks trust other Greeks by a large margin (14 percentage points more).

However, these data do not say much on whether and how the two populations differ in their attitudes when it comes to the decision to punish others, a feature which seems to have played a critical role in affecting Germany's position on how to manage the Greek crisis. Panel B sheds some light on this. It shows answers provided by the Greeks and the Germans to three questions asked in the European Social Survey that reveal their willingness to punish (or help the punishment of) wrongdoers. The first is: "How likely are you to call the police if you see a man get his wallet stolen?", the second, "How willing are you to identify the person who had done it?", the third "How willing are you to give evidence in court against the accused?". Answers are provided on a scale from 1 to 4, ranging from "not at all willing" (coded 1) to "very willing" (coded 4).

On each of the three accounts the Germans are significantly more willing to punish wrongdoers than the Greeks. The difference appears neatly in Fig. 3 which shows the distribution of the answers for the samples in the two countries. For example, 79% of the Germans compared to 59% of the Greeks are "very willing" to call the police and 70% of the Germans are "very willing" to identify the person compared to only 45% of the Greeks.

Yet, rather than reflecting different cultures the difference in willingness to report and collaborate with the police or the court may reflect other features — e.g. a more efficient German police which increases Germans motivation to collaborate as they can see the benefit of their effort. A very interesting experiment conducted by Herrmann et al. (2008) provides evidence that is free from this objection and is thus able to isolate the cultural difference. They run a public good game experiment using 16 comparable participant samples from countries around the world, including Greece and Germany. The public good

countries' leaders enough to pay the cost of lost sovereignty: a high enough expected θ is enough to rationalize a union where no international new institutions are created to regulate the new matches, i.e. no political union. However, if ex post an unanticipated economic crisis hits the area, i.e. θ is revealed to be low, then the cultural clashes may surface as a major and salient issue. When a lower θ materializes, countries may realize that the economic union needs to be complemented by a political union with new common institutions or, as a last resort, reverting to separate economies. Even if such an option of going back is available (an option which might be very costly as exit strategies have not been anticipated in the original design), the decision to form new institutions to mitigate the cultural clash may be preferable in some cases even if it entails loss of sovereignty. In particular, if a crisis

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[20] Similar differences (and potential clashes) can probably be documented for other bilateral comparisons between other northern and southern countries in the Euro zone (see Buetzer et al., 2012 for evidence), but the Greece Germany clash is the most evident, as documented in the text.

A. Germans versus Greeks

a. Willingness to call police


### b. Willingness to identify person

c. Willingness to give evidence in court
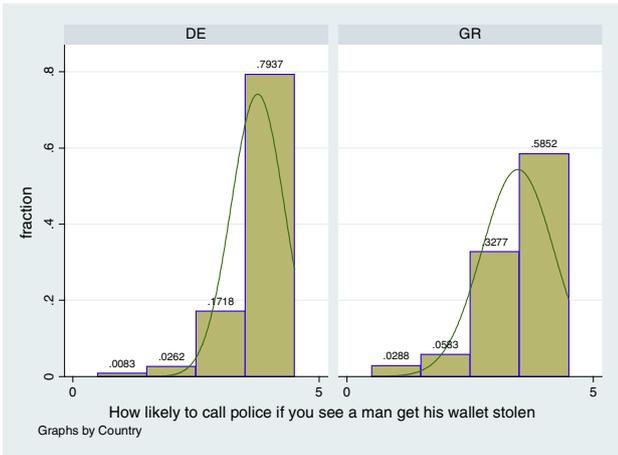
B. German versus French

a. Willingness to call police
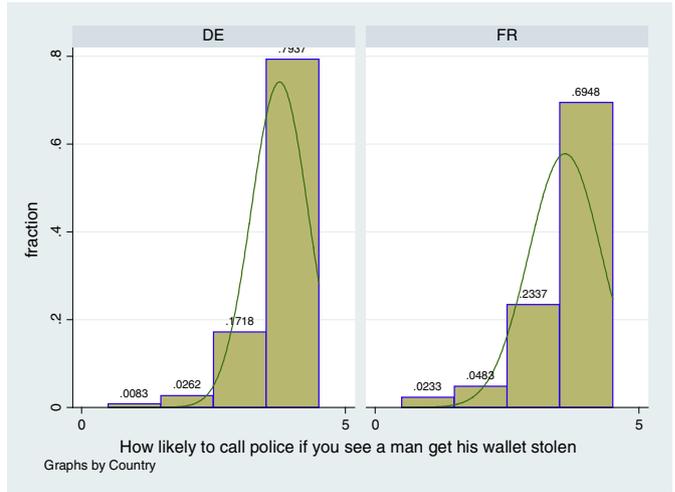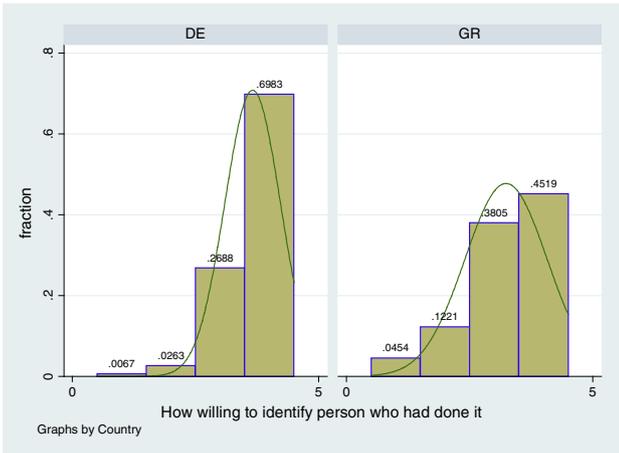
b. Willingness to identify person
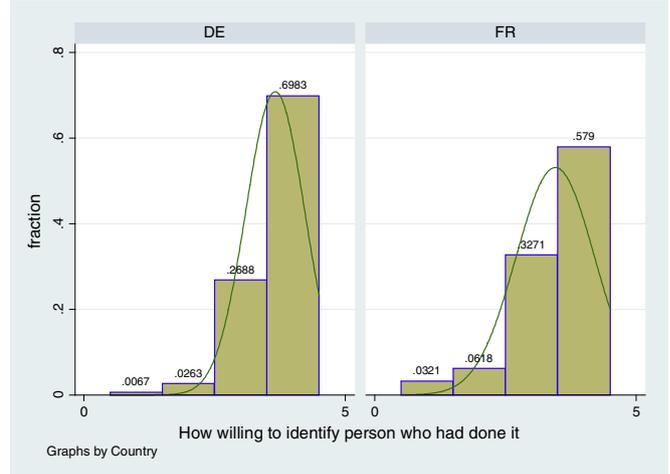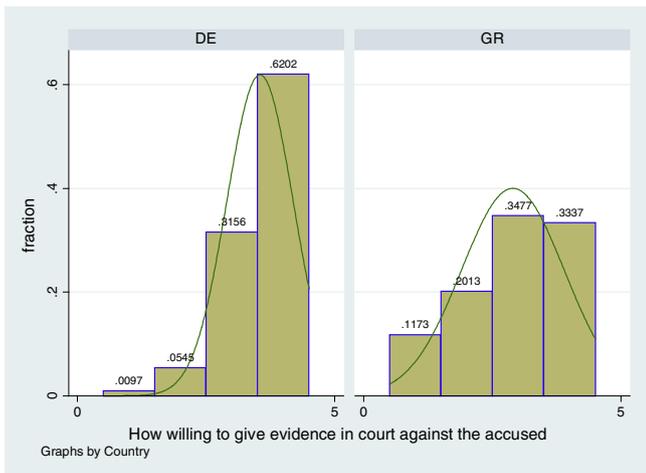
c. Willingness to give evidence in court
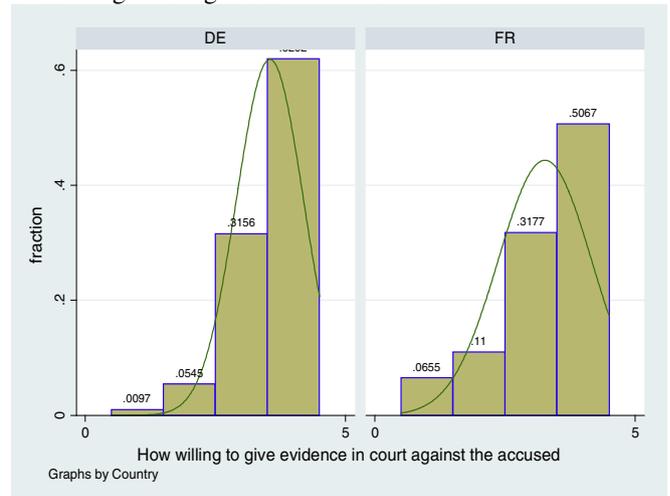
game aims at mimicking situations that require some degree of cooperation to achieve a socially beneficial outcome — as with the financing of a public good. They endowed participants with 20 tokens and let them play in groups of four. Each participant had to decide how many tokens to keep for themselves and how many to contribute to a group project. As with typical public good games payoffs are such that keeping all own tokens was always in any participant's material individual interest, irrespective of how much the other three group members contributed. Besides the contribution decision, in one of the treatments of the games each participant was given also the possibility to punish each of the other group members after they were informed about the others' contributions to the public investment. The punishment was in the form of an economic loss imposed on the punished by the punisher, who retained his anonymity.

When no punishment is available the Germans tend to contribute more to the public good than the Greeks, thus showing that the latter tend to free ride more frequently. The Germans produce more public good than the Greeks. When players are given the possibility to punish the other players upon seeing their contributions, what they find is striking. The Germans overwhelmingly use part of their endowment to punish those who contributed less. The Greeks, on the contrary, not only do not punish those who free ride but tend instead to punish those who contribute more than them! That is, they exhibit what Herrmann et al. (2008) label antisocial punishment. Put differently, Germany seems to be characterized by a culture of responsibility and social punishment that endows people with behavioral rules that ask them to contribute to the public good and to punish those who do not, thus providing a mechanism to enforce cooperative behavior. In Greece it seems to prevail a weak culture of cooperation that justifies free riding behavior and where cooperators, not free riders, are given a hard time. It may not sound surprising that these two cultures may clash when forced to interact with each other as the management of a financial crisis under a common currency requires.

4.2. Cultural clash consequences: Greek crisis mismanagement

The cultural distance described above generates, according to our model, opportunities for costly cultural clashes, that we claim to be responsible for some key aspects which exacerbated and prolonged the Euro area crisis. We first briefly relate the mismanagement of the Greek crisis to the cultural clash; then we discuss various sources of evidence about the empirical relevance of the cultural clash elements; finally, we compare the cultural clash view with alternative explanations; we conclude this section with some references to the current debate on the necessity of common agencies determining banking union and fiscal union, namely political institutions beyond the simple economic and monetary union.

The Greek debt crisis, which subsequently triggered the European sovereign debt crisis, started after the announcement in October 2009 that Greece government deficit was twice as large as the figure reported by the previous government — de facto admitting that the government cheated on the budget. This announcement was immediately followed by a widening of bond yield spreads (Fig. 6) vis a vis Germany, starting a confidence crisis. In a matter of months Greek government debt was downgraded to junk bond status (April 2010) and rates on bonds climbed reflecting that private capital markets practically were no longer accessible for Greece, forcing a first aid package to Greece in May 2010. There is widespread agreement that governments in Europe mismanaged the crisis, showing first an unwillingness to intervene promptly when the Greek crisis started and was still manageable

and never willing to devote enough resources to make sure that intervention could be resolute and final (see among others, Johnson, 2010; Pisani-Ferry, 2012; Eichengreen, 2013; Wren-Lewis, 2013). Inefficient management was lately admitted by the IMF in a June 2013 strictly confidential report leaked to the Wall Street Journal. Besides recognizing that the plan understated the macroeconomic impact of the austerity measures imposed on Greece, it is stressed that frictions among the leading European countries were behind the late reaction. In particular, it appears that Germany was paralyzed and afraid of breaking a tabu: helping an euro area country that was very likely insolvent. As Rajan (2012) puts it "European politicians are failing Europe by being forever behind the curve. Why do they find it so hard to lead?". The answer he provides to the question he raises is that when faced with novel problems that the public has never experienced before, policy makers may fail because they may not have the mandate to tackle them. Even if policy makers perfectly foresee the adverse consequences of a problem (such as a delayed reaction to the Greek crisis), it may be hard to convince the electors that it is worth incurring the short term cost of intervention (e.g. financial help to Greece). Lack of past experience prevents electors to assess the size of these costs and only an appreciation of the latter can convince them to offer the necessary consensus for policy makers to act. In other words, even if politicians are fully aware of the disaster that awaits if nothing is done…" they may have little ability to persuade voters: talk is cheap and, in the absence of evidence to the contrary, the status quo usually appears comfortable enough". Rajan's explanation rests on two ingredients: a) prompt action was not feasible for lack of consensus and the latter is needed to set policy in motion; b) voters may fail to see the general equilibrium consequences of their unwillingness to bear the short run cost of intervention which politicians can instead see. Our explanation provides a ground for both ingredients: voters reactions are guided by (automatic) application of cultural norms; politicians fail because, being subject to the conformity of institutions to culture, they cannot bypass the prevailing voters' opinions.

4.3. Evidence in support of the cultural clash explanation

4.3.1. Evidence from polls

We use two recurrent polls sponsored by public TV stations. The ARD, which runs the Deutschland-TREND survey, and the ZDF sponsors Politbarometer survey data gathering information on German citizens feelings and opinions about the management of the crisis as well as confidence and support for their leader Angela Merkel. Table 2 shows answers provided by participants in the polls to different type of questions asked at various points in time between 2010 and 2011; we have organized these questions in groups according to topic and numbered them for ease of reference. Some of these questions have been asked also at various times in 2012 with very similar patterns of responses. The first set of questions (1 to 6) shows peoples' opinions about whether Greece deserves being helped and how Greece should be treated. Already in February 2010, few months after it became public that the previous Greek government cheated on the budget and when the debate was around the potential size of the aid required to avoid Greece's default, a poll by Emnid reveals that 67% of the Germans oppose any aid (question 1). Again, in July 2011, when governments were discussing about the second tranche of transfers to Greece, the vast majority of the Germans (60%) is against giving Greece a second round of rescue loans (question 1) and in October they continue to express a negative opinion about whether the other European governments (not the German) should continue to give support to Greece. In

Fig. 3. Differences in willingness to punish among Germans and Greeks and Germans and French. The figure shows the distribution of responses given to the questions asked in the European Social Survey, Wave 2010 (Round 5): "Imagine that you were out and saw someone push a man to the ground and steal his wallet. *a*) How likely would you be to call the police to call the police? *b*) How willing would you be to identify the person who had done it? *c*) How willing would you be to give evidence75 in court against the accused?" Answers are on a scale between 1 (Not at all likely (willing)) and 4 (Very likely (willing)). The first three panels show the histograms for the sample by a sample of 3031 Germans and 2715 Greeks.

A) Risk perceived by German managers

Risk perceived by German managers

Category	Value
Rising interest rates in Germany	14
Rising domestic wages	16
Economic downturn in China	21
Credit crunch	23
US economy relapses into recession	24
High inflation	26
Downturn in private domestic consumption	27
Rising commodoty prices	35
Escalation of the euro crisis	81

B) Preferred solutions for the euro crisis

Managers preferred solutions for the euro crisis

| Category	Value
Return to former national currencies	3
ECB purchases more government bonds	9
Issue common euro bonds	12
Expand the euro bail-out package	15
Stable countries found their own core union	18
Crisis countries leave the monetary union	38
Heavier sanctions for debt trasgressors	67

Fig. 4. Risk and solutions for the Euro crisis perceived by German managers. The figures shows the percentages of responses given by a sample of German managers interviewed in the December 2012 IFO German Managers Survey. Panel A shows the answers to the questions: "Which risks do firms see for the economy?" Panel B the answers to the question. "Which solutions to the Euro crisis do firms prefer?" Multiple answers are possible. The figures show the percent of respondents selecting the each answer. Responses from 655 companies from the manufacturing, constructions, trade and service sector: http://www.cesifo-group.de/portal/page/portal/ifoHome/a-winfo/d1index/80mgrbefr/_managerbefragung?item_link=mb-konjunktur-dez11.htm.
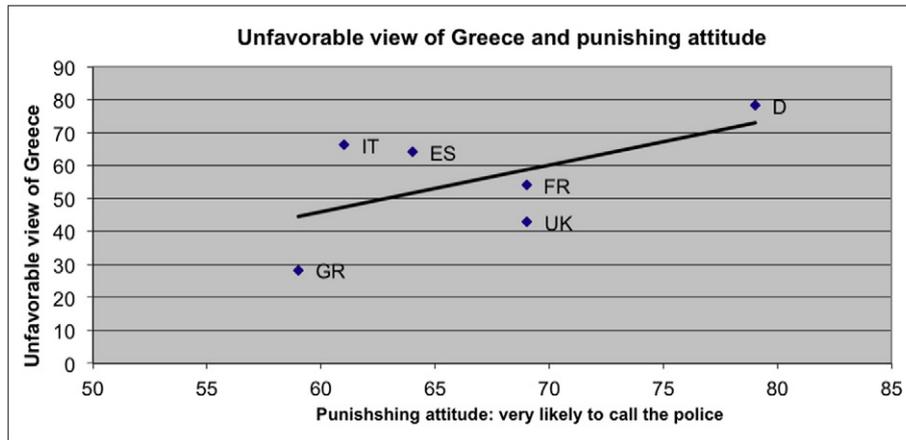

Fig. 5. Unfavorable view of Greece and punishing attitude. The figure shows the relation between the fraction of people in some European countries with an unfavorable view of Greece from the 2012 PEW Research Center Report and the attitude towards punishing in this country measured in the 2010 European Social Survey. The latter is measured by the fraction of people who answer "very likely" to the question: "Imagine that you were out and saw someone push a man to the ground and steal his wallet. How likely would you be to call the police? Would you be (possible answers coded from 1 to 4: not at all likely, not very likely, likely, very likely)" asked in the second wave of the European Social Survey. Correlation between the two variables is 0.57.

A) Greece spread versus France and Belgium spread
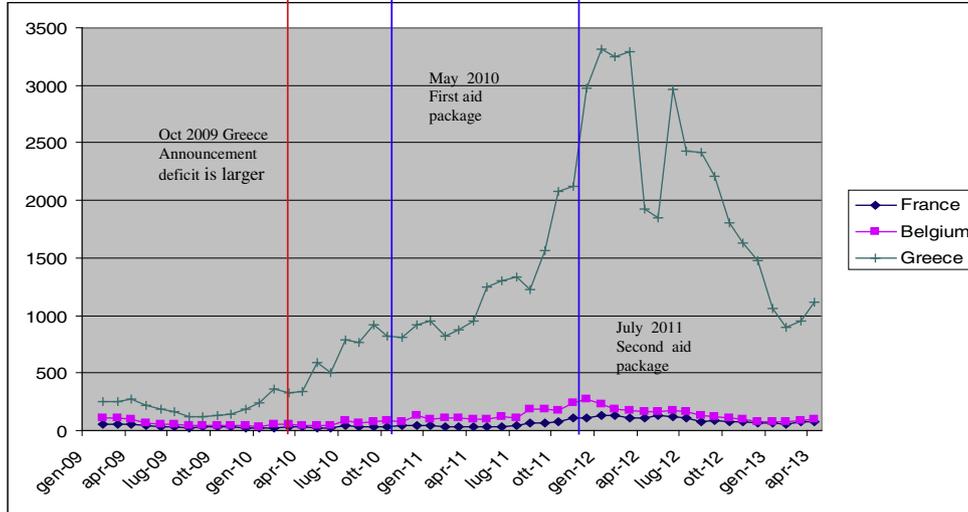
B) Greece spread versus Italy, Spain, Ireland and Portugal
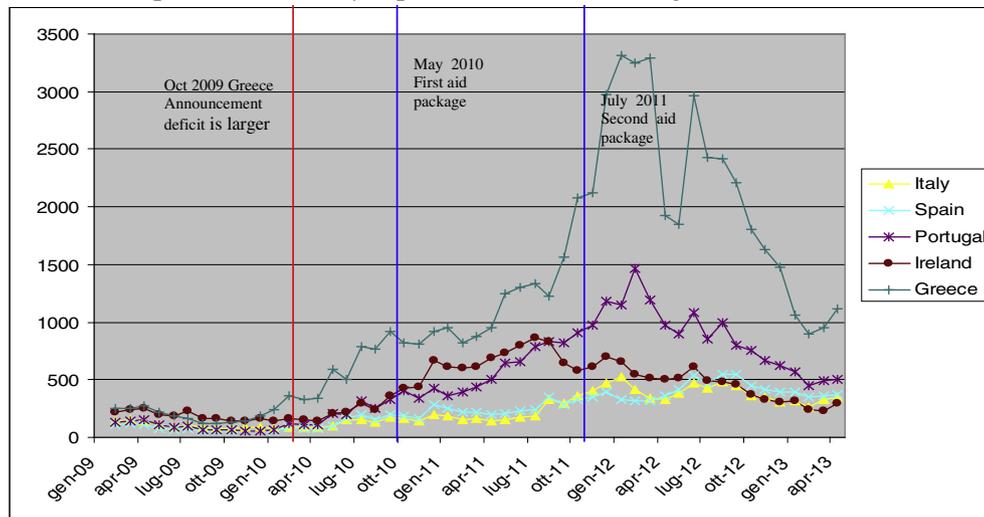
**Fig. 6.** Interest rate spreads vis-à-vis the Germans Bund. The figure shows interest rates spreads on 10-years government bonds of Greece and a set of other European countries vis-à-vis the German Bund. Panel A compares Greece spreads with Belgium and France; Panel B Greece spreads with Italy, Spain and Portugal. A. Greece spread versus France and Belgium spread. A. Greece spread versus Italy, Spain, Ireland and Portugal.

addition, more than 80% report that Greece should be forced to leave the Euro if it did not accept the decisions on the euro rescue (question 3). The pattern of answers is consistent with the idea that the opinions of the Germans were guided by the desire to punish the Greeks (or Greece) for their Government's deceptive behavior. Interestingly, we can exclude that these opinions are driven by stereotypes towards the Mediterranean countries because the vast majority of the Germans (70%) when asked in September 2011 support the idea that Germany helps economically Libya's reconstruction following the liberation war fought against Gaddafi (question 8). And we can also exclude that the opposition to support Greece reflects a generic punishment towards European countries with problematic public finances, because when the Germans are asked which country among the PIIGS should be allowed to continue to be part of the Euro area, only a minority of them report that Greece should remain in the Euro while the vast majority answers that Spain, Italy and Ireland should stay in the Euro (with percentages in support of each country equal to 77%, 73% and 67% respectively; question 5). It seems again that it is the desire to punish Greece that leads the vast majority of the Germans (77%,

1question 8) to dislike the expansion of the funds of the European Financial Stability Fund.

This is further confirmed by the Pew Research Center report who asks a sample of Germans to report whether they have a very favorable, somewhat favorable, unfavorable or very unfavorable opinion of Greece and several other European countries. In the Spring of 2010, 70% of the Germans have an unfavorable opinion of Greece and this is even higher two years later in the Spring of 2012 (79%, Table 3). Germans have instead only mild unfavorable opinions towards Italy and Spain despite their troubled public finances: in the Spring of 2012, 33% of Germans have an unfavorable opinion of Italy and 26% of Spain and these opinions are not different from those expressed in early 2010 when the sovereign debt crisis had not yet extended to these countries. Interestingly, the judgment of the Germans vis a vis Italy and Spain is not different from the opinion they have of the British (Table 3, Panel A), again suggesting that Germans' unfavorable opinion of the Greeks reflects a *specific* reaction in Germany to the cheating behavior of the Greek government rather than a judgment for the high level of debt of poorly performing economies during the European sovereign debt crisis.

Table 2
Germans opinions during the crisis.

The table shows the answers provided by a sample of Germans to questions concerning the management of the European sovereign debt crisis. Variables are obtained from two recurrent polls sponsored by public TV stations. The ARD, which runs the Deutschland-TREND survey and the ZDF sponsors the Politbarometer survey (denoted Politb in the table).

Question	Question wording	Yes	No
1	*Support to Greece*		
	"Should Greece receive financial aid?" (February, 2010, Emnid)	33%	67%
	Should Greece be given a second round of rescue loans? (June 2011, Politb)	36%	60%
2	Should the other European-States continue to support Greece? (October 2011, D-T)	42%	53%
3	Will Greece have to leave the Eurozone if it does not accept the decisions on the euro rescue? (November 2011, D-T)	82%	15%
4	Would Greek bankruptcy entail negative consequences for Germany? (September 2011, Politb)	30%	68%
5	Who should continue to be a member of the euro zone? (July 2011, Politb)		
	- Greece	47%	53%
	- Spain	77%	23%
	- Italy	73%	27%
	- Ireland	67%	33%
6	Do you think that new government in Greece helps overcoming the crisis ? (November 2011, Politb)	23%	60%
	Support funding the European Financial Stability Fund		
7	Should the funds of the EFSF be expanded? (September 2011, Politb)	20%	76%
8	*Support to Libya*	70%	27%
	Should Germany support economically Libya's reconstruction? (September 2011, D-T)		
9	*Support to Merkel*		
	Are you satisfied with Angela Merkel's handling of the crisis? (Politb)		
	- September 2011	45%	65%
	-October 2011	51%	49%
	-November 2011	56%	44%
	- January 2012	63%	37%
	- Spring 2012 (PEW Global Attitudes Project, May 2012)	80%	20%
10	*Support to Merkelns political party*	Christian Democrat	Social Democrat
	- Vote intentions: September 2011	35%	28%
	- Vote intentions: October 2011	32%	30%
	- Vote intentions: November 2011	34%	31%
	- Vote intentions: January 2012	35%	30%
	- Vote intentions: November 2012	39%	30%

These sentiments, besides being widespread among representative samples of the general population and thus very likely to reflect the opinions of the German median voter, are shared also by specific segments of the German population, namely the business community which was particularly sensitive to a quick resolution of the Greek crisis. As Fig. 4 shows, in December 2012 the vast majority of the German managers (81%) think that the most serious risks for the German economy come from the euro crisis (Panel A); at the same time two out of three argue that the best response to this crisis is to impose heavier sanctions to the debt transgressors — that is to punish Greece.[21]

These opinions, we argue, have to be followed by Mrs. Merkel who is bound by the conformity constraint. One then expects that if she conforms to the constraint this should be reflected in the consensus polls. Indeed, as Angela Merkel has insisted in her severe policy towards Greece[22], approval of her policy has increased steadily: in September 2011 45% of the Germans were satisfied with the way Angela Merkel was handling the crisis; the proportion increases to 56% in November 2011 and 80% in the Spring of 2012 (Table 2, question 9).[23]

In general, direct evidence of the conformity constraint is hard to obtain. One piece of such evidence is the request that Germany's Finance Minister during the crisis, autarchy Schauble, made to Timothy Geithner – US secretary of the Treasury at the time – to support Germany in kicking Greece out of the Euro. In his book, Geithner (2014) reports the he met Schauble in July 2012 at the peak of the crisis who argued that there where many in Europe who "thought kicking the Greeks out of the Eurozone was a plausible – even desirable – strategy". Geithner writes that Schauble justified the proposal by arguing that "..with Greece out, Germany would have been more likely to provide the financial support the Eurozone needed, because *the German people would no longer perceive aid to Europe as a bailout for the Greeks*" (p. 483, italics added). This is both consistent with a German/Greek cultural clash and the conformity constraint.

Finally, if punishment by the Germans has played a role in the management of the crisis, then one would expect: a) that since people do not like to be punished, we should observe some resentment of the "punished" – the Greeks – towards the "punisher" — the Germans. This should be even more true if the culture of the punished in one of

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[21] There also several pieces of casual evidence suggesting that cultural factors are an integral part of the way Germany has handled the Greek crisis. An interesting one is the following reconstruction of Thomas Wieser's interpretation of the German government behavior in the management of the crisis. At the time, Thomas Wieser is the Chairmen of the Economic and Financial Committee of the European Union. The commitee is in charge of preparing the agenda for the European Finance meetings where negotiations on how to tackle the European sovereign debt crises take place. In private talks he has argued that all the problems that Europe has faced in dealing with the Greek crisis can be explained in terms of religious background, and has provided the following rationale. In countries with a relevant presence of Protestantism, such as Germany, moral and religious precepts are so severe that one will never be forgiven for his sins, nor will people grant forgiveness to the sinners. In Catholic dominated countries, such as Italy, Spain, Portugal and Ireland - four of the five PIIGS - behavior is such that if one sins he/she can always be forgiven if he/she repents and so make it into paradise. Finally, according to Wieser, Orthodox religion is so loose that in countries dominated by it – of which Greece is the leading one – if one sins there is not even a need for him/her to repent to make it into paradise. This story is perfectly consistent with ours but goes a step further, as it provides a rationale for *why* the Germans feel obliged to punish the Greeks (the "sinners") and why the Greeks cheated on the budget: their religious background, dominated by Protestantism in Germany and by the Orthodox church in Greece.
 Another piece (among many) was reported by the Berlin correspondent from the Italian daily newspaper "La Stampa" who reports casual evidence from the Berlin commercial rental market. Opening *now* a shop in the crowded streets of Prenzlauer Bergin Berlin costs differently depending on nationality: Germans and Dutch pay 3 months of rent as advance payment; French 6 months; "club med" countries 12 months, except Greeks who must pay 18 months upfront.

[22] Mrs Merkel severe policy culminated in January 2012 in a proposal made informally to the other member countries of the Eurozone to appoint a European commissioner with veto power on budget decisions taken by the Greek government – Financial Times, January 27 2012 – as a condition for approving the new rescue plan; this proposal was subsequently openly supported by the President of the ECB — Spiegel, October 28 2012.

[23] Interestingly, since Merkel's behavior in this case is dictated by the conformity constraints, her popularity is not a reflection of consensus to her party, which in fact shows little change (Table 2, question 10). Likewise, the fact that the Greek voters "punished" Papandreu in 2012 elections rather than the conservative party that was responsible for cheating on the budget and thus for the subsequent German reaction.

Table 3
Germans, Greeks and other countries views during the clash.
The table shows the views of citizens of a given country about a set of other countries obtained from the PEW Research Center May 2012 Report on the Global Attitudes Project. Each panel shows the views of one country in the Spring of 2010 and in the Spring of 2012. The various Panels of the table show the fraction of respondents with a "Somewhat unfavorable", "Very unfavorable" and the sum of the two provided by a sample about 1,000 people in each of the countries the panel refers to.

A. German view

Variables	Greece	Italy	Spain	France	UK
Spring 2012					
Somewhat unfavorable	50	31	25	17	27
Very unfavorable	23	2	1	2	2
Total unfavorable	79	33	26	19	29
Spring 2010					
Somewhat unfavorable	45	24		16	29
Very unfavorable	12	4		3	3
Total unfavorable	70	28		19	32

B. Greek View

Variables	France	Italy	Spain	Germany	UK
Spring 2012					
Somewhat unfavorable	28	21	14	29	36
Very unfavorable	17	10	11	49	26
Total unfavorable	45	31	25	78	52

C. French view

Variables	Greece	Italy	Spain	Germany	UK
Spring 2012					
Somewhat unfavorable	32	26	23	11	18
Very unfavorable	22	7	6	5	5
Total unfavorable	54	33	29	16	23
Spring 2010					
Somewhat unfavorable	27	18		7	
Very unfavorable	8	5		2	
Total unfavorable	35	23		9	

D. British view

Variables	Greece	Italy	Spain	Germany	France
Spring 2012					
Somewhat unfavorable	33	18	14	14	21
Very unfavorable	12	5	3	7	8
Total unfavorable	55	23	17	21	29
Spring 2010					
Somewhat unfavorable	16	7		10	
Very unfavorable	4	2		5	
Total unfavorable	20	9		15	

E. Italian view (Spring 2012)

Variables	Greece	France	Spain	Germany	UK
Somewhat unfavorable	45	30	31	21	21
Very unfavorable	22	13	23	7	7
Total unfavorable	67	43	54	28	28

F. Spanish view

Variables	Greece	Italy	France	Germany	UK
Spring 2012					
Somewhat unfavorable	33	28	20	13	17
Very unfavorable	32	12	10	8	9
Total unfavorable	65	40	30	21	26
Spring 2010					
Somewhat unfavorable	30	11		10	
Very unfavorable	10	3		1	
Total unfavorable	40	14		11	

forgiveness rather than punishment, so that the latter will look unjust or excessive — another symptom of the cultural clash; b) the unfavorable opinions towards Greece should be stronger in countries with a stronger culture of punishment.

As for the first implication, according to the Pew Research Center May 2012 Global Attitudes Report, anti-German sentiment has become prevalent in Greece, where a majority (78%) has an unfavorable opinion of Germany, and nearly half (49%) of the Greeks say they have a very unfavorable view. This contrasts with the fact that in all the other countries sampled (except the UK) Germany scores the lowest fraction of unfavorable opinions (Table 3, Panels C-F). Greece is the only country where a majority (84%) thinks German Chancellor Angela Merkel is doing a bad job dealing with the economic crisis. And they are intensely critical: 57% say she is doing a very bad job and the Greeks are the least likely among Europeans surveyed to say the Germans are hardworking.

To provide some suggestive evidence on the second implication we correlate the share of people of different European countries that, according to Pew Research have an unfavorable opinion of Greece in the Spring of 2012 with the share of people that are ready to participate in punishing. As a proxy for the latter we use the share of people in each country that say they are very likely to call the police if they see a man get his wallet stolen (see Table 1, Panel B). As shown in Fig. 5, though based on very few observations, the correlation is clearly positive (correlation coefficient = 0.57), and is thus consistent with this implication.

4.3.2. Cultural clash pre-crisis?

Since the evidence discussed so far draws on views expressed in the months after January 2010, it may be argued that the unfavorable opinions that the Germans have of the Greeks vis-a-vis the other PIIGS reflect an anti-Greek sentiment of the Germans that pre-dates the crisis rather than the Germans cultural reaction to the deceptive behavior of the Greeks. And a similar objection could be raised for the unfavorable opinions that the Greeks have of the Germans. Unfortunately the questions summarized in the previous tables were only asked after the discovery that Greece cheated on the budget. To address this objection we use data on bilateral trust – that is the trust citizens in a European country have towards citizens of another European country – collected by Eurobarometer well before the Great Recession and countries opinions about Greece admission to the European Union at the end of 1980. In a sequence of surveys run up to 1995 Eurobarometer has asked participants in the survey the following question: "I would like to ask you a question about how much trust you have in people from various countries. For each, please tell me whether you have a lot of trust, some trust, not very much trust or no trust at all". Details about the surveys are reported in Guiso et al. (2009). To summarize the answers we have computed the average percentage share of Germans and Greeks that report they trust a lot people of each of the other countries included in Eurobarometer. Table 4 shows this measures of trust for the average of all countries (last row) and for a selected group of countries that overlap as much as possible with those in Table 3.

Table 4
Germany and Greece bilateral trust views before the clash.
The table shows the fraction of Germans and Greeks that report that they trust citizens of the other European countries. Trust is calculated from the average response to the following question asked in Eurobarometer in a sequence of surveys run up to 1995: "I would like to ask you a question about how much trust you have in people from various countries. For each country, please tell me whether you have a lot of trust, some trust, not very much trust or no trust at all".

Country receiving trust	Fraction of Germans trusting a lot	Fraction of Greeks trusting a lot
The Greeks	0.11	–
The Germans	–	0.18
The Italians	0.08	0.12
The Spanish	0.14	0.21
The Portuguese	0.11	0.17
The Irish	0.13	0.17
The French	0.21	0.26
The British	0.15	0.16
Other European countries	0.16	0.17

Interestingly, 11% of the Germans report that they trust the Greeks a lot — a figure that is somewhat below how much the Germans trust on average people of all other European countries (16%), but higher than the trust they have towards the Italians (8%) and comparable to the trust they have towards the Portuguese (11%) and the Irish (13%). This suggests that there was no specific unfavorable view of the Germans towards the Greeks before the specific event – the cheating on Greece budget – that has triggered the crisis. Similarly, there was no pre-existing unfavorable Greek view towards the Germans: 18% of the Greeks trusted the Germans a lot, somewhat above how much the Greeks trusted other Europeans (last row of Table 4) and more than the trust the Greeks had towards the Italians, the British or the Portuguese. Thus, the Greeks unfavorable judgment towards the Germans in 2012 that we document in Table 3 is likely to reflect not a pre-existing Greek anti-German sentiment but the reaction to the German punishment. This conclusion is further strengthened by the evidence in Fig. 7 showing the fraction of people in various countries that in 1980 argue that Greece entry into the EU is a good thing. Interestingly, the Germans are, after the Italians the strongest supporters of Greece admission.

4.4. Dealing with alternative explanations

In this section we discuss possible alternative and more standard explanations behind the inefficient delay in managing the Greek crisis. Our purpose is not to dismiss these factors and argue that they were unimportant, but rather to show that what we interpret as a cultural clash is not just the reflection of some other force.

4.4.1. Different incentives to save Greece

A first objection to our proposed explanation is that countries had different incentives to save Greece because they could have been differentially affected by a propagation of the Greek crisis; namely, the Mediterranean countries had stronger incentives to bail out Greece because they feared a contagion of the crisis while this fear was absent in Germany. Hence, Germany could safely (and selfishly) oppose costly transfers for the German taxpayer, and the Germans hostile opinions towards Greece just mask these economic incentives. To address this objection notice first that the different reaction of the Germans (and the position of the German government on the Greek crisis) compared to that of other European citizens/governments emerges soon after it becomes public that Greece cheated on the budget. As shown in Table 2, (first row), already in February 2010 the vast majority of the Germans oppose transfers to Greece. At the time, however, interest rate spreads

show no evidence of a risk of contagion to other European countries, with or without budget problems. Fig. 6 compares the spread on the Greek 10-year government bond with respect to the German Bund with that of the other PIIGS (Panel A) and of France (Panel B). Greece spread starts to increase right after the new Socialist government announced in October 2009 that the true deficit was about twice as large as the figure diffused by the previous government (the first vertical line). The spread of the other PIIGS, however, shows initially little change. For instance, up until March 2010, while Greece spread increases by about 300 basis points, Ireland spread is constant or slightly decreasing. The spread of PIIGS starts to increase in proximity of and right after the adoption of the first aid package in April-May 2010, suggesting that markets fear of contagion as reflected in the spreads was induced by a perceived failure of the bail out policy. Another and perhaps more compelling way to address the objection is to notice that it cannot explain the different views of the French and the Germans vis a vis Greece. France spread is essentially flat all through until June 2011, that is until the Greek crisis evolves into an Euro crisis. Until then, markets anticipate no risk of contagion to France. Hence, France and Germany are, along these dimension fully comparable. Yet, Germans sentiments are much more unfavorable to Greece than French sentiments already in the Spring of 2010: while 35% of the French have an unfavorable opinion of Greece the fraction of unfavorable is twice as large among the Germans (see Table 3, Panel A and Panel C). This is instead consistent with a German–Greek cultural clash, even more so in light of the fact the French have a weaker attitude to punish than the Germans — as shown by the willingness to participate in punishment (Table 1, Panel B).

A second concern is that the reaction of the Germans towards Greece compared to that of other European countries may just reflect a *lower* exposure of the German banks (and German investors) to the Greek sovereign debt, weakening any incentive Germany may have had to bail out Greece. However, the data seem to tell a different story. At the end of 2009 French and German banks were in Europe the most exposed to Greece, accounting for 76% of total Greek debt to European banks (split 53% French banks and 22% German banks). The banks of these two countries together held 66% of the Greek government debt in the hands or Euro area banks, of which 28% held by German banks (Table 5). Thus, it was in Germany's interest, as much as France, to push towards a bail out of Greece, sharing the cost with the other European countries in proportion to their GDP. We see the opposite (it is Germany that more than France and the other EU countries that opposed the bailout). The culture-based explanation is instead consistent with the angry reaction of the Germans towards Greece once they
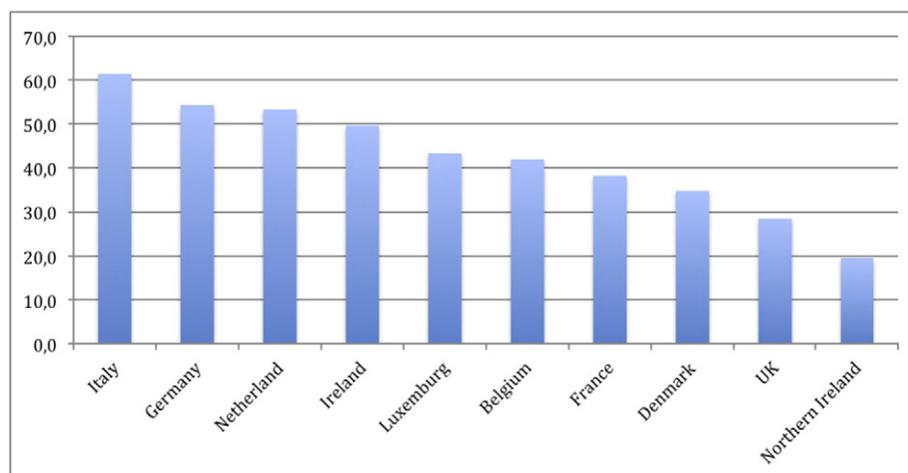

Fig. 7. Supports for Greece entering the common market. Fraction of people saying Greece entry is a good thing. The figure shows the fraction of people in various countries saying that Greece admission to the common market in 1981 is a good thing. *Source*: Eurobarometer, 1980.

Table 5
Exposures of Germany and France to Greece and other PIIGS countries.
The table shows the value of the claims of German and French banks towards Greece, Ireland, Portugal and Spain at the end of Quarter 4 2009. Data are in billions of US Dollars. *Source*: Stefan Avdjiew, Christian Upper and Karsten von Kleist (2010) "Highlights of International Banking and Financial Market Activity", BIS Quartely Review, June, Table 1 p. Graph 3. The data underlying the Graph were kindly provided to us by Avdijed et al. Simiilar figures are available for the first quarter of 2010 in the BIS Quarterly Review September 2010, Table 1 page 16.

		Claims towards				Total claims to the four countries
		Greece	Ireland	Portugal	Spain	
Claims of Germany						
	Total	44.4	176.9	41.0	202.4	464.8
	Public sector	22.8	2.5	10.3	32.7	68.3
France						
	Total	108.3	84.8	52.0	248.2	493.3
	Public sector	30.6	6.1	20.8	48.1	105.6

discovered that the debtor hid his ability to repay by concealing the overall size of its deficit.

4.4.2. Moral hazard stories

Another possibility is that Germany desire to "punish" Greece arises as an optimal strategy to discipline future moral hazard by the Greeks (and indeed by any other member of the union). Punishment may reflect an ex ante agreement among the members of the economic union to discipline countries that with their behavior threaten the stability of the union. Without denying that moral hazard concerns may have played a relevant role in the reluctance of some of the European countries to help out Greece, we argue that it is unlikely that it can explain all without any role for cultural clash considerations. In fact, the moral hazard story, literally taken, implies that all countries should be involved and share the punishment strategy, which seems to be contradicted by the tougher German positions.

A possible criticism to our explanation is that the cultural clash instead of stemming from a clash of behavioral norms is the reflection of the dominant economic thinking in Germany that can be traced back to the ordo-liberalism principles (Schnyder and Siems, 2013). These principles stress the importance of disciplining moral hazard and containing debt. We have three answers to this criticism. First, this criticism does not seem to question the role of a cultural clash as a relevant element in the crisis, but whether it is a clash of economic ideas or a clash of interpersonal behavioral rules. Second, it raises the issue of why the ordo-liberalism principles emerge and succeed in Germany; our answer would be that the "responsible/punisher" characterization of the German culture is the ideal humus where these type of principles can spread out. Third, the ordo-liberalism principles predict punishment of moral hazard when countries run high debt; our characterization predicts punishment of cheaters. The data are more consistent with our story: German sentiments deteriorated vis-a-vis Greece when it was discovered that they cheated. Their view about Italy, whose debt was high and increasing during the crisis, do not show a comparable deterioration.

Second, the moral hazard story has an implication for the time profile of Germans sentiments that differs from the cultural clash explanation. Under moral hazard, Germans' sentiments towards Greece should be mitigated by the introduction of the balance budget rules and more severe monitoring of *future* fiscal policies in member countries adopted with the Fiscal Compact agreement in the Spring of 2012. Under the cultural clash explanation because these sentiments are a reaction to the past behavior of the Greeks, they should either be constant or even amplified by the bail out packages decided meanwhile. The data in Table 3, Panel A seem to be more consistent with the latter than with the former explanation: if anything, Germans views towards Greece have deteriorated between the Spring of 2010 and that of 2012.

In a recent article, Ardagna and Caselli (2014) have pointed out the difficulties of negotiations among heads of States at the European Council as a potential source of inefficient solutions for the Greek crisis, and they conclude that perhaps the best way to avoid negotiation-related political economic frictions would have been to let the IMF handle the Greek crisis. The type of political economy failures we identify are different and so is the solution: the failures stem from heterogeneous cultures, and the clash that this heterogeneity in culture creates would be best addressed by the creation of a new type of institution – like a political/fiscal union – free from the need to conform to the culture of any single country in the union. At the positive analysis level, we do not think the friction was (mainly) one of negotiation costs, because from the beginning the problem has basically been "what does Germany think", which therefore concerns more understanding Germany than understanding the negotiation process between Euro-area heads of state. At the normative analysis level, the cultural reasons why the Germans do not want to save the Greeks unless the Greeks' sovereignty is suspended have to do with moral hazard (cheating expectations), and hence Germany would have opposed such saving even through the IMF. On the other hand, a fiscal union, which means elimination of the game between sovereign States, would find Germany more willing to help as less concerned by future moral hazard issues and Greece's debt default less unforgivable. In other words, while IMF would still make donors upset about helping out countries who could be prone to moral hazard, going for a fiscal union that requires transfer of power from national finance ministers to a European finance minister would avoid the inefficient punishments as well as the risk of moral hazard and hence the related worries and cultural clashes.

4.5. Current debate on the future of the Euro area

Our model suggests that the creation of a monetary union without a fiscal/political union can be justified in a scenario of optimism regarding the incidence/frequency of interests aligned interactions and the value of integration in terms of economies of scale and/or scope. However, we have also shown that the presence of a cultural clash and a crisis together may determine an impetus towards the creation of new common institutions, like a fiscal union or banking union. The current political debate in Europe is consistent with this implication of the theoretical model. Indeed, with the aggravation of the euro area crisis, the fiscal union seems to have become again a policy option, advocated by scholars (see, among others, Marzinotto et al. (2011) and Ferguson and Barbieri (2012) and policy makers. During the crisis, Trichet (2011) was the first to openly speak about the creation of a European Finance Minister. Interestingly, and consistent with our model, the European Ministry of Finance, as Trichet stresses is "not necessarily a ministry of finance that administers a large federal budget"; its main role is in fact to move power from the national countries – Germany and Greece in our simplified set up – so as to avoid the impasse caused, in our interpretation, by the cultural clash. That the motivation for relying on a fiscal union to address the current euro crisis is not exclusively driven by an insurance motive, but by a governance motive, as in our model, is also supported by the German view on the issue. Germany conceives the fiscal union as a set of new rules that help prevent future crisis and clashes (see the view expressed by Ludger Schuknecht, the director general for Interlineation Fiscal, Financial and Monetary Policy at the German Ministry of Finance, 2013).

5. Conclusions

Cultural norms can affect economic outcomes through several channels, indeed they affect many layers of society: private relationships, institutional differences and elected policy makers as well.

Cultural clashes become salient whenever two (or more) cultures have to merge in terms of economic activities. The cultural difference and the different behaviors that each culture commands can result in a political impasse. Though policy makers are bound by the cultural norms over which they have no control and that evolve slowly, they can still design common institutions which can temper the effects of the clash. We apply these ideas to shed light on the (mis)-management of the European sovereign debt crisis. Besides rationalizing the German/Greek contrast and why Germany has shown resistance to bail Greece out, our model has much more general features regarding the interplay between culture and institutions. In our set up the slow moving nature of cultural norms should be sped up through a process of convergence of institutions when the cultural clash results in particularly costly outcomes, such as political stalemates which prolong and exacerbate a crisis.

About the desirability of a political union in general, and hence fiscal union or banking union in Europe in particular, we have highlighted several conceptual points. First and most importantly, a political union's main role is to replace multiple authorities subject to cultural clash with a unique new authority, hence facilitating convergence, commitment, and enforcement. Second, an important message of the paper is that the value of a political unification is greater the higher the cultural heterogeneity.

Appendix A

Proof of Proposition 1. The payoff (average fitness) for a merged population (under an economic union (U)), characterized by the population (x_0, y_0) in a C game, is for each mover:

$$U_{UC}^1 = u_1^C(r)(1-x_0) + u_1(cf)x_0 y_0, \quad U_{UC}^2 = u_2^C(r)(1-x_0) + u_2(cf)x_0 y_0$$

Hence total welfare in a C game is:

$$U_{UC}^T = (u_1^C(r) + u_2^C(r))(1-x_0) + (u_1(cf) + u_2(cf))x_0 y_0$$

If the population of the country with culture $k = 1, 2$ is N^k, we have:

$$x_0 = \frac{N^1}{N^1 + N^2}, \quad y_0 = \frac{N^1 + y_2 N^2}{N^1 + N^2}$$

Hence total welfare is:

$$U_U^T = \theta U_{UA}^T + (1-\theta)U_{UC}^T$$
$$= \theta\left[\left(u_1^A(r) + u_2^A(r)\right)\right]$$
$$+ (1-\theta)\left[\begin{array}{c} (u_1^C(r) + u_2^C(r))\frac{N^2}{N^1 + N^2} \\ + (u_1(cf) + u_2(cf))\frac{\left(N^1 + y_2 N^2\right)N^1}{\left(N^1 + N^2\right)^2} \end{array}\right]$$

so it is decreasing in $D = (1-y_2)$ and in θ.

Total welfare depends on the population sizes only through the ratio N^2/N^1, namely (omitting the term independent from N^2/N^1) we have:

$$U_U^T \propto (1-\theta)$$
$$\times \left[(u_1^C(r) + u_2^C(r))\frac{N^2/N^1}{1 + N^2/N^1} + (u_1(cf) + u_2(cf))\frac{1 + y_2\left(N^2/N^1\right)}{\left(1 + N^2/N^1\right)^2}\right]$$

It is easy to show that the first term is increasing in N^2/N^1 always, the second term is increasing if $y_2 > 2\frac{N^1-N^2}{N^1}$. ∎

Proof of Proposition 2. A political union is preferred by both countries if the gain over the economic union exceeds the cost S of the State-like union creation. Namely [24]

$$U_{SU}^1 - U_U^1 = (1-\theta)(I' - y_2)u_1(cf)\frac{N^2}{N^1 + N^2} > S$$

$$U_{SU}^2 - U_U^2 = (1-\theta)(I' - y_2)u_2(cf)\frac{N^1}{N^1 + N^2} > S$$

∎

References

Acemoglu, Daron, Robinson, James A., 2012. Why Nations Fail. Crown Publishing Company, New York.

Akerlof, George A., 2007. The missing motivation in macroeconomics. Am. Econ. Rev. 97 (1), 5–36.

Akerlof, George A., Kranton, Rachel E., 2000. Economics and identity. Q. J. Econ. 3 (115), 715–753.

Alesina, Alberto, Spolaore, Enrico, 2003. The Size of Nations. MIT Press, Boston.

Alesina, Alberto, Giuliano, Paola, Nunn, Nathan, 2011. On the origins of gender roles: women and the plough. NBER WP 17098.

Algan, Yann, Cahuc, Piere, 2010. Inherited trust and growth. Am. Econ. Rev. 100 (5), 2060–2092.

Ardagna, Silvia, Caselli, Francesco, 2014. The political-economy of the Greek debt crisis: a tale of two bailouts. Am. Econ. J. Macroecon. 6 (4), 291–323.

Baldwin, Richard, 2006. The euro trade effects. Working Paper Series 594. European Central Bank.

Basten, Christoph Carl, Betz, Frank, 2012. Beyond work ethic: religion, individual and political preferences. KOF WP N. 309.

Bertola, Giuseppe, 2014. Switzerland: relic of the past, model for the future? The EEAG Report on the European Economy. CESifo, Munich, pp. 55–73

Bignon, V., Caroli, E., Galbiati, R., 2014. Stealing to survive: crime in XIXth century France. Econ. J. (forthcoming).

Bisin, Alberto, Verdier, Thierry, 2000a. Beyond the melting pot: cultural transmission, marriage and the evolution of ethnic and religious traits. Q. J. Econ. 115, 955–988.

Bisin, A., Verdier, T., 2000b. Models of cultural transmission, voting and political ideology. Eur. J. Polit. Econ. 16, 5–29.

Bisin, A., Verdier, T., 2001. The economics of cultural transmission and the dynamics of preferences. J. Econ. Theory 97, 298–319.

Bisin, Alberto, Verdier, Thierry, 2012. On the joint evolution of culture and institutions. New York University WP.

Boyd, Robert, Richerson, Peter J., 1985. Culture and the Evolutionary Process. University of Chicago Press, London.

Boyd, Robert, Richerson, Peter J., 2005. The Origin and Evolution of Cultures. Oxford University Press, Oxford.

Buetzer, Sasha, Jordan, Christina, Stracca, Livio, 2012. Euro area imbalances: a matter of culture? European Central Bank WP

Cook, P.J., Zarkin, G., 1985. Crime and the business cycle. J. Leg. Stud. 14, 115–128.

Dixit, Avinash K., Londregan, John B., 1995. Redistributive politics and economic efficiency. Am. Polit. Sci. Rev. 89, 856–866.

Eichengreen, Barry, 2013. Lessons of a Greek Tragedy. Project Syndicate (http://www.project-syndicate.org/commentary/what-greece-should-have-done-differently-by-barry-eichengreen).

Fahri, Emmanuel, Werning, Ivan, 2012. Fiscal unions. NBER WP 18280.

Ferguson, Niall and Pierpaolo Barbieri (2012), "Merkel can achieve fiscal union in Europe" Financial Times May 2.

Fisman, Raymond, Hamao, Yasushi, Wang, Yongxiang, 2012. The impact of cultural aversion on economic exchange: evidence from shocks to Sino-Japanese relations. Columbia University Working Paper.

Fougère, D., Kramarz, F., Pouget, J., 2009. Youth unemployment and crime in France. J. Eur. Econ. Assoc. 7 (5), 909–938.

Geithner, Timothy F., 2014. Stress Test. Crown Publishers, New York.

Gorodnichenko, Y., Roland, G., 2011. Which dimensions of culture matter for long run growth? Am. Econ. Rev. Pap. Proc. 101 (3), 492–498.

Gorodnichenko, Y., Roland, G., 2016. Culture, institutions and the wealth of nations. Rev. Econ. Stat. (forthcoming)

Greif, Avner, 1994. Cultural beliefs and the organization of society: a historical and theoretical reflection on collectivist and individualist societies. J. Polit. Econ. 102 (5), 912–950.

Grosjean, Pauline, 2011. A history of violence: the culture of honor as a determinant of homicide in the US South. Austrian School of Business WP.

Guiso, Luigi, Sapienza, Paola, Zingales, Luigi, 2004. The role of social capital in financial development. Am. Econ. Rev. 94 (3), 526–556.

Guiso, Luigi, Sapienza, Paola, Zingales, Luigi, 2006. Does culture affect economic outcomes? J. Econ. Perspect. 20, 23–48.

Guiso, L., Sapienza, P., Zingales, L., 2008. "Social capital and good culture," Marshall lecture. J. Eur. Econ. Assoc. 6 (2–3), 295–320.

[24] Recall that the subscript $k = 1, 2$ in U_k refers to the country that reached steady state k before the merger.

Guiso, Luigi, Sapienza, Paola, Zingales, Luigi, 2009. Cultural biases in economic exchange? Q. J. Econ. 3 (124), 1095–1131.

Guiso, Luigi, Sapienza, Paola, Zingales, Luigi, 2013. Long-term cultural persistence. University of Chicago, Previously Circulated as NBER Working Paper W14278, 2008.

Herrmann, Benedikt, Thöni, Christian, Gächter, Simon, 2008. Antisocial punishment across societies. Science 319, 1362–1367.

Huntington, Samuel P., 1996. The Clash of Civilizations and the Remaking of World Order. Simon and Schuster, New York.

Johnson, Simon, 2010. Will Greece go to the IMF? Project Syndicate (17 February http://www.project-syndicate.org/commentary/will-greece-go-to-the-imf-)

Landes, David, 1999. The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor. W.W. Norton, New York.

Lindbeck, A., Weibull, J., 1987. Balanced-budget redistribution as the outcome of political competition. Public Choice 52, 273–297.

Lizzeri, A., Persico, N., 2001. The provision of public goods under alternative electoral incentives. Am. Econ. Rev. 91, 225–245.

Luque, J., Morelli, M., Tavares, J., 2014. A volatility-based theory of fiscal union desirability. J. Public Econ. 112-C, 1–11.

Marzinotto, Benedicta, Sapir, Andrei, Wolff, Guntram B., 2011. What kind of fiscal union? Bruegel Policy Brief, Issue 2011/06

Maskin, Eric, Tirole, Jean, 2004. The politician and the judge: accountability in government. Am. Econ. Rev. 94 (4), 1034–1054.

Mokyr, Joel, 2012. The Enlightened Economy: An Economic History of Britain 1700–1850. Yale University Press (forthcoming).

Morelli, Massimo, Yang, Huanxing, Ye, Lixin, 2012. Competitive nonlinear taxation and constitutional choice. Am. Econ. J. 4, 142–175.

North, Douglass C., 1991. Institutions. J. Econ. Perspect. 5 (1), 97–112.

Nunn, Nathan, 2012. Culture and the historical process. NBER WP 17869.

Nunn, Nathan, Wantchekon, Leonard, 2011. The slave trade and the origins of mistrust in Africa. Am. Econ. Rev. 101 (7) (December).

Pisani-Ferry, Jean, 2012. Who Lost Greece. Project Syndicate (28 February, http://www.project-syndicate.org/commentary/who-lost-greece-).

Putnam, Robert, Leonardi, Robert, Nanetti, Raffaella, 1993. Making Democracy Work: Civic Traditions in Modern Italy. Princeton University Press, Princeton New Jersey.

Rajan, Raghuram, 2012. The Public and Its Problems. Project Syndicate (13 February, http://www.project-syndicate.org/commentary/the-public-and-its-problems).

Raphael, S., Winter-Ebmer, R., 2001. Identifying the effect of unemployment on crime. J. Law Econ. 44 (1), 259–283.

Schnyder, Gerhard, Siems, Mathias M., 2013. The ordoliberal variety of neoliberalism. Banking Systems in the Crisis: The Faces of Liberal Capitalism. Routledge, Abingdon, pp. 250–268.

Schuknecht, Ludger, 2013. Mastering the Euro crisis. A rule based approach. Presentation at the Conference 2013 Lectio Minghetti, Florence.

Spolaore, Enrico, 2013. What is European integration really about? A political guide for economists. J. Econ. Perspect. 27 (3) (Summer 2013).

Stefan, Avdjiev, Upper, Christian, von Kleist, Karsten, 2010. Highlights of international banking and financial market activity. BIS Q. Bull. (September).

Tabellini, Guido, 2008a. "Institutions and culture" presidential address. J. Eur. Econ. Assoc. 6 (2–3), 255–294.

Tabellini, Guido, 2008b. The scope of cooperation: norms and incentives. Q. J. Econ. 123 (3), 905–950 (Association, 6,(2–3),255-94).

Tabellini, G., 2010. Culture and Institutions: Economic Development in the Regions of Europe. J. Eur. Econ. Assoc. 8, 677–716.

Trichet, Jean Charles, 2011. 'Building Europe, building institutions', Karlspreis speech. http://www.ecb.int/press/key/date/2011/html/sp110602.en.html.

Williamson, Olivier, 2000. The new institutional economics: taking stock, looking ahead. J. Econ. Lit. 38 (3), 595–613.

Wren-Lewis, Simon (2013), "How a Greek Drama Became a Global Tragedy", Mainly Macro Thursday, 13 June 2013