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# **Polarization and marginalization during the Eurozone crisis: The persistence of Eurosclerosis**

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*Abstract:* The Great Recession and the Eurozone crisis taking place since 2008 are real-life tests for policies aimed at promoting inclusive labor markets in the Eurozone. Therefore, this article discusses first how the risk of being a labor market outsider evolved in the Eurozone during the crises, and whether this risk diverged between social groups. Using EU-SILC data, we describe the overall level of outsider risks before and during the crises – risks of being either unemployed, temporarily employed or earning a low wage – among the labor force (‘polarization’) and the concentration of these risks among vulnerable groups (‘marginalization’). Our results show that the outsider risks have particularly increased in the Southern European countries, and for young workers throughout the EU, and in the case of unemployment, also for low-skilled workers. In the second step, we study how employment protection legislation, union density and wage bargaining systems influence polarization and marginalization in the context of an economic crisis. In contrast to discussions about the end of Eurosclerosis, we find that strict employment protection and centralized bargaining increase the marginalization of vulnerable groups while strong unions can reduce polarization.

**Keywords:** labor markets, outsider, polarization, marginalization, economic crisis, Eurozone

**JEL classification:** E240, J310, J640

# 1. Introduction

Orthodox labor economics propose that European labor markets react to economic shocks mostly with increasing unemployment rates rather than increasing wage inequality. This reflects their stronger institutional regulation, e.g. due to stricter employment protection legislation (EPL), stronger unions, higher taxes, higher welfare benefits, and intermediary wage bargaining systems (Blanchard, 2006; Blau and Kahn, 2002; Layard et al., 2005; Siebert, 1997). Such an institutional setting has been interpreted as the source of labor market rigidity contributing to higher unemployment rates, higher real wage levels and less wage inequality in Europe. Moreover, it may lead to a greater division of labor markets into insiders and outsiders (Lindbeck and Snower, 1988; Lindbeck and Snower, 2001). The literature on labor market dualization and the insider/outsider divide has also found that labor market institutions are crucial, although its results put in doubt the success of labor market deregulation and flexibilization (Barbieri, 2009; Barbieri and Cutuli, 2016; Biegert, 2017; Emmenegger et al., 2012; Gebel and Giesecke, 2016; Giesselmann, 2014).

This ideal typical model of rigid, segmented European labor markets seemed to have been largely overcome due to labor market reforms since the 1990s, particularly the “activation turn” of employment policies (Boeri, 2011). European member states, the EU, and international organizations tried to foster more flexible and more inclusive labor markets by activating the unemployed and inactive parts of their labor force, and by reducing employment protection for the employed (Eichhorst et al., 2008; Serrano Pascual and Magnusson, 2007). Boeri and Garibaldi (2009: 411–412) even speak of “a sea change in labor market conditions” and state that structural unemployment has vanished in Europe.

The Great Recession and the subsequent Eurozone crisis were real-life tests for the assumption that European labor markets have outgrown their rigidities and bridged insider-outsider divides. Particularly, Eurozone countries had to rely on their labor markets as buffers against the economic shock from the crises as alternative buffers like external devaluations, automatic stabilizers, international transfer payments or migration did not exist or played only a minor role in the Eurozone (Boeri and Jimeno, 2016). Orthodox labor economics has proposed two possible adjustment mechanisms during an economic downturn: increasing wage inequality or increasing unemployment. Due to the more egalitarian institutions in Europe, unemployment rather than wage inequality had been the dominant adjustment strategy in recent history (Blanchard and Summers, 1986; Blau and Kahn, 2002). However, it has been argued that other adjustment mechanisms exist and may be even more important in times of economic shocks, e.g. increasing job insecurity induced by fixed-term contracts (DiPrete, 2007: 612; Maurin and Postel-Vinay, 2005). Therefore, this article focuses on three types of labor market risks associated with ‘outsiderness’ in the Eurozone: unemployment, low wage, and temporary employment. The aim is to investigate whether labor markets in the Eurozone are already “beyond Eurosclerosis” or whether classical labor market institutions still boost outsider risks. This translates into the following research questions: *How did labor market risks evolve in the Eurozone countries and how have these risks been distributed among the core workforce and more vulnerable labor market groups? How did classical labor market institutions shape these risks?*

We discuss these questions by distinguishing between *polarization* and *marginalization* (cf. also Heidenreich, 2015). The term polarization is used here to refer to the division of the labor force into insiders and outsiders (Lindbeck and Snower, 1988). We consider outsiders to be persons who are either unemployed or who work in “bad jobs” (Kalleberg, 2011: 10) with either precarious employment conditions or lower wages (Rueda, 2005: 62; cf. also Lindbeck and Snower, 1988: 3, 246–248). Marginalization, on the other hand, is defined as

the concentration of the risk of being an outsider on vulnerable labor market groups, such as, for example, women, migrants, un-skilled or young people. Even if a labor market is highly polarized, vulnerable groups are not necessarily marginalized if outsider risks are equally spread among the labor force. Therefore, it is necessary to differentiate between outsider risks for the labor force in general and specific risks of (often) disadvantaged socio-economic groups. This rigor distinction is one of the major contributions of this article to the debate on labor market dualization in the Eurozone.

In the following, we develop three hypotheses concerning the polarization and marginalization of labor markets and their institutional determinants (2). We then introduce our data and methods (3). In the first step of our analysis, we assess the risk of the labor force to be either unemployed, low-paid or temporarily employed before and during the crisis and describe how the relative risks of vulnerable social groups evolved over time (4). Based on these analyzes, we study how certain labor market institutions influenced polarization and marginalization in the second step of our analysis (5). The article concludes with a summary and an outlook (6).

## 2. Two facets of labor market outsidersness

In the following, we will discuss the concepts of polarization and marginalization, their institutional determinants and how labor markets will react to an economic recession with different patterns of adjustment.

### 2.1. Polarization of the labor force in insider and outsider

Segmentation theories start from the observation that labor markets are divided in segments with differently favorable working conditions, wages and levels of social and job protections. Kalleberg (2011) has analyzed this divide between “good” and “bad” jobs, revealing that it is the result of polarized and precarious employment systems. *From an institutionalist perspective*, dual labor market theory explains these differences by the role of organizational rules for the recruitment, training, remuneration, and promotion of employees. Insiders have the opportunity to develop their competences and to get promoted in internal labor markets, while the employment conditions of outsiders in secondary or external labor markets are governed by supply and demand (Doeringer and Piore, 1971). Insiders have successfully entered an internal labor market via a point of entry – a process which is open to discrimination. *From an economic perspective*, the insider-outsider divide is explained by the higher labor turn-over costs of the unemployed, in particular due to the lack of firm-specific competences, contacts and inner-organizational networks (Lindbeck and Snower, 1988). The insider/outsider divide is conceived as a continuous variable ranging from unemployed to employed. *From a political science perspective*, Rueda (2005) highlights the role of political processes and institutional rules. Here, outsiders are not always unemployed, but do not enjoy institutional protection against dismissal and other precarious working conditions when employed - usually they are the ones to bear the brunt of demand fluctuations in the labor market. The political process which creates insiders and outsiders has been termed dualization (Emmenegger et al., 2012). On this basis, it can be retained that insiders are characterized by better employment conditions than outsiders. This gap can be explained by organizational rules, statistical discrimination, a higher level of competences and experience, strategies of social closure and exclusion by core workers, or legal rules. Therefore, an outsider status is characterized by unemployment or higher job insecurity and precarious working conditions due to the absence of individual, organizational, associational or legal forms

of protection. Instead of focusing on the economic or political processes of creating the insider-outsider divide, we will utilize the polarization concept proposed by Kalleberg (2011) which concentrates on different employment conditions and risks.

Therefore, and in contrast to previous studies which have typically conceptualized outsiders foremost as the unemployed (Lindbeck and Snower, 1988) or temporarily employed (Fervers and Schwander, 2015), we use a multidimensional perspective on outsidersness. In doing so, we combine the three labor market risks most commonly associated with outsidersness - unemployment, temporary contracts and low wages - in order to account for the multiple facets of labor market disadvantages faced by outsiders like the exclusion from the labor market, employment insecurities and falling below living wages. This polarization concept thus tries to better grasp the multidimensionality of labor market segmentation. It would be desirable to include other facets of outsidersness such as contingent work or involuntary part-time and solo self-employment. However, this would necessitate more data and a more detailed conceptualization of the contractual dimension of outsidersness. Furthermore, persons affected by other forms of outsidersness are often exposed by at least one of the three risks taken into consideration (e.g. involuntary part-time and low wages).

Empirically, we will analyze how the Great Recession and the subsequent Eurozone crisis have affected the polarization of the labor force in the Eurozone. We expect that these crises, indicated by a shrinking gross domestic product (GDP), will contribute to higher employment risks in general thus increasing the polarization of the labor force (H1a).

## **2.2. Marginalization of vulnerable labor market groups**

In principle, increasing labor market risks can be distributed evenly among the whole labor force, i.e. in form of a general flexibilization or liberalization of the world of work. However, they mostly affect specific groups more than other. In contrast to polarization, which focuses on the level of employment risks among the labor force independent of their social composition, this phenomenon can be termed *marginalization* (Emmenegger et al., 2012: 11–12; Heidenreich, 2015). It reflects the fact that the allocation of individuals to insider or outsider positions is not done randomly. For instance, Doeringer and Piore (1971) expected that young persons, women, foreigners or those with a minority-ethnic background, and low-skilled persons were more likely to be unemployed or earn lower wages. Kalleberg (2011: ch. 3) discusses the role of education, gender, family, immigration status, race, and age on polarization. These groups often have lower chances of accessing privileged positions in internal labor markets – whether this is explained by lower human capital, higher labor turnover costs, social closure, organizational and institutional rules, or discrimination. For example, *young workers* at the beginning of their careers change jobs more often than those in the middle of their careers and are more difficult to assess in terms of productivity and motivation by potential employers due to their lack of work experience or references (Bell and Blanchflower, 2011; Spence, 1973). Therefore, entry positions often have fixed-term contracts and lower wages so that employers can minimize turnover costs and encourage tenure and work commitment for seniority wages. The higher risk for *women* to be in the external labor market can be explained by occupational and sectoral segregation and difficulties in reconciling work and family life (Anker, 1997; England, 1992). As a result of maternity leave, for example, mothers are likely to leave and re-enter the labor market several times during their working life. Due to language barriers, non-accredited educational certificates and discrimination, *migrants* are often employed in worse jobs with lower remuneration (Kogan, 2007). Educational credentials can also be used to monopolize access to privileged positions in internal labor markets, while *low-skilled workers* are mostly employed in the external labor market and therefore face higher labor market risks (Brown, 2001; Doeringer

and Piore, 1971; Gebel and Giesecke, 2011; Werfhorst, 2011). Contemporary studies confirm that these four groups are still at the lower margins of the labor market in terms of wages, unemployment and temporary employment (Barbieri, 2009; Emmenegger et al., 2012; Kalleberg, 2012; Koch and Fritz, 2013; Schwander and Häusermann, 2013). In the following, we therefore designate these four social groups as *vulnerable groups*. The members of these groups are not necessarily outsiders, even if they may be at a higher risk of being outsiders. Therefore, we distinguish between the *polarization* of the labor force depending on their risks of being low-paid, unemployed or temporarily employed and the *marginalization* of vulnerable groups which refers to the (potentially higher) labor market risks of young people, women, low-qualified workers, and migrants.

Our interest lays with how economic shocks from a crisis affect the marginalization of vulnerable groups. While a shrinking GDP will directly translate into increasing employment risks, its effects on different socio-economic groups might be shaped by various labor market institutions. Therefore, we assume that the effect of a shrinking GDP growth on the marginalization of vulnerable groups is first and foremost moderated by the institutional setting of a country and will not have a direct effect on the degree of marginalization (H1b).

### **2.3. Institutional determinants of polarization and marginalization**

The question is which institutions shape the polarization of the labor force as well as the marginalization of vulnerable groups during the financial and Eurozone crises. The previously mentioned literature focuses on the institutional regulation of labor markets by EPL, unions' power, and wage bargaining institutions (Blanchard, 2006; Blau and Kahn, 2002; Layard et al., 2005; Siebert, 1997) and analyzed its effect on the employment opportunities of already disadvantaged labor market groups (Biegert, 2017; Gebel and Giesecke, 2011, 2016; Gieselmann, 2014). The persistence of "Eurosclerotic" institutions in some countries may be critical for understanding the heterogeneity of European labor markets characterized on the one hand by rigid, polarized and marginalizing structures and by flexible, inclusive patterns on the other.

A strict EPL is often believed to have a negative effect on the employment level in a labor market (Siebert, 1997). The empirical evidence for this claim is rather ambiguous: While Bertola (1990) and Bertola et al. (1999) found less dynamic labor markets in Europe, but no evidence for an effect of stricter EPL on lower employment and higher unemployment levels, other studies found a positive relation between EPL and unemployment (Blanchard, 2006; Layard et al., 2005). Already Nickell (1997: 72) showed that a strict EPL strengthens insiders in contrast to outsiders, but does not negatively influence the unemployment level. This result has been further specified by the debate on marginal flexibilization: An increasing gap between the EPL for temporary and regular jobs due to deregulation of already flexible employment contracts contributes to a further erosion of formerly stable employment conditions (Barbieri and Cutuli, 2016), and to increasing youth temporary employment risks (Gebel and Giesecke, 2016). Therefore, we assume that EPLs can affect both polarization and marginalization. Stricter EPL for regular contracts seem to protect standard employment during a crisis, thus stabilizing the polarization level of the labor force. Marginalization of vulnerable groups, however, might increase due to higher hiring and firing costs. In addition, stricter regulations of the use of fixed-term contracts may lead to a higher marginalization of vulnerable groups due to fewer opportunities to enter the labor market during a crisis (H2a).

Another classical labor market institution which is often associated with rigid labor markets is the *wage bargaining system*. Calmfors and Driffill (1988) argue that wage bargaining both at the company and local levels, and wage bargaining in highly centralized, corporatist bargaining systems is more sensitive to market pressures than wage bargaining at intermediate

levels. Consequently, the relationship between wage bargaining centralization and wage restraint is hump-shaped due to the lower possibility of wage moderation in regional and industry-wide negotiations in contrast to company and national negotiations (Calmfors and Driffill, 1988). Therefore, we assume less polarization of the labor force in both decentralized and highly centralized wage bargaining systems as wage moderation might reduce layoffs in a crisis. In addition, wage moderation may raise the chances for vulnerable groups to enter the labor market because of employment-friendly wage agreements (H2b).

A higher *union density*, seen as a proxy of the bargaining power of unions and employees, is generally associated with better working conditions and a more equalitarian wage structure (Kenworthy, 2004). However, Rueda (2005: 72) mentions that strong unions may predominantly represent insider interests, thus contributing to further polarization and marginalization of the labor force. More recent studies, however, have shown that strong unions also defend outsider interests by enforcing more inclusive employment policies (Benassi and Vlandas, 2016; Fervers and Schwander, 2015). For this reason, we assume that a higher union density might prevent the marginalization and perhaps even the polarization of the workforce even in times of economic downturns (H2c).

### 3. Data and methods

To analyze these proposed trends and effects, we examine cross-sectional data from the 19 current Eurozone member states for the years 2005 to 2014 using the European Union Statistics on Income and Living Conditions (EU-SILC, version April 2019; Goedemé, 2013; Lohmann, 2011; for a presentation of the EU-SILC and its caveats, see Wolff et al., 2010). As the Baltic countries were already part of the European Exchange Rate Mechanism since 2004/05, we include them in our country sample. The chosen period contains the years before the crisis (2005-2008), during the Great Recession (2008-2009) and the Eurozone crisis (2010-2013), and up to a year after the turning point of the Eurozone crisis (2014). This allows us to account for different patterns and timings of the crises. We restrict our sample to the labor force (excluding the self-employed) aged between 20 and 64 years. This age span excludes most persons who are still undergoing their secondary education or those that have just entered the labor market.

In order to examine the development and determinants of labor market risks during the Eurozone crisis, we employ a two-step procedure (cf. Lewis and Linzer, 2005). First, we calculate and compare the polarization and marginalization of the labor force (without the self-employed) on the basis of the respective individual outsider risks. In order to determine the level of polarization for every country in every year, we compute the share of the labor force that is either unemployed, temporarily employed, or earns low wages. We measure *unemployment* at the individual level through self-defined current economic status. *Temporary employment* is defined as having a fixed-term contract (in contrast to a permanent contract). *Low wages* are measured as earning less than two thirds of the median hourly wage in the respondent's country. The level of marginalization is calculated as the relative risk for four socio-demographic groups (young, women, low-skilled, and migrants) in comparison to the core workforce (prime-age, male, high-skilled, native). We define young persons as those between 20 and 24 years old and prime-age workers as those between 25-54 years. Low-skilled persons are those that have completed no more than lower secondary education (ISCED 0-2), whereas high-skilled workers have graduated with a tertiary degree (ISCED 5-6). Migrants are defined as persons who either hold a foreign citizenship or were born abroad. To account for composition effects of these four vulnerable groups in the Eurozone coun-

tries, we simultaneously estimate the effect of all groups on each outsider dimension using logistic regression models. Additionally, we control for individual health status and household type. Using this, we obtain the relative risks for each group separately. We use average marginal effects (AME) rather than odds ratios due to the former's superior interpretability as probabilities, and its comparability across different models, groups and samples (Mood, 2010). For the sake of simplicity, we only depict the results for the whole Eurozone.<sup>1</sup> Later, we use the country-specific results, which are shown in the appendix in the figures A.1, A.2, A.3 and A.4, to calculate the level of marginalization as the average outsider risk of vulnerable groups compared to the core workforce. In order to determine this average outsider risk, we sum up the regression coefficients for all groups on each of the three outsider dimensions and divide the sum by twelve (4 groups x 3 dimensions). This allows us to reduce the number of dimensions for the comparison by creating an index for the marginalization of each group for each country-year.

In the second step of our analysis, we construct a country-year panel data set with a pooled time-series-cross-section structure (TSCS) using the results from the first step as our independent variables. This enables us to test the effect of GDP changes and certain labor market institutions (and their interactions) on the degree of polarization and marginalization. After adding macro variables for the Eurozone members between 2005 and 2014, we end up with 170 country-years as observations. Based on our considerations in Section 2, we analyze the EPL effects for both regular and temporary contracts (Venn, 2009), union density, and centralization of wage bargaining (Visser, 2019). In case of missing values in the time series of the independent variables, values for missing years have been filled by linear or nearest neighbor interpolation. Due to a possible simultaneity bias, we lag every independent variable by one year. Since our dependent variables are both metric, we employ linear regression models. Although our independent variables can principally change over time, some rarely change, and most changes are rather small. Therefore, a Hausman-test suggests using random effects specifications rather than fixed effects (Hausman, 1978). As the Breusch and Pagan test (Breusch and Pagan, 1980) for unobserved heterogeneity is positive, we use panel-corrected standard errors to account for country-wise heteroscedasticity and the violation of independence assumption between years (Beck and Katz, 1995). Additionally, we allow for a first-order autocorrelation structure within panels as a Wooldridge test for serial autocorrelation indicates a first-order autocorrelation (Wooldridge, 2010). Therefore, the coefficients of our models can be interpreted as between-country differences similar to random-effects regression models. Therefore, we are able to estimate the effects of labor market institutions on polarization and marginalization and the moderating effect of the economic recession.

## 4. Polarization and marginalization in the Eurozone

This section describes the trends of polarization and marginalization in the Eurozone. Figure 1 shows the share of outsiders in the labor force in 2008 and 2014, i.e. persons who have a temporary contract, earn a low wage or who are currently unemployed. In Spain, for example, the share of outsiders was 47 % in 2008, with an increase of 9 percentage points during

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<sup>1</sup> As the pooled dataset for the whole Eurozone is hierarchically structured (individuals nested in counties), we additionally add country fixed-effects and clustered standard errors controlling for country-specific differences regarding the mean and variance.



the crisis. Therefore, 56 % of the Spanish labor force was exposed to at least one of the abovementioned outsider risks in 2014. Labor market risks increased in the Eurozone – particularly in the Southern European countries, which leads to a higher divergence of labor market risks within the Eurozone. Table A1 in the online appendix displays the three single dimensions of outsider risks for the 19 Eurozone countries, as well as the weighted average for the Eurozone as a whole. It can be seen that unemployment plays the most central role in the increasing polarization.



**Figure 1: Polarization: Share of the labor force affected by outsider risks in 2008 and 2014.**

Notes: ES = Spain, EL = Greece, PT = Portugal, CY= Cyprus, IE = Ireland, IT = Italy, LT = Lithuania, EA = Euro Area, SK = Slovakia, LU = Luxembourg, SI = Slovenia, LV = Latvia, DE = Germany, EE = Estonia, FR = France, AT = Austria, NL = Netherlands, FI = Finland, BE = Belgium, MT = Malta. Employees affected by outsider risks: Share of the labor force (20-64 years) of persons who are either unemployed, temporarily employed or low-paid. Source: EU-SILC, own calculations.

In order to analyze the marginalization of the vulnerable groups of young workers, low-skilled workers, migrants and women in the Eurozone, we compare the development of their low wage, unemployment and temporary employment risks compared to the core workforce. Figure 2 shows the average marginal effects for the four groups estimated by logistic regression models with country fixed-effects (for comprehensive tables of the models see tables A.2, A.3 and A.4 in the online appendix). The first panel in the top-left depicts the *age gaps*, indicating the marginalization of young workers (20-25 years) compared to prime-age workers (25-54 years) from 2005 to 2014. In 2008, the relative unemployment risk of young workers was about 8 percentage points higher when compared to prime-age workers. In 2014, this gap rose to 14 percentage points. From 2005 to 2014, their relative temporary employment risk increased from 24 to 35 percentage points with a considerable drop between 2007 and 2011. At the same time, the relative low-wage risk for younger workers rose from 19 to 24 percentage points. In sum, marginalization increased for young workers compared to prime-age workers in the Eurozone as described in the literature (Bell and Blanchflower, 2011), which indicates a further deterioration of the labor market situation for them.

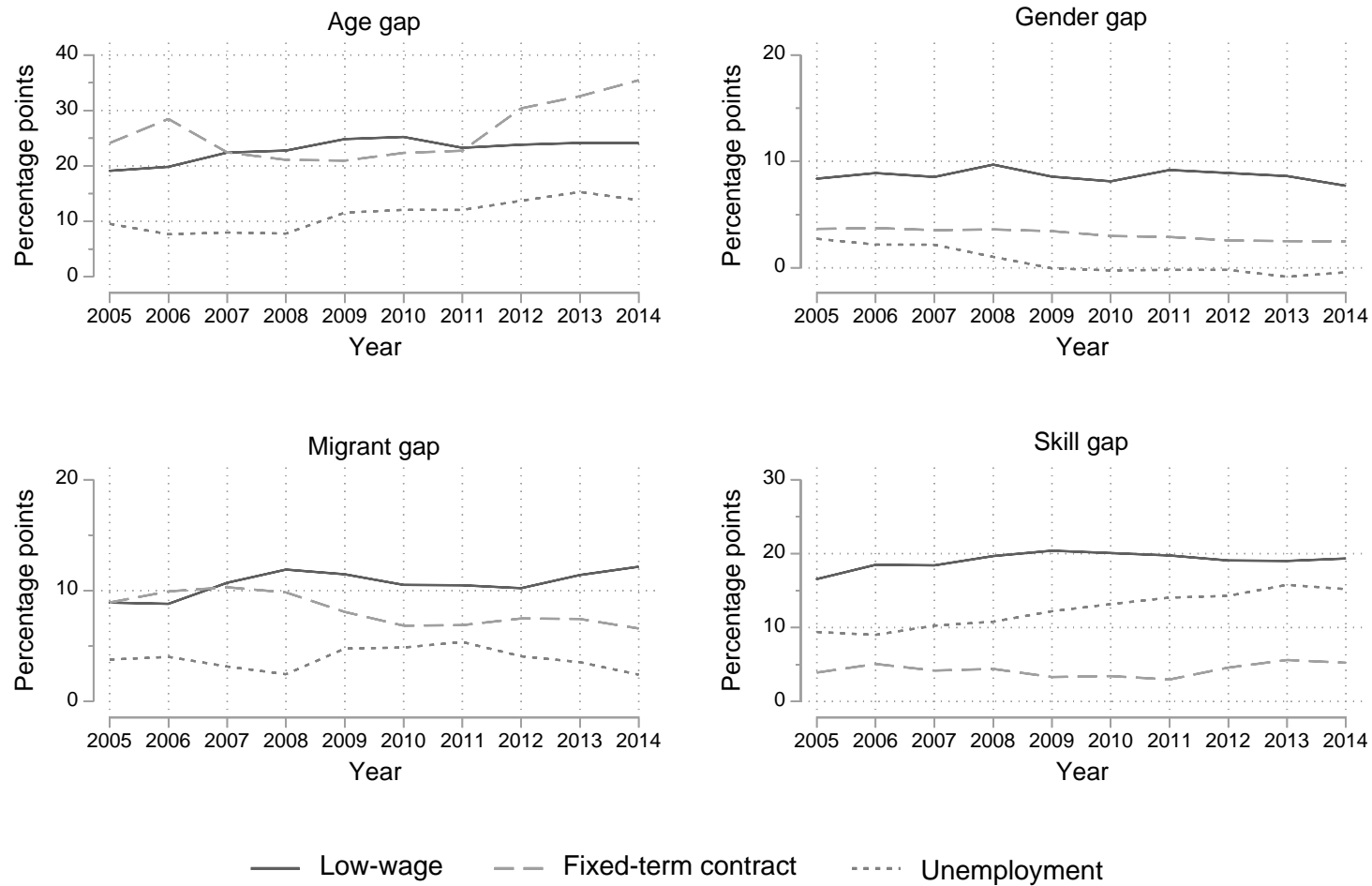
However, this aggregated trend over the whole Eurozone area hides the much stronger increases in the unemployment and temporary employment gap in the Southern European countries, which can be seen in the respective figures A.1, A.2, A.3 and A.4 in the online appendix. These growing relative risks for younger workers support the marginal flexibilization thesis (cf. Barbieri and Cutuli, 2016).

The panel in the bottom-left shows the marginalization of *migrants* compared to natives. The unemployment risk gap of migrants has only slightly changed between 2005 and 2014, despite some ups and downs in-between. Simultaneously, the relative temporary employment risk declined slightly from 9 to 7 percentage points, and the gap in the low-wage risk increased from 9 to 12 percentage points. As migrants are under-sampled in most EU-SILC country samples, however, these results may not be representative of the high diversity of migrant populations in the Eurozone countries. The trends for the gaps in temporary employment and low-wage risk could be the result of dismissals -migrants with temporary contracts were typically laid off more frequently during the crisis and re-employment for them was often only possible in lower paying jobs.

The *gender gaps* are depicted in the top-right panel. Interestingly, the unemployment gap, which was 2.7 percentage points in 2005, has disappeared or even become slightly negative since 2009. Simultaneously, the gender gaps in the temporary employment risk and low-wage risk remained relatively stable with only very small changes. This finding is contrary to previous studies which have suggested that women were more affected by the economic crisis due to harsh austerity measures in the public sector (Karamessini and Rubery, 2014). Instead, we observe that the gender gaps in unemployment, low-wage, and temporary employment risk have instead been decreasing, albeit slightly.

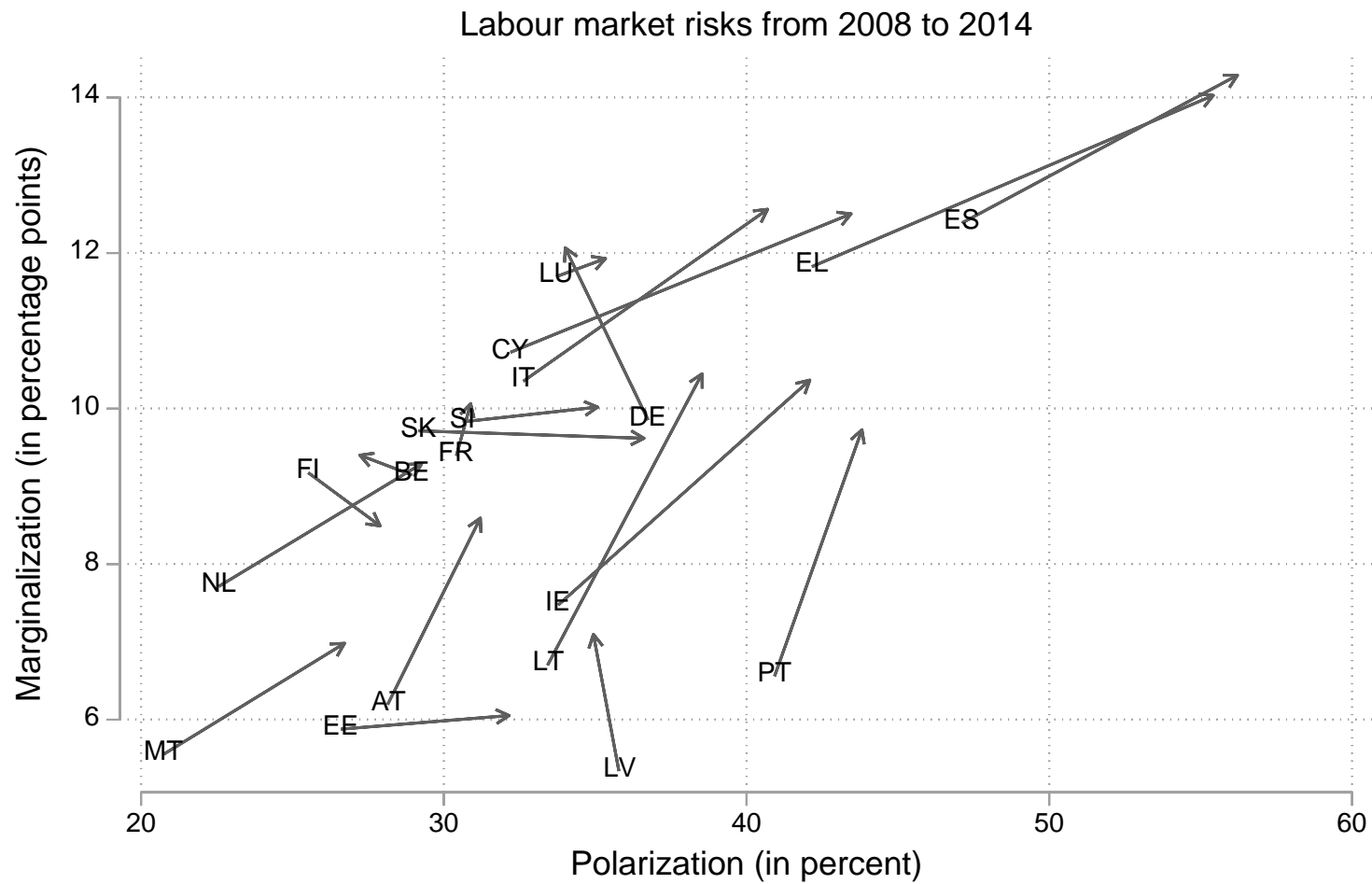
Finally, the last panel in the bottom-right illustrates the *skill gaps*, indicating the marginalization of low-skilled workers in comparison to high-skilled workers. We observe a substantial increase in the relative unemployment risk of the low-skilled, from around 9 percentage points in 2008 to 15 percentage points in 2014. In contrast, the skill gap in the temporary employment risk remained relatively stable over the crisis period. Similarly, there was only a small increase by 2 percentage points between 2005 and 2014 in the relative low-wage risk for low-skilled workers. Therefore, the economic shock does not seem to have been accompanied by higher relative temporary employment or low wage risks among low-skilled workers, but still by an increase in the unemployment risk gap. However, the stability of the low wage risk may be an artefact of the relative definition of low wage thresholds, as these relations are insensitive to absolute wage declines across the whole workforce. Consequently, a stable low-wage risk does not mean that the wages of low-skilled workers were unaffected by the crisis. Overall, our results support the assertion that unemployment was the primary adjustment mechanism for low-skilled workers (Boeri and Jimeno, 2016; Heidenreich, 2015).

In summary, we have identified different trends in the marginalization of the four vulnerable groups. For young people, we found an *accumulation* of all three dimensions of labor market risks. For low-skilled workers, we found what is likely more akin to a *trade-off* between the risk of being unemployed and the risk of having an insecure job or low wage: While the relative unemployment risk of low-skilled workers grew, low-wage and temporary employment risks were relatively stable. For migrants, we observed a similar *trade-off* - while the low-wage gap increased, the temporary employment gap dropped, and the unemployment gap remained relatively stable. Finally, we observed a *catching up* of women with men regarding their relative unemployment risk. These trends have been more pronounced in the Southern European countries where the increase in youth unemployment has been much more severe, and the decrease in the gender gaps has also been larger.



**Figure 2: Relative labor market risks of vulnerable groups in the Eurozone**  
 Source: EU-SILC 2005-2015, own calculations.

To better be able to picture country differences regarding the trends of polarization and marginalization, we have plotted arrows between the degree of polarization and marginalization in 2008 and in 2014 for each country in Figure 3. The figure depicts an increase in the degree of general outsider risks in every country except for Germany, Belgium and Latvia. These three countries had comparatively high shares of outsiders in 2008 but were able to reduce the polarization of the labor force by lowering employment-related risks during the crisis. In Germany, however, the level of marginalization increased significantly. In contrast, in Luxembourg, Estonia, Slovakia and Finland, it declined despite growing polarization. This means that the increasing risks of outsiders have been more evenly distributed across the labor force, implying lower relative risks for high-skilled, native, older or male persons. Another pattern can be observed in the six countries which had been hit hardest by the crisis: In 2014, Ireland, and the Southern European countries, Cyprus, Greece, Italy, Portugal, and Spain were the only countries with a total share of outsiders over 40 % of the labor force. Moreover, the group-specific relative risks also grew in these countries. Therefore, these countries have experienced even higher levels of polarization and of marginalization. Although polarization and marginalization are analytically two different aspects, our results demonstrate that a crisis-related growth in polarization is accompanied with stronger relative risks for vulnerable groups in most countries. While the 19 Eurozone countries were more dispersed in 2008, a clear gap between the Southern countries plus Ireland and the other Eurozone countries can be observed in 2014: The Southern countries and Ireland clearly cluster in the upper right corner (high polarization and marginalization), while the other countries tend more to the lower left corner (low polarization and marginalization). This finding for the crisis-stricken countries is in line with previous studies which identified a 'double dualization' of labor market inequality between and within European member states (Heidenreich, 2016). Such a clear economic and institutional divide between Northern and (mostly) Southern Eurozone countries has also been observed by the debate on growth models. The demand-led growth models in the Southern Eurozone countries are characterized by higher difficulties in operating wage restraint due to a lower level of wage bargaining coordination (Hall, 2014: 1226; Höpner and Lutter, 2018) and strong public sector unions (Iversen et al., 2016: 172–173). Therefore, we will test the impact of these institutions in the next section, which also address central concerns of the Eurosclerosis-debate.



**Figure 3: Country trends in polarization (share of outsiders among the labor force) and marginalization (average relative risk of vulnerable groups) from 2008 to 2014**

**Notes:** AT = Austria, BE = Belgium, CY= Cyprus, DE = Germany, EE = Estonia, EL = Greece, ES = Spain, FI = Finland, FR = France, IE = Ireland, IT = Italy, LT = Lithuania, LU = Luxembourg, LV = Latvia, MT = Malta, NL = Netherlands, PT = Portugal, SI = Slovenia, SK = Slovakia.

## 5. Institutional determinants of polarization and marginalization

After describing the polarization of the labor force and marginalization of vulnerable groups during the Great Recession and the Eurozone crisis, we will now analyze the effects of the previously described labor market institutions – employment protection legislation, union density and wage bargaining centralization – on both of these trends. In Table 1, we present a series of regression models with panel-corrected standard errors for our two dependent variables (summary statistics of the used macro-level variables are presented in table A.5 in the appendix). To account for the crisis effect, we included the change of the national GDP in all models. Models 1a and 1b contain the main effects of GDP change and the three institutions. The other models add interactions between GDP change and the institutions in order to test how these institutions moderated the effect of a changing GDP growth.

Concerning the polarization level, Model 1a predicts that a 1 percentage point increase in GDP over the previous year decreases the absolute outsider risk by approximately 0.45 percentage points. For the group-specific relative outsider risk, there is no significant effect of the GDP. Therefore, economic growth or decline only has a direct effect on *the polarization of the whole labor force, but not on the marginalization of vulnerable groups*.

The *EPL for regular contracts* does not have a significant effect on either polarization or marginalization. The missing effect on polarization supports previous observations that a stricter regulation is not necessarily associated with a higher unemployment rate (Blanchard, 2006: 30; Nickell, 1997: 72). In contrast, the missing effect on marginalization differs from recent studies which showed that a stricter protection of regular jobs increases: the risk of temporary employment for young people (Gebel and Giesecke, 2016), as well as the risks of being unemployed or having a fixed-term job for low-skilled workers (Gebel and Giesecke, 2011). It is also shown to decrease the job prospects for women (Biegert, 2017). A possible interpretation could be that trade-off effects exist both between different types of risks and between different vulnerable groups: A higher relative unemployment risk of vulnerable groups does not automatically increase their degree of marginalization if dismissals primarily hit either the temporarily employed or low-wage earners. Additionally, increasing relative employment risks of young people have been accompanied by lower risks for women as shown in the previous chapter.

The *EPL for temporary contracts* has a significantly positive effect on marginalization. Meanwhile, the effect is less clear for polarization as it is only significant at the 10% level. Therefore, stricter regulations of temporary employment in a country are associated with higher risk gaps between vulnerable groups and the core workforce. This can be explained by the fact that employers refrain from offering fixed-term contracts when confronted with higher barriers for them. This leads to a reduction in employment opportunities for vulnerable groups in particular. This also corresponds to the results of Barbieri and Cutuli (2016), who found that a more regulated use of temporary contracts is associated with less temporary employment for young people or low-skilled workers.

Models 1a and 2a show that polarization is neither directly influenced by strict EPL for regular jobs nor by a changing GDP. However, the effect of GDP growth on marginalization decreases with stricter EPLs for regular contracts, as can be seen in Model 2b. In cyclical upswing, marginalization seems to decrease more in highly regulated labor markets compared to less regulated ones. In contrast, in times of a cyclical downturn, marginalization is higher

in strictly regulated labor markets. One explanation for this could be that core workers are better protected against economic shocks, while vulnerable groups are more exposed to outsider risks in times of crisis. In less regulated labor markets, the different groups in the workforce are more equally affected by demand shocks and economic crises. Regarding the EPL for temporary employment, the non-significant interactions with changing GDP growth indicate that the effects of regulations for temporary contracts is independent of the economic cycle.

*Centralization of wage bargaining* has a negative effect on polarization and a positive one on marginalization. These effects are only significant while including a squared term of centralization, which confirms the assumption of a hump-shaped rather than a linear relationship (Calmfors and Driffill, 1988). In concrete terms, this means that polarization is lower when wage bargaining takes place at the sector or industry level, and it is higher when it takes place at the company or the national level. This contradicts the assumption of Calmfors and Driffill (1988) that both highly centralized and highly decentralized wage bargaining systems enable a stronger wage restraint and thus contribute to lower real wage increases and lower unemployment rates. The positive inclination of the relationship between polarization and wage bargaining centralization might indicate that decentralized bargaining systems do not only facilitate wage flexibility, but also lead to higher shares of low-wage employment. In addition, wage moderation might not work in the context of the Eurozone crisis which was characterized by a very low inflation rate. Under these conditions, wage moderation would imply nominal wage cuts which are near impossible to achieve in any wage bargaining system. The ECB therefore observes: “the proportion of observed wage cuts stays well below the level that would correspond to a flexible regime.” (Branten et al., 2018: 3) Instead of wage cuts, companies may rely on other strategies for reducing their wage costs, particularly lower employment and higher unemployment levels, thereby increasing polarization, most notably in centralized and decentralized systems. This implies that the Euro may have introduced a new form of rigidity because it abolished the instrument of monetary devaluations which allowed real wage decreases without nominal wage cuts. In addition, our results indicate that marginalization is highest when wage bargaining takes place at the intermediate level. This finding may indicate that – even if real wage cuts for existing contracts have become difficult in a macroeconomic context characterized by low inflation, companies still have the opportunity of reducing wage costs by offering lower wages or fixed-term contracts to new employees. This strategic option may be particularly interesting in a more strongly regulated and coordinated bargaining systems because it allows the protection of the core workforce at the cost of labor market entrants or other vulnerable groups. Furthermore, the interaction effects between GDP growth and centralization are not significant, indicating that the main effects do not clearly differ during the business cycle.

*Union density*, as a proxy for the strength and bargaining power of unions and employees, has a significant negative effect on polarization, while showing no effect on marginalization. A higher union density thus correlates with a lower share of outsiders in a country. This could be driven by wage compression and lower rates of low-wage employment due to egalitarian wage bargaining strategies. Even if unions do not reduce risks of unemployment or temporary employment, our results suggest that they are pillars of egalitarian societies (cf. Kenworthy, 2004), which is in line with recent findings (Fervers and Schwander, 2015). The lower polarization of the workforce is even more accentuated during a crisis when compared to countries with weaker unions, as shown by Model 5a and Figure 4. For marginalization, the joint effect of union density and economic change is not so clear. Overall, it seems that strong unions contribute to a better protection of employees – especially in times of crisis.

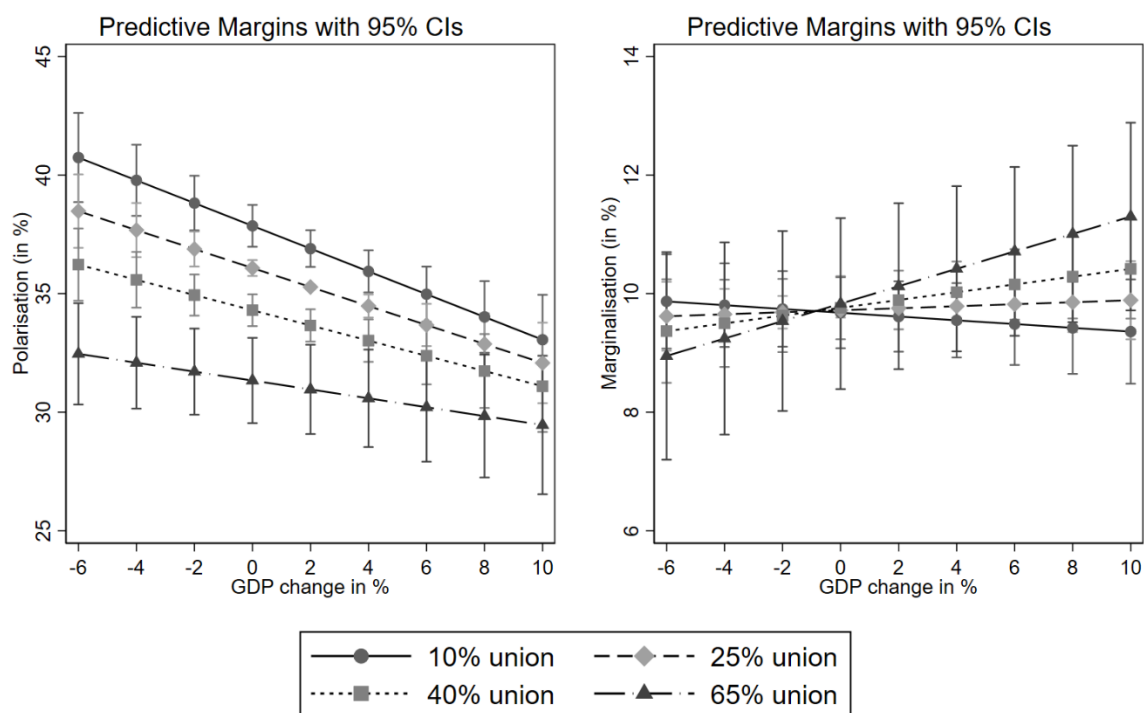
In sum, we observe a clear contribution of the crisis to a stronger polarization, but not necessarily to a marginalization of the workforce (which supports H1a and H1b). However, we do not observe an effect of a stricter EPL for regular jobs on the polarization and marginalization of the workforce unless it is interacted with GDP change. In this case, a declining GDP seems to lead to a higher degree of marginalization in highly regulated labor markets due to higher hiring and firing costs which is in line with H2a. On the contrary, EPLs for temporary employment affect only the degree of marginalization, independently of a changing GDP. Thus, stricter regulations of the use of fixed-term contracts is associated with a higher marginalization of vulnerable groups due to fewer opportunities to enter the labor market. Furthermore, we showed that polarization is lower in intermediary wage bargaining systems while marginalization is higher, which challenges H2b. This result highlights the importance of differentiating between outsider risks of the total labor force and specific risks for vulnerable groups. Finally, we also observed a lower outsider risk in countries with strong unions, especially in times of crisis, which confirms H2c.



Table 1: Pooled linear regressions with panel-corrected standard errors of polarization and marginalization on labor market institutions.

	Polarization (level of outsider risks)					Marginalization (group-specific outsider risks)				
	M1a	M2a	M3a	M4a	M5a	M1b	M2b	M3b	M4b	M5b
GDP change	-0.450*** (0.109)	-0.295 (0.208)	-0.507*** (0.139)	-0.569** (0.212)	-0.533*** (0.116)	-0.012 (0.038)	0.240+ (0.130)	-0.042 (0.052)	-0.029 (0.069)	-0.064+ (0.039)
EPL regular	0.038 (0.878)	0.041 (0.871)	0.051 (0.860)	0.028 (0.775)	-0.108 (0.889)	-0.340 (0.472)	-0.312 (0.442)	-0.347 (0.474)	-0.327 (0.466)	-0.381 (0.478)
EPL temporary	0.883+ (0.523)	0.926+ (0.521)	0.846 (0.529)	1.018* (0.468)	0.853+ (0.517)	0.645** (0.224)	0.676** (0.218)	0.600* (0.235)	0.658** (0.223)	0.639** (0.226)
Centralization	-3.211* (1.458)	-3.212* (1.447)	-3.138* (1.448)	-3.301* (1.538)	-3.025* (1.455)	1.781** (0.602)	1.777** (0.590)	1.809** (0.603)	1.875** (0.620)	1.846** (0.585)
Centralization <sup>2</sup>	0.397* (0.197)	0.394* (0.195)	0.386* (0.196)	0.415+ (0.222)	0.370+ (0.196)	-0.251** (0.086)	-0.256** (0.084)	-0.256** (0.086)	-0.267** (0.090)	-0.263** (0.083)
Union density	-0.112*** (0.034)	-0.112*** (0.032)	-0.113*** (0.032)	-0.115*** (0.029)	-0.119*** (0.024)	0.007 (0.020)	0.007 (0.019)	0.007 (0.020)	0.006 (0.020)	0.003 (0.019)
GDP change × EPL regular		-0.064 (0.070)					-0.103* (0.052)			
GDP change × EPL temporary			0.029 (0.040)					0.017 (0.019)		
GDP change × Centralization				0.128 (0.224)					0.002 (0.083)	
GDP change × Centralization <sup>2</sup>				-0.024 (0.042)					0.003 (0.016)	
GDP change × Union density					0.005*** (0.002)					0.003*** (0.001)
Intercept	42.467*** (4.116)	42.450*** (4.123)	42.472*** (3.983)	42.450*** (3.780)	42.588*** (4.176)	6.132*** (1.158)	6.073*** (1.136)	6.202*** (1.175)	5.884*** (1.131)	6.142*** (1.233)
R <sup>2</sup>	0.764	0.762	0.758	0.742	0.773	0.455	0.465	0.456	0.458	0.470
N(country-years)	170	170	170	170	170	170	170	170	170	170
N(countries)	17	17	17	17	17	17	17	17	17	17

Note: Source: EU-SILC 2005-2015, own calculations. All independent variables are lagged by one year. Legend: + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.



**Figure 4: Predicted values of GDP change on polarization and marginalization dependent on union density (UD). Source: Model 5a and 5b from Table 1.**

## 6. Conclusion

As labor markets in the Eurozone had to become the major buffer against economic shocks due to the abolition of fiscal and monetary buffers (cf. Grauwe, 2018), this paper set out to analyze how the economic shocks were absorbed by the labor markets of the Eurozone. Based on data from the EU-SILC for 19 Eurozone countries from 2005 to 2014, we illustrated how the burdens of the Great Recession and the Eurozone crisis affected the outsider risks of the labor force in general and the relative outsider risks of vulnerable groups in particular across labor markets within the Eurozone. While polarization was strongly affected by the economic downturn, the marginalization of vulnerable groups grew less strongly which seems to support our hypothesis that marginalization is more dependent on the institutional setting than polarization.

In an aggregate perspective, the risk of being a labor market outsider (polarization) – measured as the unemployment, low-wage or temporary employment risk of labor market outsiders – increased in most Eurozone countries, but particularly so in the Southern European countries. This led to a higher divergence of labor market risks between member states of the Eurozone. Unemployment is the driver of this increasing polarization. Furthermore, we analyzed the marginalization of four particularly vulnerable groups at the micro level: For young people, we found an accumulation of all three dimensions of labor market risks. For low-skilled workers and migrants, we observed a trade-off between the risks of being unemployed, being temporary employed or earning a low wage. Finally, we observed a catching up of women to men when compared to the pre-crisis period. These trends have been more

pronounced in the Southern European countries, particularly for young people, as they experienced a sharp increase in outsider risks. This is consistent with previous studies highlighting the serious impact of the crisis on young people (Bell and Blanchflower, 2011).

The stronger polarization and marginalization in regions such as Southern Europe and Ireland increased the division within the Eurozone and reversed the trend towards cohesion and more inclusive labor markets, which has been a major goal of European and national employment strategies since the 1990s. The huge increase in between-country differences regarding the degree of polarization and marginalization reflects the asymmetric distribution of economic adjustment burdens between the Southern and Northern regions of Europe.

Additionally, we analyzed the effects of classic labor market institutions on polarization and marginalization. These institutions have been singled out as sources of the rigid European labor markets by labor economists. We showed that polarization clearly increases with a declining GDP, while marginalization does not. Instead, a declining GDP seems to lead to a higher marginalization only in labor markets with strict employment protection for regular contracts. Moreover, stricter regulation for temporary contracts are accompanied by higher marginalization of vulnerable groups, because it reduces the opportunities of these groups to enter the labor market. This effect seems to be independent of the economic cycle. We also observed a lower outsider risk for the whole labor force in countries with strong unions which is even more pronounced in times of crisis. Finally, we showed that centralized wage bargaining is generally linked to weaker polarization, but stronger marginalization. Overall, the institutions seem to have a mixed influence on the two dimensions of labor market segmentation: strict EPLs and centralized bargaining increase the marginalization of vulnerable groups, while strong unions reduce polarization in times of economic downturns.

Taken together, our findings show that classical institutions are still crucial determinants of labor market segmentation. In addition, the Euro in combination with low inflation have created new types of rigidities due to abolition of external devaluations. It therefore may be inappropriate to speculate about a phase “beyond Eurosclerosis”. Perhaps it is more helpful to stick to the concept of socially embedded labor markets and analyze the divide between exclusive and inclusive labor markets. This would perhaps better reflect the differences between diverse institutional settings in Southern and other European labor markets and their respective impacts on polarization and marginalization.

While we operationalized ‘outsiderness’ as a dichotomous variable, further research could consider the degree of outsiderness by distinguishing if one person is affected by one or more of the three risks or by considering the duration a person is exposed to a risk (e.g. short- or long-term unemployment). In a similar vein, further research may focus on other vulnerable groups beyond the four groups examined in this study (e.g. disabled or sick persons, single mothers). In addition, possible interdependencies and trade-offs between different dimensions of outsiderness could be addressed.

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