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Deposited version:
Accepted Version

Peer-review status of attached file:
Peer-reviewed

Citation for published item:
Marques, P. & Salavisa, I. (2016). Age-based labour market stratification in Europe: A fuzzy set analysis. 28th Annual EAEPE Conference.

Further information on publisher's website:
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Age-based labour market stratification in Europe: A fuzzy set analysis

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Abstract

This article examines the determinants of outsiderness among young people. By applying fsQCA, it first reveals two possible paths leading to this outcome and secondly that each of these paths requires fertile breeding grounds for social conflict and a small proportion of primary sector jobs. The first path combines a small proportion primary sector jobs, high employment protection, and poor coordination in the industrial relations system, while the second path combines a small proportion primary sector jobs, the absence of high employment protection, and liberalization. The first covers Portugal, Spain, Italy and Greece, while the second one refers to the United Kingdom, Ireland and Denmark.

Besides informing the debate among dualization scholars by highlighting the strengths of an institutionalist approach to the issue of labour market segmentation, this article draws attention to the Southern and Anglo-Saxon cases and identifies the conditions contributing to high levels of outsiderness among young people.

Keywords: segmentation, youth, labour market institutions, welfare state, social conflict, QCA
JEL classification: P16 political economy

1. Introduction

A number of authors have noted that post-industrial labour markets have downplayed the position of young people, women and the low skilled (Esping-Andersen, 1999, p. 306; Oliveira *et al.*, 2011, p. 163). This can be explained by the fact that young people hold a much weaker position in the labour market and are therefore endowed with few power resources. Taking into account that post-industrial labour markets are characterized by a growing number of jobs in services and that these jobs are more insecure and less regulated by collective arrangements than in the manufacturing sector, it is not surprising that young people are more exposed to this danger and therefore more penalized. Notwithstanding, recent research has shown that some countries are much more exposed to this process than others (Lodovici, 2000; Blanchard, 2006, p. 12; Ebbinghaus, 2006a, p. 125; Chauvel, 2010).

Recent research in the field of comparative political economy has drawn attention to growing inequality across Western European countries. These authors have pinpointed the process of dualization as the main driver of change (Rueda, 2007; Palier and Thelen, 2010; Emmenegger *et al*., 2012; Rueda, 2014). Although they speak of the existence of different patterns of dualization (Schwander and Häusermann, 2013), they do not explain why the outsiders in some countries are mostly young labour market participants. In our view, the emphasis on efficiency to explain institutional change (inspired by the Varieties of Capitalism approach) contributes to this fact. Indeed, by arguing that the process of dualization began with the attempt to save the core manufacturing economy, Palier and Thelen point to efficiency as the main driver of labour market reforms, given that comparative advantages would otherwise be undermined. However, it seems that the opposite has occurred in some countries, especially if we take into consideration the consequences of the age-based divides. Age dualities have contributed to a dramatic increase in youth unemployment (e.g. in Southern European countries), particularly during the crisis. Since younger generations are more educated, the waste of productive potential makes the situation even more dramatic. Therefore, a cause other than efficiency must be identified to explain this process.

In this article, we argue that the explanation of growing age-based labour market inequalities requires a different analytic focus which borrows important insights from the recent literature on dualization, but departs from it in three ways. First, it must highlight differences between the industrial relations systems. Rather than cross-class coalitions between trade unions and employer associations of the core manufacturing economy, it is the highly conflictual relations between labour and capital that characterize some countries. Second, we suggest placing more emphasis on the process of liberalization. Indeed, liberalization scholars have made a powerful critique of the rationalist-functionalist assumptions on which the Varieties of Capitalism (VoC)

approach relies and they argue that change in all capitalist economies is driven by a process of market expansion and social conflicts. Finally, although these two factors play a crucial role in explaining age-based inequalities, they are not the only drivers of the process. In our view, the growing number of outsiders among young people is also due to a smaller proportion of certain kinds of primary sector jobs in some countries.

This article applies fuzzy-set qualitative comparative analysis (fsQCA) to examine the determinants of outsiderness among young people in Europe. Based on our theoretical argument, we hypothesize that fertile breeding grounds for social conflict (due to either the poor coordination in the industrial relations system *or* liberalization) and a small proportion of primary sector jobs are necessary conditions for high levels of outsiderness among young people. The results of the fsQCA analysis show that a small proportion primary sector jobs and the combination of a poor coordination in the industrial relations system and liberalization are necessary conditions for the outcome high levels of outsiderness among young people. Furthermore, we find no evidence that high employment protection is a necessary condition for the outcome. As concerns the analysis of sufficient conditions, two possible paths for the outcome are identified: the first combines a small proportion primary sector jobs, high employment protection, and poor coordination in the industrial relations system; the second combines a small proportion of primary sector jobs, the absence of high employment protection, and liberalization.

This study makes an original contribution in three important areas. First, it informs the debate among dualization scholars by highlighting the strengths of an institutionalist approach to the issue of labour market segmentation. Second, it enhances our knowledge of the conditions contributing to high levels of outsiderness among young people. Finally, the vast majority of studies on dualization are focused on the Continental and Nordic cases (e.g. Palier and Thelen, 2010; Eichhorst and Marx, 2011; and almost all chapters in Emmenegger *et al*., 2012), but this article extends the analysis to countries that have received less attention, namely Southern Europe and Anglo-Saxon countries (exceptions include Fleckenstein *et al.*, 2011). Indeed, as explained below, high levels of outsiderness among young people are mainly found in these countries.

The first section of this article reviews the literature on labour market stratification, puts forward the theoretical argument, and presents the hypotheses. The second section begins by discussing why fsQCA is used in this article. Thereafter, it presents the conditions and the outcome, and discusses the results of the empirical analysis. The article concludes with a brief summary and critique of the findings.

2. Explaining growing age-based labour market inequalities

Considerable attention has been given in the literature to the existing divides in the labour market. Dual labour market theories (Doeringer and Piore, 1971) and economic insider-outsider theories (Lindbeck and Snower, 1988) are often cited as the most relevant literature in this area.[1] More recently, a new approach – the dualization literature – has gained importance within the field of comparative political economy (Rueda, 2007; Palier and Thelen, 2010; Emmenegger *et al.*, 2012; Rueda, 2014). As can be seen below, each of these three strands of literature has different analytical roots and addresses different socio-political challenges. We will begin by identifying the key features of each approach before describing the main differences between them. Finally, we put forward our hypotheses building from the literature reviewed in this section.

2.1 Institutional versus mainstream economics: Disentangling the controversies among dualization scholars

Dual labour market (DLM) theories have their roots in the American Institutionalist School (Cain, 1976, pp. 1226-1228; Leontaridi, 1998, pp. 68-69; Barbier, 2011, pp. 7-9). Together with institutional economics, DLM scholars challenged classical and neo-classical explanations about the workings of the labour market. Indeed, in contrast to human capital theories, they argued that the labour market is not a single competitive market. The DLM scholars believe there are several non-competing segments, as well as institutional barriers between them. These scholars indicate the existence of two sectors: a primary and secondary. The primary is characterized by having well developed internal labour markets in which (formal and informal) institutional rules substitute market mechanisms. It is argued that firms in the primary sector depend more on their employees' specific skills (acquired through on-the-job training and experience) and therefore develop strategies to protect their labour force from the risk of poaching (Rubery, 1978, p. 19). Notwithstanding, dual labour market scholars later distinguished between an upper and a lower tier within the primary sector. Piore (1972, p. 3) argued that upper tier jobs are different 'from those in the lower tier by the higher pay and status, and the greater promotion opportunities which they afford. They are also distinguished by the mobility and turnover patterns, which tend to more closely resemble those of the secondary sector except, in contrast to the patterns of that sector, mobility and turnover tend to be associated with advancement'. While workers in the upper tier make use of general skills, the lower tier is mainly characterized by the use of specific skills. In their view, 'it is for this reason that lower tier jobs place a premium upon stability and routine' (Piore, 1972, p. 14). [2] The secondary sector covers workers outside internal labour markets, their tasks depending less on specific skills. Supply and demand play a pivotal role in this sector, there are more entry ports and workers are therefore more vulnerable to pressure from outside. Due to

these differences, the mobility of employees between sectors is restricted. Finally, the socio-political context has also exerted great influence over dual labour market scholars. This approach has tried to address the political concerns of the 1960s: structural unemployment, racial discrimination, poverty and inequality.

Economic insider-outsider theories, the second strand, emerged at the end of the 1980s. Rather than considering the rise of poverty and inequality, their interest relied on the intriguing high levels of structural unemployment in Europe, especially when compared with a much lower level in the US (Blanchard, 2006, p. 19). In contrast to the prevalent natural rate explanations, they considered that short-term economic shocks were not the main reason behind unemployment. Moreover, economic insider-outsider theorists argued that market mechanisms were not able to explain the rise of structural unemployment. They noted the fact that a decline in productivity growth (due to rapid deindustrialization throughout the 1980s) did not lead to an adjustment in wages (Emmenegger, 2009, p. 133). To explain this, they preferred to blame labour market institutions by arguing that some workers are trapped in involuntary unemployment because labour market institutions hinder competition between the unemployed – the outsiders – and those already in the labour market – the insiders (Lindbeck and Snower, 1988). They claim that this results in conflicting interests between insiders and outsiders because the latter prefer to dismantle existing labour market institutions, while the former prefer the opposite. Here, labour market institutions are meant to protect insiders from the competition of outsiders (e.g., severance-pay, seniority rules, advance notice of dismissal) (Lindbeck and Snower, 200, p. 167). Finally, although insider-outsider theory challenges the dominant explanations, this approach is built on the assumptions of mainstream economics because for these scholars institutions only impede the optimal functioning of the market (Barbier, 2011, p. 4).

Two main differences between DLM theory and economic insider-outsider theory should be underlined: their theoretical roots and their socio-political motivations. First, the separation between these two strands of literature is rooted in a broader debate between institutional economics and mainstream economics. While institutional economics understand that social groups and institutions are crucial to the functioning of the labour market and are indeed inseparable from it, mainstream economics emphasizes the role of market mechanisms, arguing that institutions only disturb the functioning of the market. Second, each approach attempts to deal with different challenges: DLM scholars focus on the rising levels of poverty and inequality in the US, while the high level of structural unemployment in Europe is the conundrum behind the economic insider-outsider framework.

The third strand, dualization literature, provides interesting insights into post-industrial labour markets. It has been inspired by the seminal work of Rueda (2007). However, recent

contributions have challenged Rueda's initial framework: while Rueda has drawn on the economic insider-outsider theory, Palier and Thelen (2010) and Emmenegger *et al.* (2012) have built their ideas mainly on DLM theory. Following the insider-outsider framework, Rueda has argued that 'labor is divided into two segments: those with secure employment (insiders) and those without (outsiders) … [and that] the interests of insiders and outsiders are fundamentally different and, in some circumstances, contradictory' (Rueda, 2007, pp. 2-3). Rueda goes beyond the insider-outsider framework in at least two ways. First, he includes both the unemployed and those with temporary jobs in the group of outsiders. Second, he argues that in the presence of conflict between different groups within the labour force, social democratic governments often fail to promote the interests of the weakest members of society, and therefore exacerbate the gap between insiders and outsiders. In his view, this happens because insiders vote disproportionately for social democratic parties and are over-represented within trade unions. Rueda stresses that these parties (together with trade unions) contributed to an increase in the gap between insiders and outsiders for electoral reasons because they promoted job security for insiders instead of active labour market policies to support outsiders.

The negative role of social democratic parties has however been challenged by others (Emmenegger, 2009, pp. 133-137; Palier and Thelen, 2010, p. 121; Thelen, 2012). They argue that where social democratic parties are stronger (e.g. in the Nordic countries), dualistic trends are less pronounced. Palier and Thelen put forward a different explanation for the growing levels of dualities, namely the attempt to save the core manufacturing economy in Continental Europe. They defend the view that reforms during the 1980s and 1990s shrank the industrial sector and therefore allowed the expansion of new types of jobs in the outside, giving rise to the emergence of a secondary labour market. To maintain a set of comparative institutional advantages, coordination between capital and labour was kept within the core manufacturing industry (thus preserving a number of stable and well remunerated jobs), but the expansion of the secondary sector contributed to the spread of poor jobs.[3] Additionally, the welfare state has reinforced the problem in countries where the eligibility for benefits is historically based on past contributions (Palier and Martin, 2007; Emmenegger *et al.*, 2012). By emphasizing the role of social policies, Emmenegger *et al*. stress that dualization does not imply that all countries will necessarily experience high levels of insider-outsider divides. The existing differences illustrate how some policies may foster dualization while others (e.g. if outsider policies are relatively generous) may reduce it.

But even though social policies play a crucial role, they only become important because of previous changes occurred in the labour market; this explains the clear link between the arguments of Palier and Thelen and of Emmenegger *et al*. The same is not true of Rueda's argument due to his emphasis on the negative role of social democratic parties and trade unions. Contrary to Rueda's point of view, Emmenegger *et al.* argue that social policies carried out by the social democratic

parties are indeed the cause of lower levels of dualization in some countries. Finally, while Rueda is focused on the high levels of unemployment, Emmenegger *et al.* (2012, pp. 3-4) are concerned mainly with the increasing levels of poverty and inequality.

Comparing these two approaches, we consider Rueda's perspective excessively focused on job security. Indeed, due to its mainstream assumptions it does not pay enough attention to job quality. As the empirical results of this article will show, less employment protection does not guarantee, *per se*, less age-based labour market segmentation. Although the approach put forward by Palier and Thelen is better placed to address the issue of job quality, it also has its limitations. Regardless of its merits, it is difficult to explain growing age-based labour market inequalities with this framework. In our view, this is related with the pitfalls of rational choice institutionalism, namely its tendency to see institutions as 'guardians' of efficiency (Howell, 2003, p. 110; Streeck, 2009, Chapter 13). While this conceptual framework is well suited to explain Continental and Nordic countries pattern of dualization, the same does not apply to Southern Europe and Anglo-Saxon countries.

Recently, Häusermann and Schwander have provided empirical evidence about the dualization process across regimes, showing that different patterns of dualization exist: 'in the Nordic and Continental countries, gender is the most important criteria, while in Southern European regimes it is mostly young labour market participants who are potential outsiders, and in the Anglo-Saxon countries, outsiders are predominantly found among the low-skilled' (2012, p. 34). The gender divide reflects the split between jobs in industry (where males are over-represented) versus jobs in services. In the Anglo-Saxon case, the existing divides have their roots in differences within the service sector. Indeed, contrary to what has happened in Continental Europe, the core manufacturing economy was not saved in the 1980s (Margaret Thatcher's era). On the other hand, Southern Europe also lacks the logic of complementarities extant in Continental and Nordic countries (Molina and Rhodes, 2007). As its industrial sector was much less competitive (relying mainly on low wages rather than specific skills) than its counterparts in Continental Europe, reforms during the 1980s and 1990s were not able to save the core manufacturing economy. We must therefore innovate conceptually in order to bring the existing diversity into this literature.

2.2 Looking for the drivers of age-based dualization

The above-mentioned tendency to see institutions as 'guardians' of efficiency (and therefore of stability) has concealed crucial features of some countries and neglected the conflictual logic of the capitalist system. In our view, this has contributed to a lack of understanding of the growing age-based labour market inequalities. To overcome these problems, it is crucial to highlight the distinctive characteristics of the industrial relations system in some countries and to place greater

emphasis on liberalization. Finally, it is also necessary to underline that it is precisely the fact that some countries have seen a reduction in primary sector jobs (lower tier) that has led to a growing number of outsiders among young people.

The functioning of the industrial relations system in European countries diverges: while more cooperative relations between social partners characterize Continental and Scandinavian countries, more conflictual relations historically typify Southern Europe and Anglo-Saxon countries. Colin Crouch (1993, pp. 61–62) analyzed how the industrial relations system evolved between 1870 and 1990 in a large set of European countries and stressed the existence of three ideal types of interest intermediation: (*i*) contestative relations, (*ii*) pluralist collective bargaining, and (*iii*) neo-corporatism. It is well documented that contestative relations characterize Southern Europe, and pluralist relations the Anglo-Saxon countries (Ebbinghaus, 2006b, p. 73; Molina and Rhodes, 2007; Lima and Naumann, 2011).

The conflictual logic of some industrial relations systems is problematic to the dualization framework given the emphasis that this literature places on cooperation.[4] It is at the very minimum debatable to suggest that trade unions, which historically followed a class struggle approach, guide their behaviour on the basis of strategic coordination with the employers of the core manufacturing economy. In spite of this, in our opinion, a different point must be highlighted: in countries with poor coordination between labour and capital, the limited union density led unions to represent their members first and foremost and to neglect the remaining workers (i.e., to protect workers with more political power rather than those in a weaker position), through a process of confrontation rather than cooperation with employers. Since younger generations are less unionized and therefore have less political power, this process has affected them in particular.

Furthermore, social conflict can also result from market expansion, as liberalization scholars have emphasized.[5] The liberalization literature, as an institutional theory of capitalism, emphasizes the communalities between countries rather than their distinctions and criticizes the functionalist's assumptions on which the VoC relies (Streeck, 2009). Drawing on Polanyi's (1944) 'double movement' of market expansion and market containment thesis, Streeck argues that change in all capitalist economies is driven by a process of market expansion and by the social conflicts associated with it. This emphasis on the conflictual logic of the capitalist system (Streeck, 2009, pp. 5–6), is very much in line with the point we stressed above: politics plays a crucial role in countries with more conflictual relations since insiders are the ones who are more organized (and hold more political power), rather than those with more specific skills. The social countermovements have protected these workers more, but this is neither an efficient nor a stable solution.[6] The two factors – poor coordination in the industrial relations system and the liberalization process – can be synthesized under what we call *fertile breeding grounds for social conflict* because both market

expansion and a conflictual industrial relations system are conducive to social conflict. Social conflict has a negative effect on young people because, as mentioned above, they hold less political power.

By arguing that the dualization framework is particularly well suited to explaining the situation in Continental and Nordic European countries, we do not mean that the emphasis on differences between the primary and the secondary sector is unable to shed light on the situation in Southern Europe (and Anglo-Saxon) countries. In our view, that emphasis remains crucial, but for a different reason in the latter countries. We argue that the fact that these countries failed to defend its manufacturing sector entailed a reduction in the proportion of primary sector jobs (lower tier) which subsequently led to a growing number of outsiders among young people. Indeed, while in Continental Europe the manufacturing sector still provides access to stable jobs, the same does not apply to the Southern and Anglo-Saxon countries. For instance, in Southern Europe, the massive delocalization of multinationals since the 1980s (e.g. in labour-intensive sectors or value chain segments) has dramatically reduced the share of jobs in the manufacturing sector. The new generations entering the labour market after/during this process have been severely affected. The deterioration of the position of young people in the labour market is therefore directly related to the reduction in the primary sector.

Thus, these two factors – a reduction in the share of primary sector jobs and fertile breeding grounds for social conflict– are the cornerstone of our theoretical argument: they both have to be present in order to produce high levels of outsiderness among young people. The first reduces the share of available stable jobs and the second triggers social conflict, which leads to an uneven distribution of risk across different social groups. Therefore, we hypothesize that fertile breeding grounds for social conflict (due to either poor coordination in the industrial relations system *or* liberalization) and a small proportion of primary sector jobs are necessary conditions for high levels of outsiderness among young people.

Moreover, although we criticize the emphasis placed by the economic insider-outsider framework on the role of employment protection, it seems plausible to hypothesize that employment protection may play a non-redundant role (Schneider and Wagemann, 2012, p. 79). Indeed, it is plausible that employment protection in combination with an uncoordinated industrial relations system and a small proportion of primary sector jobs constitute one path toward high levels of outsiderness among young people. However, this condition alone is neither necessary nor sufficient.

3. Methods and data

This article applies fsQCA (Ragin, 2008; Schneider and Wagemann, 2012) to examine the determinants of outsiderness among young people. There are three main reasons for the choice of this method. First and foremost, to test the two hypotheses put forward we need a data analysis technique able to analyze the existence of a complex causal explanation for high levels of outsiderness among young people. FsQCA places great emphasis on complex causal explanations. Contrary to standard statistical methods, which focus mainly on the net effect and statistical significance, fsQCA focuses on how causal conditions combine to generate outcomes. Second, it has been argued that dualization in some countries is very age-based. To test if our theoretical argument explains the outcome in Southern Europe and Anglo-Saxon countries, we need a data analysis technique that permits within-case analysis, i.e. the use of empirical information to make inferences about the individual case (Goertz and Mahoney, 2012, p. 10). Finally, we opt for fsQCA because this analysis entails the 'few cases, many variables' problem. Besides the above-mentioned problems with statistical analyses (namely the focus on the net effect), regression analysis is not particularly useful here because the relatively small number of cases would produce unreliable results.[7]

3.1 Data

Following Marx (2006), who argued that a moderate ratio of conditions to cases is required to ensure the validity of results, this analysis has four conditions: a small proportion of primary sector jobs (PS), high levels of employment protection (EP), poor coordination in the industrial relations system (PCO), and high levels of liberalization (L). This section first presents the outcome high levels of outsiderness among young people (YO) and thereafter presents each condition. The calibration of fuzzy set scores is discussed in detail, following the instructions of Ragin and Sonnet (2005, p. 193), who argued that the calibration must be presented as transparently as possible.[8] The direct method of calibration (Ragin, 2008) is used to calibrate the fuzzy set score for the outcome and for the four conditions. The fuzzy set scores are displayed in table 1. Finally, in addition to theoretical knowledge, we also used obvious empirical value breaks between the cases to set three qualitative anchors, and we ensured that no cases are classified on the crossover point. This same procedure is followed in all four conditions. Table 2 summarizes the qualitative anchors for both the outcome and the conditions.

High levels of outsiderness among young people (YO). Given the focus on the differences between age groups (rather than on the overall number of outsiders), the outcome under study is the high levels of outsiderness among young people; this is calculated as the percentage point difference

between the proportion of outsiders among young people (< 40 years old) and the proportion of outsiders among older age groups (≥ 40 years old). In this study, we follow Häusermann and Schwander's (2012; Schwander and Häusermann, 2013, pp. 252-254) definition of outsiders: namely, those belonging to occupational groups that incur a particularly high probability (i.e., statistically significant) of atypical employment and/or unemployment. Taking into account that Häusermann and Schwander analyze different groups of countries separately, occupational groups characterized by atypical employment/unemployment differ across countries.

The following procedures were used to compute the proportion of outsiders among young people. First, the number of young individuals who belong to occupational groups with a particularly high probability of being in atypical employment and/or unemployment was computed for each country. Second, it was established that insiders are considered as those who are in the opposite situation. Finally, the proportion of outsiders among young people was computed. The same procedure was followed to calculate the proportion of outsiders among the older generations. The European Social Survey 2010 Round 5 was used (ESS, 2010), with the exception of Austria and Italy. Since Austria did not participate in the ESS 2010 Round 5, the ESS Round 4 – 2008 database was used in this case (ESS, 2008). Italy has not participated in ESS since 2004, and therefore the International Social Survey Programme 2009 'Social Inequality IV' database was used (ISSP, 2012).

A small proportion of primary sector jobs (PS). This condition is calculated as the percentage point difference between the proportion of workers in the lower tier of the primary sector among young people (< 40 years old) and the same proportion among older age groups (≥ 40 years old). We use the absolute skill specificity, an indicator that assigns a different degree of skill specificity to different occupations, to measure the weight of this kind of primary sector jobs (Iversen and Soskice, 2001; Cusack *et al.*, 2006). Using the ESS (2010) (see above-mentioned exceptions), we first calculate the degree of absolute skill specificity attached to each occupational group. Thereafter, workers in the occupational groups with high levels of skill specificity are considered as belonging to the lower tier of the primary sector. Finally, we calculate the proportion of these jobs for each age group and we compute the difference between them. A positive value means that the share of these jobs is higher among young people.

High levels of employment protection (EP). Two sub-indicators are used to measure employment protection: the 'employment protection index', and 'collective bargaining coverage'. The first is taken from the 'OECD Indicators of Employment Protection' (OECD, 2013a), while the second is taken from the 'Data Base on Institutional Characteristics of Trade Unions, Wage Setting, State

Intervention and Social Pacts, 1960-2011 (ICTWSS)' (Visser, 2013). The OECD indicators cover three broad aspects of employment protection regulations: 'protection for regular contracts', 'protection for temporary contracts', and 'collective dismissals protection' (Venn, 2009). With regard to the weights given to each item, following the suggestions made by Emmenegger (2011), three changes were made to the original weights of the employment protection index (see the online appendix). In many European countries, collective agreements or individual contracts may include more generous provisions than those in the legislation (Venn, 2009, p. 16; Emmenegger, 2011). Therefore, 'collective bargaining coverage' is also used. To calculate the additive indicator, we standardized the two indicators to range between 0 and four. Since the 'employment protection index' is the crucial sub-indicator in this condition, the two indicators are added using different weights: 4/5 and 1/5 respectively. Finally, data for the employment protection index refers to the average between 2008 and 2010, while data for collective bargaining coverage refers to 2010 only (due to data availability).

Poor coordination in the industrial relations system (PCO). The following dimensions are used to measure the level of coordination in the industrial relations system: wage coordination and the level of organization of labour and capital. All the indicators in this condition were taken from the ICTWSS database (Visser, 2013). Regarding the former, we used the indicator 'coordination of wage-setting', which is based on Kenworthy (2001). To complement this, information on the level of organization of labour and capital is also provided (Ebbinghaus, 2006b, p. 74), namely 'employers' organization density' and 'union density'. To calculate the additive indicator, we first standardized the three indicators to range between 0 and four. Instead of using equal weights for the three different sub-indicators, we assigned higher weight to the first sub-indicator: wage coordination is weighted at 3/4 , while employers' organization density and union density are weighted at 1/8 each. The average for the period 1980-2011 is used to capture the structural pattern of coordination in these countries.

High levels of liberalization (L). Two sub-indicators are used to calculate this condition: 'the index of product market regulation', and the 'weight of the financial sector' (Glyn, 2006; Streeck, 2009). The first is taken from the 'OECD Product Market Regulation Database' (OECD, 2013b), and the second is taken from the 'Eurostat National Accounts Database' (Eurostat, 2008). The OECD 'index of the degree of product market regulation' is a proxy of the process of market expansion and privatization. It covers three general regulatory issues: state control of business enterprises; legal and administrative barriers to entry; and barriers to international trade and investment (Wolfl *et al.*, 2009). Since the index only covers the period between 1998 and 2008, the difference between

the two years is calculated. With regard to the rise of the financial sector, we calculate the weight of financial and insurance activities on the Gross Value Added, in 2008. Finally, we calculate the additive indicator by standardizing the two indicators to range between 0 and four, and calculated the average score for every country.

[Insert table 1 here
Table 1 – Summary table for all fuzzy set scores]

[Insert table 2 here
Table 2 – Qualitative anchor points for the calibration of fuzzy sets]

3.2 Analysis of necessary and sufficient conditions

Following Schneider and Wagemann (2010), necessary and sufficient conditions are analyzed in separate analytical steps, starting with the analysis of the former. A condition (or a combination of conditions) is considered to be necessary (even if not sufficient) if the outcome cannot occur in its absence, while a condition is sufficient if the outcome always occurs when the condition is present.

3.2.1 Necessary conditions for the outcome 'high levels of outsiderness among young people'. Table 3 displays the results of the analysis of the necessary conditions for the outcome high levels of outsiderness among young people, namely the consistency and coverage measures for necessary conditions. Since a consistency threshold of at least 0.90 is required for necessary conditions (Schneider and Wagemann, 2012, p. 143), table 3 shows that a small proportion of primary sector jobs is a necessary condition for the outcome, which supports the first part of the main hypothesis. On the other hand, an analysis of necessary conditions can also be performed by combining conditions via logical 'OR'. However, this strategy 'only makes sense if there are strong and plausible theoretical or substantive arguments to support the claim that the conditions combined by logical OR operate as *functional equivalents*' (Schneider and Wagemann, 2012, p. 74). This is the case for both the lack of coordination in the industrial relations system and liberalization. As the second part of the main hypothesis states, fertile breeding grounds for social conflict play a crucial role in explaining age-based divides. As can be seen in table 3, this is the case. The consistency value in the combination of conditions PCO+L is very high; therefore, this combination is a necessary condition for the outcome. Finally, the analysis of necessary conditions is graphically presented through XY plots. These plots show whether a specific condition is necessary. They offer graphical insights on whether a necessary condition might be trivial empirically. For a condition to be necessary, all cases should be located around or below the bisecting line (Ragin, 2000, p. 215;

Schneider and Wagemann, 2012, p. 76). Figure 1 shows that for the small proportion of primary sector jobs, only three cases are clearly located above the diagonal, and only two cases are located above the diagonal for PCO+L. However, other cases are clearly below the diagonal in both graphs. This means that while poor coordination in the industrial relations system, or liberalization are necessary for the outcome, their presence is not sufficient (e.g., see the French case). The same applies to the other necessary condition: it is necessary for the outcome but it is not sufficient on its own (e.g., see the Dutch case).

In short, the analysis of necessary conditions supports the main hypothesis. First, a small proportion of primary sector jobs is a relevant (coverage 0.684) and consistently (0.918) necessary condition for the outcome. Second, the combination of conditions PCO+L is a relevant (0.690) and consistently (0.968) necessary condition for the outcome.

[Insert table 3 here
Table 3 – Analysis of necessary conditions for the outcome 'high levels of outsiderness among young people']

[Insert figure 1 here
Figure 1 – Necessary conditions for the outcome 'high levels of outsiderness among young people']

3.2.2 Sufficient conditions for the outcome 'high levels of outsiderness among young people'. With regard to the analysis of sufficient conditions, this section begins by displaying the truth table and explaining the process of Boolean minimization. Thereafter, the solution term and parameters of fit are discussed.

Table 4 displays the truth table.[9] For the analysis of sufficient conditions of the outcome high levels of outsiderness among young people, we used a consistency threshold for sufficient rows of 0.82. There are three principal reasons for this: following Schneider and Wagemann (2012, p. 127), values below 0.75 are considered problematic as they have consequences for the subsequent analysis; no true logically contradictory cases exist (Schneider and Wagemann, 2012, pp. 182-186), and the threshold is also justified by a large gap below the consistency value of 0.82. Finally, the software minimizes the truth table using Boolean algebra and identifies the combinations of conditions that are sufficient to produce the outcome.[10]

The solution term and the parameters of fit are presented in table 5. The solution shows satisfactory consistency (0.909) and coverage (0.789). The analysis of the sufficient conditions shows two possible paths for the outcome. The first path combines a small proportion of primary

sector jobs, high employment protection, and poor coordination in the industrial relations system, while the second path combines a small proportion of primary sector jobs, the absence of high employment protection, and liberalization. This solution explains high levels of outsiderness among young people in Portugal, Spain, Italy, Greece, Ireland, United Kingdom, and Denmark. Therefore, the solution term can explain all cases except the Swedish one. Note however that Sweden has the smallest fuzzy set score (0.51) when compared with the countries that belong to the set of countries with high levels of outsiderness among young people. Finally, figure 2 presents the results graphically. This figure shows whether the combinations of conditions PS*EP*PCO and PS*ep*L are sufficient. For a condition to be sufficient, all cases should be located around or above the bisecting line (Ragin, 2000, p. 236; Schneider and Wagemann, 2012, p. 69).

The previously identified necessary conditions (PS, and PCO+L) can also be found in the analysis of sufficient conditions. All countries with high levels of outsiderness among young people exhibit the two identified necessary conditions. However, a small proportion of primary sector jobs, liberalization, and poor coordination in the industrial relations system are not sufficient conditions alone: Finland, the Netherlands, and Belgium exhibit a small proportion of primary sector jobs but no high levels of outsiderness are observed; Austria, Finland, the Netherlands, France and Germany exhibit liberalization but no high levels of outsiderness among young people; France has poor coordination in the industrial relations system, and high liberalization, but no high levels of outsiderness among young people. France is indeed a very interesting case; it combines several characteristics of the Southern European case but it displays a large proportion of primary sector jobs.

Taking into account the combination of conditions in the first path, the analysis of sufficient conditions supports the second hypothesis – that employment protection is an INUS condition, i.e. an insufficient but non-redundant part of an unnecessary but sufficient (combination of) condition(s) (Schneider and Wagemann, 2012, p. 79). However, these results contain an unexpected and interesting result: when combined with a small proportion of primary sector jobs and liberalization, the absence of employment protection is also an INUS condition. This illustrates the naivety of focusing the analysis on single variables rather than on complex causal explanations, and of seeing the reduction of employment protection as the best solution to tackle labour market segmentation. Finally, it is relevant that 39.6 per cent of the total solution's coverage of 78.9 per cent (based on the so-called unique coverage of the paths), is due solely to the first path (PS*EP*PCO), while the second path (PS*ep*L) uniquely covers 26.8 per cent.

[Insert table 4 here
Table 4 – Truth table for the analysis of sufficient conditions for the outcome 'high levels of outsiderness among young people']

[Insert table 5 here
Table 5 – Analysis of sufficient conditions for the outcome 'high levels of outsiderness among young people']

[Insert figure 2 here
Figure 2 – Sufficient conditions for the outcome 'high levels of outsiderness among young people']

4. Conclusions

This article applied fsQCA to examine the determinants of outsiderness among young people. As mentioned earlier, the dualization literature argues that the attempt to save the core manufacturing economy has been the structural driver of change and emphasizes the role of different welfare regimes to explain different degrees of dualization. Although these scholars speak of the existence of different patterns of dualization, they do not explain why it is mostly young labour market participants who are the outsiders in some countries. Besides clarifying the existing controversies among dualization scholars and highlighting the strengths of an institutionalist approach for the issue of labour market segmentation, this article also sheds light on the overlooked Southern and Anglo-Saxon cases; more importantly, it identifies the conditions contributing to high levels of outsiderness among young people. The analysis of necessary conditions reveals the existence of two necessary conditions for the outcome of high levels of outsiderness among young people: a small proportion of primary sector jobs (PS) and the combination of *(i)* poor coordination in the industrial relations system and *(ii)* liberalization (PCO+L). The analysis of sufficient conditions indicates two possible paths for the outcome: the first combines a small proportion of jobs in the primary sector, high employment protection, and poor coordination in the industrial relations system, while the second combines a small proportion of jobs in the primary sector, the absence of high employment protection, and liberalization.

However, this study also has limitations. The first concerns the two Nordic countries that are more in than out the set of high levels of outsiderness among young people. Denmark is the only case covered by the solution term that is more out than in with regard to the condition of poor coordination in the industrial relations system, while Sweden is not explained by the solution term. To clarify this issue, future research should focus on these two cases and analyze if a different path

leading to the outcome, covering these two cases, exists. In addition, this analysis has not examined whether high levels of outsiderness among young people affect differences in terms of access to social benefits. Future research must analyze whether age-based labour market inequalities entail differences in terms of eligibility for social benefits, and whether these are mainly found in Southern Europe, Anglo-Saxon countries, Denmark, and Sweden.

Overall, two main conclusions can be drawn from this analysis. First, it illustrates the pitfalls of seeing institutions solely as guardians of efficiency and the only source of institutional change. On the contrary, we show how other institutional factors are crucial to explain the high levels of outsiderness among young people. Second, our analysis also illustrates the benefits of using fsQCA: in line with the hypotheses of this study, we show that no single condition is sufficient to explain the outcome.

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Endnotes

1. Regardless of the analytical focus, several authors have surveyed this literature. See for instance: Cain 1976; Rubery 1978; Ball 1990; Leontaridi 1998; Lindbeck and Snower 2001; Blanchard 2006; Davidsson and Naczyk 2009; Barbier 2011.
2. By clarifying the differences within the primary sector, dual labour market scholars recognized that not all jobs in the primary sector are characterized by employment stability. This clarification is crucial because the objective of the present study is to explain the rise of atypical employment and/or unemployment. Therefore, it is expected that only lower tier jobs are characterized by stable contractual arrangements.
3. Palier and Thelen's argument points to the same type of institutions Doeringer and Piore (1971) identified in the 1970s to explain the existing dualities in US labour markets. Indeed, what Palier and Thelen call 'the core manufacturing economy' is similar to what Doeringer and Piore called, in the 1970s, the primary sector (characterized by well-developed internal labour markets).
4. 'Dualization framework' is used herein from the perspective of Palier and Thelen (2010).
5. Although dualization scholars often contrast their perspective with the liberalization framework (Palier and Thelen, 2010, p. 120; Thelen, 2012, pp. 138-139; Emmenegger *et al.*, 2012, p. 10) in our view these two strands of literature are not incompatible. In fact, liberalization does not claim the end of strategic coordination between capital and labour (Streeck, 2009, p. 158), and does not argue that all capitalist economies are converging towards the 'liberal market economy' model (Streeck, 2009, p. 168). What Streeck defends is that the German political economy underwent a liberalization process that led to a shift from organized to disorganized capitalism (rather than from a coordinated to an uncoordinated system – from Streeck's point of view, coordination may go hand-in-hand with disorganization). This is, in our opinion, very much in line with the dualization literature: as Streeck (2009, p. 51) notes: 'liberalization, in other words, sets actors free from institutionalized obligations, allowing solidarism to be overruled by segmentalism (…), but does not preclude and is not incompatible with coordination in a "coordinated market economy", provided such coordination comes about voluntarily and from below'.
6. Note that contrary to economic insider-outsider scholars, the liberalization framework does not see conflict as a constraint that disturbs the functioning of the market, but as an intrinsic feature of capitalism. In their view it is market expansion that triggers social conflict and not the conflicting interests between insiders and outsiders.
7. This analysis is based on 14 cases (Ireland, United Kingdom, Denmark, Finland, Sweden, Austria, Belgium, France, Germany, Netherlands, Spain, Greece, Italy and Portugal).
8. Some details are not explained in the article due to space restrictions. See the detailed online appendix for further details on the calibration. Online we also provide the results of the robustness tests.
9. Besides presenting the truth table rows, the table also reveals the existence of eight configurations with no empirical observations (logical remainders). To overcome the problem of limited diversity (i.e., the presence of logical remainders), we draw on the strategy suggested by Ragin (2008): the 'Standard Analysis procedure'. It consists of producing the complex solution (without assumptions about logical remainders), the most parsimonious solution (all simplifying assumptions), and the intermediate solution (only easy counterfactuals). In this study, only those counterfactuals that correspond to the theoretical expectations (easy counterfactuals) are incorporated. Therefore, the results presented in this section refer to the intermediate solution.
10. In this analysis we use the *R* Package 'QCA', version 1.1-2 (Dusa and Thiem, 2012).

Table 1 – Summary table of all fuzzy set scores

Countries	YO	PS	EP	PCO	L
Austria	0.18	0.48	0.77	0.06	0.67
Belgium	0.15	0.62	0.70	0.00	0.00
Denmark	0.59	1.00	0.37	0.22	0.67
Finland	0.36	0.65	0.63	0.00	0.57
France	0.27	0.00	1.00	1.00	0.63
Germany	0.03	0.08	0.63	0.39	0.60
Greece	1.00	1.00	0.83	1.00	0.08
Ireland	0.88	0.55	0.23	0.58	1.00
Italy	0.92	1.00	0.97	0.83	0.77
Netherlands	0.01	0.93	0.67	0.33	0.83
Portugal	0.87	1.00	1.00	1.00	0.73
Spain	0.87	0.85	0.83	0.75	0.93
Sweden	0.51	1.00	0.60	0.11	0.53
United Kingdom	0.93	1.00	0.00	1.00	0.57

Table 2 – Qualitative anchor points for the calibration of fuzzy sets

Outcome/condition	Fully out	Crossover point	Fully in
High levels of outsiderness among young people (YO)	8.0	17.0	45.0
A small proportion of primary sector jobs (PS)	3.0	0.0	-3.0
High levels of employment protection (EP)	0.0	1.5	3.0
Poor coordination in the industrial relations system (PCO)	3.0	2.1	1.5
High levels of liberalization (L)	0.9	1.5	3.0

Table 3 – Analysis of necessary conditions for the outcome ‘high levels of outsiderness among young people’

Condition	Consistency	Coverage
PS	0.918	0.684
L	0.773	0.682
PCO	0.748	0.779
EP	0.734	0.602
PCO+L	0.968	0.690

Table 4 – Truth table for the analysis of sufficient conditions for the outcome 'high levels of outsiderness among young people'

PS	EP	PCO	L	Cases	Consistency
1	1	1	0	Greece	0.897
1	1	1	1	Italy, Portugal and Spain	0.890
1	0	1	1	Ireland and United Kingdom	0.832
1	0	0	1	Denmark	0.823
1	1	0	0	Belgium	0.663
1	1	0	1	Finland, Netherlands and Sweden	0.630
0	1	0	1	Austria and Germany	0.495
0	1	1	1	France	0.490

Table 5 – Analysis of sufficient conditions for the outcome 'high levels of outsiderness among young people'

Solution term	PS*EP*PCO +	PS*ep*L → YO
Raw coverage	0.520	0.392
Unique coverage	0.396	0.268
Consistency	0.887	0.863
Covered cases*	Italy, Portugal, Spain, and Greece	Ireland, United Kingdom, and Denmark
Solution consistency	0.909	
Solution coverage	0.789	
Uncovered cases**	Sweden	

Note: Consistency threshold 0.82. The complex and intermediate solutions are identical. The parsimonious solution is ep + PS*PCO → YO (coverage: 0.908, consistency: 0.861).

* Cases with membership in path > 0.5

** Cases with membership in solution < 0.5 and outcome > 0.5

Figure 1 – Necessary conditions for the outcome ‘high levels of outsiderness among young people’

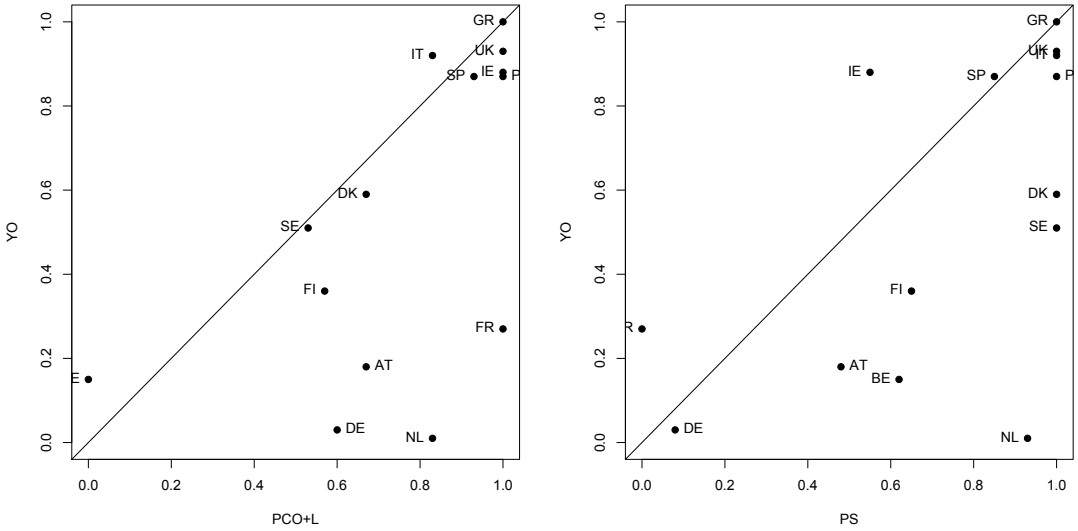
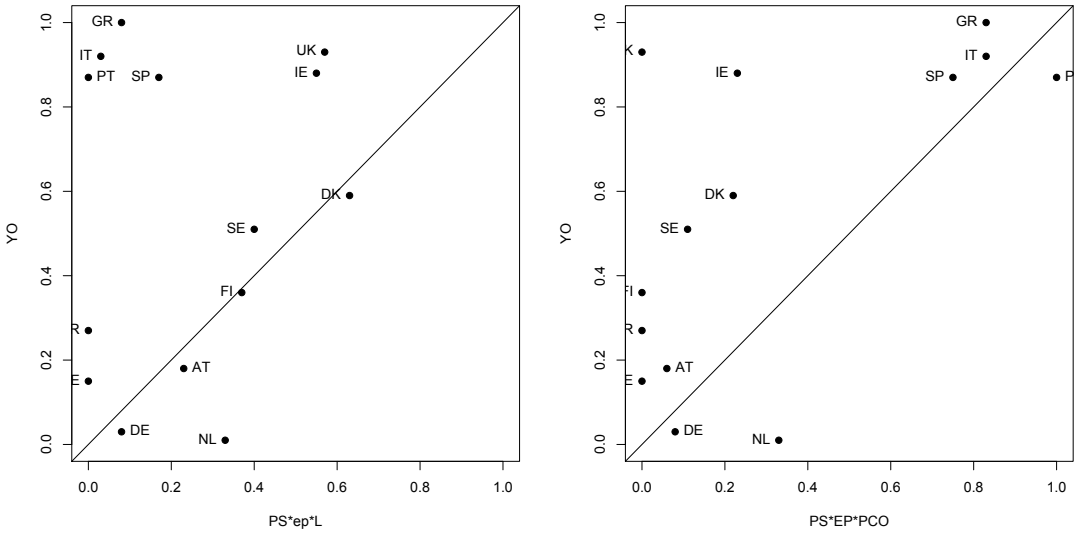


Figure 2 – Sufficient conditions for the outcome ‘high levels of outsiderness among young people’



Young people and dualization in Europe: A fuzzy set analysis

Online Appendix

This online appendix explains in great detail the calibration, provides all the data necessary to replicate the analysis, and presents the robustness tests. It has been divided into two parts. The first deals with the calibration of the outcome high levels of outsiderness among young people and of each condition: a small proportion of primary sector jobs (PS), high levels of employment protection (EP), poor coordination in the industrial relations system (PCO), and high levels of liberalization (L). The second part presents the robustness tests.

1. Data and calibration

1.1 Outcome: high levels of outsiderness among young people (YO)

The outcome under study is the high levels of outsiderness among young people (YO), which is calculated as the percentage point difference between the proportion of outsiders among young people ($<$ 40 years old) and the proportion of outsiders among older age groups ($\geq$ 40 years old). The question, however, is how to define outsiders. This section will explain how outsiders have been defined in the scope of the dualization literature, and discuss the definition followed here. This section concludes by explaining the calibration of fuzzy set scores.

Two different strategies have been used within the scope of the dualization literature. The first, used by Rueda (2005, p. 63; 2006, p. 395; 2007, pp. 14-15), Emmenegger (2009, p. 137), Lindvall and Rueda (2012, pp. 296-297), and Davidsson and Emmenegger (2013, p. 360) defines outsiders as those who are unemployed or holding part-time jobs, fixed-term contracts, or temporary jobs. [1] The second, used by Häusermann and Schwander (2012; Schwander and Häusermann, 2013, pp. 252-254), is more sophisticated: rather than relying on a 'snapshot' categorization, outsiders are defined as those belonging to occupational groups that are 'typically' affected by atypical work and unemployment. Drawing on the class scheme proposed by Oesch (2006) and Kitschelt and Rehm (2005), Schwander and Häusermann (2013, pp. 252-253) identify five broad classes (capital accumulators, socio-cultural professionals, blue-collar workers, low-service functionaries, and mixed-service functionaries), then divide each class (except for capital accumulators, which they define as insiders) by sex and two age groups ($<$ 40 years old and $\geq$ 40 years old), ending up with 17 occupational groups. Häusermann and Schwander define outsiders as those belonging to occupational groups that incur a particularly high probability (i.e., statistically significant) of atypical employment and/or unemployment. Furthermore, they analyze separately each regime (Esping-Andersen, 1990), and consequently occupational groups characterized by atypical employment/unemployment differ in each regime (table A1). By assigning to each occupational group a different probability of being in atypical employment and/or unemployment, this definition addresses the issue that people do not form identities on the basis of momentary

labour market status and that outsiders are not a homogeneous group, as suggested by a conceptualization based on current labour market status (Schwander and Häusermann, 2013, pp. 251-252). Though Schwander and Häusermann's definition tackles some of the problems inherent to a 'snapshot' classification of outsiders, it still relies on the same logic as Rueda and Emmenegger: outsiders are those who are unemployed or holding atypical jobs. Therefore, regardless of their differences, both definitions contribute to the same strand of literature.

Table A1 – Occupational groups with a statistical significant probability of being in atypical employment and/or unemployment

Regimes	Young people	Older generations
Southern	LSF women	LSF women
	LSF men	
	SCP women	
	BC women	
	MSF women	
Anglo-Saxon	LSF women	LSF woman
	LSF men	
	SCP women	
	BC young women	
	MSF young women	
Nordic	LSF women	LSF women
	LSF men	SCP women
	SCP women	BC women
	BC women	
	MSF women	
Continental	LSF women	LSF Women
	SCP women	SCP Women
	BC women	MSF Women
	MSF women	

Note: LSF, low service functionaries; SCP, socio-cultural professionals; BC, blue-collar workers; MSF, mixed service functionaries. As for the operationalization of each occupational group see Schwander and Häusermann (2013, p. 266). The authors recode ISCO88 in order to calculate each occupational group.

Source: Schwander and Häusermann (2013, p. 255).

In this study we follow Häusermann and Schwander's definition of outsiders. As mentioned earlier, the outcome is calculated as the percentage point difference between the proportion of outsiders among young people ($<$ 40 years old) and the proportion of outsiders among older age groups ($\geq$ 40 years old). [2] To compute the proportion of outsiders among young people, the following procedures were performed. First, for each country, the number of young individuals who

belong to occupational groups that incur a particularly high probability of being in atypical employment and/or unemployment was computed. Second, it was established that insiders are considered as those who belong to occupational groups that do not face a high probability of being in atypical employment. Finally, the proportion of outsiders among young people was calculated. The same procedure was followed to calculate the proportion of outsiders between the older generations. In short, Schwander and Häusermann's procedure is replicated, except for using different databases and calculating the difference between outsiderness among young people and outsiderness in older age groups.

With regard to databases, with the exception of Austria and Italy, the European Social Survey 2010 Round 5 is used (ESS, 2010). This is first and foremost because this database uses the International Standard Classification of Occupations (ISCO), therefore allowing the replication of the procedure followed by Schwander and Häusermann (see discussion above). Second, the data was collected in 2010 (i.e., after the global economic downturn), reflecting the changes that have occurred in the labour market since then. Finally, it provides large samples for each country. Since Austria did not participate in the ESS 2010 Round 5, the ESS Round 4 – 2008 database is used for the Austrian case (ESS, 2008). As Italy has not participated in ESS since 2004, the International Social Survey Programme 2009 'Social Inequality IV' database is used (ISSP, 2012). The ISSP 2009 database also uses the ISCO classification and provides data for 2009.

The direct method of calibration is used to calibrate the fuzzy set score for the outcome. [3] The raw data and the fuzzy set scores are displayed in table A2. The fact that, in comparison with older age groups, young people are more affected by atypical work and unemployment is not surprising: several authors have pointed out that post-industrial labour markets have downplayed the position of young people (Esping-Andersen, 1999, p. 306; Bonoli, 2006, p. 3; Tremmel, 2010; Oliveira *et al.*, 2011, p. 163; Price *et al*., 2011, p. 4; Emmenegger *et al*., 2012, pp. 6-7; Häusermann and Schwander, 2012, p. 29). Therefore, it is not the difference between age groups but rather the *degree* of that difference that is important. Corroborating this, raw data in table A2 shows that in all countries the proportion of outsiderness among young people is higher than that among older age groups. Thus, we consider that at least 45 on the indicator is required for full membership, at least 17 to be more in than out of the set, and eight (or less) for full non-membership. [4] Italy, Greece, Spain, Portugal, Ireland, United Kingdom, Denmark, and Sweden are considered more in than out of the set. We consider the Danish and Swedish cases as more in than out of the set because a huge gap exists between these two countries and the countries considered more out than in the set. Furthermore, the overall number of outsiders (second column), that is, regardless of the difference between age groups, shows that these two countries are closer to the Southern and Anglo-Saxon countries than to the Continental countries or Finland.

Table A2 – Calibration of the outcome 'high levels of outsiderness among young people'

Country	% Outsiders (<40 years old)	% Outsiders (≥40 years old)	Difference between young and old outsiders	Fuzzy set score
Austria	54.0	42.8	11.2	0.18
Belgium	49.7	39.0	10.7	0.15
Denmark	60.5	38.6	21.9	0.59
Finland	55.5	41.1	14.4	0.36
France	52.5	39.7	12.8	0.27
Germany	44.9	36.4	8.5	0.03
Greece	58.4	12.7	45.7	1.00
Ireland	56.6	18.2	38.4	0.88
Italy	50.5	9.7	40.8	0.92
Netherlands	50.1	42.0	8.1	0.01
Portugal	65.5	27.6	37.9	0.87
Spain	56.6	18.9	37.7	0.87
Sweden	60.0	42.4	17.6	0.51
United Kingdom	60.0	18.7	41.3	0.93

Source: Authors' own calculations based on ESS (2010); ESS (2008); and ISSP (2012).

1.2 Condition I: a small proportion of primary sector jobs (PS)

The dual labour market theory speaks of the existence of a primary and a secondary labour market. While the first depends on the employee's specific skills (acquired through on-the-job training and experience), the second lacks that logic: it is supply and demand forces that play the pivotal role. Later, dual labour market scholars distinguished between an upper and a lower tier within the primary sector. By doing this, they recognized that not all jobs in the primary sector are characterized by the use of specific skills and employment stability. Piore (1972, p. 3) argued that upper tier jobs are different 'from those in the lower tier by the higher pay and status, and the greater promotion opportunities which they afford. They are also distinguished by the mobility and turnover patterns, which tend to more closely resemble those of the secondary sector except, in contrast to the patterns of that sector, mobility and turnover tend to be associated with advancement'. To explain this, they argued that while in the upper tier workers make use of general skills, the lower tier is mainly characterized by the use of specific skills. In their view, 'it is for this reason that lower tier jobs place a premium upon stability and routine' (Piore, 1972, p. 14). Since the aim of this study is to explain the rise of atypical employment and/or unemployment among young people, our interest is on employment stability rather than on higher pay or status. Therefore, this condition is calculated as the percentage point difference between the proportion of workers in

the lower tier of the primary sector among young people (< 40 years old) and the proportion of workers in the lower tier of the primary sector among older age groups (≥ 40 years old).

To measure the weight of primary sector jobs, conceptualizations based on the dichotomy between outsiders and insiders are useless. Indeed, the operationalization of outsiders and insiders used by dualization scholars was taken directly from the economic insider-outsider theory (due to Rueda's bias towards this strand of literature on the detriment of dual labour market theory). To measure the weight of primary sector jobs it is therefore necessary to use an indicator that gives a pivotal role to specific skills rather than to the type of contracts. Absolute skill specificity (Iversen and Soskice, 2001; Cusack *et al*., 2006) is an indicator that assigns a different degree of skill specificity to different occupations. [5] The logic is as follows: absolute skill specificity of an occupation is the higher (*i*) where it has the higher number of sub-occupations and (*ii*) where it has the lower share in the labour force in empirical terms. This indicator is calculated using the ISCO (the same classification scheme for occupations used to calculate the outcome), a classification scheme that identifies nine occupational groups and a different number of sub-occupations attached to each occupational group (see table A3). As this classification is used in several surveys (namely in the ESS and ISSP), it is possible to replicate the procedure first put forward by Iversen and Soskice (2001). Having explained why absolute skill specificity captures better the logic of the primary sector than does a measure based on the type of contracts, let us now explain how this indicator is calculated.

Using the ESS 2010 (see abovementioned exceptions), one can calculate the degree of absolute skill specificity attached to each occupational group, and to compute the proportion of workers holding jobs that require high levels of skill specificity. Using data for all cases (i.e., all countries) under analysis (see table A3), the level of absolute skill specificity attached to each occupational group is calculated (the last column in table A3 is the ratio between 'sub-occupations, % of total' and the '% in the labour force'). Table A3 shows that two different groups exist within the results: three occupational groups with a much lower level of skill specificity ('clerks', 'service workers and shop and market sales workers', and 'elementary occupations'); and three occupational groups [6] where the level of skill specificity is higher ('craft and related trades workers', 'plant and machine operators and assemblers', and 'technicians and associate professionals'). [7] Thereafter, workers in the occupational groups with high levels of skill specificity (identified in the first step) are considered as belonging to the primary sector. Finally, the proportion of workers in the primary sector for each age group is calculated and its difference is computed. Table A4 summarizes that information.

Table A3 – Absolute skill specificity: all countries

ISCO88 1 digit	Description of occupational group	Number of sub-occupations	Sub-occupations, % of total	% in the labour force	Absolute skill specificity
1	Legislators, senior officials and managers	33	8.5	6.4	1.33
2	Professionals	55	14.2	14.4	0.99
3	Technicians and associate professionals	73	18.8	15.1	**1.25**
4	Clerks	23	5.9	11.5	0.51
5	Service workers and shop and market sales workers	23	5.9	23.6	0.25
6	Skilled agricultural and fishery workers	16	4.1	1.5	2.73
7	Craft and related trades workers	70	18.0	10.8	**1.67**
8	Plant and machine operators and assemblers	70	18.0	5.8	**3.10**
9	Elementary occupations	25	6.4	10.9	0.59
	Sum	388	100	100	

Source: Authors' own calculations based on ESS (2010); ESS (2008); and ISSP (2012).

The direct method of calibration is used to transform the resulting indicator into a fuzzy set. The raw data and the fuzzy set score are displayed in table A4. For this condition, at least -3 is required for full membership; values above three reflect full non-membership; and 0 is a crossover point. These qualitative anchors were chosen because what is relevant is the difference between generations rather than if the degree of that difference is very high. Interestingly, table A4 shows that in France and Germany – the two case studies analyzed by Palier and Thelen (2010) – the primary sector is larger among young people than between older age groups. Furthermore, Finland is also considered to be more in than out of the set. However, in the remaining countries the opposite is the case.

Table A4 – Calibration of the condition 'a small proportion of primary sector jobs'

	% Primary sector jobs (<40 years old)	% Primary sector jobs (≥40 years old)	Difference between age groups	Fuzzy set score
Austria	29.9	29.8	0.1	0.48
Belgium	31.0	31.7	-0.7	0.62
Denmark	29.2	38.5	-9.3	1.00
Finland	33.5	34.4	-0.9	0.65
France	41.7	36.2	5.5	0.00
Germany	44.1	41.6	2.5	0.08
Greece	26.6	29.7	-3.1	1.00
Ireland	25.2	25.5	-0.3	0.55
Italy	35.7	39.0	-3.3	1.00
Netherlands	32.3	29.7	-2.6	0.93
Portugal	34.9	40.9	-6.0	1.00
Spain	29.9	32.0	-2.1	0.85
Sweden	35.7	40.2	-4.5	1.00
United Kingdom	24.2	28.1	-3.9	1.00

Source: Authors' own calculations based on ESS (2010); ESS (2008); and ISSP (2012).

1.3 Condition II – high levels of employment protection (EP)

The economic insider-outsider theory (Lindbeck and Snower, 1988; Blanchard, 2006) is one of the leading strands of literature regarding labour market segmentation. Scholars within this perspective argue that structural unemployment results from the existence of certain labour market institutions. Some workers, they argue, are trapped in involuntary unemployment because labour market institutions impede competition between the unemployed and those already in the labour market. When speaking of labour market institutions, economic insider-outsider scholars specifically mean institutions that protect insiders from the competition of outsiders, namely through rent-related labour turnover costs such as severance pay, seniority rules, requirements to give advance notice of dismissal, and other forms of legal protection. Furthermore, these scholars point to 'restrictions on strikes and picking and relaxing job security and seniority legislation' (Lindbeck and Snower, 2001, p. 184) as the best solution to overcome the existing labour market divides. As discussed in detail below, two sub-indicators are used to measure employment protection: the 'employment protection index', and 'collective bargaining coverage'. The first is taken from the 'OECD Indicators of Employment Protection' (OECD, 2013a), while the second is taken from the 'Data Base on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2011 (ICTWSS)' (Visser, 2013). This section concludes by explaining the calibration of raw data.

Even though the OECD indicators of employment protection have been criticized by several authors (Crouch *et al*., 1999; Addison and Teixeira, 2003; Venn, 2009, pp. 12-15; Barbier, 2011, pp. 5-6), they have nevertheless been widely used to measure the level of strictness of employment protection (e.g., Emmenegger, 2009; Venn, 2009, p. 12; Emmenegger, 2011). They are compiled from 21 items covering two broad aspects of employment protection regulations: 'protection for regular contracts' (including additional provision for collective dismissals) and 'protection for temporary contracts' (all indicators are expressed in a scale of 0-6). These items are very much in line with the discussion made in the scope of the economic insider-outsider literature. However, with regard to the weights given to each item, following the suggestions made by Emmenegger (2011, online appendix), three changes to the original weights of the employment protection index were performed. [8] First, instead of using equal weights for the two level 2 indicators for temporary contracts ('fixed-term contracts' and 'temporary work agency employment'), the minimum of the two is used. This is done because the original coding does not take into account that the two are substitutable (i.e., for employers it does not matter whether a worker has a fixed-term contract or is contracted from temporary work agencies). Second, instead of using equal weights for the three indicators for the regulation of regular contracts, the weight of the indicator 'difficulty of dismissal' is increased (from 1/3 to 1/2), while those of the other two indicators ('procedural inconveniences', and 'notice period and severance pay for non-fault dismissals') are decreased (both from 1/3 to 1/4). This is done because the OECD does not provide any reason to give equal weights to the three indicators. Emmenegger (2011, online appendix) provides evidence that 'difficulty of dismissal' is the only indicator (among these three) significantly related to the percentage of currently unemployed people who left their job due to a layoff. Third, instead of using equal weights for the different aspects of employment protection regulations, the regulation of regular contracts (including additional provision for collective dismissals) is weighted at 3/4 and the regulation of temporary work at 1/4. This is done because temporary workers have always been a minority and therefore it does not make sense to give an equal weight to each. The weights used are based on the contributions of each type to total employment growth (Emmenegger 2011, online appendix).

Even though the 'employment protection index' is the crucial sub-indicator in this condition, an additional sub-indicator is taken into account. As is well documented, legislation is not the only source of regulation. In many European countries, collective agreements or individual contracts may include provisions more generous than those within legislation (Venn, 2009, p. 16; Emmenegger, 2011). Therefore, besides the 'employment protection index', 'collective bargaining coverage' is also used. Data for this sub-indicator is taken from the ICTWSS database, which calculates the level of coverage as the number of employees covered by collective (wage) bargaining agreements as a proportion of all wage and salary earners in employment with the right

to bargaining, expressed as percentage, adjusted for the possibility that some sectors or occupations are excluded from the right to bargain.

The direct method of calibration is used to calibrate the fuzzy set scores for this condition. The raw data, the additive indicator, and the fuzzy set score are presented in table A5. Our calibration of high levels of employment protection combines two indicators: 'employment protection index (2008-10)' and 'collective bargaining coverage (2010)'. Furthermore, we have standardized the two indicators to range between 0 and four. Since the 'employment protection index' is the crucial sub-indicator in this condition, the two indicators are added using different weights: 4/5 and 1/5 respectively. As for the qualitative anchors, at least three is required for full membership; 1.5 is a crossover point, and values equal to 0 reflect full non-membership. Thus, Southern European countries, Continental European countries, Sweden, and Finland are more in than out of the set, while Anglo-Saxon countries and Denmark are more out of than in the set.

Table A5 – Calibration of the condition 'high levels of employment protection' (EP)

	Employment protection index (2008-10)	Collective bargaining coverage (2010)	Additive indicator	Fuzzy set score
Austria	2.5	99.00	2.3	0.77
Belgium	2.4	96.00	2.1	0.70
Denmark	1.8	85.00	1.1	0.37
Finland	2.3	89.50	1.9	0.63
France	3.2	92.00	3.3	1.00
Germany	2.5	61.00	1.9	0.63
Greece	2.9	65.00	2.5	0.83
Ireland	1.8	42.00	0.7	0.23
Italy	3.0	85.00	2.9	0.97
Netherlands	2.4	84.30	2.0	0.67
Portugal	3.1	90.00	3.1	1.00
Spain	2.8	73.20	2.5	0.83
Sweden	2.2	91.00	1.8	0.60
United Kingdom	1.3	30.80	-0.1	0.00

Source: Authors' own calculations based on OECD Indicators of Employment Protection (OECD, 2013a); and Data Base on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2011 (ICTWSS), version 4.0, April 2013 (Visser, 2013).

Note: As for collective bargaining coverage (third column), in Denmark data refer to 2007, in Finland to 2009, and in France, Greece and Portugal to 2008. Regarding union density, in Greece data refer to 2008.

1.4 Condition III – poor coordination in the industrial relations system (PCO)

The following dimensions are used to measure the coordination in the industrial relations system: wage coordination and the level of organization of labour and capital. It is explained below how each dimension is computed, and how we have turned raw data into set-membership scores.

All the indicators in this condition were taken from the ICTWSS database (Visser, 2013). Regarding the first dimension (wage coordination), we have used the indicator 'coordination of wage-setting', which is based on Kenworthy (2001) and ranges between one and five. Countries with corporatist arrangements (centralized bargaining by peak associations) are ranked in the first two levels (4-5); those without corporatist arrangements but with a certain level of coordination (e.g., coordination only with some unions, and irregular industry-level bargaining with irregular and uncertain pattern setting) are ranked in the third level; finally, those with little pattern of bargaining or fragmented wage bargaining are ranked in the last two levels (1-2). To complement the information gathered in the first indicator, information on the level of organization of labour and capital are also provided (Ebbinghaus, 2006, p. 74), namely 'employers' organization density' (as a proportion of employees in employment) and 'union density' (net union membership as a proportion of wage and salary earners in employment).

The fuzzy set is calibrated using the direct method of calibration. The raw data, the additive indicator and the fuzzy set score are presented in table A6. Our calibration of the set poor coordination in the industrial relations system combines therefore three indicators: 'coordination of wage-setting', 'employers' organization density', and 'union density'. To calculate the additive indicator, we first standardized the three indicators to range between 0 and four. Instead of using equal weights for the three different sub-indicators, we gave greater weight to the first sub-indicator: wage coordination is weighted at 3/4, while employers' organization density and union density are weighted at 1/8 each. As for the qualitative anchors, full membership in this set is reached when the level of coordination in the industrial relations system does not exceed 1.5, full non-membership is assigned when the level of coordination is above three, and the crossover point is 2.1. The average for the period 1980-2011 is calculated because the objective is to capture the pattern of coordination in these countries, rather than the coordination in a specific period. Given that this database provides data for the entire period, we have decided to compute the average of each sub-indicator. In line with Crouch (1993), poor coordination in the industrial relations system is observed in France, in Southern Europe, and in Anglo-Saxon countries.

Table A6 – Calibration of the condition 'poor coordination in the industrial relations system'

	Wage coordination (1980-2011)	Employers' organization density (1980-2011)	Union density (1980-2011)	Additive indicator	Fuzzy set score
Austria	4.1	100.0	41.3	2.9	0.06
Belgium	4.6	82.0	52.7	3.2	0.00
Denmark	3.8	65.0	72.5	2.6	0.22
Finland	4.3	72.7	73.1	3.0	0.00
France	2.0	75.0	10.0	0.9	1.00
Germany	3.9	60.0	28.0	2.3	0.39
Greece	2.2	43.7	31.6	1.0	1.00
Ireland	3.3	60.0	45.2	2.0	0.58
Italy	3.0	58.0	38.2	1.7	0.83
Netherlands	3.7	85.0	24.5	2.4	0.33
Portugal	2.6	65.0	30.0	1.4	1.00
Spain	3.2	75.0	14.2	1.8	0.75
Sweden	3.9	83.0	79.5	2.8	0.11
United Kingdom	1.0	35.0	36.8	0.0	1.00

Source: Authors' own calculations based on Data Base on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2011 (ICTWSS), version 4.0, April 2013 (Visser, 2013).

Note: Regarding employers' organization density, in Belgium and Sweden data refer to 2009, in Denmark, France, Germany, Greece, Italy, Netherlands, Portugal, Spain, and United Kingdom data refer to 2008, in Finland to 2006, and in Ireland to 2002.

1.5 Condition IV – high levels of liberalization (L)

As an institutional theory of capitalism, the liberalization literature emphasizes the communalities rather than the varieties between capitalist economies, and criticizes the functionalist's assumptions upon which the VoC approach is based. Drawing on Polanyi's 'double movement' of market expansion and market containment thesis (1944), it argues that change in all capitalist economies is driven by a process of market expansion, and highlights the social conflicts related to it. Furthermore, drawing on the historical institutionalist theory on institutional change (Streeck and Thelen, 2005) it argues that in all capitalist economies the direction of change points towards liberalization (Streeck, 2009, chapter 17). To calculate this condition, two sub-indicators are used: the 'index of product market regulation', and the 'weight of the financial sector'. The first is taken from the 'OECD Product Market Regulation Database' (OECD, 2013b), while the second is taken from the 'Eurostat National Accounts Database' (Eurostat, 2008). First, though, it is explained below why these two sub-indicators are used to calculate this condition, and thereafter it is explained how fuzzy set scores have been calibrated.

Wolfgang Streeck's seminal book (2009) is focused on the German case and defines liberalization in the German political economy as disorganization (Streeck, 2009). As this study is not exclusively concerned with Germany but also with a wider group of European countries, liberalization is analyzed broadly (i.e., not as disorganization but rather as a process of market expansion). Also relevant is the contribution of Glyn (2006), which points to two main characteristics of liberalization: the reduction of intervention in industry through the privatization of state-owned enterprises (2006, pp. 37-42), and the rise of the financial sector (2006, p. 51). [9]

First, the OECD 'index of product market regulation' is used to measure the process of market expansion and privatization. This index is constructed from 18 low-level indicators and covers three general regulatory issues on fields such as: state control of business enterprises, legal and administrative barriers to entry (regulatory and administrative opacity; administrative burdens on start-ups, and barriers to competition), and barriers to international trade and investment (Wolfl *et al*., 2009). [10] This index ranges between 0 and six, reflecting increasing restrictiveness of regulatory provisions for competition. Since the index only covers the period between 1998 and 2008, the difference between these two years is calculated. Second, with regard to the rise of the financial sector, we calculate the weight of financial activities and insurance activities on the Gross Value Added, in 2008. [11]

The direct method of calibration is used to calibrate the fuzzy set score for this condition. The raw data, the additive indicator, and the fuzzy set score are presented in table A7. Our calibration of high levels of liberalization combines two indicators: 'index product market regulation (1998-2008)' and 'weight of the financial sector (2008)'. Furthermore, we have standardized the two indicators to range between 0 and four, and have calculated the average score for every country. With regard to the qualitative anchors, at least three is required for full membership; 1.5 is a crossover point, and values equal to 0.9 reflect full non-membership. As can be seen in table A7, the majority of countries have high levels of liberalization, since only Belgium and Greece are more out than in the set.

Table A7 – Calibration of the condition 'high levels of liberalization'

Countries	Index product market regulation (1998-2008)	Weight of the financial sector (2008)	Additive indicator	Fuzzy set score
Austria	-38.7	5.9	2.0	0.67
Belgium	-10.0	6.0	0.9	0.00
Denmark	-34.8	7.3	2.0	0.67
Finland	-44.5	2.6	1.7	0.57
France	-43.3	4.2	1.9	0.63
Germany	-36.5	5.2	1.8	0.60
Greece	-21.0	4.3	1.0	0.08
Ireland	-45.9	15.8	3.8	1.00
Italy	-47.8	5.5	2.3	0.77
Netherlands	-43.1	8.2	2.5	0.83
Portugal	-37.8	7.7	2.2	0.73
Spain	-61.1	5.6	2.8	0.93
Sweden	-33.5	4.7	1.6	0.53
United Kingdom	-22.2	8.5	1.7	0.57

Source: Authors' own calculations based on OECD Indicators of Product Market Regulation (OECD, 2013b); and Eurostat National accounts (Eurostat, 2008).

2. Robustness tests

Following Schneider and Wagemann (2012, pp. 284-294), a series of tests to assess the robustness of the analysis are carried out. First, we have changed the score of the case just above the crossover point to 0.49, and the case just below the crossover point to 0.51.[12] Table A8 shows that the solution term is robust to revisions of the calibration: in eight cases the solution term is identical. As for the case (fifth row) in which the second path is different (PS*PCO*L), the unique coverage for this path decreases to 0.118. Regarding the case where the first path is different (ninth row), this is because the revision of this fuzzy set score requires a huge change in the calibration. Generally speaking, table A8 shows that the solution term is robust.

Second, we change the consistency levels for truth table rows. With a consistency threshold of 0.885 (instead of 0.82), the solution turns into PS*EP*PCO (coverage: 0.520, consistency: 0.887). Note, however, that in comparison with the solution displayed in the article, the number of uncovered cases increases to four and the solution coverage decreases sharply. We prefer the solution displayed in the article because more cases are covered by the solution term, and because the existing differences between Southern Europe and the Anglo-Saxon countries (together with Denmark) are clarified.

Finally, to assess the robustness of the analysis, we tested a different solution including five conditions instead of four. This new condition (DR) is based on the aggregate index of dualization (Rueda, 2014, pp. 390-391). The objective is to test if the introduction of the new condition changes the main results of the analysis. The aggregate index of dualization is the ratio of employment protection for standard employment over active labour market policies (ALMP) generosity. To measure employment protection for standard employment we use data from 'OECD Indicators of Employment Protection' (OECD, 2013a). ALMP generosity is measured as the ratio of ALMP to GDP over the ratio of the unemployed to the labour force. The first indicator is taken from Armingeon *et al.* (2012), while the second is taken from OECD.Stat (unemployment is the harmonized rate, measured as a percentage of the civilian labour force). Data for the aggregate index of dualization refers to 2010. As for the calibration of this condition, we consider that at least 2.5 on the indicator is required for full membership, at least 0.95 to be more in than out of the set, and 0 for full non-membership. The fuzzy set scores and raw data for this condition are displayed in table A9. With five conditions the solution term (complex solution) consists of two conjunctions: PS*DR*EP*PCO + PS*dr*ep*L (coverage: 0.908, consistency: 0.782). The first covers Italy, Portugal, Spain, and Greece, while the second covers Ireland, United Kingdom, and Denmark. Comparing with the solution term displayed in the article, the major difference is the presence of DR in the first conjunction and its absence in the second. Thus, DR follows a similar pattern to the condition high employment protection. Furthermore, the analysis of necessary conditions shows that DR is not a necessary condition for the outcome. Overall, the introduction of DR does not change the main results of the analysis.

Table A8 – Robustness of solution term

	Recalibration	Solution term	Comment
1	YO: Finland from 0.36 to 0.51	PS*EP*PCO + PS*ep*L	Identical to solution term.
2	YO: Sweden from 0.51 to 0.49	PS*EP*PCO + PS*ep*L	Identical to solution term.
3	PS: Ireland from 0.45 to 0.51	PS*EP*PCO + PS*ep*L	Identical to solution term.
4	PS: Austria from 0.52 to 0.49	PS*EP*PCO + PS*ep*L	Identical to solution term.
5	EP: Denmark from 0.37 to 0.51	PS*EP*PCO + PS*PCO*L	Unique coverage of both terms drops to 0.125 and 0.118, respectively. The solution coverage drops to 0.638. Denmark becomes an uncovered case.
6	EP: Sweden from 0.60 to 0.49	PS*EP*PCO + PS*ep*L	Identical to solution term. Sweden becomes a covered case.
7	PCO: Germany from 0.39 to 0.51	PS*EP*PCO + PS*ep*L	Identical to solution term.
8	PCO: Ireland from 0.58 to 0.49	PS*EP*PCO + PS*ep*L	Identical to solution term.
9	L: Greece from 0.08 to 0.51	PS*PCO*L + PS*ep*L	This new calibration implies a huge change in the fuzzy set score for Greece.
10	L: Sweden from 0.53 to 0.49	PS*EP*PCO + PS*ep*L	Identical to solution term.

Table A9 – Calibration of the condition 'high levels of dualization' (DR)

Countries	Aggregate index of dualization	Fuzzy set score
Austria	0.60	0.32
Belgium	0.61	0.32
Denmark	0.41	0.22
Finland	1.05	0.53
France	1.12	0.55
Germany	1.10	0.55
Greece	3.01	1.00
Ireland	0.38	0.20
Italy	1.98	0.83
Netherlands	0.63	0.33
Portugal	3.55	1.00
Spain	1.58	0.70
Sweden	1.01	0.52
United Kingdom	0.36	0.19

Source: Authors' own calculations based on OECD Indicators of Employment Protection (OECD, 2013a); Comparative Political Data Set I 1960-2011 (Armingeon *et al*., 2012); and OECD.Stat.

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Endnotes

1. However, some differences exist within this group: while some authors define as outsiders those who work part-time, the fixed-term employed, and the part-time employed (e.g. Emmenegger, 2009), others (e.g. Rueda, 2006) only include these categories if these workers want a permanent job or a full-time job, otherwise they exclude them from the group of outsiders.
2. These two age groups (more and less than 40 years old) are used because, as Häusermann and Schwander (2013, p. 253) have remarked before, 'most European countries have still a considerable number of young adults in education at the age of 30 years (…). Considering that acquiring a firm position in the labour market requires another couple of years, a substantial share of people in their 30s must still be counted as labour market entrants'.
3. Following the procedures put forward by Ragin (2008), to calibrate raw data it is necessary decide where the point of maximum indifference regarding membership versus non-membership is located (0.5), to define the point of full membership (1.0) and the point of non-membership (0.0).
4. Besides relying on theoretical knowledge, we used obvious value breaks among the cases to set three qualitative anchors, and we have made sure that no cases are classified on the crossover point. This same procedure is followed in all four conditions.
5. See the Excel spreadsheet showing the calculation of the specificity measure, available at: http://www.people.fas.harvard.edu/~iversen/SkillSpecificity.htm
6. One might also have included workers from the first occupational group in the lower tier of the primary sector. Indeed, its level of absolute skill specificity is similar to the third occupational group. We decided not to do so because this literature clearly states that the first two occupational groups belong to the upper tier of the primary sector (Piore, 1972, p. 3).
7. For a definition of each occupational group see ILO's webpage: http://www.ilo.org/public/english/bureau/stat/isco/isco88/major.htm
8. As for the original weights of the 'employment protection index', see: Venn (2009, p. 43).
9. Glyn's book is mentioned several times in Streeck's book. Indeed, these two books are often seen as the main contributions to this literature (Palier and Thelen, 2010, p. 120; Thelen, 2012, pp. 138-139).
10. For the weights given to each indicator, see Wolfl *et al*. (2009).
11. At basic values, millions of euro, chain-linked volumes, reference year 2005.
12. We take this from Davidsson and Emmenegger (2013).