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International integration and social identity☆

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ABSTRACT

This paper contributes to the literature incorporating social identity into international economics. We develop a theoretical framework for studying the interplay between international integration and identity politics, taking into account that both policies and identities are endogenous. We find that, in general, a union is more fragile when peripheral member countries have higher status than the politically dominant "Core" countries, as this leads in equilibrium to stronger national identification in the periphery and a lower willingness to compromise. Low-status countries are less likely to secede, even when between-country differences in optimal policies are large, and although equilibrium union policies impose significant economic hardship. Contrary to the anticipation of many union advocates, mutual solidarity is unlikely to emerge as a result of integration alone.

1. Introduction

The interaction between economic policy and identity politics is increasingly seen as central for understanding international economics, from trade policy to currency areas to the European Union (e.g., Grossman and Helpman, 2021; Rodrik, 2021). Nationalist sentiment, for example, is often seen as a threat to the European project and is regularly associated with the ascent of Eurosceptic political parties (Hobolt and de Vries, 2016; Noury and Roland, 2020). This raises important questions about economic and political integration. Does a common identity strengthen a union? Which countries are more likely to join a union and which are prone to secede when identity and economic considerations interact? Have advocates of the European project been overly optimistic in assuming that integration promotes mutual solidarity, i.e. individuals from one country caring about the wellbeing of individuals from other member countries? We propose a simple analytical framework to help think about these questions, taking

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into account what we know about the workings of social identity, and focusing on an equilibrium in which both integration and identities are endogenous. We have four main results:

1. Mutual solidarity across countries is unlikely to emerge as a consequence of them joining an economic union. In fact, unification can push the politically more powerful countries in the union ("the Core") towards a more exclusionary nationalist stance.
2. While economic and political unions can be economically beneficial under some conditions, social identity introduces the possibility that low-status periphery countries get caught in an "identity poverty trap". For example, European identification can drive some peripheral European countries to economic concessions in order to stay part of the union. These concessions further diminish their national standing relative to Europe as a whole, providing further incentives to seek to identify as European, even as this undermines their economy.
3. A union with a periphery country that nonetheless enjoys higher status than the Core (e.g. due to its history or international prestige) is inherently fragile. National identification is harder to overcome in high-status countries, which in turn weakens their willingness to make policy concessions in order to be part of a union. Disintegration can thus take place despite low fundamental differences in optimal policies across countries.
4. A reduction in the salience of inter-country differences allows a union to survive at higher levels of such differences, and tends to expand the domain where both unification and a common identity can be sustained.

How should we model identity? Research in both economics and psychology documents the ways in which individuals associate themselves with groups, and how this affects their behavior (for a review see Shayo, 2020). The evidence indicates two broad patterns: (a) caring about the success and wellbeing of one's group, often manifested in costly preferential treatment of this group; and (b) seeking to be similar to other individuals in one's group. Importantly, such group-related behavior is endogenous: people are more likely to identify with those groups that are more similar to them and that can make them proud and confer higher status. Hence, identities not only shape but also respond to economic circumstances. Formally, people gain utility not only from their personal payoffs but also from the success (or "status") of the group with which they associate themselves. That is, if my group does well, my utility increases. However, individuals cannot easily identify with *any* group to which they belong, and incur a cognitive cost for identifying with a group that is actually quite different from them. Thus, to maximize utility, individuals can engage in two different strategies. First, they can seek to increase the status of their group and to reduce their perceived distance from it. Second, they can change their identities. A German citizen, for example, may identify as a German but may, to some extent, also identify as a European. If the status of Europe is high relative to that of Germany alone (perhaps due to its history), identifying with Europe can raise that citizen's utility.

We consider a simple bargaining game between two countries: a Core and a Periphery. Each country has its own optimal policy, reflecting its economic fundamentals, culture, political ideology, etc. Integration entails economic gains to both countries (e.g. from increased trade), but means they need to share a common policy. The politically dominant Core sets a common policy for the union (e.g. monetary, trade, or immigration policy). The Periphery then chooses whether to join the union or leave and set its own policy. Replicating classic results, unions in this model are less likely to be sustained in equilibrium when cross-country differences in optimal policies are large. The question is: what policies does the union adopt, and at what point does the union disintegrate? We say that a union is more *accommodating* if its policies better suit the needs of the politically weaker Periphery (at some economic cost to the Core). We say a union is more *robust* if it is sustained under larger differences in optimal policies between members.

While this model is relevant to many settings in which minority regions may seek secession (Canada, Spain, UK), for concreteness we use the European Union and the eurozone as the running examples. Thus, one can think of France and Germany as the Core, politically dominant countries within the union, while countries like Denmark, Spain, the UK and Greece are Periphery countries that choose whether or not to be part of the union. Members of each country may identify nationally (i.e. with their country) or they may identify with Europe as a whole. Accordingly, there are four possible identity profiles: (C, P), (C, E), (E, P) and (E, E), where the first entry in each pair denotes the identity of members of the Core and the second denotes the identity of members of the Periphery. For example, (C, E) denotes a situation in which members of the Core identify nationally and Periphery members identify with Europe. It should be stressed that identifying with Europe does not imply disregarding your country and caring only about Europe: it simply means placing some weight on the success of, and similarity to, Europe whereas an exclusive national identity does not.

To begin, consider the subgame perfect Nash equilibrium (SPNE) under a given profile of social identities. Consistent with common views and survey data, a union is more accommodating when citizens of the Core identify with Europe. This is partly because the Core then effectively internalizes some of the goals of the Periphery. However, a union is *less* accommodating when the Periphery identifies with Europe. Leaving the union makes it psychologically costly for the Periphery to continue identifying as European. Hence, as long as the periphery identifies as European, the Core can preserve the union with smaller concessions. Notably, the profile (E, E) in which everyone identifies as European is not always the most robust. For this to happen, the cost of identifying as European without being in the union has to be high. Otherwise, the (C, E) profile can be more robust.

Taking social identities as given could, however, be misleading. It is by now well-established that ethnic, national or other social identities are changeable, and respond to the social environment in systematic ways (Chandra, 2012; Shayo, 2020). This suggests that—consciously or unconsciously—individuals choose to identify in a meaningful way with some of the social categories to which they belong, but not with others; and that economic and political processes can affect this choice. Thus, while in principle we can derive the policies under any profile of social identities, it is unclear whether all these identity profiles can in fact be sustained. Recall that people are unlikely to identify with groups that are very different from them or have very low status, when a

more similar or higher status alternative is available. But perceived differences can be endogenous to whether the countries are part of a common union or not; and the status of both the union and of the potential member states is also endogenous to integration decisions and to the policies that are in place. We therefore focus on the "Social Identity Equilibrium" (SIE), where both identities and policies are mutually consistent.

Consider the simplest case, in which the countries are ex-ante symmetric in status and similarity to the group does not affect identification decisions. In this case, in almost any equilibrium in which the union is sustained, the Core identifies nationally while the periphery identifies with the union (the identity profile is (C, E)). Given any other identity profile, and sufficiently small differences in optimal policies such that the union can be sustained in SPNE, equilibrium policies lead to an (ex-post) status advantage for the politically dominant Core. This means that non-(C, E) profiles would not in fact be sustainable. From this perspective, the expectation that unification *by itself* would lead to the emergence of a common identity seems misplaced: the very success of a union works to enhance national identification in the union's dominant Core countries. This last intuition extends to the more general case. National identification is of course shaped by many forces, but it is a mistake to expect unification per se to act as an automatic antidote. This is our first main finding.

A second important result is that under fairly general conditions, when the Periphery has lower status than the Core, unification can be sustained in SIE despite large differences in optimal policies across countries. The basic reason is that once agents are allowed to choose their identity, members of a relatively low-status Periphery will seek to identify with the union. To the extent that it is psychologically easier to identify yourself as European if you are a member of the EU—or if your currency is the euro—then this increases the Periphery's willingness to make economic concessions in order to be part of the union. Hence the union can be sustained under larger differences. This happens despite—and to some degree because of—the union's unaccommodating policies vis-a-vis the Periphery, which accentuate the Periphery's inferiority.

Our third point is that when the Periphery has equal or higher status than the Core, disintegration can occur despite small differences in optimal policies. Such equilibria are characterized by national identification in the Periphery (though not necessarily in the Core), which reinforces the Periphery's reluctance to make policy concessions.

Fourth, consider policies that alter the salience of inter-regional differences. We find that when people care less about such differences, the union can be sustained under higher differences in optimal policies. Moreover, this (weakly) increases the set of circumstances in which both unification and an all-European (E, E) identity profile can be sustained in equilibrium.

The paper relates to several strands of literature. The first studies monetary and fiscal unions. In particular, the theory of Optimal Currency Areas starting with Mundell (1961) highlights the difficulty in handling asymmetric shocks with a common monetary policy. The main benefits from joining a currency union are trade increases due to the elimination of currency conversion costs and greater predictability of prices (Mundell, 1961; Rose and Honohan, 2001), and the ability to overcome inflation by joining a monetary union with a credible anchor country (e.g. Barro and Gordon, 1983; Alesina et al., 2002; Aguiar et al., 2015; Chari et al., 2020). The theory suggests that countries are more likely to join a currency union when they have high price and output comovements with other countries in the union, when they trade more with them, and when they cannot commit to low inflation (Alesina et al., 2002). We propose a simple way to incorporate identity politics into this understanding of monetary unions, thereby improving the political realism of these models.

Second, a growing literature, pioneered by Akerlof and Kranton (2000), examines the implications of identity in economics (see Chen and Li, 2009; Benjamin et al., 2010; Bénabou and Tirole, 2011; Chen and Chen, 2011; Shayo and Zussman, 2011; Lindqvist and Östling, 2013; Bertrand et al., 2015; Cassan, 2015; Holm, 2016; Kranton and Sanders, 2017; Besley and Persson, 2019; Hett et al., 2020). Guriev and Papaioannou (2021) provide a review of the closely related—and overwhelmingly empirical—literature on populism. The closest to our paper are Shayo (2009), Bonomi et al. (2021), and Grossman and Helpman (2021), who study how social identity shapes policies like redistribution and tariffs. These papers focus on how the identity profile *within* a country interacts with that country's policy. We build on these contributions to study how identity can shape interactions *between* countries.

Third, the literature on the political economy of international integration highlights the tradeoff between the costs of heterogeneity and the gains to unification due, e.g., to market size, economies of scale, cross-regional externalities, or better monitoring of politicians (Alesina and Spolaore, 1997; Bolton and Roland, 1997; Casella, 2001; Lockwood, 2002; Harstad, 2007; Desmet et al., 2011; Boffa et al., 2015). We develop a model that features such a tradeoff and examine both how the introduction of social identity modifies the political equilibrium and how the political equilibrium affects identification patterns.

Finally, a substantial literature studies public attitudes towards international integration. Many explanations focus on economic factors, but non-economic factors clearly play an important role (Mayda and Rodrik, 2005). In the European case, the general conclusion of this literature is that identity-related concerns are at least as important as economic factors in explaining support for European integration (Hooghe and Marks, 2004; see Hobolt and de Vries, 2016 for a review). Data we collected around the Brexit referendum also show that, at least at the individual level, voters' identity (measured before the referendum) strongly predicts their voting decisions, controlling for a host of socio-demographic and geographic characteristics (Appendix C.1). However, less is known about how such attitudes affect policies, and, especially, about the properties of the equilibrium. Does a common identity produce a more stable union? And what identity patterns can we plausibly expect to emerge?

We proceed as follows. Section 2 presents the model. The following two sections develop the building blocks for our solution concept: the determination of integration policy given social identities (Section 3), and the choice of identity (Section 4). Section 5 analyzes the equilibrium in which both policies and identity are endogenous. We conclude in Section 6.

2. Model

There are two countries: a "Core" of an economic union, denoted C, and a "Periphery" country P that considers joining or exiting the union. Each country has its own natural endowments, economic and legal institutions, culture, etc. Differences across countries translate to different ideal policies. As in Alesina and Spolaore (1997), unification entails economic gains to both countries (e.g. from increased trade), but means they need to share a common policy. We use the Eurozone and the European Union as the running examples of a union, but the model could also apply to other unions such as the United Kingdom or Spain. Denote by E the super-ordinate category which includes both the Core and the Periphery (e.g. Europe as a whole). Let $\lambda \in (0.5, 1)$ be the proportion of the population of E who are members of the Core.[1]

Members of the Core and the Periphery countries have preferences over a compound policy instrument, which we denote r_i for $i \in \{C, P\}$. This may include macroeconomic policy instruments such as the interest rate set by the monetary authority, the exchange rate regime, or various fiscal tools. It could also represent other policies that are jointly set in case of unification, such as regulation and immigration policy. Let r_i^* be country i's ideal policy, from a standard economic perspective. That is, it is the policy the country's citizens would most prefer in the absence of any identity concerns. Thus, differences in r_i^* capture fundamental differences in economic conditions and preferences across countries. In Appendix C.2 we compute some measures of these differences. Without loss of generality, assume that $r_C^* \geq r_P^*$. For example, Germany wants higher interest rates than Greece or more regulation than the UK.

The Core moves first and sets the policy instrument at some level $r_C = \hat{r}$. The Periphery then either accepts or rejects this policy.[2] If it accepts then $r_P = r_C = \hat{r}$. If it rejects then it is free to set its own policy. The assumption that the Core is politically more powerful is important: it is meant to capture the inherent asymmetry present in most unions. This is essential for understanding some of the fundamental difficulties in the vision of a union that automatically engenders solidarity among its members. In Section 3.2 we also discuss the symmetric case where union policy maximizes *joint* welfare.

Unification entails a per-capita benefit to both countries (or equivalently, breakup entails a cost) of size Δ. This can come from, e.g., gains from trade, economies of scale in the production of public goods, or reducing the risk of conflict. The material payoff of a representative agent in country i is:

$$V_i(r_i, \text{breakup}) = -(r_i - r_i^*)^2 - \Delta * \text{breakup} \tag{1}$$

where *breakup* is an indicator variable taking the value 1 if the two countries do not form a union and zero otherwise. Abusing notation slightly, we use i to denote both a country and a representative agent of that country.

Notice that we assume policy is "sticky": once the Core sets the policy, it remains in place even if the Periphery rejects it. This makes sense if union policies are complex and cannot be changed overnight. E.g., if the UK leaves the EU, it will probably take a long time for the EU to revise all features of the Single Market as well as other regulations that were put in place to accommodate British interests. In Appendix we provide an analysis of the case where the Core is fully flexible in setting its policy once the Periphery leaves the union. Conclusions are qualitatively similar.

2.1. Social identity

Think of an individual that belongs to several social groups. An individual i that *identifies* with group j cares about the status of group j and takes pride in its success. One consequence is that i's preferences are to some degree aligned with group j's. However, the individual cannot easily identify with a group that is very different from her, and pays a cognitive cost that increases with her perceived distance from that group. Another way to think about it is that an individual that identifies with group j seeks to be similar to group j. This type of behavior is consistent with extensive evidence from a wide range of economic domains (see Shayo, 2020 for a review). Let S_j be the *status* of group j and let d_{ij} be the *perceived distance* between individual i and group j. We then define social identification as follows.

Definition 1. Individual i is said to *identify* with group j if her utility over outcomes is given by:

$$U_{ij}(r_C, r_P, \text{breakup}) = V_i + \gamma S_j - \beta d_{ij}^2 \tag{2}$$

where $\gamma > 0, \beta \geq 0$.

Note that while identity is sometimes studied using survey responses, this formulation is more fundamental. Identity is not just something people say: it is part of their preferences and can be revealed by their choices (Atkin et al., 2021). Like tastes, identity resides in the mind of the individual: people do not need permission from anybody to identify with a given group, nor is their identification conditional on the identity choices of others. I may identify as an American, and take pride in America's

[1] We take the social categories themselves ("Europe", the various nations) as given. We do not model the historical-cultural process by which they evolved. Naturally, over the long run these categories may change. Indeed, our model suggests one avenue for studying this evolution: categories that do not engender identification in equilibrium may over time become meaningless and die out.

[2] Equivalently, all citizens of the union vote over the common policy, and the periphery subsequently holds its own referendum on whether to stay in the union. Since $\lambda > 0.5$ this yields the same results.

achievements, even if many of the other Americans do not identify as such. This is not to say that other people's identification decisions do not matter for my identity choices. To the extent that such decisions affect behavior and policy, they can affect both group status and perceived distances.

The status of a group, S_j, is affected by the material payoffs of its members, but we also allow for other, exogenous factors. Thus, the status of country j is:

$$S_j = \sigma_j + V_j, \text{for } j \in \{C, P\} \tag{3}$$

where σ_j captures all exogenous factors that affect the status of country j such as its history, cultural influence, international prestige, etc. Such factors may well be the predominant determinants of a country's status. For many years, both German and British status have probably been more influenced by their history than by their contemporary economic performance. To illustrate how this concept can be taken to the data, Appendix C.2 proposes some empirical measures of the status of different European countries in 1999 (when the euro was launched). The status of Europe is given by:

$$S_E = \sigma_E + \lambda V_C + (1-\lambda)V_P \tag{4}$$

where σ_E captures exogenous sources of European status and lies between σ_C and σ_P. We shall sometimes refer to σ_j as the *ex-ante* status of group j and to S_j as its *ex-post* status.

The perceived distance d_{ij} between individual i and group j is a function of the differences between i and the average—or "prototypical"—member of group j on various dimensions. We also allow perceived distance from Europe to vary depending on whether or not one's country is a member of the European union. Specifically:

$$d_{ij}^2 = (r_i^* - \bar{r}_j^*)^2 + w(q_i - \bar{q}_j)^2 + k \cdot \mathbf{1}[j = E \,\&\, \text{breakup} = 1] \text{ for } i \in \{C, P\}, j \in \{i, E\} \tag{5}$$

where $w, k \geq 0$ are parameters capturing the relative salience of the different dimensions; $\bar{r}_j^*$ is the average ideal policy of members in group j; $q_i = \mathbf{1}[i \in C]$ is an indicator for being a member of the Core; and $\bar{q}_j$ is the average across members of j (i.e. the proportion of group j who are members of the Core).[3] The first term in Eq. (5) captures fundamental economic differences between i and j. The second term captures differences between the countries that are *not* reflected in the ideal policies (e.g. cultural or linguistic differences). The third term captures the potential additional cognitive cost of $k \geq 0$ for identifying as European despite not being part of the European union.

2.2. Remarks and caveats

Before proceeding to the analysis, several remarks are in order.

2.2.1. Choosing your identity

Individuals clearly do not identify with *all* the groups that they belong to. Furthermore, they tend to switch the groups they identify with in response to changes in economic and political conditions (Atkin et al., 2021). Such choices are not necessarily made consciously and deliberately. Nonetheless, we shall employ an optimization assumption to capture the major empirical regularities documented in the literature: that people are more likely to identify with those groups that have higher status and that are more similar to them. This has two important implications. First, not all identity profiles can be sustained. Second, identities respond to economic conditions.

It is important to note that while in this paper we often refer to identity as a binary choice between a European and a national identity, identifying with Europe may well mean you also identify with your own country. Formally, when you identify with Europe you put *some* weight (γ) on European status whereas if you identify exclusively as British you do not place any weight on European status. Similarly when you identify as European you may put some weight (β) on your similarity to other Europeans whereas if you only identify as British you do not. This interpretation seems consistent with survey data. In our survey of English voters before the Brexit referendum (see Appendix C.1), roughly 1% of voters said they saw themselves as *European only*, whereas about 25% saw themselves as both British and European. The latter were also far less likely to subsequently vote "leave" than the 70% who saw themselves as *British only*. In the French Eurobarometer 2014 data, the share of people who see themselves as European only is 1%, whereas 59% see themselves as both French andEuropean and 40% as French only. France and the UK are not special in this respect—most Europeans report seeing themselves either as "[nationality] only" or as "[nationality] and European".

2.2.2. Within-country heterogeneity

As pointed out by Bolton and Roland (1997), differences in income distributions across countries can lead to differences in the ideal policies of the median voters. Furthermore, within-country heterogeneity is important for understanding identification patterns (Grossman and Helpman, 2021; Holm, 2016; Lindqvist and Östling, 2013; Shayo, 2009). Here, we focus on factors such as changes in national status, that move both the elites and the poor in the same direction. Accordingly, one should think of the

[3] Specifically, $\bar{r}_E^* = \lambda r_C^* + (1-\lambda) r_P^*$. $\bar{q}_E = \lambda$. For $i \in \{C, P\}$, $\bar{r}_i^* = r_i^*$ and $\bar{q}_i = q_i$.

identity profiles we study as reflecting the identity of the decisive players in each country (be they the elites or the median voters), rather than as the complete distribution of identities.

2.2.3. Fundamental differences between countries may be endogenous

to both integration and identification choices, at least in the long run. The direction of these effects, however, is theoretically and empirically ambiguous. On the one hand, integration can lead to specialization (Ricardo, 1817; Krugman, 1993; Casella, 2001). On the other hand, closer trade links may lead to more closely correlated business cycles (Frankel and Rose, 1998), and unions may actively seek to homogenize their populations (Weber, 1976; Alesina et al., 2021). The evidence for the European case is mixed. Since the 1980's there appears to have been some economic convergence across EU countries, at least until the 2008 financial crisis. But there is little evidence that EU countries became more similar in fundamental values or in major institutional features (Alesina et al., 2017). At this stage we thus take fundamental differences as fixed, but we do analyze changes in the importance that individuals attach to inter-country differences, which arguably can vary even in the short run.

2.2.4. Scope

This paper tries to isolate the factors that are essential to understanding the basic logic of integration and identity. On the political economy side: the trade-off between gains to unification and costs to heterogeneity, and some asymmetry in power between core and periphery. On the social identity side: the fact that people care about groups, and the fundamental factors entering identification decisions (distance and status). This setup, and especially the distinction between core and periphery, may be less relevant to trade agreements between more symmetric countries. We discuss the symmetric case in Section 3.2.[4]

3. Integration under fixed social identities

We begin by characterizing the Subgame Perfect Nash Equilibrium (SPNE) under any given profile of identities. SPNE is the first building block of our proposed solution concept (SIE, defined in Section 5). It is appropriate for situations where the Core has the political power, i.e., where the Periphery cannot commit to reject offers that are in fact in its interest, thereby forcing its desired policies on the union. Throughout, we impose that in case of indifference unification occurs. Denote by (ID_c, ID_P) the social identity profile in which Core members identify with group $\mathrm{ID}_c \in \{C, E\}$ and Periphery members identify with group $\mathrm{ID}_P \in \{P, E\}$.

Proposition 1. ***Subgame Perfect Nash Equilibrium (SPNE).*** *For any profile of social identities (ID_c, ID_p), there exist cutoffs $R_1 = R_1(ID_c, ID_p)$ and $R_2 = R_2(ID_c, ID_p)$ and policies $\widehat{r}_C = \widehat{r}_C(\mathrm{ID}_c, \mathrm{ID}_p)$ and $\widehat{r}_P = \widehat{r}_P(\mathrm{ID}_c, \mathrm{ID}_p)$, such that $R_1 \le R_2$, $\widehat{r}_P < \widehat{r}_C$ and:*

a. if $r_C^* - r_P^* \le R_1$ then in SPNE unification occurs and $r_C = r_P = \widehat{r}_C$;

b. if $R_1 < r_C^* - r_P^* \le R_2$ then in SPNE unification occurs and $r_C = r_P = \widehat{r}_P$;

c. if $r_C^* - r_P^* > R_2$ then in SPNE breakup occurs and $r_C = r_C^*, r_P = r_P^*$.

Proofs are in Appendix A. Fig. 1 illustrates. $\widehat{r}_C$ reflects the Core's chosen policy when there is no threat of secession. This may or may not be equal to r_C^*, depending on the Core's identity. When fundamental differences between the countries $(r_C^* - r_P^*)$ are small relative to the cost of dismantling the union, the Periphery country would rather accept $\widehat{r}_C$ than set its own ideal policy and suffer the cost of breakup. As a result, the Core sets the policy to $\widehat{r}_C$. For larger fundamental differences between the countries (or lower costs of breakup), i.e. when $r_C^* - r_P^* > R_1$, the Core cannot set the policy to $\widehat{r}_C$ while keeping the Periphery inside the union. However, as long as these differences are smaller than R_2, the Core can set its policy at a lower level $\hat{r}_P$ which would keep the Periphery in the union and still be preferable to breakup. In equilibrium, the Periphery country is exactly indifferent between staying in the union and exiting. Finally, when $r_C^* - r_P^*$ is sufficiently large relative to Δ, i.e. when $r_C^* - r_P^* > R_2$, the cost required to keep the Periphery in the union exceeds the benefits to the Core. In this case breakup occurs and policies are set to r_C^* and r_P^*.

We define two basic properties of unions.

Definition 2. A union is (strictly) more *robust* if it is sustained under (strictly) larger fundamental differences $r_C^* - r_P^*$.

Definition 3. A union is (strictly) more *accommodating* if the policy implemented is (strictly) closer to r_P^*, for any level of fundamental differences such that the union is sustained.

[4] Even in the European case, the model is naturally a simplification. European integration involves many countries, many agencies, protracted negotiations and multidimensional policies. Adding specific features of, e.g., the formation of the Eurozone, the Greek debt negotiations, or the Brexit affair, could further enrich the picture. For example, the Brexit negotiations may have made more salient the differences between the UK and the EU, or may have affected British status. Another possibility is that the breakup revealed to *other* countries information about Δ (the cost of breakup).

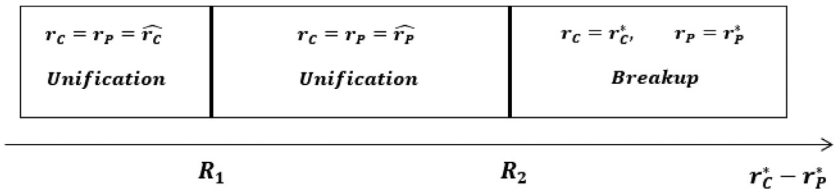

Fig. 1. General characterization of SPNE.

We can now state two preliminary results.

Proposition 2. ***Robustness.*** *The union is most robust under the* (E, E) *profile if and only if* βk *is sufficiently high. If* βk *is low, then the union is strictly more robust under the* (C, E) *profile than under any other identity profile, i.e,* $R_2(C, E) > R_2(ID_C, ID_P)$ *for all* $(ID_C, ID_P) \in \{(C, P), (E, P), (E, E)\}$.

Recall that βk is the cognitive cost of maintaining a European identity despite not being a member of the union. If this cost is sufficiently high, then the all-European identity profile (E, E) is the most robust, since everyone would then be more reluctant to break the union. This is implicitly assumed in many public discussions. Proposition 2, however, shows that this is not true in general (see below for more intuition). The next result points out that a common (E, E) identity does not imply a more accommodating union.

Proposition 3. ***Accommodation***

a. The union is more accommodating if Core members identify with Europe rather than with their nation, for any given Periphery identity,.

b. The union is less accommodating if members of the Periphery identify with Europe rather than with their nation, for any given Core identity.

To see the intuition for these results, we briefly discuss each of the four possible social identity profiles. The complete characterization of these cases is given in Lemmas 1–4 in Appendix A. Fig. 2 provides an illustration.

Case 1 (C, P)**: Both Core and Periphery identify with their own country.** This case serves as a convenient benchmark. It essentially replicates the standard analysis of economic integration, in which each country is only interested in its economic payoffs. At low fundamental differences, when there is no threat of secession, policy is simply r_C^*. Breakup takes place when the material concessions needed to keep the periphery in the union are larger than the material gains, regardless of how disintegration affects perceived distances and European status.

Case 2 (C, E): **Core Identifies with own Country and Periphery with Europe.** Comparing this case to Case 1 provides some basic insights into the workings of social identity. First, $R_1(C, E) > R_1(C, P)$: as long as the Periphery sees itself as European, it prefers r_C^* to breakup at relatively higher levels of fundamental differences. Two forces are at work here. First, identifying as European is harder—i.e., generates higher cognitive costs—when one is not part of the European union. This lowers the value of the Periphery's outside option. Second, to the extent that the Periphery sees itself as part of Europe, its material costs are (somewhat) offset by gains in status stemming from better overall European performance. For similar reasons, $\widehat{r}_P(C,E) > \widehat{r}_P(C,P)$: even when the Core makes concessions in order to sustain the union, these concessions are smaller than what was needed when the Periphery identified nationally.

Finally, the union can be sustained under larger fundamental differences: $R_2(C, E) > R_2(C, P)$. The difference between $R_2(C, E)$ and $R_2(C, P)$—i.e the range of fundamental differences over which the union is sustained under (C, E) but not under (C, P)—depends on several factors: the economic cost of breakup Δ, the cognitive cost of breakup k, the size of the Core λ, and the weights β and γ that the Periphery places on distance from Europe and on European status. An increase in any one of these tends to make breakup more costly for a Periphery that identifies with Europe. This allows the union to be sustained under larger differences.

Case 3 (E, P)**: Core identifies with Europe and Periphery with own Country.** Again, it is instructive to compare this case to Case 1. First, $\widehat{r}_C(E,P) < \widehat{r}_C(C,P)$. That is, even when there is no threat of secession, the union is more accommodating since the Core now internalizes the effects of its policies on European status. Thus, policy is set as some weighted average between the ideal policies of the two countries. In this respect, European identification implies a measure of solidarity across countries. At some point, however, this policy which takes into account wider European considerations–$\widehat{r}_C(E,P)$—is not sufficient to keep the Periphery in the union and

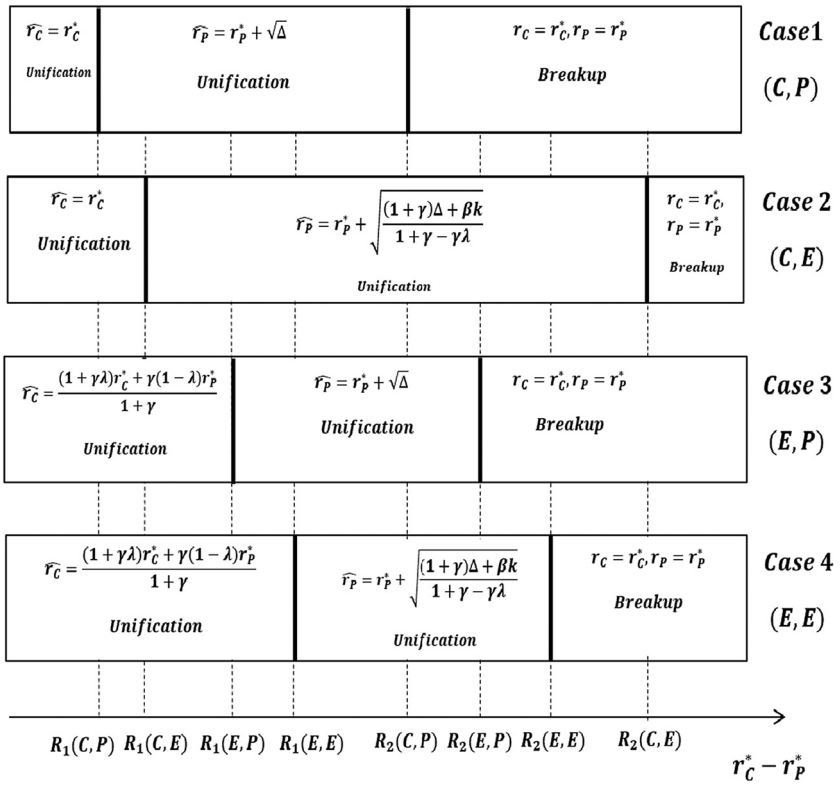

Fig. 2. SPNE under different social identity profiles. *Note:* This figure does not cover all possible regions of the parameter space. See Lemmas 1–4 in Appendix A for a complete characterization.

some concessions are needed.[5] Since the Periphery cares only about its material payoffs, the policy required to keep it in the union is the same as in Case 1. Finally, $R_2(E, P) \geq R_2(C, P)$. Thus, European identity in the Core can also forestall breakup.[6]

Case 4 (E, E)**: Both Core and Periphery identify with Europe.** On the face of it, the case where everyone identifies with the union seems like the most favorable for integration. Our model suggests a more nuanced view. What is crucial for (E, E) to be the most robust is that the psychological costs of breakup for those who identify as European (βk) are significant. If these psychological costs are low relative to the economic costs Δ, then the union is actually less robust when everyone identifies with Europe than when only the Periphery does, i.e. $R_2(E, E) < R_2(C, E)$.

The basic reason is that when fundamental differences between the countries are very large, European status would in fact be higher if the Periphery were kept outside the union and conducted its own policy. If the Core identifies nationally it may seek to sustain the union even if this depresses European status, as long as this is economically beneficial to the Core. But if the Core identifies with Europe, then it has to weigh the losses in status against these economic gains, as well as against the psychological gains from keeping the policy, as in Case 3, at low levels of fundamental differences, policy is accommodating. Furthermore, the Periphery's identity means the union is less accommodating in the middle range between R_1 and R_2, which makes it more robust than under either the (C, P) or (E, P) profiles.

3.1. The role of country size

Is a smaller Periphery more likely to join a union? Our analysis suggests that the answer depends on social identity. When the Periphery identifies with Europe, a larger relative size of the Core means that the Core's material interests feature more prominently in the Periphery's considerations, which in turn tends to make breakup more costly for the Periphery. This indeed allows the union to be sustained under larger differences (see Appendix A.1 for details). In other words, the entry of a small nation that identifies as European is likely to be more robust than the entry of a large nation that identifies this way. However, if the social identity profile is (E, P), the union is *less* robust when the Core is larger. The higher is λ, the less important is the Periphery in the Core's identity considerations, which makes the Core less open to concessions.

[5] The reason is that the Core cares about *Europe*, and not about the Periphery per se. Since European status depends on both Core and Periphery material payoffs, $\widehat{r}_C(E, P)$ is *not* the ideal policy from the Periphery's perspective, even if the Core places a very high weight on European status.

[6] This happens as long as $\beta k > 0$. If $\beta k = 0$ then $R_2(E, P) = R_2(C, P)$. The reason is that once fundamental differences are above $R_1(E, P)$, the Periphery's utility is held constant at the utility obtained under breakup. Hence the only factor shifting European status is Core material payoffs. $\beta k = 0$ means the Core suffers no cognitive cost to breakup, and hence once fundamental differences are such that Core material payoffs are higher under breakup than under unification, breakup takes place.

3.2. The planner's solution and the importance of political asymmetry

In Appendix A.4 we compare the point at which the union disintegrates in SPNE to what a social planner interested in maximizing aggregate material payoffs would do. We find that national identification in the Periphery tends to produce a less robust union than what material payoff maximization implies. This echoes the common reaction of economists to the Brexit vote, which, as we show in Appendix C.1, was associated with strong national identification and weak identification with Europe. A shared identity, however, does not always enhance overall material payoffs. There exist situations where it is materially optimal to dismantle the union, and yet the union is sustained if the Periphery identifies with Europe.

Finally, in Appendix A.5, we analyze identity effects when there is no asymmetry in size or in political power across countries: countries decide whether or not to join the union, and union policy is set to maximize the joint welfare of its members. We show that in this case, the union is most robust under the (E, E) social identity profile, even if the psychological costs βk are low. This result demonstrates the implications of the Core's political power. When the Core can make take-it-or-leave-it offers, it may seek to sustain the union at the expense of the Periphery's material interests, can do so to a greater extent when the Periphery identifies with Europe, and will do so to a greater extent when it identifies nationally. In contrast, if union policy is constrained to maximize joint welfare, then this channel is shut down. The union is more robust when the Core identifies with Europe because the welfare-maximizing policy is in this case more accommodating to the Periphery, which provides stronger incentives for the Periphery to join.

4. Choice of social identity

We now turn to the determination of social identity. This is the second building block of our solution concept. As outlined in the introduction, the choice of identity is guided by two considerations: perceived distance from the group, and group status (Shayo, 2020). An individual is more likely to identify with Europe the smaller her perceived distance from Europe relative to her distance from her own country, and the higher the status of Europe relative to that of her own country. Formally, we assume that an individual chooses to identify with the group that yields the highest utility given the economic and political environment. That is, an individual from country i chooses identity j to solve:

$$\max_{j\in\{i,E\}} U_{ij}(r_C, r_P, \text{breakup})$$

Accordingly, an individual in the Core identifies with her own country if $U_{CC} > U_{CE}$. Recall from Eq. (2) that $U_{ij} = V_i + \gamma S_j - \beta d_{ij}^2$. For any given policy, *material* payoff V_i does not depend on the choice of identity. Hence identification with own country takes place if $\gamma S_C - \beta d_{CC}^2 > \gamma S_E - \beta d_{CE}^2$. Using Eqs. (3)–(5) this condition can be written as:

$$S_C - S_P > \frac{\sigma_E - \lambda\sigma_C}{1-\lambda} - \frac{\beta(1-\lambda)}{\gamma}\left[w + (r_C^* - r_P^*)^2\right] - \sigma_P - \frac{\beta k}{\gamma(1-\lambda)}\mathbf{1}(\text{breakup} = 1). \tag{6}$$

In words, a Core individual identifies with her own country when the (ex-post) status gap between the two countries, $S_C - S_P$, is high and when the distance between the countries is large. This is more likely to happen when the exogenous sources of Core status, captured by σ_C, are high while those of Europe (σ_E) are low; when cultural or linguistic differences are salient (w is high); and when fundamental differences are large. As long as $\beta k > 0$, identifying with one's nation is also more likely under breakup (as in this case there is an additional cognitive cost of identifying with Europe).[7]

Similarly, a Periphery individual identifies with her own country if:

$$S_C - S_P < \frac{(1-\lambda)\sigma_P - \sigma_E}{\lambda} + \frac{\beta\lambda}{\gamma}\left[w + (r_C^* - r_P^*)^2\right] + \sigma_C + \frac{\beta k}{\gamma\lambda}\mathbf{1}(\text{breakup} = 1). \tag{7}$$

Fig. 3 illustrates how the identity profile is determined. Start with Panel A. On the horizontal axis we continue to have fundamental differences. On the vertical axis we have the status gap between the Core and the Periphery. The dashed curves represent "identity indifference curves" (IIC) for the Core (downward sloping and red), and for the Periphery (upward and blue). These curves depict combinations of $r_C^* - r_P^*$ and $S_C - S_P$ such that individuals are indifferent between identifying with their own nation and with the union.

Take the Core for instance. Combinations of $r_C^* - r_P^*$ and $S_C - S_P$ which are located above and to the right of the Core's IIC (denoted $U_{CC} = U_{CE}$) imply that the Core is better off identifying nationally ($U_{CC} > U_{CE}$). Hence, in the region northeast of the Core's IIC, the identity profile has to be either (C, P) or (C, E). However, in the region below and to the left of the Core's IIC, the Core

[7] The relative size of the Core also affects identification decisions. Consider first the case where we shut down perceived distance effects, i.e. $\beta = 0$. When the Core's material payoff (V_C) is higher than the Periphery's (V_P), but the exogenous status of Europe is larger than that of the Core, a larger Core implies the Core is more likely to identify with Europe. Identifying with Europe allows the Core to enjoy the exogenously high status of Europe while incurring lower losses in terms of the endogenous status ($\lambda V_C + (1-\lambda)V_P$). In contrast, when the Core's material payoffs are lower than the Periphery's, while the exogenous status of Europe is lower than that of the Core, a larger Core size implies the Core is more likely to identify nationally. In this case, a larger Core means identifying with Europe is less beneficial to the Core because the endogenous status of Europe is more tilted towards the (lower) Core's material payoffs. Finally, with $\beta > 0$, a larger λ means Europe is closer to the Core, which incentivizes the Core to identify with Europe.

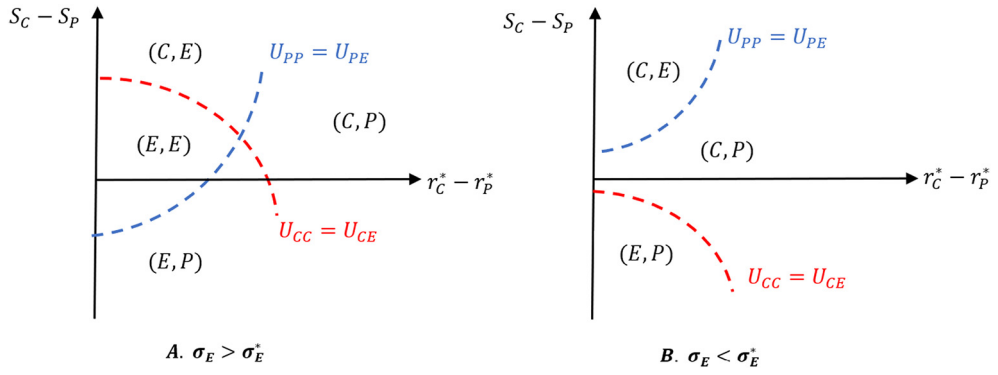

Fig. 3. Choice of social identity.

identifies with Europe (as both intra-union differences and Core status are relatively low). Hence, the identity profile is either (*E*, *P*) or (*E*, *E*). By a similar logic, the Periphery identifies nationally in the region below and to the right of the Periphery's IIC ($U_{PP} = U_{PE}$), and with Europe above and to the left of it.

In Fig. 3.A, ex-ante European status is relatively high.[8] Thus, at low differences between the countries, three identity profiles are possible. If the ex-post status gap is sufficiently high, thenthe only possible identity profile is (*C*, *E*). Conversely if $S_C - S_P$ is sufficiently low, then the only possible profile is (*E*, *P*). In the intermediate range both the Core and the Periphery identify with Europe. However, larger differences between the countries make a common European identity harder to sustain. Thus, even when ex-ante European status is relatively high, an all-European identity profile cannot be sustained if differences between the countries are too large. But large inter-county differences permit the (*C*, *P*) profile.

Fig. 3.B illustrates the situation when ex-ante European status is relatively low. In this case, the all-European profile (*E*, *E*) cannot be sustained, but (*C*, *E*) and (*E*, *P*) are still possible. Finally note from Eqs. (6) and (7) that breakup shifts both IIC curves inward, making European identification harder to sustain. Importantly, the actual ex-post status gap $S_C - S_P$ is a function of the policies chosen (Appendix A.6 provides a characterization). Since these policies themselves depend on the identity profile, we need to consider the equilibrium.

5. Social identity equilibrium

We are now in a position to address our main question: what configurations of social identities and policies are likely to hold when both are jointly determined? We employ a concept of *Social Identity Equilibrium (SIE)*, adapted from Shayo (2009). SIE requires that the policies implemented in both countries be a SPNE in the game analyzed in Section 3, that is, policies and integration decisions are an equilibrium given the social identity profile. At the same time, SIE also requires that the social identities themselves be optimal given these policies.[9]

Definition 4. A *Social Identity Equilibrium (SIE)* is a profile of policies (r_C, r_P, *breakup*) and a profile of social identities (ID_c, ID_p) such that:

i. (r_C, r_P, *breakup*) is the outcome of a SPNE given (ID_c, ID_p);

ii. $\mathrm{ID}_i \in \underset{\mathrm{ID}_i \in \{i,E\}}{\operatorname{argmax}} U_{i,\mathrm{ID}_i}(r_C, r_P, \text{breakup})$ for all $i \in \{C,P\}$.

We begin with the simplest case where there are no ex-ante differences in status and where perceived distances do not affect identification decisions. Section 5.2 then adds status differences, and Section 5.3 further adds distance effects.

5.1. A simple benchmark

Start by shutting down perceived distance effects, i.e. assume $\beta = 0$. Graphically, this means that the only thing determining identification decisions is status and hence IICs are flat and do not depend on unification. Furthermore, suppose there are no ex-ante status differences between the countries. A special case is when status is completely determined by material payoffs so that $\sigma_j = 0$ for all $j \in \{C, P, E\}$.

[8] That is, above the threshold $\sigma_E^* \equiv \lambda\sigma_C + (1-\lambda)\sigma_P + \frac{\beta w\lambda(1-\lambda)}{\gamma} + \frac{\beta k}{\gamma}1(\text{breakup} = 1)$.

[9] The implicit assumption is that the SPNE game in Section 3 and the choice of identities analyzed in Section 4 occur simultaneously.

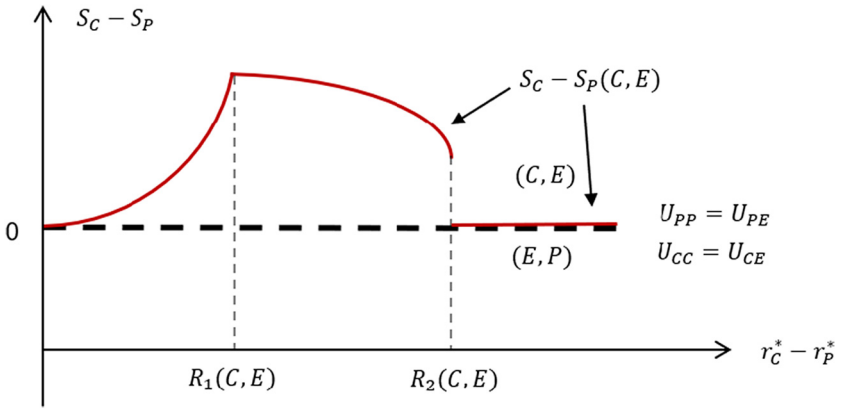

Fig. 4. SIE under no ex-ante differences in status and $\beta = 0$.

Proposition 4. *Suppose $\beta = 0$ and $\sigma_C = \sigma_P = \sigma_E$. Then:*

a. An SIE exists.
b. In almost any SIE in which the union is sustained, the social identity profile is (C,E). The only exceptions are when $(r_C^* - r_P^*) \in \{0, R_2(C,P)\}$.
c. For any fundamental differences $(r_C^* - r_P^*) \in [R_2(C,P), R_2(C,E)]$, there exist multiple SIE with both unification and breakup.
d. The profile (E, E) can be sustained either when $r_C^* = r_P^*$ or under breakup.

The main flavor of Proposition 4 is illustrated in Fig. 4. Given the parameter restrictions, the two IICs coincide (at the dashed line). At points strictly above the IICs, *C* identifies nationally in equilibrium, and *P* identifies with Europe. At points strictly below the IICs the profile is (*E*, *P*). The solid red curve depicts the status gap induced by the SPNE under the (*C*, *E*) profile (described in Section 3, Case 2). Note that while the status gap does vary at different levels of fundamental differences, at any level below $R_2(C, E)$ the status gap is above the IICs. This is because the SPNE policies under (*C*, *E*) privilege Core economic interests over the Periphery's, and we are assuming that there are no other sources of status differences (ex-ante status is identical). Hence, the (*C*, *E*) profile is indeed chosen by individuals in the Core and the Periphery. Thus, for any level of fundamental differences in this range, there exists an SIE with unification and (*C*, *E*).

For all other identity profiles, it can be shown that SPNE implies a status gap which is strictly above the IICs, as long as fundamental differences are greater than zero and below the respective R_2's. Thus, if unification is sustained in SPNE, the identity profile underpinning this SPNE cannot be an SIE. If fundamental differences are above the relevant R_2, the status gap is zero and the profile can be sustained in SIE, but the underlying SPNE must involve breakup.

Going back to Point 1 from our introduction, this benchmark already illustrates a force that works against the idea of an "ever-closer union", which suggests that joining the union itself ultimately brings the member countries closer together (see discussion in Spolaore, 2015). As stated in the last part of Proposition 4, an SIE with the social identity profile (*E*, *E*) is unlikely to be sustained under unification. In fact, the very success of the union tends to push Core countries towards more exclusionary nationalist identities. Furthermore, as we have seen (Proposition 3), a union with a (*C*, *E*) profile is unlikely to be very accommodating to the needs of the Periphery.

5.2. Status asymmetry

We now relax the assumption of equal ex-ante status. A rather stark—but arguably common—case is when the Periphery has relatively low ex-ante status:

Proposition 5. ***Low-Status Periphery.*** *Suppose $\beta = 0$ and $\sigma_C > \sigma_E > \sigma_P$. Then there exists a unique SIE; the social identity profile is (C, E); and the union is sustained if and only if $(r_C^* - r_P^*) \leq R_2(C,E)$.*

As in the benchmark case, if the union is sustained the political power of the Core pushes towards a (*C*, *E*) profile. In the present case however, the Core's political advantage is reinforced by its higher ex-ante status, and the (*C*, *E*) profile holds even without unification.

The more important lesson is that the union is more stable in this case. From Proposition 4.c we know that under equal ex-ante status there exists a range of fundamental differences in which both unification and breakup can take place. Proposition 5 however shows that differences in ex-ante status can push the countries towards a unique SIE in which unification occurs. This is due to the fact that identity is endogenous. Consider fundamental differences larger than $R_2(C, P)$—the point at which the union disintegrates if the periphery identifies nationally. Since agents are allowed to choose their identity, the Periphery in this case will choose to identify *with Europe*, which in turn permits the union to be sustained under larger differences. Recall also

that under (C, E) the union is least accommodating (Proposition 3). As a result, the status gap $(S_C - S_P)$ between the Core and the Periphery widens, and members of the Periphery are further motivated to identify with Europe.

This intuition underpins Point 2 from our introduction. As a possible application, consider the relationship between the Core Eurozone countries and Greece during the debt crisis. Significant fundamental differences have not led to a "Grexit" from the Eurozone, despite the grave recession in Greece. Moreover, the Greek government accepted severe austerity measures in order to remain in the Eurozone. To be sure, leaving the euro could have enormous costs, but unlike Brexit, in the case of southern Europe there is genuine debate among economists regarding the balance of costs and benefits.[10] Indeed, from the perspective of the model, the dismal economic performance of Greece may have even helped sustain a sufficient degree of European identification among the Greeks which in turn helped keep Greece in the Eurozone (see Appendix C.3 for data on support for the euro following the 2008 financial crisis).

Next, consider the Social Identity Equilibrium when the ex-ante status of the Periphery is higher than the Core's. Contrary to the unambiguous nature of Proposition 5, this setting implies a richer set of possibilities. While the Core continues to enjoy more political power, it no longer has an (ex-ante) status advantage. In the setting of Proposition 5, even if some shock drove the Core to temporarily identify with Europe, such an identity would not be sustainable. However, in the present case political power is counterbalanced by lower exogenous status and hence European identity in the Core may be sustained. This may then translate to equilibria in which the union is sustained and policy is relatively accommodating (e.g. SIE's with (E, P) and (E, E) identities). And while (C, E) equilibria may still exist, they are no longer unique.

Proposition 6. ***High-Status Periphery.*** *Suppose $\beta = 0$ and $\sigma_C < \sigma_E < \sigma_P$. Then:*

a. *An SIE exists.*

b. *In any SIE in which breakup occurs, the social identity profile is (E, P).*

c. *There exists a subset $I^* \subseteq [R_2(C, P), R_2(C, E)]$ such that if $(r_C^* - r_P^*) \in I^*$ both unification and breakup can occur. However, in any SIE in I^* in which unification occurs, the Periphery identifies with the union.*

Two lessons are worth highlighting. First, the union is more fragile in this case. In contrast to the previous case, in which unification necessarily takes place as long as fundamental differences are below $R_2(C, E)$, in this case breakup can occur below this threshold. This is illustrated in Fig. 5, Panel A. The figure depicts the status gap curve consistent with the identity profile (E, P). When this curve lies below both IIC's, the (E, P) profile holds in SIE. However, for fundamental differences above $R_2(E, P)$ the SIE involves breakup. But we know from Section 3 that $R_2(E, P) < R_2(C, E)$. The conclusion is that unification is not assured when the Periphery has higher status, even under relatively mild fundamental differences: the status differences can support an identity profile which does not allow for unification in the face of these differences.

Second, consider levels of fundamental differences such that multiple SIE exist where some involve breakup and others unification. Proposition 6 says that any SIE in this region that involves unification must have the Periphery identify with Europe. This can be seen in Fig. 5, Panel B. The figure depicts the status gap functions under three identity profiles.[11] The shaded area shows a region of fundamental differences in which multiple equilibria exist, with different identity profiles. Thus, there exists an SIE with breakup and the Periphery identifying nationally (the (E, P) profile—dashed blue curve). But for the same levels of fundamental differences, there also exist SIE's with unification. Furthermore, in all of these SIE's the Periphery identifies with Europe. However, unlike the case of a low-status Periphery (Proposition 5), a high-status periphery may identify nationalistically in equilibrium, and this equilibrium is characterized by breakup even at low levels of fundamental differences. This can help explain why, in 2016, a majority of UK voters chose to leave, despite the EU being relatively accommodating to British demands and despite the overwhelming view among economists that the costs far outweigh the benefits.[12] Support for Brexit remained substantial in subsequent years, even when the costs of leaving were in plain sight, and the pro-Brexit Conservative party won a landslide in the December 2019 general elections.

5.3. Distance effects

We now relax the assumption $\beta = 0$ to allow identification decisions to respond to perceived distances. Let $\boldsymbol{p} = (\beta, k, w, \gamma, \Delta, \lambda, \sigma_E)$ be a vector of parameters. Let $\bar{M}(\boldsymbol{p}, \sigma_C, \sigma_P)$ be the *maximal* level of fundamental differences under which an SIE with unification exists given $\boldsymbol{p}$ and ex-ante status σ_C, σ_P. Let $\underline{M}(\boldsymbol{p}, \sigma_C, \sigma_P)$ be the *minimal* level of fundamental differences such that an SIE with breakup exists for any level of fundamental differences larger than $\underline{M}(\boldsymbol{p}, \sigma_C, \sigma_P)$, given $\boldsymbol{p}$, σ_C, σ_P.

To begin, consider what happens when σ_E, the exogenous part of European status, is not too high. Specifically:

[10] With respect to Greece, economists like Joseph Stiglitz argued that "leaving the euro will be painful, but staying in the euro will be more painful" (Stiglitz, J., The Future of Europe, UBS International Center of Economics in Society, University of Zurich, Basel, January 27, 2014).

[11] The figure is drawn for the case when European status is high, and hence (C, P) cannot be part of an equilibrium. The intuition for the result is similar in the case when European status is low.

[12] See Ipsos-MORI, Bloomberg and Financial Times surveys of economists prior to the vote.

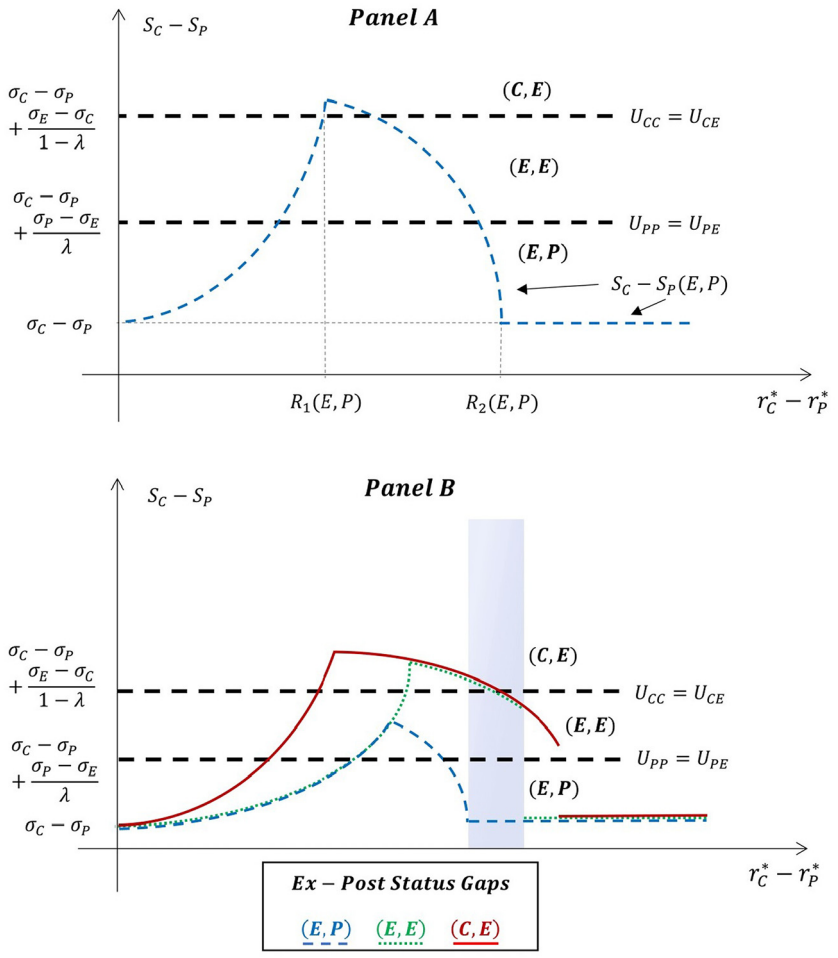

Fig. 5. SIE when the periphery has higher ex-ante status and $\beta = 0$. *Note:* The figure is drawn for the case in which $\sigma_E > \sigma_E^*$.

Condition 1.

$$\sigma_E \quad < \min \left\{ \begin{array}{c} \sigma_C + \frac{\beta(1-\lambda)^2}{\gamma}\left(w + 2\Delta + 2\sqrt{\Delta^2 + \frac{\beta\Delta k}{1+\gamma\lambda}} + \frac{\beta k}{1+\gamma\lambda} - \frac{\gamma k}{(1+\gamma\lambda)(1-\lambda)}\right) \\ \lambda\sigma_C + (1-\lambda)\sigma_P + \frac{\beta w\lambda(1-\lambda)}{\gamma} \end{array} \right\},$$

We can then characterize the SIE as follows.

Proposition 7. ***Robustness in SIE.*** *Assume Condition 1. Then for any given parameter vector* $\mathbf{p}$,

a. $\bar{M}(\mathbf{p}, \sigma_C, \sigma_P | \sigma_P \geq \sigma_C) \leq \bar{M}(\mathbf{p}, \sigma_C, \sigma_P | \sigma_P < \sigma_C)$, *and there exist* $(\mathbf{p}, \sigma_C, \sigma_P)$ *such that the inequality is strict.*

b. $\underline{M}(\mathbf{p}, \sigma_C, \sigma_P | \sigma_P \geq \sigma_C) \leq \underline{M}(\mathbf{p}, \sigma_C, \sigma_P | \sigma_P < \sigma_C)$, *and there exist* $(\mathbf{p}, \sigma_C, \sigma_P)$ *such that the inequality is strict.*

This result generalizes the patterns discussed in Section 5.2. A union can be sustained at higher levels of fundamental differences when the Periphery has relatively low status; and disintegration can occur at lower levels of fundamental differences when the Periphery has equal or higher status than the Core. The basic reason is that members of a low-status Periphery will tend to identify with Europe, which in turn permits the union to be sustained under larger differences. This happens despite—and to some degree because of—the unaccommodating policies of the union, which accentuate the Periphery's status disadvantage and makes European identity more attractive. In contrast, a high-status Periphery is more likely to adopt a nationalistic identity, which in turn requires a more accommodating policy under unification. As a result, the union breaks up under smaller differences.

The next two results modify the conclusions from Section 5.2, and provide more insight regarding the identification patterns that emerge under breakup and under unification.

Proposition 8. ***Identification in SIE with Breakup.*** *Assume Condition 1.*

a. If $\sigma_P < \sigma_C$ then in any SIE with breakup the Core identifies nationally but the Periphery may identify with Europe.

b. If $\sigma_P > \sigma_C$ then in any SIE with breakup the Periphery identifies nationally but the Core may identify with Europe.

Part (a) says that even countries that are not part of the union might still in equilibrium identify as European, so long as they are low-status. In contrast, high-status countries always identify nationally under breakup. To see the intuition, consider for a moment what happens when $\sigma_C = \sigma_E = \sigma_P$. Under breakup, each country sets its own policy and there is clearly no status gain from identifying as European. But identifying with Europe entails a cost in terms of perceived distance. Hence, in any SIE with breakup both the Core and the Periphery must identify nationally. Now, if the Periphery has low ex-ante status, the status gain from identifying with Europe may in principle compensate it for the loss in similarity, even at (relatively high) levels of fundamental differences such that breakup occurs. Nonetheless, unlike the special case of $\beta = 0$ (Proposition 5), the identity profile under breakup is not necessarily (C, E), as the Periphery may also identify Nationally.

Conversely, if the Periphery has high ex-ante status, then it identifies nationally in any SIE with breakup. However, the special case of $\beta = 0$ (Proposition 6) again needs modification, as the Core does not necessarily identify with Europe.

Next, consider the identity profile in SIE with unification.

Proposition 9. ***Identification in SIE with Unification.*** *Assume Condition 1.*

a. If $\sigma_P < \sigma_C$ then in any SIE with unification the Core identifies nationally.

b. If $\sigma_P > \sigma_C$ then all four identity profiles can be sustained in some SIE with unification.

Notice that for high status periphery countries, we expect national identification under breakup (Proposition 8b), but not necessarily under unification. Proposition 9 also confirms the point we alluded to earlier: that unification by itself does not guarantee the emergence of a common identity throughout the union. Most notably, if the Core has high status, then unification tends to push it towards a more exclusionary identity.[13]

Finally, consider shocks to β. The thought experiment could be some policy that alters the salience of inter-country differences.

Proposition 10. *Assume Condition 1. Then $\bar{M}(\boldsymbol{p}, \sigma_C, \sigma_P)$ and $\underline{M}(\boldsymbol{p}, \sigma_C, \sigma_P)$ are both weakly decreasing in β.*

Thus, a reduction in the salience of inter-country differences—or if people care less about them—would tend to allow the union to be sustained at higher levels of fundamental differences. Moreover, as we show in Appendix A.14, a fall in β would allow new SIE in which the Periphery identifies with Europe and unification takes place. However, it is important to note that when $\sigma_C \geq \sigma_P$ the Core identifies nationally in any new SIE which involves unification. Basically, the gain from identifying with Europe following a decrease in β is offset by the loss in status.

A more specific question then is what happens to the set of $(r_C^* - r_P^*)$ such that there exists an SIE with *both* unification *and* an all-European (E, E) profile. This question has been quite central to the European integration project. We find that in the case of a high status periphery ($\sigma_C \leq \sigma_P$), a fall in β tends to expand this set but this set is unchanged when $\sigma_C > \sigma_P$ (Proposition 15.b in Appendix A.14).

5.4. When the ex-ante status of the union is high

To complete the analysis, consider what happens when we relax Condition 1. We concentrate here on the basic intuition and provide more details in Appendix A.15.

A very high European status makes European identity attractive for a low-status Core. And as long as identifying with Europe implies a cognitive cost of breakup (i.e. $\beta k > 0$), then, as discussed in Section 3, this generates an additional incentive for the Core to maintain the union. Together, these two forces can offset the destabilizing effects of a high-status periphery noted in Proposition 7.

Specifically, consider a union with a very high status. Post-WWII USA might be a good example. In this case, even if the periphery region has relatively high status ($\sigma_P > \sigma_C$), the (E, E) identity profile can be sustained at relatively high fundamental differences. Everyone still identifies as American. But recall from Proposition 2 that if βk is sufficiently high then the union is most robust under the (E, E) profile. We can then show that there exist parameter values such that (E, E) can be sustained at high fundamental differences when the Periphery is relatively high-status but not when the Core is. Hence there could be situations where $\bar{M}(\boldsymbol{p}, \sigma_C, \sigma_P | \sigma_P \geq \sigma_C) > \bar{M}(\boldsymbol{p}, \sigma_C, \sigma_P | \sigma_P < \sigma_C)$.

[13] If $\sigma_C = \sigma_P$ there are more possibilities, depending on β. If $\beta > 0$ then like Proposition 9.*a*, in any SIE with unification the Core must identify nationally. If $\beta = 0$, this is true in *almost* any SIE with unification (Proposition 4).

6. Conclusion

Social identity has been widely discussed as an important factor underlying international economic and political integration. But tracing the implications of identity in this context is complicated by the fact that identities can adjust to economic and political conditions. This paper sought to develop a tractable framework that might help us address these issues. We focus on the equilibrium in which both policies and identities are endogenously determined.

The analysis offers several lessons. A union with an (ex-ante) high-status periphery country tends to be more fragile and may break up at low levels of fundamental differences, compared to a union with a low-status periphery. Importantly—and against the hopes of many supporters of European integration—unification does not necessarily support the emergence of a common identity in equilibrium. Indeed, in the case of relatively high Core status, integration can push the Core countries towards a more exclusionary identity. The analysis also points to the possibility that low status countries get caught in an identity poverty trap: low national status generates an incentive to identify as a member of the union, but such an identification entails a higher cost of breaking up with the union. This can push the periphery country to policy concessions that further erode its status.

To illustrate the applicability of this framework, consider the formation of the eurozone. Countries that joined the euro were not simply countries for whom the loss of monetary policy independence was less costly—given similar business cycles as in France and Germany—and/or for whom the gains from trade and enhanced credibility were particularly large. Rather, they were countries with a *combination* of high fit in terms of the Optimum Currency Area (OCA) criteria, and relatively low international status (see Appendix for data and discussion). The eurozone thus included countries that seemed unlikely candidates from an OCA perspective. Countries that stayed out despite their economic suitability to the euro, tended to be high status countries with relatively high levels of national identification. Similar mechanisms seem to have contributed to avoiding a Grexit despite unaccommodating policies; and to the realization of Brexit, where a high-status country chose to leave the EU despite very accommodating policies.

We believe this now calls for empirical analysis to identify and quantify these mechanisms, and to quantitatively assess the role of social identity in economic integration more generally. More work is also needed to introduce dynamic considerations into the model. This includes possible differences in the costs of entering versus leaving a union, and the endogeneity of fundamental differences to integration decisions. The latter includes policies taken by the union and by non-members that affect perceived differences, e.g., by promoting a common (or a differentiated) culture, and reducing economic and social disparities across countries.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jinteco.2022.103577.

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