The institutional evolution of labour market institutions in Europe and entrepreneurship

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Content

Policy brief
The institutional evolution of labour market institutions in Europe and entrepreneurship

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Abstract

Labour mobility is an important condition for entrepreneurship. Present policies call for deregulation of the labour market institutions as the preferred mechanism to stimulate entrepreneurship. However, in Deliverable 2.5 we argue that an a-historical one-size-fits-all approach is likely to be misguided in the much more diverse European setting compared to a country like the United States.

Introduction:

What is the impact of labour market institutions on entrepreneurial activity? Recently it has been argued that flexible labour market institutions have a positive influence on entrepreneurial activity. No doubt, labour mobility is an important condition for entrepreneurship. The institutions governing the allocation of labour and talent in society enable entrepreneurs to develop their businesses and affect the willingness of employees to be(come) entrepreneurial. In Deliverable 2.5 we analyse these institutions by reviewing labour market regulation in European countries from a historical perspective.

We focus on three pillars: regulation of labour markets, wage-setting institutions and social insurance systems.

The European Commission (2013) stresses the importance of modernizing labour markets (simplifying employment legislation and developing flexible working arrangements) and of stimulating an entrepreneurial culture in Europe. However, we would like to highlight that this perspective is likely to be overly simplistic. First, one-size-fits-all reform strategies are unlikely to be successful due to institutional differences and because of country-specific institutional complementarities. Second, some (informal) institutions, notably

deep-seated cultural characteristics, are difficult to change due to their historically developed embeddedness.

The findings of Deliverable 2.5 (Dilli 2016) calls for a more nuanced perspective on one-size-fits-all policies. These policies call for deregulation of the labour market institutions as the preferred mechanism to stimulate entrepreneurship. While this is likely to be the most appropriate policy prescription in the case of Anglo-Saxon liberal economies, the analyses in Dilli (2016) and Dilli and Elert (2016) shows that a general deregulation of labour markets is unlikely to be the best way to stimulate entrepreneurship in all identified clusters of countries. Therefore, there is need for alternative policy measures and strategies, which take into account each country's complementarities and the idiosyncrasies of the institutional structures.

Methodology

The *Varieties of Capitalism* framework is used (Hall and Soskice 2001) to take into account the interdependencies between the labour market institutions, and to evaluate to what extent changes in one set of labour market institutions influence the national policies in general. In liberal market economies (LMEs) individual firms and employees negotiate pay rates, whereas in coordinated market economies (CMEs) national trade unions and employers' associations bargain over wages, which then apply to specific collectives of workers.

Deliverable 2.5 analyses whether the varieties in labour market institutions have converged over time as a result of processes such as deepened integration among EU countries, globalization, and financial and product market deregulation. Cluster analysis is used to get an overview of the evolution and possible convergence of the varieties of labour market institutions over time.

A further goal of Deliverable 2.5 is to evaluate the implications of the cross-country variations in labour market institutions for the entrepreneurial activity in Europe. The results of the cluster analysis are used to create a dynamic grouping of the countries over time, which helps to explain the variation in entrepreneurial activity in Europe. The empirical evidence is obtained by employing regression analysis.

Results and Conclusions

All European Union member countries have some form of social security system, wage-setting institutions and employment protection legislation. Deliverable 2.5 highlights that a number of labour institutions have changed considerably since the 1980s due to explicit deregulation and spontaneous evolution. However, these changes have not resulted in complete convergence towards a liberal market economy (LME) system over time. In fact, the results of the cluster analysis reveal six distinct bundles, or types, of labour market institutions. Evidently, labour institutions can follow different evolutionary paths. The historical perspective also makes it possible to recognize that some countries have experienced a transition from one cluster to another since the 1980s.

In line with the Varieties of Capitalism literature (Hall and Thelen 2009) in Deliverable 2.5 we explain these persistent differences by the presence of institutions that have developed historically and in close interaction. Therefore, our analysis does not support a one-size-fits-all reform package for the member countries as a means to make the EU more entrepreneurial. Another important reason why the EU should avoid one-size-fits-all policies is the importance of complementarities between

labour market institutions. This means that the co-existence of two or more institutions matters for their performance. They mutually enhance the performance contribution of each individual institution, making the whole more than the sum of its parts (Schmidt and Spindler 2002). In other words, institutional arrangements have evolved historically into complex, interrelated and multi-layered systems of complementary arrangements.

In summary, research in Deliverable 2.5 suggests that the link between labour market institutions and entrepreneurial activity depends on the complementarities in labour market institutions over time. For instance, the negative link between centralized wage-setting institutions and the business ownership rate is only visible in Anglo-Saxon countries, whereas social security arrangements in Eastern Europe correlate positively with higher business ownership rates. Overall, the findings highlight the importance of taking into account these complementarities while searching for adequate policy tools to promote an entrepreneurial society in Europe.

Implications and Recommendations

Varieties of capitalism leads to varieties in entrepreneurship. Therefore implementing, policies in Europe that have been demonstrated to successfully support entrepreneurship in the United States and/or are focused solely on deregulation in order to move the national institutional setup as close as possible to the archetypical liberal market economy, is unwise. In other words, in Deliverable 2.5 we argue that an a-historical one-size-fits-all approach is likely to be misguided in the much more diverse European setting compared to a country like the United States. As a matter of fact, changes in a certain element in the direc-

tion of the LME model give rise to inconsistencies, which could make the model less efficient.

Figure 1 shows the clustering of 19 European countries and the United States into six different institutional families and their changes over time. We recommend that entrepreneurship policies concerning labour market institutions be made complementary to a country's institutional environment in order to be effective.

Table 1

Results of the cluster analysis and the 6 grouping of countries over time

	(1) 1972–1979	(2) 1980–1998	(3) 1990–1999	(4) 2000–2010
Austria	1	1	2	2
Belgium	2	4	3	2
Czech Republ.	5	5	5	5
Denmark	1	1	2	1
Finland	1	1	1	1
France	3	3	4	4
Germany	4	2	2	3
Greece	3	4	5	4
Ireland	2	6	6	4
Italy	4	4	3	3
Netherlands	2	2	2	2
Norway	1	1	1	1
Poland	5	5	5	5
Portugal	5	4	4	4
Slovakia	5	5	5	4
Spain	4	3	4	4
Sweden	1	1	1	1
Switzerland	2	2	2	1
United Kingdom	2	6	6	6
United States	6	6	6	6

Sources and further reading

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The Diversity of Labor Market Institutions and Entrepreneurship in Europe and the United States: Past and Present

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The Diversity of Labor Market Institutions and Entrepreneurship in Europe and the United States: Past and Present

Abstract

Earlier studies have shown that deregulated labor market institutions promote entrepreneurship. We re-evaluate this finding by considering complementarity between institutions, as advocated by the Varieties of Capitalism approach. We study the (co-) evolution of labor market regulations, wage setting institutions and social security, along with their link to entrepreneurship between 1972 and 2010, in 19 European countries and the United States. Two findings stand out. First, a cluster analysis reveals six distinct bundles of labor market institutions in Europe that change over time. Second, the link between labor market institutions and entrepreneurship is conditional on the cluster of countries. For instance, more employment protection is associated with higher business ownership rates, except in the Anglo-Saxon model. Different clusters also support different forms of entrepreneurial activity. Therefore, to promote entrepreneurship in Europe, there is a need for tailored reform strategies that consider long-term diversity in the institutional labor market structure.

Key words: Labor market institutions, entrepreneurship, business ownership
JEL classification: K31, O57, L26

1. Introduction

Almost a century ago, Schumpeter (1934) identified innovation as a major engine of economic growth and entrepreneurs as the agents of the innovation process. A growing body of evidence shows that the economic benefits of entrepreneurship range from innovation to job creation to knowledge spillovers, from research to technology, and so on (Acs, Autio and Szerb 2014). Since the mid-1990s, European policymakers who once viewed Silicon Valley with skepticism have begun to recognize the benefits of an entrepreneurial economy (Audretch 2007). The Entrepreneurship 2020 Action Plan highlights that Europe needs more entrepreneurs if it is to realize more growth and create new jobs (European Commission 2013).

Despite the recognized social and economic benefits of entrepreneurship, the level and type of entrepreneurial activity vary significantly across countries, regions and over time (Simón-Moya, Revuelto-Taboada and Guerrero 2014). For example, according to the Global Entrepreneurship and Development Institute's index (2016), the United States (US) is the most entrepreneurial society in the world, whereas many European countries score worse than the Western offshoot countries on these indices. Billionaire entrepreneurs are largely found in the US. In Europe, such entrepreneurs are the most common in Ireland and the least common in Finland, Denmark and Slovakia (Henrekson and Sanandaji 2014).

One commonly acknowledged explanation for the difference between the US and Europe in terms of entrepreneurial activity is Europe's very different institutional foundations (Bruton, Ahlstrom and Li, 2010). For this reason, policymakers have suggested introducing institutions that have proven to be successful in the US to the European context (e.g., European Commission 2013). Among these institutions, labor market institutions, which are the focus of this study, have received substantial attention (e.g., Román et al. 2011a, Henrekson et al. 2010). For example, the European Commission (2013) has called for action in modernizing labor markets by simplifying employment legislation and developing flexible working arrangements to stimulate entrepreneurial activity in Europe.

Nevertheless, these reform strategies present two issues that must be considered. First, because of institutional complementarities, one-size-fits-all reform strategies are unlikely to be successful, as highlighted in the Varieties of Capitalism (henceforth VoC) approach (Hall and Soskice 2001). That is, what works in one European region or member state is likely to work less well or even fail in other member states that lack key supporting institutions. For example, flexicurity policies, which seek a balance between flexible labor market arrangements and social security to promote competitiveness, have become important to the European Commission (Cazes and Verick 2010). However, whereas this model has been successful in Austria, its adoption has been more challenging in the context of Central and Eastern Europe (Viebrock and Clasen 2009). Second, such policies lack a long-term perspective and thus overlook the fact that (some) institutions are historically embedded and more resistant to change (see Nunn 2012 for a review). For instance, Alesina et al. (2015) argue that stringent labor market regulations persist in a number of countries despite their economic inefficiency.

The evidence in the literature on the role of labor market institutions in entrepreneurship is also inconclusive. Whereas previous studies show that labor protection, the regulation of wage setting institutions and social security arrangements are important for entrepreneurial activity (e.g., Parker and Robson 2004; Kanniainen and Vesala 2005; Henrekson et al. 2010), less is known about how they are important. Theoretical arguments and empirical results arrive at opposite conclusions with respect to the effects of regulated labor market institutions on entrepreneurship (Román et al. 2011a: 2). There are three main reasons for this discrepancy. First, most of the earlier studies do not consider heterogeneity in the group of entrepreneurs who are influenced differently by labor market institutions (Millán et al. 2010). Only a small fraction of entrepreneurs are "high-impact" entrepreneurs who contribute to economic growth and innovation; the rest are either self-employed or small business owners (Román et al. 2011a). Second, fewer studies (e.g., Parker and Robson 2004; Ilmakunnas and Kanniainen 2001) consider whether the importance of labor market institutions to entrepreneurship changes over time. Third, the previous literature studies the relevance of various labor market institutions separately. Schneider et al. (2010) show that it is the complementarity of institutions, not single institutions, that influences business performance.

In the VoC literature, institutional complementarities have been linked with numerous economic outcomes, including economic growth, innovation, and income inequality (e.g., Campell and Pedersen 2007). However, less attention has been paid to the relevance of the interplay between institutions to entrepreneurial activity. Moreover, studies using this complementarity approach provide evidence either on the first step by clustering economies according to their institutional structure or on the second step by linking these clusters to various economic outcomes. A successful test of the link between capitalist variety and sector-specific comparative advantages involves a two-step procedure (Schneider and Paunescu 2012:732). Although the studies of Schneider and Paunescu (2012) and Schneider et al. (2010) are among the few to combine these two steps, their studies focus on comparative advantages in terms of innovation.

To shed light on these issues, this paper tests whether and how the relations between (single) labor market institutions and entrepreneurship change depending on the varieties of institutional configurations in Europe over time. To do so, we collect data on labor market institutions and entrepreneurship in 19 European countries between 1972 and 2010 and include the US as a point of comparison. We first investigate variations in labor market institutions over time using a cluster analysis. We then provide empirical evidence on the correlation between labor market institutions and entrepreneurial activity depending on the varieties of institutional structure between 1972 and 2010 using several pooled regression analyses. We use the rate of business ownership as our main indicator of entrepreneurship because this statistic is the only historically available indicator (Van Stel et al. 2010). We also include indicators on other different forms of entrepreneurial activity that are available from 2001 onwards.

Two important findings stand out. First, six models of labor market institutions emerge from the cluster analysis of 20 countries; these models change over time and have implications for entrepreneurship. For instance, the Mediterranean and hybrid continental regimes that combine a high level of employment protection legislation, social security, and regulated wage setting institutions are more favorable for business ownership than the other clusters. Second, the interplay between labor market institutions determines the link between single labor market institutions and

entrepreneurship. For instance, whereas higher employment protection is favorable to business ownership in most contexts, more-regulated labor market institutions in Anglo-Saxon countries hamper business ownership. Each cluster also supports different forms of entrepreneurial activity ranging from ambitious entrepreneurs (e.g., Eastern Europe) to opportunity entrepreneurs (e.g., the Nordic countries). Therefore, this paper calls for a more nuanced perspective on one-size-fits-all policies, including the deregularization of labor market institutions as a policy tool for stimulating entrepreneurship.

This paper proceeds as follows. The next section provides a literature overview of the link between labor market institutions and entrepreneurship, followed by a discussion on the relevance of the Varieties of Capitalism approach to understand this link. Section 3 introduces the data sources and methodology used to test the hypothesis. Section 4 discusses first the results of the cluster analysis and the regression results. Section 5 concludes.

2. Literature Overview

The definitions and forms of entrepreneurial activity differ widely in the literature (Acs et al. 2014). Entrepreneurship in the "Schumpeterian sense" involves the activity of introducing "new combinations" of productive means in the marketplace. In a broad economic sense, entrepreneurship means owning and managing a business or otherwise working on one's own account (Van Stel et al. 2010). Here, entrepreneurship is defined in the broad economic sense, i.e., in terms of owning a business. Moreover, it is important to acknowledge that differences in performance between countries are generated by the type (replicative vs. high-impact) and motivation (necessity vs. opportunity) of entrepreneurial activity (Stenholm et al. 2013). Firms with an exceptional growth trajectory that intensify competition, provide the largest potential for new jobs, and enhance economic growth are defined as high-impact firms (Henrekson et al. 2010). Opportunity-based entrepreneurship involves cases in which people primarily start a new business to exploit a perceived business opportunity. In the case of necessity-based entrepreneurship, individuals decide to start a business out of necessity, e.g., unemployment (Hechavarria and Reynolds 2009).

There is wide agreement that the institutional context influences entrepreneurial activity (Baumol 1990; Scott 2007; Estrin et al. 2013).[1] Institutions can be seen as formal and informal sets of rules that shape individuals' preferences and behavior (North 1990). In an institutional framework of entrepreneurship, labor market institutions deserve attention because they have direct implications for both enterprises and business formation (Henrekson et al. 2010). The relevant labor market institutions for entrepreneurship can be grouped under three pillars: (1) regulation of labor markets, (2) wage setting institutions, and (3) social security systems (Henrekson 2014). We focus on these three cases since they have received considerable attention in the literature because of their relevance to entrepreneurship (e.g., Kanniainen and Vesala 2005; Román et al. 2013).

Three strands of literature shed light on the research question of how labor market institutions are important for entrepreneurial activity. The first strand argues that stringent labor market institutions, regulated wage setting institutions, and high social security have a negative impact on entrepreneurship. According to Golpe et al. (2008), with stringent labor market institutions, the opportunity costs of becoming an entrepreneur increase because of features such as permanent contracts and severance pay. They have the effect of reducing the risk of earnings in paid employment relative to the risk of self-employment incomes, causing an agent to be less likely to choose to become self-employed (Kanniaiannen and Vesela 2005). Tighter labor laws also decrease the survival prospects of entrepreneurs who employ outside workers (Parker 2007). With respect to wage setting institutions, Kanniainen and Leppämäki (2008) argue that union power and centralized wage bargaining institutions that truncate or compress the lower tail of the wage distribution increase the risk of entrepreneurial failure, thereby discouraging entrepreneurship. In terms of social security arrangements, generous unemployment benefit schemes and other social benefits may decrease incentives and increase perceptions of the risk involved in establishing a business (Parker 2007).

A second strand of the literature has argued for a positive effect of regulated labor market institutions and social security on entrepreneurship by creating a safety net in the event of business failure (Hessels et al. 2007). Moreover, in stricter labor markets, employers may attempt to circumvent the effects of regulations on their ability to hire

and fire employees by contracting with self-employed workers (Parker 2007, 2010; Román et al., 2011b). Acharya et al. (2010) state that stringent labor laws, especially in innovation-intensive sectors, can foster innovation and growth because investments in worker training and employee loyalty may be greater in situations in which labor is more protected, thus creating opportunities for new business ventures.

More recently, a third school of thought has begun to highlight the importance of considering the varying impacts of labor market institutions on various forms of entrepreneurial activity. According to Henrekson et al. (2010), strict labor market institutions hamper firm growth by reducing the flexibility of high-risk entrepreneurial companies. Van Praag and Van Stel (2013:352) show that employment protection discourages opportunity entrepreneurship and promotes necessity entrepreneurship. They explain this link based on the insider-outsider theory. "Outsiders" (i.e., low-skilled labor market participants) might decide to start new firms out of necessity whereas for "insiders," the opportunity costs of starting up a business are very high (Van Praag and Van Stel 2013:352). Henrekson (2014) argues that centralized wage-setting institutions disadvantage potentially high-impact firms by implementing standard compensation policies that closely tie wages to easily observed job and worker characteristics such as occupation, education, experience and seniority. According to Hessels et al. (2007), social security is likely to have a negative effect only on opportunity-based entrepreneurship; however, they expect two countervailing effects in the case of necessity-based entrepreneurship.[2]

In sum, based on these three schools of thought, the negative, positive and opposite impacts of labor market institutions on various forms of entrepreneurial activity can be expected. However, as noted earlier, these studies consider single labor market institutions and do not consider the interplay between these institutions. This perspective therefore neglects the fact that each country has evolved its particular institutions, many of which are complementary (Hall and Soskice 2001). In the VoC literature, the core idea of complementarity is that the coexistence (within a given system) of two or more institutions mutually enhances the performance of each individual institution (Deeg 2007). Thus, the three pillars of labor market institutions—i.e., regulated labor markets, wage setting institutions, and social security systems—should interact with each other instead of being independent of

each other. For example, flexible labor markets should be more efficient when wage setting institutions are non-centralized and have weak labor organizations.

The original VoC framework groups the most affluent economies in terms of their institutions as either *liberal market economies* (LME), exemplified by the US, or *coordinated market economies* (CME), exemplified by Germany (Hall and Sosckice 2001). However, studies that have tested the proposition of Hall and Soskice (2001) on the LME-CME dichotomy reveal a large variation within CMEs (e.g., Amable 2003, Deeg, 2007, Dilli and Elert 2016, Schneider and Paunesceu 2012). For instance, Amable (2003) separates the social democratic model, the Mediterranean model and the continental European model.

Considering earlier varieties in the literature, six forms of capitalism are potentially relevant here. The *Anglo-Saxon economies* (e.g., the US) have the characteristics of the LMEs. Thus, the labor market is deregulated with relatively unrestrictive individual-dismissal regulations (Scarpetta 2014). Wages are determined at the firm level and social security is limited (Estevez Abe et al. 2001; Ulku and Muzi 2015). In comparison, the *Nordic model* (the Scandinavian countries) is more egalitarian with respect to wage setting institutions and has more centralized wage bargaining. Protection of employees is realized through a mixture of moderate employment protection and a high level of social protection. In the *continental European countries* (e.g., the Netherlands, Belgium), regulations of individual dismissal are far stricter than the Nordic model. Wage bargaining is coordinated and a solidaristic wage policy is developed, albeit to a lesser extent than in the *Nordic model*. Such countries have a high degree of social protection, primarily with respect to employment (Scarpetta 2014). The *Mediterranean model* (Italy, Spain, Greece) has high employment protection and lower social security than the *continental European model*. Bargaining coverage is often extended through provisions and comparatively weak trade unions can control large parts of the labor market without being representative of large parts of the workforce (Hassel 2014:11). Although less attention has been given to the Eastern European countries in the VoC literature, Dilli and Elert (2016) show that the *Eastern European model* (e.g., Poland, Hungary) forms a separate cluster in terms of its social security arrangements.

The majority of these studies, however, either focuses on a selected group of countries or does not test their claims empirically. Therefore, as a first step, it is relevant to test which varieties are visible in labor market institutions and whether they change over time. The VoC framework has been criticized for being static (Hall and Thelen 2009). Numerous scholars have argued for the path dependency of the clusters (Deeg 2007). Other studies have highlighted that varieties change over time (e.g., Schneider et al. 2010; Schneider and Panuescu 2012). Contemporary market pressures—including long-term trends such as globalization and the decline of manufacturing—can be potential factors that drive a convergence toward a single "most efficient" model of capitalism (Thelen 2012:138). For instance, the Thatcher government passed a significant number of laws (i.e., the Employment Acts of 1980, 1982 and 1988) that diminished individual employee rights. In the Scandinavian countries, there was a shift from a centralized wage arrangement to a more sectorial bargaining model during the 1980s (Ulku and Muzi 2015).

The second test is related to the implications of these varieties for entrepreneurial activity. Based on the discussion of the three strands of literature on labor market institutions and entrepreneurship and considering the VoC literature, we formulate the following hypotheses. First, if overly regulated labor market institutions, centralized wage setting institutions, and high social security hamper entrepreneurial activity, the level of entrepreneurship is expected to be highest in the Anglo-Saxon cluster. Second, we also expect the negative link between single labor institutions and entrepreneurship to be strongest in the Anglo-Saxon model due to the interaction between labor market institutions. Third, if social security and employment protection favors entrepreneurship, entrepreneurship is expected to be highest in economies such as the continental European model and the Mediterranean model. Fourth, the positive link between single protective labor market institutions is also expected to be stimulated in these economies. Fifth, based on the third strand of literature, the link between labor market institutions and type of entrepreneurial activity should vary. Because LMEs favor radical innovation based on their institutional set up, a Schumpeterian type of entrepreneurship is expected to flourish in the Anglo-Saxon cluster compared to the others (Ebner 2010).

3. Data and Measurement

As in any historical research, the availability of long-term data plays a crucial role in our choice of entrepreneurship indicators. We use harmonized non-agricultural business ownership data from the COMPENDIA database as the main indicator of entrepreneurship, which is the only historically available and cross-nationally comparable indicator. It is important to acknowledge that the business ownership rate provides limited information on entrepreneurship. On the one hand, Schumpeterian entrepreneurs are a small fraction of the business owners, whereas on the other hand, some entrepreneurs (so-called intrapreneurs) do not work on their own initiative (Wennekers and Thurik 1999). This indicator also does not provide information about companies' start-up processes, size, or failure and does not differentiate between entrepreneurs' motivations.

To address these issues, we use an additional indicator of entrepreneurship, namely billionaire entrepreneurship, as an indicator of Schumpeterian entrepreneurship (Henrekson and Sanandaji 2014). We also gather data on ambitious, opportunity and necessity entrepreneurship from the Global Entrepreneurship Monitor (2015), although these indicators are available only for a recent time frame.

Historical data availability also plays a role in how we capture the three pillars of labor market institutions. To capture the first pillar on regulation of labor markets, the OECD's well-known Employment Protection Legislation (EPL) index is used. A combination of indicators measures the second pillar on wage setting institutions, which comes from Visser (2013). The first set of indicators relates to trade unions: trade union density,[3] unions' role in wage bargaining process, unions' control over appointment of workplace representatives, strike funds and the financing of trade unions. Furthermore, we include indicators on the level of wage bargaining (coordination), governmental intervention in the wage bargaining process, and national minimum wage. To measure the social security system, we collect data on sickness, unemployment and pension minimum-replacement rates from the Comparative Welfare Entitlements (2014) database. We also gather information on the qualification period, duration and waiting period related to unemployment

benefits. We create composite indices of wage setting institutions and social security based on these indicators using factor analysis.

In the second step of the analysis, which studies the relevance of labor market institutions for entrepreneurship, we collect data on a set of control variables. We choose these control variables based on the study of Wennekers et al. (2007) and Carree et al. (2002). They provide evidence of decreasing levels of business ownership with higher levels of economic development, female labor force participation, education, and lower levels of service sector employment and unemployment. We also include indicators on historical institutional characteristics—namely, left-wing political ideology, historical family systems and the legal origins of countries—that are relevant to the business environment (Botero et al. 2004; Duranton et al. 2009; Djankov et al. 2002).

Table 1 presents brief definitions and sources of the variables and Table 2 provides an overview of the indicators and their descriptive statistics.

[Table 1. Overview and Content of the Variables]

[Table 2. Descriptive Statistics]

3.1. Estimation Strategy

The analysis is based on 20 countries between 1972 and 2010. To test our hypotheses, we follow a two-step procedure similar to that of Schneider and Paunescu (2012). Although the Qualitative Comparative Analysis (QCA) approach provides an interesting alternative to combine these two steps, this analysis is not used because it is problematic to use QCA to analyze longitudinal data (Schneider and Paunescu 2012: 737).

To shed light on the first proposition of the changing varieties in labor market institutional structure over time, a cluster analysis using the Ward algorithm was conducted on three factors of labor market institutions. These factors were created using a factor analysis on the 15 indicators of labor market institutions to reduce the

number of correlated variables. Whereas the first four factors revealed an eigen value above one for the entire period, we focus on the first three factors, which explain more than 10% of the variation in the data. On average, the first three factors together explain 65% of the variation in the data between 1972 and 2010.[4] We repeated the factor and cluster analysis for each decadal average between 1972 and 2010 to consider the changes in the cluster of countries over time. The variable loadings suggest that the first factor should be considered a measure of wage setting institutions as indicators of a union's role in wage setting, work representatives, finances and the level of coordination in wage bargaining process, all of which have the highest positive loadings. Thus, wage setting institutions play an important role in identifying the cluster of countries over time. The second factor relates to regulation of the labor market because employment protection legislation has the highest positive loading. The third factor is more difficult to interpret because the variable loadings change over time. However, it is mostly related to social security because either minimum pension or unemployment replacement rates have one of the highest loadings on this factor over time. These results also support the choice to create composite indices of the wage setting institutions and social security used in the regression analysis. Using the results of the cluster analysis for each sub-period, we create a time-varying categorical variable that captures the varieties in labor market institutions over time.

The second proposition for the link between the labor market institutions and business ownership is tested using the following panel data specification:

$$Y_{it=}\alpha + \beta_1 Labor\ institutions_{it} + \beta_2 Socio-economic_{it-1} + \beta_3 Institutions_i + \beta_4 Cluster_{it} + \beta_5 Cluster_{it} * Labor\ institutions_{it} + \beta_6 \theta_t + e_{it} \quad (1)$$

where Y is the business ownership rate at time t for country i; α is the constant. *Labor institutions* capture the three pillars of labor market institutions, i.e., the EPL index, a composite index of wage setting institutions and a composite index of social security. *Socio-economic* represents the time-varying control variables, namely, the lags of log GDP per capita, unemployment rate, education, female labor force participation and population.[5] The first lags of the continuous independent variables are included in the regression to achieve the proper length of time it takes to

affect the dependent variable at time t (Finkel 1995). $Institutions_i$ represent time-invariant institutional characteristics, i.e., a left-wing orientation, family systems, and legal origin for country i. $Cluster_{it}$ represents the dummy variables capturing the membership of country i at time t to a certain cluster considering the varieties in all the labor market institutions together. We also include an interaction term between $Cluster * labor\ institutions$ to test the proposition that the national strategies in (labor market) institutions mediate the relationships between the EPL, wage setting institutions, social security, and business ownership rate. θ is the time-fixed effects and e is the error term. Because we include time-invariant institutional characteristics, we cannot include country-fixed effects in the pooled regression analysis. Despite the time-varying nature of the cluster variable, some countries do not experience any change over time in the cluster to which they belong.

To address missing-data issues, a multiple imputation technique is chosen that uses a bootstrapping-based algorithm designed for panel data. A bootstrapping-based algorithm uses a combination of Imputation-Posterior (IP) and Expectation-Maximization (EM) algorithms. The multiple imputation technique involves imputing m values for each missing item and creating m completed datasets (King et al. 2001).

To test equation 1, the following specifications are used: Model 1 includes the indicator on the three pillars of labor market institutions, Model 2 includes socioeconomic variables, Model 3 includes time-invariant institutional indicators, and Model 4 includes dummy variables that capture the cluster of countries over time. Models 5, 6 and 7 test the interaction terms between single labor market institutions (i.e., the EPL, the wage setting institutions index, and the social security index) and dummy variables on clusters. The interaction terms for each pillar of labor market institutions are tested separately because of multicollinearity issues. Table A1 in the appendix presents the bivariate relation between the independent variables and the business ownership rate based on Spearman's correlation matrix. Additional model specifications and robustness checks are discussed in section 4.2.1.

4. Results

4.1. Diversity of Labor Market Regimes in Europe over Time

Before moving to the regression analysis, it is important to first understand diversity in the labor market institutions and whether those institutions change over time. The results of the cluster analysis can be summarized as follows. We find six bundles of labor market institutions, which are presented in Table 3. Although these clusters correspond well (to some extent) to the earlier classifications of the VoC proposition (e.g., Amable 2003, Schneider and Paunescu 2012; Dilli and Elert 2016), there are important differences. First and most importantly, numerous countries experienced shifts from one cluster to another between 1972 and 2010, providing evidence for institutional change (e.g., Jackson and Deeg 2008; Schneider and Paunescu 2012). A liberalization process is visible in numerous labor market institutions, especially with respect to regulation of labor markets. However, some path dependency is visible in the wage setting institutions because they remain more stable over time than the other two pillars of institutions. It is also important to emphasize that despite the change in labor market institutions, the extent and patterns of change differ significantly by cluster. For instance, the level of social security has changed less in the Nordic and Anglo-Saxon model than in the others. Thus, varieties continue to matter. Second, many countries' cluster memberships (e.g., Switzerland in the 2000s, Greece in the 2000s, Denmark in the 1990s) contradict the classifications suggested in the VoC approach. Third, additional distinct clusters (e.g., the hybrid continental group) emerge that separate some countries from the rest of Europe.

[Table 3. Clustering of Countries on the Factors of Labor Market Regulation, Wage Setting Institutions, and Social Security]

The cluster analysis shows that the first cluster is the *Anglo-Saxon model* with liberal market economy characteristics, composed of the US (the entire period), the United Kingdom (UK) (except between 1972 and 1980) and Ireland (1980s and 1990s), which fits well with the VoC proposition. Figure 1 presents the averages of each cluster in the EPL index and the composite indices of wage setting institutions and social security between 1972 and 2010. This figure shows that this cluster has the lowest level of labor market regulation, provides the least social security for the entire

period, and features low regulation in wage setting institutions; this cluster becomes even more deregulated from the 2000s onwards. Ireland shows characteristics similar to those of the Mediterranean countries in the period between 2000 and 2010 because of its more coordinated wage setting structure and higher sickness replacement rates than the UK and the US. Both the UK and Ireland have characteristics similar to the continental model between 1972 and 1980, which was characterized by moderate levels of protective labor market regulations. Since the early 1980s, however, both of these economies have deregulated their labor market institutions and shifted to a liberal market economy.

[Figure 1. Evolution of Strictness of Labor Market Protection, Wage Setting Institutions and Social Security]

Finland, Norway, Sweden (during the entire period), Denmark (except for the 1990s), Switzerland (2000s) and Austria (1970s and 1980s) comprise the *Nordic model*. Thus, Switzerland and Austria should not be considered CMEs during earlier periods, as suggested in Hall and Soskice (2001). A moderate level of employment protection, centralized wage setting institutions and a high level of social security characterize this cluster of countries (Figure 1). Figure 1 shows that an institutional change towards the LME type of capitalism in the institutions that regulate the labor market has been visible in the Nordic model since the 1990s, whereas the wage setting institutions remained relatively stable over time (see also Schneider and Paunescu 2012). Moreover, despite the decrease in social security since the 1990s, the Nordic countries continue to have one of the highest levels of social security in Europe. Denmark shows similarities to the continental European group between 1990 and 2000 because of its less-regulated wage setting institutions and lower employment protection than the other Nordic countries. Denmark introduced the flexicurity model in this period (Cazes and Verick 2010). According to Campell and Pedersen (2007), Denmark developed a hybrid form during the 1990s.

The Netherlands (1970s, 1980s, 1990s, and 2000s), Switzerland (1970s, 1980s, and 1990s), Austria (1990s and 2000s), Germany (1980s and 1990s), Belgium (1970s and 2000s), Denmark (1990s), the UK (1970s) and Ireland (1970s) cluster into the *continental European* model. Figure 1 illustrates that this group is characterized by a

high level of employment protection with a moderate level of social security and less coordinated wage setting institutions than the Nordic model. An increase in the coordination of wage setting institutions is visible in this model from the 1990s onwards, whereas the level of employment protection legislation increases until the 1980s and remains relatively stable from the 1980s onwards. There is a remarkable decline in social security beginning in the 1990s in the continental European model. Except for the UK and Denmark, the cluster of countries fit well with the earlier classifications.

Another cluster that emerges from the analysis is the *hybrid continental European model*, which includes a combination of the Mediterranean and the continental European countries, namely, France (1970s and 1980s), Belgium (1990s), Germany (2000s), Italy (1990s and 2000s), Greece (1970s), and Spain (1980s). The main features of this group are harder to define because of its heterogeneous character and changing factor loadings over time. This group shows features that lie between the Mediterranean and the continental models. Before the 1990s, in the hybrid continental model, employment protection legislation was lower than the Mediterranean and the continental cluster; however, this gap closed in the late 1990s. During the 2000s, a lower minimum pension replacement rate separated this group both from the continental and the Mediterranean model (although overall this group shows high social security in other aspects). A deregulation process in wage setting institutions is visible from the 1990s onwards. Nevertheless, this model continues to have one of the most regulated wage setting institutions in Europe. Although other scholars (e.g., Campell and Pedersen 2007, Schneider and Paunescu 2012) have suggested the presence of hybrid models within the VoC framework, the combination of countries and the characteristics of the hybrid model that emerge here are different than theirs.

The *Mediterranean model* is composed of Greece (1980s 2000s), Italy (1970s and 1980s), Portugal (1980s, 1990s, and 2000s), Spain (1970s, 1990s, and 2000s), France (1990s and 2000s), Belgium (1980s), and Germany (1970s). This model has stricter labor regulation; however, this model's scores moderate when it comes to social security and wage regulation. These dimensions remain relatively stable over time (Figure 1). Although France was grouped with the Mediterranean countries in Hall and Soskice (2001), Schneider and Paunescu (2012) cluster Germany, France and

Belgium as CMEs. Nevertheless, in Schneider and Paunescu (2012) too, Belgium originally shared characteristics with the Mediterranean model in 1990 and shifted to a CME economy in 1995.

The Czech Republic, Poland and Slovakia (1970s, 1980s and 1990s) comprise the *Eastern European model*, which remains relatively stable over time. This is unsurprising given these countries' communist heritage. This model has low levels of employment regulation, wage coordination and social security compared to the other European economies (except for Ireland and the UK). Important changes in the labor market institutions after the collapse of the Soviet Union are visible (Figure 1). However, the trends before the 1990s should be interpreted with caution because of the limited data on the ex-Soviet Union countries in this period. Slovakia shows higher levels of unemployment and pension replacement rates than Poland and the Czech Republic, akin to the Mediterranean model in the 2000s. Portugal in the 1970s, Greece in the 1990s, and Italy in the 2000s have similarities to the Eastern European model. Thus, although there is visible support for the earlier classifications of the VoC literature, there are numerous exceptions. In the next section, we evaluate the extent to which these six clusters are related to (various forms of) entrepreneurial activity in the long term.

4.2. Labor Market Regimes and the Business Ownership Rate

Table 4 presents the results of pooled OLS regression for the business ownership rate between 1972 and 2010. In Model 1, which includes only labor market indicators, there is no strong evidence for a significant link between single labor market institutions and the business ownership rate. Only with the inclusion of socioeconomic control variables in Model 2 does the coefficient of the EPL index become positive and significant. This shows that the level of socioeconomic development plays an important role in the link between employment protection and entrepreneurship. This finding shows indirect support for the literature, which argues for varying effects of employment protection legislation on forms of entrepreneurship (e.g., Hassels et al. 2007). Many countries impose strict employment protection legislation on firms larger than a certain size. A heavy regulatory burden can thus reduce innovative entrepreneurship while making non-entrepreneurial self-

employment more attractive than working as an employee of a regulated firm (Henrekson and Sanandaji 2014:1764). For instance, at one end of the spectrum are Mediterranean countries where employment protection and business ownership rates are relatively high and are characterized by necessity entrepreneurship. At the other end of the spectrum are the Anglo-Saxon countries with the least employment protection legislation and moderate business ownership rates; these countries are usually characterized by high opportunity entrepreneurship (Van Praag and Van Stel 2013). In terms of significant control variables, in countries where the female labor force is higher, the level of business ownership rate is lower, which is in line with results presented in Wennekers et al. (2007).

The inclusion of institutional variables in Model 3 does not alter the results presented above. With respect to the control variables, countries whose legal origin is French are characterized by higher business ownership rates. Djankov et al. (2002) argue that whereas countries whose legal origin is French (largely the Mediterranean countries) have more entry regulations, they can provide social security to businesses in times of failure. In this model, a higher level of secondary education is positively and significantly correlated with the business ownership rate, indicating that individuals who have completed their secondary education are more likely to become business owners where the historical legal structure also supports business establishments. Model 4 includes the cluster of countries based on their national strategies in organizing their labor market institutions. This model shows that the Mediterranean and the hybrid continental European models have significantly higher levels of business ownership rates than the Nordic group. Thus, the combination of high levels of employment regulation and social security with a moderate level of the wage setting institutions that characterize the Mediterranean and the hybrid continental models is related to higher business ownership rates.

[Table 4. Results for Regression Analysis on the Business Ownership Rate]

Table 5 reports the interaction terms between the three pillars of labor market institutions and country clusters to evaluate whether the interdependencies between the labor market institutions moderate the relationship between single labor market

institutions and business ownership rates. We find support for our hypotheses that the link between employment protection legislation, social security institutions and business ownership rates vary significantly between (some) clusters of countries. Figures 2 and 3 illustrate the interaction terms between employment protection legislation, social security, and the cluster of countries in terms of marginal effects based on Models 4 and 6 with 95% confidence intervals.[6] The relation between the business ownership rate and the cluster of countries is depicted for three levels of employment protection legislations and social security, namely, the 25th, 50th, and 75th percentile values, whereas the rest of the indicators are fixed at the levels of their sample averages.

[Table 5. Interaction terms]

Figure 2 shows that increasing employment protection is associated with higher business ownership rates in the Eastern European, the Mediterranean and the hybrid continental European models, although this increase is not significant in the last two models. A change in employment protection legislation is not expected to lead to a change in the Nordic and the continental models and even shows a slight decline in the Anglo-Saxon countries. Thus, this figure suggests that increasing regulation in the labor market caused by implementing reforms will increase the business ownership rate by varying degrees in most clusters. However, in the Anglo-Saxon countries it would lead to a decline. Most of the gain is to be expected in the Eastern European countries. We also limit the sample to the period after the 1990s to determine whether the link between employment protection and business ownership changes, especially in the post-Soviet period. During this period, the increase in the business ownership rate is smaller in the cluster of countries with increasing levels of employment protection. However, the decline in terms of business ownership in the Anglo-Saxon model is significantly higher. The inclusion of country-fixed effects also reveals a picture similar to the ones presented above.

[Figure 2. The Relationship between Employment Protection Legislation and the Business Ownership Rate]

Figure 3 illustrates that higher social security is significantly associated with lower

business ownership rates in the hybrid continental model and (to a lesser extent) in the Mediterranean group, which together have the highest level of social security in Europe. A change in social security arrangements is not associated with a significant difference in business ownership in the other clusters. While not significant, a reverse association is visible in the Eastern European model, which has one of the lowest levels of social security in Europe. This can indicate an optimum level of social security for business ownership. To test this possibility, we include a quadratic term that turns out to be negative and significant, thus showing evidence for this proposition. Limiting the sample to the period after the 1990s and including country-fixed effects reveal that increasing social security in the Anglo-Saxon countries, which has the lowest social security level from the 1990s onwards, would be beneficial for the business ownership rate. This also shows support for the inverse U-shaped link proposition.

[Figure 3. The Relationship between the Social Security Index and the Business Ownership Rate]

To test whether labor market institutions influence the types of entrepreneurial activity in opposite directions, we run additional regressions in which billionaire entrepreneurs, ambitious, opportunity and necessity entrepreneurship are the dependent variables (Table 6). Although we do not find evidence for the relevance of single labor market institutions to different forms of entrepreneurial activity, complementarity between labor market institutions is important. The hybrid continental European model, which combines a relatively high level of employment protection, regulated wage setting institutions and high social security, is detrimental to opportunity-based nascent entrepreneurial activity, whereas the opposite effect is visible for necessity-based nascent activity. For ambitious entrepreneurship, a combination of moderate employment protection legislation, deregulated wage setting institutions and a low level of social security seems to favor ambitious entrepreneurs because the percentage of ambitious entrepreneurs is significantly higher in the Eastern European model than in the Nordic model. Labor market institutions do not explain the variation in the billionaire entrepreneurship. Nevertheless, given the limited sample size on billionaire entrepreneurs, this finding should be interpreted with caution.

[Table 6. Different Indicators of Entrepreneurial Activity]

4.2.1 Robustness Checks

In Table 7, we split the sample into four sub-periods to determine whether the results are driven by a particular sub-period of the long time period that we study, i.e., 1972-2010. The positive link between employment protection legislation and the business ownership rate remains significant throughout the period, although the magnitude of the coefficient becomes stronger over time. Whereas the Mediterranean cluster historically has significantly higher levels of business ownership than the Nordic countries, this difference disappears beginning in the 1990s. The differences between the Anglo-Saxon, the hybrid continental and the Nordic models in terms of business ownership are less visible during the 1980s. This is mainly attributable to the decrease in Spain's business ownership rates and an increase in the Anglo-Saxon countries' (e.g., the UK) business ownership rates because of factors such as a high unemployment rate and a growing service sector (Carter and Jones-Evans 2006). Although the Eastern European bloc obviously had a significantly lower level of business ownership during the communist period, this position has shifted rapidly in the post-communist period. Given both formal and informal restrictions on private enterprises in socialist countries, this finding is unsurprising (Fritsch et al. 2014).

[Table 7. Labor Market Institutions and the Business Ownership Rate over Time]

Table 8 reports the results of further robustness checks. Column 1 includes the underlying indicators of wage setting institutions and social security arrangements to identify their relevance. Column 1 shows that higher levels of unemployment replacement rates, a high share of union funds in strikes and national minimum wage are significantly associated with lower business ownership rates. In countries where trade unions are involved in the wage bargaining process, the business ownership rate is higher, although this link is primarily attributable to the Mediterranean countries. The results remain similar to the ones presented above when the sample is restricted to non-imputed data (column 2).

The endogeneity issue caused by either omitted variables or reverse causality (i.e., countries with higher business ownership rates can adopt more favorable labor market institutions) might bias the results presented here. Therefore, we instrument the cluster indicator on varieties in labor market institutions with indicators on the degree of ethnic and linguistic fragmentation in 1971, the historical presence of guilds, industrial versus craft unions, employers' cooperation in providing collective business goods, and enterprise coordination for collective business goods between 1900 and 1955. The data come from Martin and Swank (2008) (Column 3). For these indicators to be valid instruments, they should be significantly related to only labor market institutions, not current business ownership rates. Additional regression analyses support this claim. Countries that had both strong local organizations with guilds and employer cooperation are characterized by institutional configurations that have higher employment protection, social security and wage coordination. Higher levels of enterprise coordination and craft unions support the Anglo-Saxon model (first stage). The results in terms of business ownership rates are similar to those presented above, except that the Mediterranean model is not performing significantly better in terms of business ownership rates than Nordic countries (second stage). The results from Column 4, excluding Greece and Italy, which have the highest business ownership rates, also support this finding. Thus, the positive link between employment protection legislation and business ownership is largely driven by these two cases. The results in terms of the interaction terms in Table 5 are similar to those presented above even when these two cases are excluded. Finally, there is little evidence for a conditional convergence in business ownership rates in Europe (Column 5).

[Table 8. Robustness Checks]

5. Discussion and Conclusion

In recent decades, the importance of flexible labor market institutions for entrepreneurial activity has received considerable attention (e.g., Kanniainen and Vesala 2005; Golpe et al. 2008; Henrekson et al. 2010). However, the entrepreneurship literature has devoted less attention to how complementarities in labor market institutions affect entrepreneurial activity in the long term.

Taking into account these complementarities, we focus on the evolution of labor market institutions in 19 European countries and the US and their implications for business ownership rates. We find six distinct bundles of labor market institutions in Europe that change over time. Thus, supporting the claims of Schneider and Paunescu (2012), our study highlights the existence of further varieties in Europe and the importance of a dynamic perspective to the VoC approach. These varieties in labor market institutions have implications for entrepreneurial activity. Our findings highlight that the one-size-fits-all approaches might not be the best approach, especially in regard to changing labor market institutions to promote entrepreneurial activity. Although there is some truth to the proposition that high social security leads to lower business ownership rates in some contexts, weakening social security would likely to be a useful approach only in the Mediterranean and the hybrid continental European countries. Reducing employment protection to promote entrepreneurship as a policy tool should also be reconsidered. Although stronger employment protection legislation supports business ownership (to some extent) in many clusters of CMEs, it hampers business ownership in the Anglo-Saxon countries.

The varieties of capitalism come together with varieties of entrepreneurship (Ebner 2010 and Dilli and Elert 2016). For instance, liberal market economies are said to exhibit advantages in radical innovations because of their flexible institutional setting, which is conducive to entrepreneurial start-up activities (Ebner 2010). Our results show that the hybrid continental European model, which combines a high level of employment protection legislation, regulated wage setting institutions and high social security, favors necessity-based nascent activity. Ambitious entrepreneurial activity flourishes in the Eastern European model. Therefore, it is also important to consider the type of entrepreneurial society that is sought in Europe.

One of the challenges of the current study is the lack of historical data that captures the various forms of entrepreneurial activity. Historical data on labor market institutions and other forms of entrepreneurial activity that cover the entire twentieth century are desirable to capture not only the shifts between the liberal and coordinated market economies that occurred in the first half of the twentieth century but also how these changes are linked with various forms of entrepreneurial activity over time.

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Another important avenue for future research is to study the historical origins of these clusters. Although there clearly has been change in labor market institutions, the varieties of those institutions continue to be important for explaining patterns of change. Therefore, understanding the origins of these clusters would help in developing a better understanding of both the challenges faced by each cluster of countries and how to overcome them. These issues are for future studies to explore.

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Appendix:

[Table A.1. Correlation Matrix]

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[1] Numerous formal institutions, such as access to finance and legal regulations of entry (Simón-Moya et al. 2014), and informal institutions, such as individual networks, attitudes towards individualism, risk, trust and uncertainty (Hechavarria and Reynolds 2009), are significant for entrepreneurship. However, we do not engage with this literature because it is beyond the scope of this study.

[2] On the one hand, the opportunity costs of self-employment are not relevant when people have no other choices for work. On the other hand, unemployed people who cannot find a job may prefer unemployment to self-employment when unemployment benefits are generous.

[3] Trade unions play a role in negotiating wage rules (i.e., benefits, issues regarding working conditions and so on) and can therefore provide insight into the collective bargaining process. However, the data on trade union density do not provide information about the coverage of wage earners' collective agreements. Moreover, it is doubtful that strong labor laws are required for high union density (Dimick 2010). The trade union density rate varies substantially in European countries (9.7 percent in France to 69.1 percent in Finland in 2010), which has been attributed to factors such as the extent of centralization in collective bargaining, the duration of a pro-labor political party running the government, and the Ghent system (Dimick 2010: 12). To our knowledge, other than the indicators employed here from Visser (2013), this is the only indicator on trade union coverage available historically and therefore included in the analysis.

[4] The results of the factor analysis are available upon request.

[5] Indicators on share of service sector and income inequality are also included as control variables in the regression. Income inequality is measured by the GINI coefficient and comes from Clio-infra database. The service sector share is calculated as the percentage of the labor force in the service sector compared to the total labor force and is available from the OECD (2015a). Because the share of the service sector is highly correlated with socioeconomic indicators and a large number of observations with insignificant effects on income inequality are missing, they are not reported here.

[6] The numbers underlying Figures 1 and 2, thus the marginal effect on business ownership of increases in employment protection legislation and social security (at the 25th, 50th and 75th percentiles) for each cluster of countries, are available upon request.

Table 1. Overview and Content of the Variables

Variable	Measurement	Source and Coverage
	Entrepreneurship indicators	
Business ownership	This data includes the owners of incorporated and unincorporated businesses but excludes unpaid family workers (see Van Stel 2008 for further information).	COMPENDIA database. It is available for 30 OECD countries between 1972 and 2010.
Billionaire entrepreneurship	Billionaire entrepreneurship is defined as the total number of billionaires in US dollars per million inhabitants who became rich by creating new firms between 1996 and 2012.	Henrekson and Sanandaji (2014). It is a cross sectional data, available for 50 countries.
Ambitious entrepreneurship	It is the percentage of total early stage entrepreneurs who have high expectations with respect to job creation (20 and more employees in the next five years), innovation (new products/services) and internationalization. Total early-stage entrepreneurship refers to percentage of 18-64 population who are either a nascent entrepreneur or owner/manager of a new business.	Global Entrepreneurship Monitor (GEM) (2011). It is available for 27 countries from 2001 onwards on annual basis.
Improvement-Driven Opportunity Entrepreneurial Activity: Relative Prevalence	This indicator captures the percentage of total early stage entrepreneurs (see above) who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income	GEM (2011)
Necessity-Driven Entrepreneurial Activity: Relative Prevalence	It is defined as percentage of total early stage entrepreneurs (see above) who become entrepreneurs because they had no other option for work	GEM (2011)
	Labor Market institutions	
	Regulation of Labor Market	
Employment Protection Legislation (EPL)	This data comes from two sources: the data by Allard (2005) that is available between 1950 and 1998 and OECD (2013) data, which is used to extend the EPL index until 2010. The index is constructed based on 21 items of employment protection legislation, grouped into three broad domains: laws protecting workers with regular contracts, those affecting workers with fixed−term (temporary) contracts or contracts with temporary work agencies, and regulations applying specifically to collective dismissals.	Allard (2005) and OECD (2013). The original data from Allard is available annually for 21 countries between 1950 until 1998 and the OECD data is available for 70 countries from 1985 onwards.

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Wage Setting Institutions		
Trade union density	Trade union density rate (TUD) is defined as the percentage of employees who are members of a trade union.	From the ICTWSS database, compiled by Visser (2013). The database provides information for 46 countries between 1960 and 2011.
Union's role in wage bargaining process	It is a categorical variable in which 1 refers to union does not negotiate at sector level; 2 indicates union negotiates agreements at sector level allowing enterprise or company branches to vary; and 3 indicates union negotiates enforceable agreement at sector level and has veto power over company agreements.	Visser (2013)
Union's control over appointment of workplace representatives	This indicator is a categorical variable where 1 indicates union has no control over appointment; 2 refers to union can veto candidates for workplace representation; and 3 indicates union appoints workplace representatives. This indicator was recoded, so that a higher score would indicate a higher control of trade union.	Visser (2013)
Strike funds of unions	The variable on strike funds of unions is a categorical indicator where 1 indicates union has no strike funds; 2 indicates union (affiliate) has small strike funds; and 3 indicates union has large strike funds from which striking members are reimbursed at 70 percent or more of their base.	Visser (2013)
Finance of trade union	It is a categorical variable where 1 is national union is dependent on financial contribution from local (workplace) unions; 2 is local and workplace branches have autonomous funds from direct member or employers contributions; and 3 is local and workplace branches are financed by the national union.	Visser (2013)

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Coordination of wage bargaining	The indicator on coordination of wage setting has five categories: 1 refers to fragmented wage bargaining, confined largely to individual firms; 2 refers to mixed industry and firm−level bargaining; 3 indicates industry−level bargaining with informal centralization of bargaining by peak associations with government arbitration or intervention; 4 refers to centralized bargaining of industry level bargaining by peak associations with or without government coupled with high degree of union concentration; and 5 indicates a centralized bargaining of industry−level bargaining by a powerful and monopolistic union confederation coupled with coordination of bargaining by influential large firms.	Visser (2013)
Governmental intervention in the wage bargaining process	Governmental intervention in the wage bargaining process is a categorical variable where 1 indicates no governmental intervention in the process; 2 indicates the government influences wage bargaining by providing consultation and information exchange; 3 indicates government influences wage bargaining outcomes indirectly through price ceilings, indexation, tax measures, minimum wages and/or public sector wages; 4 indicates the government participates directly in wage bargaining; and 5 refers to governmental intervention by imposing private sector wage settlements, places a ceiling on bargaining outcomes or suspends bargaining.	Visser (2013)
National minimum wage	The measure on national minimum wage is a categorical variable where 0 refers to no minimum wage; 1 refers to only in some sectors (occupations, regions/states); and 2 refers to national minimum wage in all sectors.	Visser (2013)
Wage setting institutions index	It is a composite index of wage setting institutions combining the indicators on trade unions and coordination of wage setting institutions. It is created by using a factor analysis.	See above.
Social Security Systems		
Sickness Replacement Rates	This indicator is the replacement rate for singles. It is paid in the event of short term non occupational illness or injury.	The Comparative Welfare Entitlements Database (CWED), compiled by Scruggs et al. (2014). The data provides information for 33 countries around the world between 1971 and 2010.

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Unemployment Replacement Rates	This indicator is the unemployment replacement rate for singles. It covers only national insurance provisions earned without income testing.	Scruggs et al. (2014)
Pension Replacement Rates	This indicator is the minimum pension replacement rate for singles and includes only mandatory public programs. Besides earnings related mandatory public pensions, data is also provided for replacement rates of minimum pensions (i.e., for persons without working history).	Scruggs et al. (2014)
Qualification Period for Unemployment Benefits	This indicator captures weeks of insurance needed to qualify for the benefit.	Scruggs et al. (2014).
Duration for Unemployment Benefits	It refers to weeks of benefit entitlement.	Scruggs et al. (2014).
Waiting Period for Unemployment Benefits	It measures days one must wait to start receiving benefit after becoming unemployed.	Scruggs et al. (2014).
Social Security Index	It is a composite index of social security combining the indicators on replacement rates and entitlement for unemployment benefits. It is created using a factor analysis.	See above.

Control Variables

Economic Development	The level of economic development is captured by log of GDP per capita income, which is based on Maddison statistics.	Clio-infra. The data on GDP per capita covers 166 countries for which yearly observation becomes available after 1820s.
Unemployment	This indicator is a continuous variable and is the number of unemployed people as the percentage of the labor force.	OECD (2016). It is available for 36 OECD countries from 1955 onwards.
Population	The indicator is the log of total population.	OECD (2015b). This dataset presents annual population data from 1950 onwards for 34 OECD countries.
Education	It is measured by the percentage of the total population who completed secondary and tertiary education.	Barro and Lee (2013). It is available for 89 countries between 1870 and 2000.
Female Labor Force Participation	This indicator is measured as the share of female population age above 25 who are actively working.	ILO (2013). It is available for 219 countries around the world from

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		1970 onwards.
Left orientation	It is a time invariant continuous variable which measures the percentage of years between 1975 and 1995, during which both the party of the chief executive and the largest party in congress had left or center orientation.	Botero et al. (2004). It is available for 85 countries.
Historical Family Systems	This indicator is a time invariant binary variable in which 1 refers to nuclear household structure and 0 to extended and stem family types.	Todd (1985). The information is available for 146 countries around the world.
Legal Origin	It is based on the classification of La Porta et al. (1999) and have four categories: (1) English common, (2) French civil, (3) Socialist, and (4) Scandinavian/German civil law (reference category).	The Quality of Government dataset. The database covers 184 countries.

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Table 2. Descriptive Statistics (N=20, n=760)

	Min.	Max.	Mean	SD
Indicators on Entrepreneurship				
Business Ownership Rate	.00	.21	.10	.04
Billionaire Entrepreneurs per Million 1996−2010	.00	1.34	.41	.39
Ambitious Entrepreneurship	.00	44.03	25.38	7.58
Opportunity-driven Entrepreneurial Activity	31.54	81.50	57.31	10.70
Necessity-driven Entrepreneurial Activity	.00	47.62	14.62	8.83
Indicators on Regulation of Labor Market				
Employment Protection Legislation (EPL)	.1	4.10	2.36	.87
Indicators on wage setting institutions				
Trade Union Density	7.55	83.86	39.74	19.80
Union Wage bargaining	1	3	1.98	.63
Union Work Representatives	1	3	2.75	.63
Union Finances	1	3	2.4	.59
Union Funds	1	3	2.00	.89
Coordination of Wage Setting	1	5	3.10	1.29
Government Intervention in Wage Setting	1	5	3.00	1.24
National Minimum Wage	0	2	1.06	.98
Wage setting Institutions Index	−2.56	1.64	−.01	1.01
Indicators on Social Security				
Unemployment Replacement Rate (single)	0	.97	.55	.22
Sickness Replacement Rate (single)	0	1	.70	.24
Minimum Pension Replacement Rate (single)	0	.61	.33	.12
Qualification Period for Unemployment	0	6.96	3.82	1.23
Duration for Unemployment Benefits	0	6.10	3.80	1.04
Waiting for Unemployment Benefits	0	30	3.33	4.19
Social Security Index	−3.89	1.80	.02	.99
Control Variables				
Unemployment Rate	.71	19.93	7.95	4.36
log (GDP)	8.46	10.36	9.58	.41
log (Population)	8.01	12.64	9.66	1.15
Completed Secondary	1.13	69.75	27.79	13.50
Completed Tertiary	.38	26.80	8.51	5.15
Female Labor Force	.13	.55	.38	.08
Left Orientation	0	1	.39	.48
Historical Nuclear Household	0	1	.38	.49
English Common Law	0	1	.15	.36
French C. Code	0	1	.35	.48
Socialist/Communist Laws	0	1	.15	.35

Notes: The numbers of observations for the GEM indicators on ambitious and necessity entrepreneurship are150 and for opportunity entrepreneurship, it is 89. For billionaire entrepreneurship, the data is limited to 20 observations.

Table 3. Clustering of Countries on the Factors of Labor Market Regulation, Wage Setting Institutions, and Social Security

	(1) 1972–1979	(2) 1980–1989	(3) 1990–1999	(4) 2000–2010
Anglo-Saxon	the US	the US **the UK Ireland**	the US **the UK** **Ireland**	the US **the UK**
Nordic	Finland Norway Sweden **Denmark** *Austria*	Finland Norway Sweden **Denmark** *Austria*	Finland Norway Sweden	Finland Norway Sweden **Denmark** *Switzerland*
Continental European	Netherlands **Belgium** **Switzerland** *the UK* **Ireland**	Netherlands **Germany** **Switzerland**	Netherlands **Germany** **Switzerland** **Denmark**	Netherlands **Belgium**
Hybrid Continental	*France* *Greece*	*France* *Spain*	*Belgium* *Italy*	*Germany* *Italy*
Mediterranean	Italy Spain *Germany*	Italy Portugal Greece *Belgium*	Portugal Spain **France**	Portugal Spain Greece **France** *Ireland* *Slovakia*
Eastern European	Czech Republic Poland **Slovakia** *Portugal*	Czech Republic Poland **Slovakia**	Czech Republic Poland **Slovakia** *Greece*	Czech Republic Poland

Notes: Bold text highlights countries that experience a shift between clusters. Italic text highlights countries that do not fit with the earlier classifications of the VOC, especially to those suggested in Hall and Soskice (2001).

Figure 1. Evolution of Strictness of Labor Market Protection, Wage Setting Institutions and Social Security
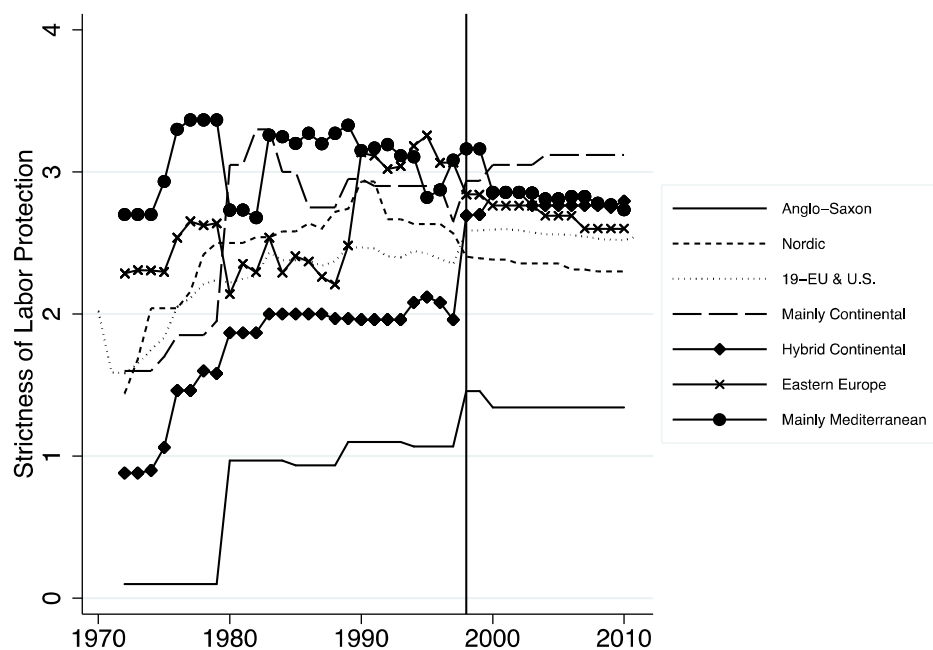
Notes: The figure is based on the data from Allard (2005) up to 1998 and OECD (2013) until 2010. It provides the trends in the Employment Protection Legislation (EPL) index. A higher score on the index indicates stricter labor market regulation. The vertical line highlights the difference between the two periods. See Table 1 for further information.
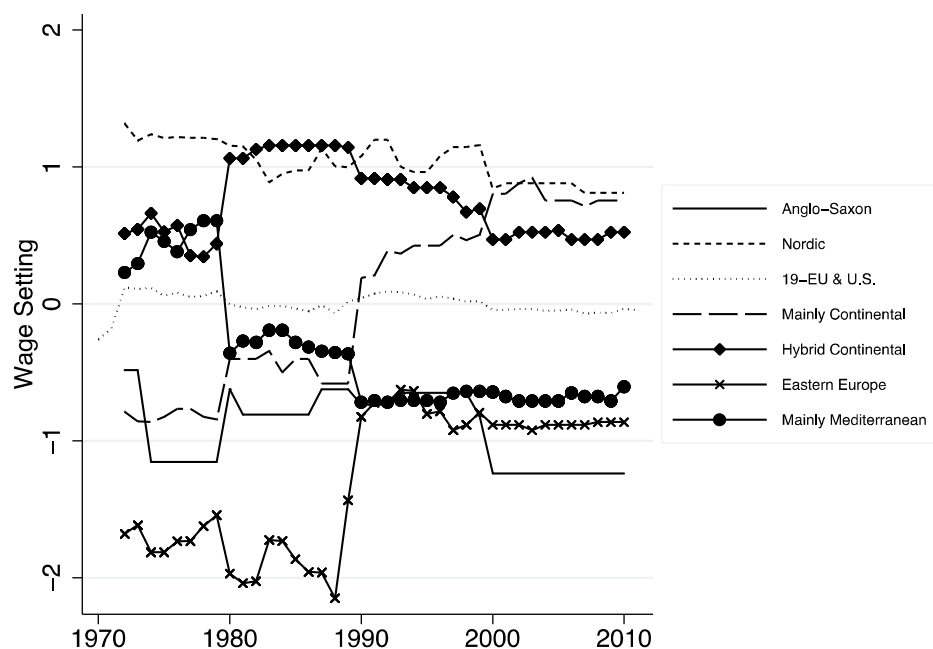
Notes: The figure above presents the trends in the composite index of wage setting institutions. For the underlying variables, see Table 1. A higher score indicates more coordinated wage setting institutions.
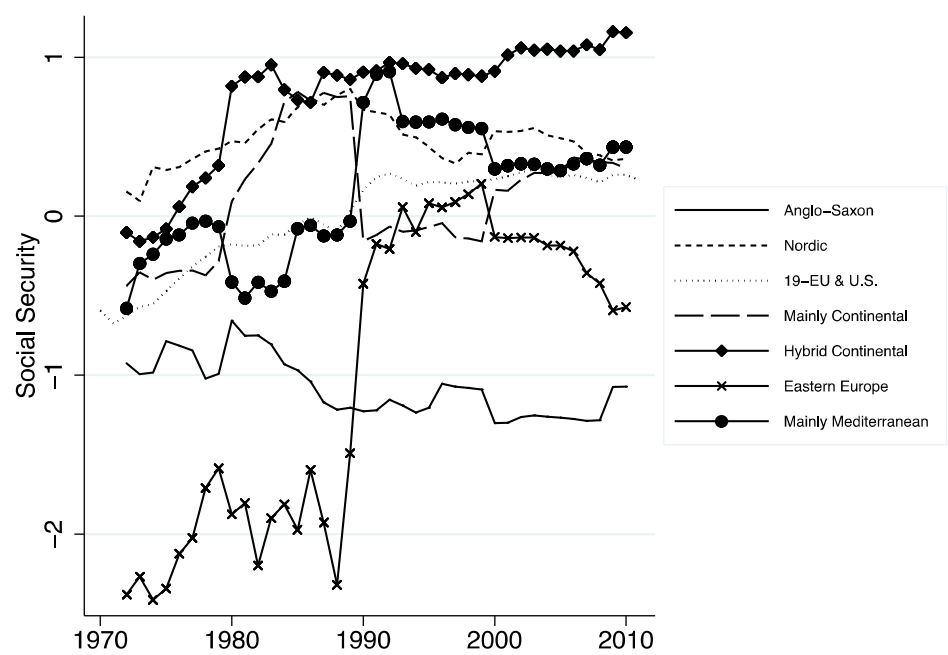
Notes: The figure above presents the trends in the composite index of social security institutions. For the underlying variables, see Table 1. A higher score indicates a higher level of social security.

Table 4. Results for Regression Analysis on the Business Ownership Rate, 1972–2010 (N=20, n=760)

	(1)	(2)	(3)	(4)
L.EPL	0.016	0.018**	0.012*	0.008
	(1.56)	(2.57)	(2.17)	(1.62)
L.Wage Setting index	−0.004	−0.008	0.004	0.010
	(−0.44)	(−0.92)	(0.42)	(1.20)
L.Social Security index	−0.002	−0.001	−0.011	−0.011
	(−0.21)	(−0.07)	(−1.56)	(−1.61)
L.Unemployment Rate		0.001	0.001	−0.000
		(0.27)	(0.30)	(−0.19)
L.log (GDP)		0.022	−0.007	−0.009
		(0.62)	(−0.22)	(−0.30)
L.log (Population)		0.004	−0.001	−0.004
		(0.70)	(−0.15)	(−0.96)
L. Completed secondary		−0.000	0.001**	0.001**
		(−0.07)	(2.16)	(2.36)
L.Completed tertiary		0.001	−0.001	−0.000
		(0.51)	(−0.36)	(−0.27)
L.Female Lab. Force		−0.278***	−0.088	−0.051
		(−3.29)	(−1.53)	(−0.95)
Left orientation			−0.003	−0.002
			(−0.80)	(−0.50)
Historical Nuclear Household			0.003	0.007
			(0.28)	(0.74)
English Common Law			0.029	0.020
			(1.46)	(0.89)
French C. Code			0.047**	0.041**
			(2.67)	(2.42)
Socialist/Communist Laws			−0.027	−0.030
			(−0.96)	(−1.05)
Mainly Continental				−0.004
				(−0.36)
Hybrid Continental				0.033*
				(1.79)
Mainly Mediterranean				0.027*
				(1.82)
Mainly Eastern Europe				0.022
				(1.05)
Anglo−Saxon				0.027
				(1.25)
Time fixed effects	yes	yes	yes	yes
Constant	0.064***	−0.101	0.127	0.168
	(3.57)	(−0.31)	(0.41)	(0.59)
Adjusted R−squared	0.13	0.47	0.62	0.66

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Notes: Absolute heteroskedasticity consistent t−values are reported below coefficients. $*p < 0.10$, $**p<0.05$, $***p<0.01$ (two sided). Reference category is the Nordic model in the cluster variable and the Scandinavian/German civil law is the reference category in the legal origin variable.

Table 5. Interaction terms (N=20, n=760)

	(5)	(6)	(7)
Mainly Continental	−0.023	−0.008	0.003
	(−1.17)	(−0.33)	(0.31)
Hybrid Continental	−0.023	0.035	0.038***
	(−0.42)	(1.57)	(3.72)
Mainly Mediterranean	−0.035	0.026	0.027**
	(−0.87)	(1.23)	(2.21)
Mainly Eastern Europe	−0.045	0.047	0.032
	(−1.23)	(1.20)	(1.24)
Anglo−Saxon	0.010	0.010	0.029
	(0.28)	(0.30)	(1.57)
L.EPL	−0.001		
	(−0.20)		
Mainly Continental * L.EPL	0.006		
	(0.83)		
Mixed Continental * L.EPL	0.019		
	(0.97)		
Mainly Mediterranean * L.EPL	0.019		
	(1.57)		
Mainly Eastern Europe * L.EPL	0.023*		
	(2.04)		
Anglo−Saxon * L.EPL	−0.002		
	(−0.15)		
L.Wage Setting index		0.012	
		(1.17)	
Mainly Continental * L.Wage Setting index		−0.002	
		(−0.10)	
Hybrid Continental * L.Wage Setting index		−0.001	
		(−0.02)	
Mainly Mediterranean * L.Wage Setting index		−0.007	
		(−0.30)	
Mainly Eastern Europe * L.Wage Setting index		0.008	
		(0.46)	
Anglo−Saxon * L.Wage Setting index		−0.033	
		(−1.41)	
L.Social Security index			−0.007
			(−0.81)
Mainly Continental * L.Social Security index			−0.010
			(−0.87)
Hybrid Continental * L.Social Security index			−0.044***
			(−3.63)
Mainly Mediterranean * L.Social Security index			−0.024
			(−1.60)
Mainly Eastern Europe * L.Social Security index			0.015
			(1.48)
Anglo−Saxon * L.Social Security index			−0.003
			(−0.26)
Socio−economic controls	yes	yes	yes
Institutional controls	yes	yes	yes
Year fixed effects	yes	yes	yes
Constant	0.207	0.360	0.274
	(0.63)	(1.05)	(1.20)

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Adjusted R−squared	0.66	0.65	0.72

Notes: Absolute heteroskedasticity consistent t−values are reported below coefficients. $*p < 0.10$, $**p<0.05$, $***p<0.01$ (two sided). Reference category is the Nordic model in the cluster variable and the Scandinavian/German civil law is the reference category in the legal origin variable. The socio-economic and institutional controls are the same as in Model 4 presented in Table 4.

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Figure 2. The Relationship between Employment Protection Legislation and the Business Ownership Rate
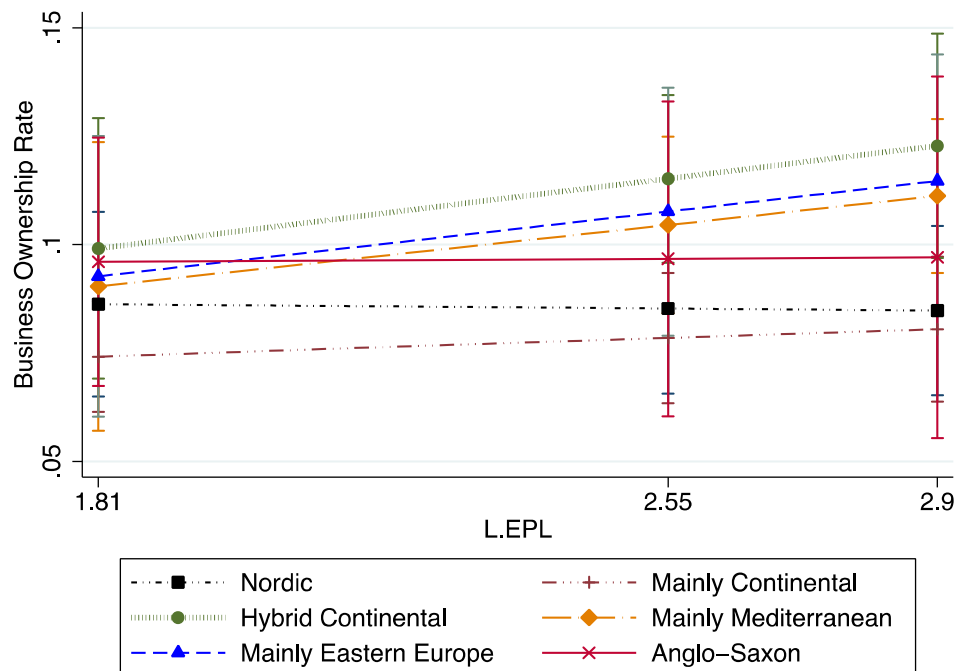
Figure 3. The Relationship between the Social Security Index and the Business Ownership Rate
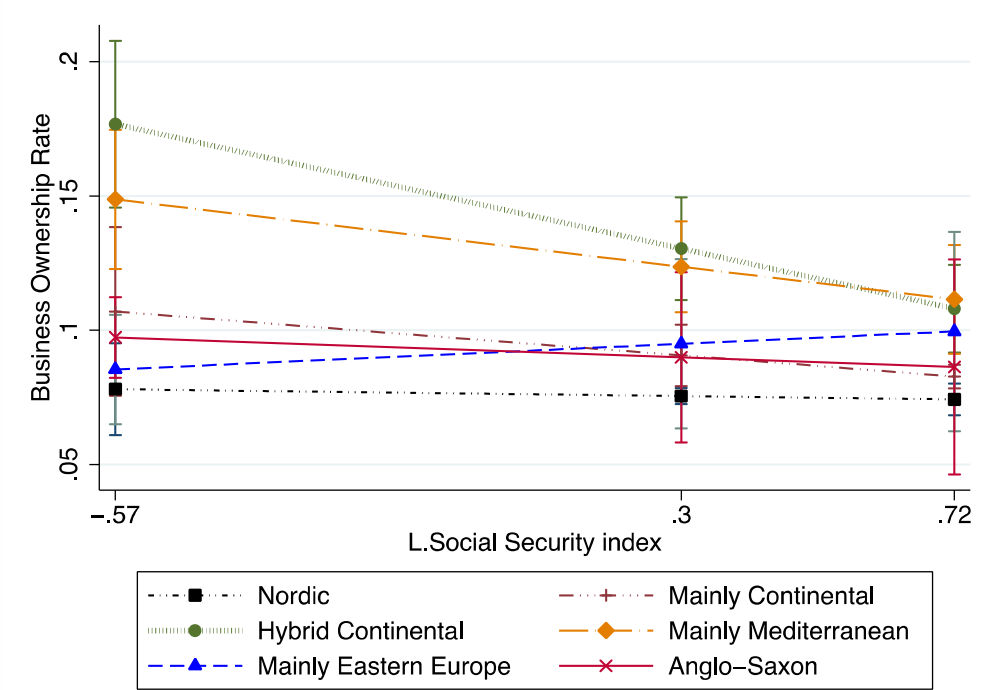
Table 6. Different Indicators of Entrepreneurial Activity

	Billionaire	Ambitious	Opportunity	Necessity
L.EPL	−0.443	−0.022	0.063	−0.029
	(−1.00)	(−0.65)	(1.17)	(−1.35)
L.Wage Setting index	0.093	0.007	−0.010	0.004
	(0.24)	(0.23)	(−0.22)	(0.20)
L.Social Security index	0.295	0.024	0.001	0.010
	(0.81)	(1.11)	(0.03)	(0.56)
Mainly Continental	−0.308	−0.007	−0.133***	0.002
	(−0.79)	(−0.37)	(−4.94)	(0.08)
Hybrid Continental	0.510	0.051	−0.125**	0.071**
	(1.33)	(1.44)	(−2.57)	(2.44)
Mainly Mediterranean	0.571	0.053	−0.126**	0.060
	(0.77)	(1.32)	(−2.37)	(1.72)
Mainly Eastern Europe	1.199	0.194**	0.041	
	(1.52)	(2.17)	(0.43)	
Anglo−Saxon	0.473	0.071	−0.128	0.047
	(0.37)	(1.03)	(−1.21)	(1.04)
L.Unemployment Rate	−0.022	−0.003	−0.012**	0.002
	(−0.52)	(−1.16)	(−2.24)	(0.66)
L.log (GDP)	1.052	0.160	0.222	−0.069
	(0.91)	(1.55)	(1.74)	(−1.19)
Left orientation	0.249	−0.003	0.005	0.003
	(0.90)	(−0.17)	(0.22)	(0.24)
Historical Nuclear Household	−0.128	−0.027	0.053**	−0.004
	(−0.59)	(−1.09)	(2.33)	(−0.26)
Time fixed effects	yes	yes	yes	yes
Constant	−9.187	−1.305	−1.640	0.830
	(−0.73)	(−1.20)	(−1.16)	(1.33)
Adjusted R-squared	0.04	0.27	0.5	0.47
Observations	20	150	89	128

Notes: Standardized coefficients are reported. Absolute heteroskedasticity consistent t−values are between brackets. *p < 0.10, **p<0.05, ***p<0.01 (two sided). Due to limited number of observations and as a result multicollinearity issues, not all the control variables from Model 4 in Table 4 can be included in the analysis. The analyses on GEM indicators are limited to the time period after 2001. In the model where billionaire entrepreneurship is the dependent variable, the level of GDP per capita and unemployment in 2010 is used. We also miss data on necessity based nascent activity for the Eastern European countries.

Table 7. Labor Market Institutions and the Business Ownership Rate over Time

	1972–1979	1980–1998	1990–1999	2000–2010
L.EPL	0.011***	0.009**	0.030***	0.039***
	(2.82)	(2.71)	(6.23)	(4.56)
L.Wage Setting index	0.001	−0.003	−0.010	−0.005
	(0.16)	(−0.78)	(−1.27)	(−0.60)
L.Social Security index	−0.008	−0.007	−0.006	−0.008
	(−1.28)	(−1.77)	(−0.80)	(−1.22)
L.Unemployment Rate	0.000	0.002*	−0.001	−0.000
	(0.33)	(2.35)	(−0.66)	(−0.51)
L.log (GDP)	0.043*	0.050***	0.004	0.007
	(1.87)	(4.05)	(0.17)	(0.28)
L.log (Population)	−0.017***	0.000	−0.004	−0.024***
	(−3.65)	(0.15)	(−1.30)	(−4.50)
L.Completed secondary	−0.001	0.000	−0.000	−0.000
	(−1.56)	(0.69)	(−1.51)	(−0.47)
L.Completed tertiary	0.000	−0.001	0.002*	0.002***
	(0.11)	(−1.31)	(1.77)	(3.66)
L.Female Lab. Force	−0.156**	−0.148***	−0.140***	−0.351***
	(−2.86)	(−4.41)	(−3.12)	(−5.58)
Left orientation	−0.007	−0.004	−0.009**	0.006*
	(−1.28)	(−0.98)	(−2.17)	(1.84)
Historical Nuclear Household	0.018**	0.015***	0.029***	0.037***
	(2.38)	(3.65)	(4.76)	(6.95)
Mainly Continental	0.003	−0.011	0.014	0.013
	(0.32)	(−1.27)	(1.63)	(1.79)
Hybrid Continental	0.053***	−0.001	0.044***	0.069***
	(3.50)	(−0.12)	(3.60)	(4.95)
Mainly Mediterranean	0.034**	0.049***	−0.005	0.004
	(2.65)	(4.86)	(−0.22)	(0.20)
Mainly Eastern Europe	−0.006	−0.032*	−0.007	0.048*
	(−0.45)	(−2.02)	(−0.28)	(2.09)
Anglo−Saxon	0.059**	0.010	0.027	0.075*
	(2.14)	(0.69)	(1.45)	(2.01)
Time fixed effects	yes	yes	yes	yes
Constant	−0.135	−0.376***	0.061	0.265
	(−0.67)	(−3.53)	(0.32)	(1.04)
Adjusted R-squared	0.7	0.85	0.69	0.78
Observations	140	200	200	220

Notes: Standardized coefficients are reported. Absolute heteroskedasticity consistent t−values are between brackets. *p < 0.10, **p<0.05, ***p<0.01 (two sided).

Table 8. Robustness Checks					
	(1)	(2)	(3)	(4)	(5)
	Labor sep.	Non imputed	IV (Second Stage)	Exclude Greece & Italy	Growth In Business Own. Rate
L.EPL	0.006**	0.008***	0.014	0.002	0.049
	(2.38)	(3.02)	(0.82)	(0.55)	(0.88)
L.Wage Setting index		-0.008	0.033	0.003	0.056
		(-1.31)	(0.61)	(0.59)	(0.40)
L.Social Security index		-0.013**	-0.016	0.001	-0.121
		(-2.54)	(-0.24)	(0.29)	(-0.75)
L. Business Ownership					-4.495
					(-1.51)
L. Trade Union Density	-0.000				
	(-0.40)				
L. Union Wage Bargaining	0.013**				
	(2.75)				
L. Union Work Representatives	-0.011				
	(-1.03)				
L. Union Finances	0.010				
	(1.19)				
L. Union Funds	-0.026**				
	(-3.03)				
L. Coordination of Wage Setting	-0.002				
	(-1.09)				
L. Government Intervention in Wage Setting	-0.001				
	(-0.48)				
L. National Minimum Wage	-0.015**				
	(-2.89)				
L. Unemployment Replacement Rate	-0.045**				
	(-2.28)				
L. Sickness Replacement Rate	-0.021				
	(-0.98)				
L. Minimum Pension Replacement Rate	0.024				
	(0.71)				
L. Qualification Period for Unemployment	0.000				
	(1.18)				
L. Duration for Unemployment Benefits	-0.000				
	(-0.62)				
L. Waiting for Unemployment	-0.001				

Benefits					
	(-1.63)				
L. Unemployment Rate	-0.001	-0.002**	-0.003	-0.002	0.010
	(-1.38)	(-2.16)	(-0.66)	(-1.33)	(0.76)
L.log (GDP)	-0.028	-0.031	-0.013	-0.025	0.167
	(-1.27)	(-1.11)	(-0.34)	(-1.41)	(0.69)
L.log (Population)	-0.004	-0.007*	-0.040**	-0.000	-0.048
	(-1.15)	(-1.85)	(-2.50)	(-0.03)	(-0.83)
L. Completed Secondary	0.001**	0.000	0.000	0.000	0.003
	(3.25)	(1.31)	(0.10)	(1.51)	(0.50)
L. Completed Tertiary	0.003**	0.002*	0.002	-0.000	-0.005
	(2.29)	(1.90)	(0.36)	(-0.20)	(-0.46)
L. Female Labor Force	-0.089	-0.006	0.085	0.018	0.537
	(-1.54)	(-0.14)	(0.46)	(0.47)	(0.41)
Left orientation	0.001	0.005*	0.003	0.000	-0.014
	(0.19)	(1.76)	(0.43)	(0.07)	(-0.29)
Historical Nuclear Household	0.007	0.002	0.037*	-0.009	0.042
	(0.96)	(0.09)	(1.87)	(-1.55)	(0.48)
English Common Law	0.005	-0.032	-0.030	0.022*	0.101
	(0.26)	(-1.16)	(-0.26)	(1.82)	(0.48)
French C. Code	0.027	0.008	-0.004	0.038***	0.218
	(1.58)	(0.44)	(-0.06)	(3.87)	(0.90)
Socialist/Communist Laws	-0.038	-0.028		-0.012	0.048
	(-1.45)	(-0.90)		(-0.68)	(0.21)
Mainly Continental	-0.002	0.014*	0.044	-0.006	0.066
	(-0.43)	(1.92)	(0.48)	(-0.99)	(0.57)
Hybrid Continental	0.017	0.026**	0.230**	0.015	0.221
	(1.64)	(2.78)	(2.41)	(1.39)	(0.87)
Mainly Mediterranean	0.006	0.026*	0.116	0.014	0.184
	(0.62)	(1.94)	(1.64)	(1.49)	(0.72)
Mainly Eastern Europe	0.005	0.036*		0.004	0.239
	(0.28)	(1.85)		(0.24)	(0.90)
Anglo-Saxon	0.019	0.036**	0.225	0.024*	0.131
	(1.33)	(2.56)	(0.70)	(1.96)	(0.64)
Year fixed effects	yes	yes	yes	yes	yes
Constant	0.474*	0.415	0.449	0.297	-1.257
	(2.07)	(1.49)	(1.12)	(1.66)	(-0.57)
Adjusted R-squared	0.77	0.65	0.38	0.63	0.08
Observations	760	380	419	684	760

Notes: Standardized coefficients are reported. Absolute heteroskedasticity consistent t−values are between brackets. *p < 0.10, **p<0.05, ***p<0.01 (two sided).

Table A.1. Correlation Matrix

	Bil.	Bus. Own.	Amb.	Opp.	Nec.	EPL	Wage Sett.	Social Sec.	Unem.	log (GDP)	log (Pop.)	Sec.	Ter.	Fem. Lab.	Left	Nuc.	Fren.	Social	Scan./German	Main Cont.	Hyb. Con.	Med.	East.	Ang. Saxon
Billionaire	1.00																							
Business_own	−0.07	1.00																						
Ambitious	0.30	−0.21	1.00																					
Opportunity	0.16	−0.26	0.33	1.00																				
Necessity	−0.04	0.19	−0.36	−0.58	1.00																			
EPL	−0.49	0.34	−0.38	−0.13	0.14	1.00																		
Wage Setting	0.02	−0.15	0.03	0.33	−0.32	0.07	1.00																	
Social Security	−0.16	−0.03	−0.15	0.17	−0.19	0.25	0.63	1.00																
Unemployment	−0.33	0.03	−0.35	−0.61	0.58	0.08	−0.40	−0.20	1.00															
log (GDP)	0.34	0.07	0.40	0.43	−0.53	−0.16	0.45	0.44	−0.48	1.00														
log (Pop.)	0.15	0.21	0.00	−0.29	0.35	−0.10	−0.34	−0.27	0.04	0.13	1.00													
Secondary	0.17	−0.04	0.11	0.24	0.10	−0.00	0.05	0.24	0.03	0.29	−0.03	1.00												
Tertiary	0.40	0.11	0.21	−0.11	−0.09	−0.26	−0.02	0.10	−0.11	0.65	0.18	0.37	1.00											
Female Lab.	−0.08	−0.33	0.14	0.26	−0.18	−0.00	0.01	0.22	0.10	0.34	−0.01	0.45	0.37	1.00										
Left orientation	−0.11	−0.09	−0.07	−0.07	0.14	0.19	−0.06	−0.02	0.01	−0.04	0.05	0.09	−0.07	0.17	1.00									
Nuclear	−0.04	0.38	−0.18	−0.17	0.27	0.03	−0.49	−0.19	0.16	−0.13	0.58	−0.10	0.08	−0.11	0.05	1.00								
French .	−0.35	0.64	−0.35	−0.27	0.07	0.41	−0.15	0.16	0.06	−0.06	0.19	−0.29	−0.07	−0.40	−0.10	0.53	1.00							
Soc./Com.	−0.25	−0.28	−0.08	0.04	0.40	0.10	−0.50	−0.34	0.47	−0.62	−0.06	0.28	−0.29	0.22	0.12	−0.01	−0.30	1.00						
Scand./Ger	0.12	−0.44	0.09	0.39	−0.22	−0.04	0.75	0.41	−0.33	0.38	−0.38	0.13	−0.03	0.27	0.09	−0.58	−0.55	−0.30	1.00					
Main. Cont.	0.05	−0.19	−0.05	−0.01	−0.28	−0.19	0.36	0.35	−0.31	0.21	−0.09	0.06	−0.00	−0.03	−0.12	−0.10	0.03	−0.20	0.17	1.00				
Hybrid Cont.	−0.15	0.35	−0.05	−0.16	0.23	0.15	0.01	0.04	0.11	0.03	0.25	−0.08	−0.09	−0.25	−0.06	0.16	0.35	−0.13	−0.15	−0.16	1.00			
Mediter.	−0.17	0.39	−0.21	−0.39	0.32	0.35	−0.22	0.08	0.15	−0.08	0.10	−0.19	−0.02	−0.17	−0.03	0.23	0.49	−0.10	−0.32	−0.25	−0.17	1.00		
Eastern	−0.23	−0.18	−0.08	0.04	0.40	0.15	−0.53	−0.43	0.41	−0.67	−0.07	0.16	−0.30	0.12	0.12	0.06	−0.17	0.84	−0.31	−0.21	−0.14	−0.22	1.00	
Anglo Saxon	0.51	0.03	0.24	−0.08	−0.01	−0.54	−0.32	−0.41	−0.09	0.21	0.42	0.01	0.41	0.02	−0.06	0.17	−0.27	−0.15	−0.27	−0.18	−0.12	−0.18	−0.16	1.00

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