Inequalities in European Labour Markets between Insiders and Outsiders: Employment Protection Legislation and its Relation to Unemployment

Cross-Country Empirical Evidence

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Content

Inequalities in European Labour Markets between Insiders and Outsiders - Employment Protection Legislation and its Relation to Unemployment. Cross-Country Empirical Evidence

1. Introduction

In the past, employment protection legislation (EPL), particularly concerning the use of temporary employment, has been relaxed in many European countries. This development was triggered by the high unemployment rates observable in Europe compared with the United States and Japan, two countries with less rigid labour market institutions (Blanchard/Wolfers 2000; Nickell et al. 2005). Differences in employment protection rules have been identified as one of the main causes to explain differences in labour markets (OECD 1994). Rigid EPL may decrease hiring incentives as a result of high labour turnover costs, and it may restrict the ability of firms to adapt to technological progress and globalization, thereby hindering the reduction of unemployment (Addison/Teixeira 2001; OECD 2004; Skedinger 2010; Walwei 2002).

The design of employment protection rules is also part of the guidelines for employment policies of the member states of the European Union adopted by the council of the European Union in October 2010. Member states are obliged to increase labour market participation and reduce structural unemployment by introducing, together with other labour market reforms, 'a combination of flexible and reliable contractual arrangements' (2010/707/EU: 308/50).[1]

EPL is the entire set of regulations that restrict the abilities of a firm to hire and fire workers. These regulations are primarily based on specific laws covering not only the dismissal of regular employees and the use of temporary work, but also collective bargaining or court rulings (OECD 2004). They

> 'exist when an individual employer cannot, even by agreement with his or her own employees, use particular working arrangements or forms of employment contract,

[1] Member states are encouraged to implement flexicurity principles by enhancing the degree of flexibility and security on their labour markets. For this purpose, they are obliged to introduce policy packages adressing not only EPL, but also active labour market policies, effective lifelong learning, policies to promote labour mobility as well as social security systems that provide a certain level of income security for their citizens (2010/707/EU).

without risking legal sanctions or the invalidity of the relevant provisions in the contract' (Grubbs/Wells 1993: 9).

The strictness of EPL is usually determined by the costs arising from a dismissal (Bertola et al. 1999; Botero et al. 2004; Grubbs/Wells 1993; Lazear 1990; OECD 1994, 1999; Venn 2009).

The advantages and disadvantages arising from the level of EPL are hotly debated within the literature. Strict EPL is mainly criticized for high dismissal costs that increase labour costs and reduce hiring incentives. Another frequently criticized aspect is the diminished degree of flexibility that prevents an adequate adaption towards technological progress (Enste/Hardegge 2006; OECD 2004; Walwei 1996) On the other hand, strict EPL provides employees with a certain degree of job security and reduces the number of fluctuations within a company (OECD 2004). Furthermore, strict EPL facilitates incentives for employees to invest in firm-specific human capital, as they are more likely able to amortize investment costs (OECD 2004). Assuming that workers behave reciprocally, EPL also increases cooperation between employees and employers and improves the identification of the staff with the company goals, thereby increasing motivation and the acceptance of technological progress (Walwei 1996).

As the empirical literature shows, the effects of EPL on unemployment are actually ambiguous. Skedinger (2010) provides a comprehensive overview of more than 100 current studies dealing with EPL and its effects on the labour market. In some of the reported studies, an increase in EPL is related to an increase in unemployment. In contrast, several studies confirm the opposite, while in many others, there is no effect at all.

Most studies and their research goals are characterized by an economic perspective. Economic explanations describe unemployment as a consequence of market failure and imbalances between labour supply and demand. Sociological analyses, in contrast, concentrate generally more on the relation between unemployment and individual characteristics (Bonß/Ludwig-Mayerhofer 2000). In this context, the relation between EPL and social inequality is of great interest.

Social inequality occurs when differences between people, e.g. by age, sex or skills, become the basis of hierarchical graduations and determine the

access to goods. In this regard, the reduction of social inequality is also strongly linked with the improvement of employment chances (Ullrich 2005). The access to employment is connected with different manifestations of social inequality: employment provides workers with income, which, in turn, is related to financial security and offers opportunities for an independent living. Unemployed persons, in contrast, suffer very often from poverty and social exclusion. Unemployment is often linked with a loss of social status. Moreover, the loss of professional contacts can even lead to social isolation (Brinkmann/Schober 2002; Eisele/Fischinger 2005; Kirchler 1993).

Besides the correction of market failures, the reduction of social inequality is one central aim of welfare state regulations (Ullrich 2005). EPL regulates the labour relations between workers and their employers. The implementation of dismissal rules has decreased the existing imbalances between capital and labour. This has led to less social tensions, for instance, by reducing the number of strikes and by protecting workers against the exploitation by their employers (Bonß/Ludwig-Mayerhofer 2000; Ullrich 2005). However, labour market regulation can also produce own systems of social stratification. They can systematically bias the risk of being unemployed towards specific groups of workers (Esping-Anderson 1990; Esping-Anderson/Regini 2000). By determining the hiring and firing decisions of employers, EPL is, therefore, expected to support systems of social closure and labour market segmentation.

Social closure postulates that specific groups are actively hedging their status by utilizing their position of power. In this context, the welfare state takes a prominent role by supporting processes of social closure through legal provisions (Rössel 2003). By protecting the jobs of the employed from competition and establishing employment barriers for others, rigid EPL limits the employment chances of outsiders and restricts labour market access (Gangl 2003). The linkage of employment protection and job tenure, in particular in terms of severance payments and notice periods, facilitates these mechanisms. Proponents expect that a relaxation of EPL creates new employment opportunities and, therewith, leads to a reduction of unemployment (Giesecke 2006). On the other side, the relaxation of EPL, in particular by facilitating the use

of temporary employment, is expected to strengthen labour market segmentation, i.e. the division of the labour market into a primary and a secondary segment. The primary segment is characterized by high wages, opportunities for advancement and, in particular, by high levels of job stability, while the secondary segment is marked by low wages, bad working conditions, low upward-mobility, instability of labour relations and a high level of job fluctuation (Piore 1978, quoted after Giesecke 2006).

Most of the past EPL reforms followed a two-tier strategy only applying to new contracts and facilitating the creation or expansion of dual labour markets with a core and a periphery workforce (Barbieri 2009). Although fixed-term employment cannot be clearly allocated to one of the two segments, it might be assumed that the majority belongs to the secondary segment, where workers are flexibly deployed and dismissed according to the respective demand for goods (Giesecke 2006). The reduction of social inequality that may result from an improvement of employment chances by relaxing EPL, thus, might be weakened due to a proceeding labour market segmentation characterized by unequal working conditions for different groups of workers.

The work of Skedinger (2010) also provides some evidence of individuals with a higher probability for newly entering or re-entering the labour market. Although results are not totally consistent, most studies confirm that an increase in EPL is related to a rise in unemployment for young people and women. Other groups, who also face disadvantages in the labour market, have been largely ignored. The empirical literature investigating potential imbalances in unemployment related to the level or changes in EPL is, thus, rather sparse.

Therefore, the present thesis attempts to shed additional light on the question: *How are social inequalities among different labour force groups related to the level of or changes in EPL?* In this regard, unemployment risks or the access to employment respectively, is in the focus of interest. The thesis concentrates in particular on inequalities between different skill groups and older people with various employment histories. Therewith, important social and current developments are addressed: By concentrating on differences according to skill levels, the consequences arising from technological progress that have

taken place within the last decades are highlighted. Technological amendments are described as skill-biased. They have increased the demand for qualified labour and changed flexibility demands of companies. Due to this development, the employment situation of the low skilled has become worse and social inequality between skill groups has increased. This is evidenced by relatively high unemployment rates for the low skilled compared to workers with higher qualifications.

The activation of the labour force potential of elderly is also of high social and economic relevance as a consequence of demographic developments. Therefore, employment barriers preventing the participation of older workers should be abolished. Moreover, there are great income differences between older workers dependent on their previous employment biographies (Möhring 2013). In order to avoid old-age poverty, the improvement of access opportunities to employment in the later life is of great importance.

Another important topic that is addressed within the framework of the doctoral thesis is the determinants that are necessary for the implementation of a reform. In this regard, consequences of labour market segmentation for the support of legislative amendments leading to more flexible employment protection are taken up. Thereby, the different roles of labour market insiders and outsiders are highlighted.

The question of how social inequalities among different labour force groups are related to the level of or changes in EPL will be answered by comparing outcomes for different European countries. Although there is a general trend observable towards more flexible legislation, countries vary in some cases considerably concerning the level of or changes in EPL.

'The underlying goal of comparative analysis is to search for similarity and variance' (Mills et al. 2006: 621). Cross-national research aims to compare and contrast countries and institutions. It contributes to the understanding of differences between countries, e.g. in the level of unemployment rates, by considering contextual determinants - in contrast to within country comparisons, where 'only' variations over time are examined. In the present thesis, EPL and its varying forms in different countries are in the focus of the analyses. However,

each of the studies takes into account additional contextual factors that are expected to influence the relation between EPL and unemployment, i.e. other labour market institutions and policies as well specific economic conditions.

Moreover, by using comparative analysis, the generalizability of theoretical assumptions can be tested. However, by concentrating on European countries only, cases are not selected randomly. Therefore, the results can only be transferred to the chosen sample. Case selection has been mainly driven by data availability. Moreover, the thesis tries to contribute to political discussions taking place at the European level, e.g. the flexicurity debate (European Commission 2013b; de Beer/Schils 2009; Wilthagen 2008). The debate deals with the optimal level of EPL in combination with additional security and activation policies. In addition, the European Commission formulates employment guidelines addressing the flexibility of labour markets of its member states.

In the following section of the introduction, I will refer to the insider-outsider theory by Lindbeck and Snower (1987, 1988, 2001, 2002) that provides the theoretical background for all papers. It illustrates the underlying mechanisms of social closure within labour markets. Next, I describe how EPL has been operationalized and which limitations have to be accepted in this context. I also provide an overview on the current level of EPL in Europe and its development since 1995. The introduction ends with a short description of the content, methods used and the data captured within the four studies that constitute the main part of the dissertation. The thesis ends with a critical discussion of the findings and outlines some policy implications that can be derived from them.

1.1 Theoretical background: the insider-outsider theory

The insider-outsider theory of Lindbeck and Snower (1987, 1988, 2001, 2002) explains disparities between groups of the labour force arising from different levels of EPL. Labour market insiders are incumbent workers who often enjoy higher levels of job security and who are protected by dismissal rules for regular employment. The disadvantages that outsiders face result from their labour market position. Outsiders are persons who enter or re-enter the labour market, are unemployed or employed only on a temporary basis.

The hiring and firing costs resulting from the level of EPL determine the amount of labour turnover costs that arise from the replacement of insiders with outsiders. These costs cannot be passed completely to the employees and must be paid by the firms. In this context, labour turnover costs encompass, for example, severance payments, administrative burdens and transaction costs.

Besides the costs resulting from EPL, the firm has to pay search and bargaining costs for the hiring process. It also participates in costs arising from the training and qualification of new recruits.

Labour turnover costs provide insiders with a certain degree of market power since they decrease the incentives for firms to replace insiders. ‘Labor turnover costs determine the degree of substitutability […]’ (Lindbeck/Snower 2001: 168). Wage underbidding processes could improve the bargaining positions of the outsiders. Outsiders, therefore, face labour market discrimination since they are not rewarded equally for the same effort. However, in practice, such wage underbidding competitions are not common. Lindbeck and Snower (2001) mention in this context three main explanations:

1) The minimum-wage explanation: Legislation keeps the wage above its market-clearing level.
2) The efficiency wage explanation: Firms refuse to accept low wages because they anticipate a decrease in productivity or an increase in job fluctuation.
3) The insider-outsider theory explanation: Insiders may influence the firm’s behaviour by threatening to not cooperate with new recruits. Thereby, they create an ‘insider-entrant productivity differential’ (Lindbeck/Snower 1987: 5).

Labour turnover costs generally influence the hiring and firing decisions of employers. Since employers are able to anticipate these costs in the future, they ‘discourage firms from hiring when labor demand rises and from firing when labor demand falls’ (Lindbeck/Snower 2001: 170). Rigid EPL, therefore, constitutes employment barriers for outsiders, while insiders profit from stable employment relationships and low unemployment risks. The more rigid EPL is, the stronger the disadvantages of outsiders are.

A change in the strictness of dismissal rules alters the labour market situation of the outsiders. Less rigid rules reduce labour turnover costs and, therefore, the bargaining power of insiders. Firms have higher incentives to hire outsiders. The introduction of temporary employment also increases the employment chances of outsiders, as there are no separation costs at the end of the employment relationship. Outsiders might, however, be 'confined to dead-end jobs' (Lindbeck/Snower 1988: 3).

The insider-outsider theory explains differences in unemployment between persons with stable and persons with irregular employment histories. Notice periods and severance payments are often related to job tenure. Labour turnover costs for people with short tenure are usually low. These people are confronted, in turn, with higher dismissal risks compared to employees with long-lasting job relationships.

The theory also aims to explain variations between men and women, persons of different age groups and those with different skill levels, since these attributes are correlated with specific labour market positions (Lindbeck/Snower 2002). Women are more likely than men to belong to the outsider group because of career breaks and phases of atypical employment as a consequence of parenting periods. This is reflected in higher inactivity rates compared to the male population (*Table 1.1*).

Table 1.1: Employment indicators for specific groups (15-64 years), EU27, 2012

	Inactivity rate	**Unemployment rate**	**Temporary employment rate***
Total	28,2 %	10,6 %	13,7 %
Men	22.0 %	10.5 %	13.2 %
Women	34.4 %	10.6 %	14.2 %
15-24 years old	57.4 %	22.8 %	42.0 %
25-49 years old	14.0 %	9.9 %	12.2 %
50-64 years old	36.7 %	7.4 %	6.6 %
Low skilled	45.1 %	18.6 %	20.1 %
Medium skilled	24.7 %	9.6 %	12.6 %
Highly skilled	12.9 %	6.1 %	11.4 %

** Notes: The temporary employment rate is the share of total employment.*
Source: eurostat (2013).

Young persons are generally more likely than older persons to be outsiders because they are new to the labour market after completing formal education. They are more often inactive, unemployed or employed on a temporary basis. Older people are less often unemployed or temporary employed, but compared with the medium-aged population, they are more frequently inactive. Moreover, although older workers are generally at a lower risk of becoming unemployed, they usually show higher rates of long-term unemployment compared to younger individuals (OECD 2006). Low skilled workers face higher unemployment risks due to the technological advances, since their knowledge often becomes obsolete and the demand for qualified labour increases (Acemoglu 2002). They are also more often inactive and temporary employed compared to other skill groups.

The difference between insiders and outsiders also plays a role for the design and implementation of employment protection reforms. Insiders, because of their numerical dominance, are considered the decisive voters. Their support for reforms is important for politicians for not being punished with deselection in the next legislature. Labour market insiders are mainly interested in maintaining their job security (Ochel et al. 2008; Saint-Paul 1993). Therefore, insiders generally resist reforms that relax the level of EPL. Outsiders, in contrast, have incentives to diminish employment barriers and to improve their own job opportunities. However, since they usually form a minority, their interests fall back behind the interests of incumbent workers.

1.2 Operationalization of employment protection legislation

By measuring EPL, we are confronted with a complex system of rules. In order to make information comparable, indices have been created detailing the strictness of EPL for different countries. The most comprehensive EPL index, provided by the OECD,[2] captures information on 40 countries between the years 1985 and 2009.[3] The OECD defines EPL as follows:

[2] For other quantitative EPL measures see Lazear (1990), Heckman/Pagés (2001), Grubbs/Wells (1993), Botero et al. (2004). For qualitative datasets see e.g. the DICE database (2011) or the LABREF database provided by the European Commission (2013a).
[3] Full information is not available for all countries.

'Employment protection refers both to regulations concerning hiring (e.g. rules favouring disadvantaged groups, conditions for using temporary or fixed-term contracts, training requirements) and firing (e.g. redundancy procedures, mandated prenotification periods and severance payments, special requirements for collective dismissals and short-time work schemes)' (OECD 1999: 50).

This definition is very broad and encompasses aspects that are not directly linked to the protection of existing employment but to the facilitation or hindrance of employment entry for outsiders.

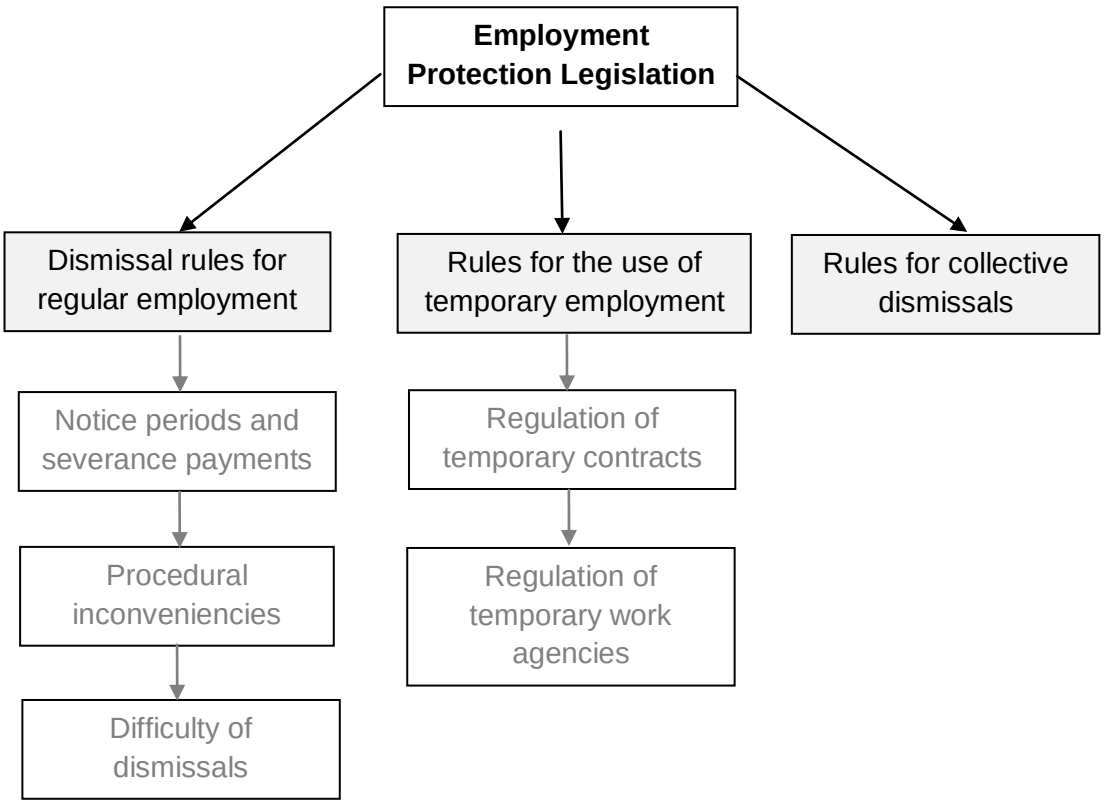
Regulation refers to all types of employment protection rules: legislation, court rulings, collectively bargained conditions of employment and customary practice (as long as information is available).

The EPL index provided by the OECD has been revised several times. The first index was developed in 1994 (OECD 1994) and was based on previous work from Grubbs and Wells in 1993. The current index captures three different areas of EPL: dismissal rules for regular employment, regulation on the use of temporary employment and dismissal rules for collective dismissals (*Figure 1.1*).

Concerning the rules on dismissal for regular employees, direct costs arising from severance payments and notice periods as well as indirect costs resulting from procedural inconveniences and the difficulty of a dismissal can be differentiated. The length of the notice period and the amount of severance pay are measured separately for seniorities lasting 9 months, 4 years and 20 years. Regarding procedural inconveniences, these are distinguished by whether a) a dismissal is only legitimate by indicating a reason; b) a third party, such as a works council or local employment exchange must be informed about the dismissal; or c) a third party even must give permission in advance. The 'difficulty of dismissal' is determined by the length of the trial period and the compensation payable to a worker who has been unfairly dismissed after 20 years in service measured in monthly wages. Furthermore, the indicator measures the possibility of re-employment and differentiates between these four different status groups: never granted, rare, possible and if the employee always has the option of reinstatement. The indicator 'difficulty of dismissal' also includes the strictness of definitions that determine a fair or unfair dismissal. The following categories are distinguished: a) workers capability and redundancy of the job are adequate grounds for dismissal; b) social considerations, such as age or job tenure must, if

possible, influence the choice of which workers to dismiss; c) retraining to adapt the worker to different work must be attempted prior to dismissal; and d) worker capability is never allowed to be a legitimate reasons for dismissal.

Figure 1.1: Employment protection (sub-) indices



Source: Based on OECD 1999; Skedinger 2010.

To regulate temporary employment, two sub-indicators can be differentiated that deal with the use of fixed-term and temporary work agency (TWA) employment. Concerning fixed-term employment, the maximum number of fixed-term contracts per company and employee, the maximum cumulated duration of fixed-term contracts and reasons that legitimate temporary employment are taken into account. Concerning the latter, the following categories are distinguished: a) fixed-term contracts are only permitted in 'objective' cases, i.e. to perform tasks of limited fixed duration; b) specific exemptions apply to situations of employer need (for example, launching a new activity) or of employee need (for example, workers in search for their first job; c) exemptions exists for both the employer

and employee; and d) there are no restrictions on the use of fixed-term contracts. For TWA employment, restrictions on the number of renewals and the maximum cumulated duration of TWA employment are considered. Types of regulation are also differentiated where TWA employment is never legal, where it is legal only for certain employment conditions or industries and where no restrictions on employment conditions or industries apply.

The index captures additional information on collective dismissals. Four different sub-indicators are included. Firstly, it is controlled for the number of dismissed workers when additional rules for collective dismissal must be applied. The second sub-indicator measures if there are additional notification requirements by employee representatives, work councils or government authorities. It includes three categories: no additional requirements, one of these actors has to be notified or at least two actors have to be informed. Another sub-indicator controls whether extra delays are involved. The last sub-indicator takes additional costs related to collective dismissals into account. These result, for instance, from additional severance payments and/or social compensation plans that determine detailing measures for redeployment, retraining or outplacement.

The last methodological update was made in 2008 (Venn 2009). Three additional items have been included: the maximum time allowed for an employee to make a claim of unfair dismissal, administrative authorisation and regular reporting requirements for temporary work agencies and the requirement for temporary work agency workers to receive the same pay and conditions as regular workers at the user firm. The inclusion of the latter two requirements corresponds to the increasing expansion of temporary work agency employment used to circumvent requirements for regular employment (Koene et al. 2004). However, because this new indicator is only available for the year 2008, it has not been used within the following studies.

The index assigns categorical scales ranging from 0 to 6, with higher scores representing stricter regulation. Indicators are weighted according their influence on EPL. The sub-index for regulation on collective dismissal was attributed just 40 % of the weight assigned to regular and temporary contracts. ‘The rationale for this is that the collective dismissal indicator only reflects

additional employment protection that was triggered by the collective nature of a dismissal. In most countries, these additional requirements are quite modest' (OECD 1999: 115).[4]

Some kinds of workers are not covered by legislation. Whole occupational groups are excluded: maritime workers, domestic workers, family members working in a family business, diplomats, holders of political office, entertainers, sportspeople, police and civil servants (Venn 2009: 19).

Exemptions are also made for particular groups of workers to facilitate entry or re-entry into the labour market. These are mainly young workers undertaking training. In some countries, disabled and older workers are also exempted from regular EPL. According to Venn (2009), these exemptions affect on average less than 2 % of the workforce. On the other hand, groups may take advantage of special protection rules that make a dismissal even more difficult. In Germany, for instance, we find such rules for older and disabled workers and mothers (European Commission 2007).

The application of EPL also depends in many countries on the size of the company. Small firms are often exempted from all or some employment protection rules. In many countries, for instance, the required amount of severance pay or length of notice is much lower or even totally removed. Exemption rules vary greatly between countries. In Spain, Italy, Turkey and Australia, less than 50 % of all employees are covered by full EPL. In Sweden, Slovenia and Korea, exemptions apply for less than 25 % of employees. However, as Venn (2009) demonstrates, taking small-firm exemptions into account only leads to minor changes of the original EPL-index provided by the OECD.

Another dimension that is not included in the concept of EPL are short-time working schemes. Especially in times of cyclical downturns, the reduction of working hours has been used successfully to avoid dismissal (Arpaia et al. 2010). There may be positive correlations between hiring and firing decisions for employers with the flexibility to change job conditions.

[4] For further information on weighting, see OECD 2004.

A comparison particularly of qualitative data sets on employment protection reforms (e.g. the DICE database (2011), or the LABREF database of the European Commission (2013a)) shows that not all changes are captured by the OECD-index. This is the case when changes are very small, when they affect only a specific group (e.g. rules for young or old people) or when they affect parts of the legislation that are not covered by the sub-indices.

However, the OECD index has the advantage of comparing legislation between countries and of quantifying the degree of changes that have taken place. It is most comprehensive in comparison to other quantitative indices and, because of its sub-indicators, it is also transparent for the user. In the following studies, either the overall index or its sub-indices have been used to operationalize the level or change in EPL depending on the specific research question.

1.3 Employment protection legislation in Europe

Currently, there are large differences concerning the strictness of EPL among European countries. *Table 1.2* shows an overview on the overall index, and the sub-indices for regular employment, temporary employment and collective dismissals for the year 2008.

According to *Table 1.2*, the United Kingdom, Ireland and Iceland have in total the most flexible employment protection rules (ranging between 1.10 and 1.56). In Portugal, Spain and Luxembourg the rules are most rigid (ranging between 2.93 and 3.35). The average EPL-score of all the observed countries is 2.23. However, as described before, EPL is a subset of hiring and firing rules. Countries vary not only in the overall level of EPL, but also in the degree and distribution of the sub-indicators. Portugal, for instance, stands out for its very restrictive regulation of dismissals for regular employment. In the United Kingdom and the Slovak Republic, by contrast, there are nearly no restrictions on the use of temporary employment. The Czech Republic, as another example, has relatively rigid regulations on dismissals for regular employment, but is comparatively flexible concerning the rules on temporary employment and collective dismissal.

In general, the differences between countries are greatest concerning the use of temporary employment. Over the last few decades, there have been several reforms in European countries. Most of them have led to a relaxation of EPL.

Table 1.2: Employment protection indices in European countries, 2008

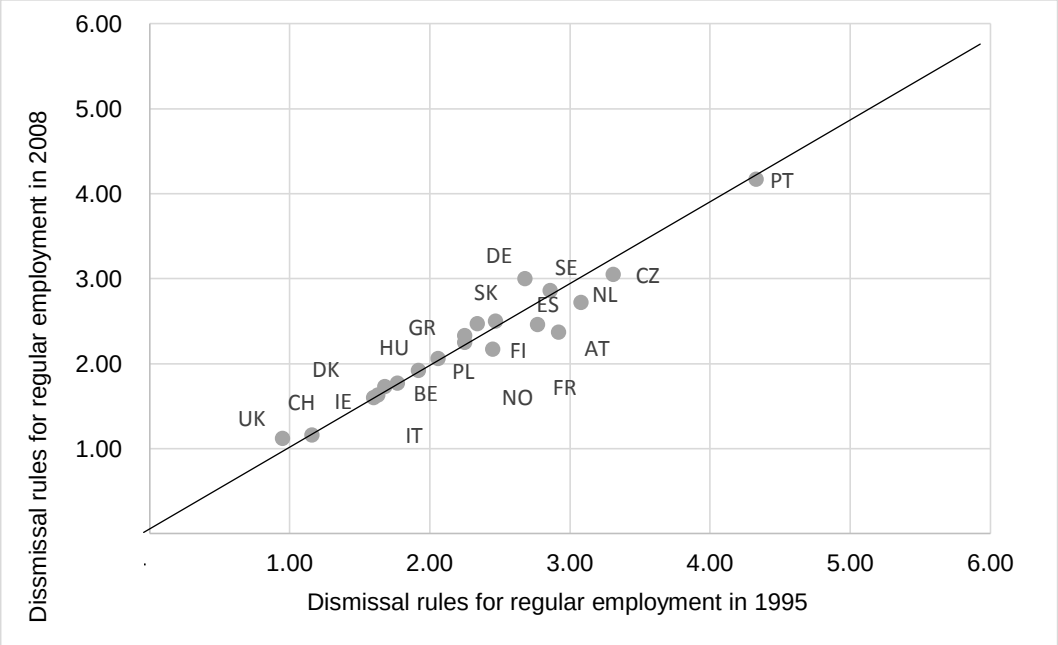
	Overall EPL-index	Dismissal rules on regular Employment	Rules for the use of temporary employment	Rules for collective dismissals
Austria	2.15	2.37	1.50	3.25
Belgium	2.50	1.73	2.63	4.13
Switzerland	1.60	1.16	1.13	3.88
Czech Republic	1.99	3.05	0.88	2.13
Germany	2.39	3.00	1.25	3.75
Denmark	1.77	1.63	1.38	3.13
Spain	3.01	2.46	3.50	3.13
Finland	2.03	2.17	1.75	2.38
France	2.89	2.47	3.63	2.13
United Kingdom	1.10	1.12	0.38	2.88
Greece	2.81	2.33	3.13	3.25
Hungary	1.85	1.92	1.38	2.88
Ireland	1.32	1.60	0.63	2.38
Iceland	1.56	1.73	0.63	3.50
Italy	2.38	1.77	2.00	4.88
Luxembourg	3.35	2.75	3.75	3.88
Netherlands	2.13	2.72	1.19	3.00
Norway	2.72	2.25	3.13	2.88
Poland	2.19	2.06	1.75	3.63
Portugal	2.93	4.17	2.13	1.88
Slovak Republic	1.82	2.50	0.38	3.75
Sweden	2.18	2.86	0.88	3.75
Slovenia	2.57	3.15	1.88	2.88
Estonia	2.29	2.46	1.75	3.25
Average	2.23	2.31	1.78	3.19
Standard deviation	0.56	0.69	1.03	0.71

Notes: The overall index is a summary of the weighted sub-indicators. The sub-indicators capturing dismissal rules for regular employment and rules for the use of temporary employment are both weighted by 5/12. The rules for collective dismissal are weighted by 2/12.
Source: Adapted from OECD (2010).

Figures 1.2 and *1.3* demonstrate the changes of dismissal rules for regular employment and rules for the use of temporary employment between 1995 (horizontal axis) and 2008 (vertical axis). Countries below the diagonal have relaxed their regulation; in countries above the diagonal regulation has become

stricter. Concerning dismissal rules for regular employment (*Figure 1.2*) only a few and mostly minor reforms have taken place.

Figure 1.2: Reforms on dismissal rules for regular employment – 1995 vs. 2008



Source: Adapted from OECD (2010).

Figure 1.3: Reforms on rules for temporary employment – 1995 vs. 2008

Source: Adapted from OECD (2010).

In the case of reforms on temporary employment, changes are more pronounced. Italy and Germany show the biggest differences between 1995 und 2008. The EPL-score for rules on temporary employment has decreased by 3.4 units in Italy and by 2.3 units in Germany. In contrast, some countries with originally very

flexible regulation, like Hungary and Poland, have seen legislation become stricter within the reference period.

1.4 Organization of the dissertation

The central objective of the dissertation is to investigate how levels or changes in EPL are related to social inequality in labour markets concerning the distribution of unemployment and to provide current understanding in this context. The insider-outsider theory constitutes the underlying theoretical approach for all the studies.

Table 1.3 provides an overview of each article of the thesis. It gives information on the title, the underlying research question, the dependent variables that have been estimated, the data sources and samples as well as the methods used.

First research study

The first study deals with deregulation processes that have taken place within European labour markets since 1997 and the labour market outcomes for different skill groups. The study investigates to what extent reforms of different labour market institutions, such as EPL, influence imbalances on the labour market between low, medium and highly skilled individuals concerning the distribution of unemployment and employment. The study examines whether the relaxation of EPL by loosening dismissal rules for regular employment or by facilitating the use of temporary employment leads to a harmonization of employment chances. Besides EPL reforms, the study simultaneously controls for changes in other labour market institutions, including wage systems, active labour market policies and unemployment benefits. The analysis is based on aggregated macro-data of 17 European countries between 1997 and 2009. The restriction on macro data allows for the examination of information over a longer period of time. In order to investigate different employment chances, the relation between rates of unemployment and employment in three different skill groups, distinguished by gender, are considered. In addition to the labour market institutions, the study also controls for economic aspects reflecting the level of

technological progress. As method, fixed effects panel regressions have been applied. The use of fixed effects allows for controlling unobserved heterogeneity at country and time level.

Second research study

The second study builds on the results that have been gained from the first research study. It examines individual unemployment risks for different skill groups and their relation to EPL. In contrast to the first article, it focuses on currently implemented legislation instead of changes in EPL. By taking a cross-sectional perspective, differences between countries arising from the strictness of hiring and firing rules are highlighted. Furthermore, it is expected that the relation between skill-specific unemployment risks is moderated by the level of technological progress. This assumption is based on the literature concerning skill-biased technological change. Employers are assumed to have different flexibility demands depending on the skill level acquired by the worker. It investigates whether unemployment risks vary for the different skill groups because of the strictness of EPL. The analysis is based on the Labour Force Survey from 2008. Due to the hierarchical structure of the data, logistic multilevel regression analyses have been applied. The method accounts for compositional effects due to the specific structure of the labour force. It also allows for estimating variations at the micro and macro level simultaneously. In addition to the general unemployment risks of individuals, the long-term unemployment risks of skill groups are also taken into account.

Third research study

The third study focuses on a different group of the labour force. It deals with the labour market situation of the elderly in relation to their previous employment history and job tenure. The article has been written in collaboration with Katja Möhring. Both authors contributed equally to the idea and design of the study. Katja Möhring carried out the calculation of the empirical results, while I primarily developed the theoretical framework. We refer in this study to theoretical approaches of life-course sociology. As the empirics show, a large share of the elderly is either inactive or unemployed. However, there are large cross-sectional

differences between countries. The study investigates whether EPL or early retirement policies moderate individual outcomes as a result of previous employment biography. In this context, the study differentiates between employment, unemployment and early retirement. We have tested our assumptions on the basis of the SHARE data set with 12 European countries. We concentrate on men between 50 and 64 only. Since the number of cases at the macro level is very small, the use of conventional multilevel regression models, as in the second study, is not appropriate. It could be only controlled for a few country level variables, which leads to omitted variable bias. Therefore, we decided to apply multinomial logistic regressions with country fixed-effects models, which control for unobserved heterogeneity. Country-level indicators are introduced by means of cross-level interaction effects.

Fourth research study

The fourth study takes a different perspective concerning the relation between EPL and unemployment. Instead of looking at the effects of EPL on unemployment risks, the role of social inequality for the implementation of a reform is highlighted. Conflicts of interest on the political level are assumed. The deregulation of employment protection is, from an economic perspective, considered as a labour market tool to decrease high and increasing unemployment. However, high and increasing unemployment rates are expected to diminish political support for reforms relaxing EPL among decisive voters. The decisive voters represented by regular employees have particular interests in protecting their own levels of employment security. In this context, reforms influencing the employment chances of insiders and outsiders are expected to depend on the specific labour market conditions of a country. Within this study, a crisp-set qualitative comparative analysis (crisp-set QCA) has been applied on the basis of EU-15 countries between 1995 and 2005 to test necessary conditions for the implementation (and design) of a reform.

Table 1.3: Overview on research studies

	Study 1	**Study 2**	**Study 3**	**Study 4**
Title	Ungleichheiten auf dem Arbeitsmarkt aufgrund von Bildungsunterschieden und die Rolle der Arbeitsmarktderegulierung (Inequalities in the labour market due to skill differences and the role of labour market deregulation)	Skill-specific unemployment risks: Employment protection legislation and technological progress	Do labour market policies work the same way for all? Unemployment and early retirement of the elderly in Europe considering their employment history	Why employment protection reforms are not used as policy tool to fight back unemployment in Europe: The role of labour market conditions and the relation between insiders and outsiders on the implementation of reforms
Research question(s)	To what extent have deregulation measures influenced labour market inequalities between skill groups?	To what extent is EPL related to the unemployment risks of different skill groups and how is this relation moderated by the level of technological progress?	How is the individual labour market situation in late career related to previous employment history? What effects do labour market policies (early retirement policies and EPL) have on this relationship?	What is the role of labour market conditions, in particular the degree and development of unemployment rates, for the implementation of reforms relaxing EPL?
Dependent variable(s)	Relative differences between low and highly skilled, low and medium skilled, medium and highly skilled workers in unemployment and employment rates	(Long-term) Unemployment of low, medium, and highly skilled workers	Unemployment, early retirement, employment	EPL reforms
Data source	Eurostat	Labour Force Survey	Survey of Health, Ageing and Retirement in Europe	OECD
Sample	17 European countries between 1997 and 2009	Working population between 15 and 64 years from 21 European countries	Male labour force between 50 and 64 years in 12 European countries in 2006/2007	EU-15 countries between 1995 and 2005
Methods	Fixed effects panel regression analysis	Logistic multilevel regression analysis	Multinomial logistic regressions with country fixed effects models	Crisp-set qualitative comparative analysis
Publication status	Published in 2012: Zeitschrift für Sozialreform 58 (3)	Under review: Journal of European Social Policy	Under review: Journal of Social Policy	Under review: European Journal of Social Security

Source: Own research.

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2. Ungleichheiten auf dem Arbeitsmarkt aufgrund von Bildungsunterschieden und die Rolle der Arbeitsmarktderegulierung[5]

2.1 Einleitung

Die Beschäftigungschancen für geringqualifizierte Erwerbspersonen sind in den meisten europäischen Ländern eher gering. Ihre Arbeitslosenquoten sind deshalb oft deutlich höher als bei besser gebildeten Personen, während ihre Erwerbsquoten meist sehr viel niedriger ausfallen. Diese Differenzen können hauptsächlich auf den Strukturwandel in den Industriestaaten zurückgeführt werden, der durch eine Veränderung der Konsumentennachfrage ausgelöst wurde. Die Wirtschaftsaktivität hat sich vom primären Sektor (Landwirtschaft) über den sekundären (Industrie) hin zum tertiären Sektor (Service) verschoben. Erlerntes Wissen und Erfahrungen wurden dadurch teilweise überflüssig. Neue Fähigkeiten mussten erworben werden, um den aktuellen Anforderungen im Servicesektor und in den neu erschlossenen Branchen gerecht zu werden (Iversen/Cusack 2000). Gleichzeitig haben sich auch die Produktionsprozesse verändert. Der Beschäftigungsrückgang im Industriesektor kann zudem auf eine gestiegene Faktorproduktivität zurückgeführt werden: Durch den technologischen Fortschritt ist weniger menschliche Arbeit notwendig, um einen bestimmten Output zu erreichen. Dies trifft vor allem für 'Routine-Arbeit' zu, die verhältnismäßig leicht zu rationalisieren ist (Goos et al. 2009). Eine weitere Maßnahme der Effizienzsteigerung in Hochlohnländer stellt das Outsourcen arbeitsintensiver Produktionsprozesse dar (Debande 2006).

Durch den Strukturwandel konnten aber auch neue Branchen erschlossen werden, vor allem im Bereich der Informations- und Kommunikationstechnologie (Baker et al. 2005; Bertola 2006; Zimmermann et al. 1999). Durch die Transformation zur Informations- und Wissensgesellschaft stiegen jedoch die Anforderungen an die Arbeitnehmer. Die neuen Jobs

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erfordern in der Regel ein hohes Maß an Qualifikation (Zimmermann et al. 1999).

Während sich Hochqualifizierte eher problemlos an die sich verändernden ökonomischen Gegebenheiten anpassen konnten, erscheinen die Geringqualifizierten als Verlierer des technologischen Fortschritts. Dies zeigt sich in den unterschiedlichen Arbeitslosen- und Erwerbsquoten. Auf diesen Überlegungen aufbauend entwickelte sich das Konzept des 'skill-biased technological change' (Machin/van Reenen 1998; Oesch 2010; Weiss 2008). Dieses besagt, dass sich die Produktivität hochqualifizierter Arbeit im Vergleich zu einfacher Arbeit vor allem durch die Verbreitung der Informationstechnologie stärker positiv entwickelt hat. Bereits bestehende Differenzen zwischen den unterschiedlichen Bildungsgruppen wurden dadurch stetig verschärft.

Für Geringqualifizierte wurden die (Wieder-)Eintrittsmöglichkeiten in den Arbeitsmarkt zusätzlich durch rigide Arbeitsmarktinstitutionen erschwert (OECD 1994). Hohe Tariflöhne und Arbeitslosengelder sowie restriktive Kündigungsschutzgesetze förderten die Dualisierung der Arbeitsmärkte, in dem sie die Verhandlungsmacht der besser qualifizierten Erwerbstätigen stärkten und sich zugleich zu Beschäftigungsbarrieren für Geringqualifizierte entwickelten. Seit den 1990er Jahren können jedoch in vielen europäischen Ländern verschiedene deregulatorische Maßnahmen beobachtet werden, die darauf zielen, die Einstellungsanreize für Arbeitgeber zu erhöhen. Insbesondere im Bereich des Kündigungsschutzes zeichnete sich in den letzten beiden Jahrzehnten ein deutlicher Flexibilisierungstrend ab. Dies gilt vor allem in Bezug auf Regelungen zur Nutzung temporärer Beschäftigung, d.h. befristeter Verträge oder Leiharbeit (OECD 2004). Aus diesen Beobachtungen entsteht die Frage, inwiefern Deregulierungsprozesse Ungleichheiten am Arbeitsmarkt kompensieren können, die aus dem wachsenden technologischen Fortschritt resultieren. Bisherige Makroanalysen geben diesbezüglich wenig Aufschluss, da diese vorranging den Zusammenhang zwischen der Rigidität von Arbeitsmarktinstitutionen und der Arbeitslosenquote im Allgemeinen untersucht haben (Baker et al. 2005; Belot/van Ours 2002; Bertola et al. 2001; Blanchard/Wolfers 2000; Elmeskov 1998; Nickell 1997; Nickell et al. 2001).

Erste Hinweise auf mögliche Zusammenhänge zwischen der Arbeitsmarktinstitution und einer ungleichen Verteilung von Arbeitslosigkeitsrisiken liefern Gebel und Giesecke (2011). Die Autoren konzentrieren sich im Rahmen ihrer Studie auf Effekte von Kündigungsschutzgesetzen und finden heraus, dass eine striktere Regulierung des regulären Kündigungsschutzes die Arbeitslosigkeitsrisiken für Geringqualifizierte im Vergleich zu Mittel- und Hochqualifizierten erhöht. Allerdings vernachlässigen sie den Einfluss bedeutsamer Arbeitsmarktinstitutionen, wie z.B. den Grad der Zentralisierung bzw. der Koordinierung von Lohnverhandlungen sowie Arbeitslosenkompensationszahlungen. Außerdem ist die Konzentration auf die Arbeitslosenquote zu einseitig. Schwindende Beschäftigungschancen können auch zu einer Abwendung vom Arbeitsmarkt führen, was sich in sinkenden Erwerbsquoten widerspiegeln würde. Diese Personen stehen dem Arbeitsmarkt dann nicht mehr zur Verfügung.

Im Rahmen dieser Analyse soll deshalb ermittelt werden, inwiefern Deregulierungsmaßnahmen Ungleichheiten zwischen den Bildungsgruppen beeinflussen. Als Maße für bestehende Arbeitsmarktungleichheiten werden die relativen Differenzen der Arbeitslosen- und Erwerbsquoten zwischen Gering- und Hochqualifizierten, Geringqualifizierten und Personen mit mittlerem Bildungsniveau sowie zwischen Mittel- und Hochqualifizierten herangezogen. Die Analyse basiert auf Makrodaten von 17 europäischen Ländern im Zeitraum von 1997 bis 2009. Im folgenden Kapitel werden zunächst theoretische Annahmen entwickelt, die sich voranging auf die Erkenntnisse der Insider-Outsider Theorie nach Lindbeck und Snower (1987, 1989) beziehen. Das darauf folgende dritte Kapitel enthält Informationen über Daten und Methoden der Untersuchung, gefolgt von der Darstellung der Ergebnisse in Kapitel 4. Der Beitrag endet mit einer kritischen Diskussion.

2.2 Theoretische Überlegungen

Die Insider-Outsider Theorie zielt darauf ab, unfreiwillige Arbeitslosigkeit sowie die Existenz ungleicher Arbeitslosigkeitsrisiken zu erklären. Lindbeck und Snower (1987, 1989) nehmen an, dass Unterschiede in den Arbeitslosenquoten

vorrangig auf Differenzen der individuellen Verhandlungsmacht der Erwerbspersonen zurückzuführen sind. Dabei gehen sie davon aus, dass Beschäftigte (Insider) über mehr Macht gegenüber dem Arbeitgeber verfügen als Arbeitsuchende (Outsider). Erstere sind deshalb eher in der Lage, ihren Arbeitsplatz zu schützen und verhindern somit gleichzeitig den Arbeitsmarkteintritt von Outsidern.

Die Verhandlungsvorteile der Insider ergeben sich aus den Fluktuationskosten, die Arbeitgeber bei einem Personalwechsel zu tragen haben. Bei einem gegebenen Lohn und gleichem Produktivitätsniveau ist es für den Arbeitgeber deshalb immer effizienter, auf den existierenden Personalbestand zurückzugreifen. Nur durch einen entsprechenden Lohnunterbietungswettbewerb seitens der Outsider kann eine Substitution sinnvoll werden. Dies geschieht dann, wenn der akzeptierte Arbeitslohn mindestens um den Betrag der Fluktuationskosten geringer ist. Die Höhe der Fluktuationskosten wird nach Lindbeck und Snower (1987) durch drei verschiedene Einflussfaktoren bestimmt.

a) *Kosten für Einstellung, Qualifizierung und Entlassung:* Mit dem Wunsch, einen neuen Mitarbeiter einzustellen, sind sowohl Such- als auch Verhandlungskosten verbunden, damit eine möglichst genaue Passung zwischen Arbeitgeber und Arbeitnehmer erzielt werden kann. Durch die Einarbeitung bzw. Schulung der Mitarbeiter fallen weitere Kosten an. Zudem ist auch die Entlassung des Arbeitnehmers, dessen Stelle ersetzt werden soll, nicht frei von Kosten. Prozedurale Erfordernisse und Abfindungszahlungen können die Fluktuationskosten wesentlich erhöhen.

b) *Kooperation:* Insider haben die Möglichkeit, ihre Verhandlungsmacht durch strategisches Verhalten zu verbessern. Indem sie dem Arbeitgeber signalisieren, nicht mit neuen Mitarbeitern zu kooperieren, erhöhen sie die antizipierten Fluktuationskosten im Zuge eines sinkenden Produktivitätsniveaus. Dadurch schaffen sie ein ‘insider-entrant productivity differential’ (Lindbeck/Snower 1987: 5). Durch Mobbing und gezielte Ausgrenzung steigen zudem

die psychologischen Kosten für Outsider. Damit wird der Reservationslohn der Arbeitssuchenden erhöht, so dass die Bereitschaft zur Lohnunterbietung sinkt.

c) *Leistungsentwicklung:* Hohe Fluktuationsraten vermitteln den Beschäftigten ein Gefühl der Arbeitsplatzunsicherheit. Die Erwartung, dass gegenwärtige Leistungen in der Zukunft entlohnt werden, nimmt ab. Arbeitnehmer sind deshalb weniger bereit in firmenspezifisches Humankapital zu investieren. Aufgrund der langfristig steigenden Produktivität ist es für den Arbeitgeber deshalb rational, langfristige Arbeitsbeziehungen anzustreben.

Während die Insider also von stabilen Beschäftigungsverhältnissen und geringen Arbeitslosigkeitsrisiken profitieren, sehen sich die Outsider mit restriktiven Beschäftigungsbarrieren konfrontiert, die nicht selten in persistenten Arbeitslosigkeitsperioden oder einer Abkehr vom Arbeitsmarkt resultieren. Aufgrund der Abschreibung von Humankapital durch Vergessen oder Verlernen erworbener Kenntnisse sowie die Entwertung von Fähigkeiten im Zuge des technologischen Fortschritts (Becker 1964) wird dieser Prozess weiterhin verstärkt.

Die Zuteilung von Individuen zur Gruppe der Insider oder Outsider erfolgt nicht zufällig, sondern wird in der Regel von subjektiven Determinanten bestimmt. In ihrer ursprünglichen Form diente die Theorie vor allem dazu, bestehende Beschäftigungsnachteile von jungen Menschen und Frauen zu erklären (Lindbeck/Snower 1989). Junge Menschen werden automatisch zu Outsidern, wenn sie das Bildungssystem verlassen und in das Berufsleben eintreten, also arbeitssuchend sind. Für Frauen gilt dies, wenn sie sich nach einer Phase der Kindererziehung entscheiden, eine Erwerbstätigkeit aufzunehmen. Die Insider-Outsider Theorie lässt sich jedoch grundsätzlich auf alle Gruppen übertragen, die ein hohes Erwerbs- bzw. Arbeitslosigkeitsrisiko aufweisen. Deshalb kann angenommen werden, dass die Theorie, zumindest in begrenztem Maße, Ungleichheiten zwischen verschiedenen Bildungsgruppen auf dem Arbeitsmarkt erklären kann.

Durch den technologischen Fortschritt wurden viele Geringqualifizierte vom Arbeitsmarkt verdrängt. Dies ist vor allem auf die erhöhte Nachfrage im wissensbasierten Dienstleistungssektor zurückzuführen. Da Geringqualifizierte häufig den veränderten Anforderungen der Arbeitgeber nicht mehr gerecht werden und ihre erworbenen Fähigkeiten und Kenntnisse nicht mehr gewinnbringend einsetzen können, ist ihr Risiko Outsider zu werden, in den letzten Jahrzehnten stark angestiegen. Gleichzeitig hat sich ein erhöhter Bedarf an hochqualifiziertem Fachpersonal entwickelt. Unterschiede in der Verhandlungsmacht von Arbeitnehmern verschiedener Bildungsniveaus wurden somit in Zuge der wirtschaftlichen Entwicklung verstärkt.

Zudem ergibt sich ein erhöhtes Arbeitslosigkeitsrisiko auch daraus, dass einfache Tätigkeiten preiselastischer[6] sind, d.h. sie reagieren mehr auf Schwankungen der Konsumnachfrage (Davis/Reeve 1997). Dies lässt sich vor allem dadurch erklären, dass Geringqualifizierte leichter zu substituieren sind. Sie können relativ problemlos durch andere Arbeitnehmer ersetzt werden. Die erforderlichen Kenntnisse können einfach und kostengünstig übermittelt werden. Im Gegensatz dazu sind bei komplexen Tätigkeiten oft lange Einarbeitungsphasen sowie spezielle Schulungen nötig. Die Entlassung eines hochqualifizierten Mitarbeiters ist deshalb meist mit langfristigen Kosten verbunden. Geringqualifizierte sind außerdem einem stärkeren Wettbewerb ausgesetzt, so dass die Arbeitgeber aus einem großen Pool relativ leicht geeignete Arbeitskräfte auswählen können, die sich zudem in der Regel beim Unternehmen selbst anbieten. Leichte Tätigkeiten können zudem auch von höher qualifizierten Arbeitnehmern übernommen werden (Oesch 2010). Im Vergleich zu komplexen Tätigkeiten reagiert die Nachfrage nach unqualifizierter Arbeit daher stärker auf eine Reduktion der Konsumnachfrage. Demnach ist das Kündigungsrisiko für Geringqualifizierte grundsätzlich höher.

[6] Die Preiselastizität zeigt an, wie die Arbeitsnachfrage auf Änderungen des Preises reagiert. Bei einer sinkenden Konsumnachfrage steigen die Preise für Arbeit an; in Relation zum Unternehmensgewinn wird Arbeit teurer. Arbeitgeber reduzieren daraufhin ihre Nachfrage nach Arbeit. Je höher die Preiselastizität ist, desto stärker reagiert die Arbeitsmarktnachfrage auf den geänderten Preis.

Anders als bei jungen Menschen und Frauen, die im Anschluss an ihren Weg durch das Bildungssystem oder nach einer Erwerbsunterbrechung eine Beschäftigung suchen, werden Geringqualifizierte nicht zwangsläufig zu Outsidern. Die Wahrscheinlichkeit, dass dies geschieht, ist jedoch höher als bei Besserqualifizierten. Einschränkend ist zu beachten, dass das Risiko, zu Outsidern zu werden, vor allem von der Wirtschaftsstruktur bzw. vom Bedarf an unqualifizierten Fachkräften abhängt.

Einen Einfluss hat weiterhin die Flexibilität implementierter Arbeitsmarktinstitutionen. Diese können die Verhandlungsmacht der Insider und Outsider verändern, indem sie direkt oder indirekt auf das Verhältnis von Lohn und Produktivität einwirken. Interessant ist in diesem Zusammenhang, welchen Einfluss der seit den 1990er Jahren stattfinde Deregulierungsprozess ausübt. In vielen Ländern wurden Arbeitsmarktinstitutionen flexibilisiert. Vor allem die Kündigungsschutzregeln wurden gelockert, wobei insbesondere die Nutzung temporärer Beschäftigung (Leiharbeit oder befristete Beschäftigung) erleichtert wurde (OECD 2004). Durch den Wegfall bzw. die Minderung von bürokratischen Hürden und Abfindungszahlungen sinken die Fluktuationskosten und damit die Verhandlungsmacht der Insider. Bei gleichem Lohn erhöhen sich also die Anreize für Arbeitgeber, auch Outsider einzustellen. Gleichzeitig sinkt jedoch die wahrgenommene Arbeitsplatzsicherheit der Arbeitnehmer, was sich gemäß den Annahmen der Insider-Outsider Theorie in niedrigeren Kooperationsanreizen und Produktivitätsniveaus widerspiegelt. Da Insider bereits längerfristig beim Arbeitgeber beschäftigt sind, ist anzunehmen, dass ihre Verhandlungsmacht ausschließlich von Kündigungsschutzgesetzen zur regulären Beschäftigung, nicht aber zur temporären Beschäftigung, abhängt. Je strikter diese sind, desto größer sind ihre Beschäftigungsvorteile. Die Lockerung des regulären Kündigungsschutzes hingegen schmälert ihre Verhandlungsmacht.

Der Einfluss von Regelungen zur Nutzung von temporärer Beschäftigung ist jedoch unklar. Der Kündigungsschutz der Insider bleibt schließlich unberührt. Mit einer Deregulierung erhöhen sich allerdings die Einstellungsanreize für Outsider, da die Separationskosten bei Beendigung des

Beschäftigungsverhältnisses wegfallen. Gleichzeitig steigt jedoch ihr Arbeitslosigkeitsrisiko aufgrund des schwächeren Beschäftigungsschutzes. Beide Effekte können sich demnach gegenseitig aufheben.

Lohnsetzende Institutionen verstärken die Ungleichheiten bei den Beschäftigungschancen, wenn die ausgehandelten Löhne die Produktivitäts-unterschiede nicht angemessen widerspiegeln (Esping-Anderson 2000; Weiss/Garloff 2005). Tariflöhne beispielsweise, die oberhalb des Lohns liegen, den ein Arbeitgeber für einen Outsider zu zahlen bereit wäre, führen automatisch zu einer Erhöhung des Arbeitslosigkeitsrisikos für Mitglieder dieser Gruppe.

Da Gewerkschaften Interessengruppen sind, versuchen sie zunächst die Interessen ihrer Mitglieder zu befriedigen (Accornero 2005). Potentielle negative externe Effekte für Nichtmitglieder bleiben deshalb weitestgehend unberücksichtigt. Hohe Tariflöhne tragen demnach zur Stabilisierung von Beschäftigungsbarrieren für Outsider bei, während eher liberale Institutionen mit flexiblen Lohnsystemen Arbeitsmarkteintritte erleichtern. Da Hochqualifizierte häufiger außertariflich bezahlt werden (Schnabel 1997) und deshalb nicht direkt von Gewerkschaftsaktivitäten betroffen sind, dürften sich Veränderungen vor allem auf die Unterschiede zwischen Personen mit geringem und mittlerem Bildungsniveau niederschlagen.

Der Einfluss der Lohnsysteme hängt nicht ausschließlich von der Organisationsstärke der Gewerkschaften ab. Neben der Mitgliederzahl ist zudem entscheidend, wer in die Verhandlungen involviert ist (Arbeitgeber-, Arbeitnehmerorganisation, Regierung) und auf welcher Ebene diese stattfinden (auf Firmen-, Sektor- oder nationaler Ebene). Je mehr makroökonomische Interessen berücksichtigt werden, d.h. je koordinierter und zentralisierter die Lohnverhandlungen verlaufen, desto eher werden auch die Interessen von Outsidern integriert - zum Beispiel in Form von Lohnzurückhaltungen zur Bekämpfung persistenter Arbeitslosigkeit.

Die Verhandlungsmacht der Insider wird weiterhin durch bestehende Exit-Optionen, wie z.B. die Höhe der Arbeitslosenunterstützung, bestimmt (Lindbeck/Snower 1987,1989). Je besser die Einkommensabsicherung im Falle

von Arbeitslosigkeit ist, desto höher fallen die Reservationslöhne der Outsider aus. Sie sind weniger bereit, Lohnabstriche in Kauf zu nehmen und verbleiben deshalb freiwillig in Arbeitslosigkeit (Schneider/Fuchs 2000). Gleichzeitig sinken die Einstellungsanreize der Arbeitgeber, da im Zuge der Nichtbeschäftigung erworbenes Humankapital abgeschrieben wird, so dass auch die Produktivität der Outsider sinkt. Je generöser die Arbeitslosenunterstützung ausgestaltet ist, desto größer sind die zu erwarteten Unterschiede in den Arbeitslosenquoten. Wenig attraktive Exit-Optionen reduzieren hingegen die Verhandlungsmacht der Insider. Die Beschäftigungsvorteile der Outsider werden dann jedoch durch eine gestiegene Lohnungleichheit erkauft.

Aktive Arbeitsmarktpolitik kann ebenfalls die Verhandlungsposition der Outsider stärken. Arbeitsmarktpolitische Maßnahmen zielen oft darauf ab, etwa mit Hilfe von Trainingsmaßnahmen oder der Förderung von niedrigbezahlter Beschäftigung durch Lohnkostenzuschüsse Produktivitätssteigerungen zu erzielen und Humankapitalabschreibungen entgegen zu wirken (Calmfors 1994). Bei gegebenem Lohn steigt somit ihr Leistungsniveau. In der Literatur zeigen sich jedoch auch gegenläufige Effekte. Empirisch lassen sich sogenannte Locking-in Effekte beobachten. Da es während der Teilnahme an Arbeitsmarktprogrammen oft nicht möglich ist, effektiv nach neuen Beschäftigungsmöglichkeiten zu suchen, verbleiben viele der Teilnehmer nach Maßnahmenende in der Arbeitslosigkeit (de Beer/Schils 2009; Schultz/Wiemers 2004). Zudem sind auch negative Signal-Effekte denkbar. Die Teilnahme an einem Arbeitsmarktprogramm wird dann vom Arbeitgeber als Zeichen für das individuelle Unvermögen gewertet, mit den eigenen Fähigkeiten und Kenntnissen eine adäquate Stelle zu finden. Inwiefern Ungleichheiten innerhalb der Arbeitslosigkeitsrisiken durch aktive Arbeitsmarktpolitik verringert werden, bleibt deshalb unklar.

Ob nun die Deregulierung des Arbeitsmarktes Unterschiede zwischen Gering- und Hochqualifizierten abbaut, kann aus theoretischer Perspektive nicht eindeutig bestimmt werden. Rigide Kündigungsschutzregeln für reguläre Beschäftigung, hohe Tariflöhne und generöse Exit-Optionen stärken die Verhandlungsmacht der Insider. Zentralisierte und koordinierte Gewerkschaften

hingegen, die auch Outsider-Interessen berücksichtigen, können Arbeitsmarktungleichgewichten entgegenwirken. Eine Beschneidung ihrer Rechte könnte demnach zu größeren Differenzen führen. Unklar bleibt der Einfluss von Regelungen zur temporären Beschäftigung und der aktiven Arbeitsmarktpolitik auf die Arbeitsmarktchancen der unterschiedlichen Bildungsgruppen.

2.3 Daten und Methode

Das Sample der vorliegenden Untersuchung umfasst 17 europäische Länder im Zeitraum von 1997 bis 2009. Hierbei handelt es sich um Belgien, Dänemark, Deutschland, Finnland, Frankreich, Griechenland, Irland, Italien, die Niederlande, Norwegen, Österreich, Portugal, Schweden, Spanien, die Tschechische Republik, Ungarn und das Vereinigte Königreich.

Um die Ungleichheit des Arbeitslosigkeitsrisikos zu erfassen, werden die relativen Differenzen in den Arbeitslosenquoten zwischen den verschiedenen Bildungsgruppen herangezogen (eurostat 2011a). Die Bildungsgruppen wurden entsprechend den ISCED-97 Schemas (UNESCO 2010) kategorisiert. Es wird unterschieden zwischen Geringqualifizierten (Personen, die maximal Sekundarstufe 1 abgeschlossen haben ohne Berufsausbildung), Personen mit mittlerem Bildungsniveau (Sekundarstufe 2 und Post-sekundäre Bildung) sowie Hochqualifizierten (Personen mit abgeschlossener Fachhochschul- oder Universitätsbildung).[7] Es wird weiterhin auch zwischen Männern und Frauen differenziert, um geschlechtsspezifische Effekte beobachten zu können. Da davon auszugehen ist, dass sich die Wirkung deregulierter Institutionen erst mit einer gewissen Verzögerung einstellt, werden jeweils die Arbeitslosenquoten für das Folgejahr herangezogen.[8] Die Mittelqualifizierten werden mit in die Untersuchung aufgenommen, um zu sehen, ob sich die theoretischen Überlegungen auch auf andere Bildungsebenen übertragen lassen. Anders als bei absoluten Differenzen spielt bei der Betrachtung der relativen Unterschiede die Höhe der

[7] (1)Arbeitslosenquote für Geringqualifizierte dividiert durch Arbeitslosenquote für Hochqualifizierte, (2) Arbeitslosenquote für Geringqualifizierte dividiert durch Arbeitslosenquote für Mittelqualifizierte und (3) Arbeitslosenquote für Mittelqualifizierte dividiert durch Arbeitslosenquote für Hochqualifizierte.

[8] Die Arbeitslosenquoten beziehen sich z.B. auf das Jahr 2009, die erklärenden Variablen aber auf 2008.

Arbeitslosigkeit an sich keine Rolle. In Ländern, in denen die Arbeitslosenquoten grundsätzlich sehr hoch ausfallen, sind auch die absoluten Differenzen zwischen den Gruppen häufig größer. Deshalb sind in diesen Ländern stärkere absolute Effekte in Folge einer Veränderung von Arbeitsmarktinstitutionen zu erwarten. Relative Unterschiede erscheinen daher eher in der Lage, die ungleiche Risikoverteilung in den verschiedenen Ländern angemessen widerzuspiegeln.

Die Arbeitslosenquoten werden nach dem ILO-Konzept ausgewiesen.[9] Die Quote beschreibt den Anteil Erwerbsloser an allen Erwerbspersonen, also Erwerbstätigen und Erwerbslosen. Als erwerbslos gilt, wer weniger als eine Stunde pro Woche arbeitet, aktiv in den letzten vier Wochen nach Arbeit gesucht hat und innerhalb von zwei Wochen eine Stelle antreten könnte. Im Gegensatz zur Statistik der Bundesagentur für Arbeit ist es belanglos, ob eine Arbeitslosenmeldung bei einem Amt vorliegt. Personen, die aus Resignation die Jobsuche aufgegeben haben, werden nicht in der Arbeitslosenstatistik geführt. Derartige Verdrängungseffekte, die insbesondere für Geringqualifizierte und Frauen zu erwarten sind, können zu einer Verzerrung der tatsächlichen Arbeitsmarktungleichgewichte zwischen den Bildungsgruppen führen. Deshalb werden in einem zweiten Schritt auch die Unterschiede in den Erwerbsquoten herangezogen. Die Erwerbsquote umfasst den Anteil aller Erwerbspersonen (Erwerbstätige und Erwerbslose) an der Wohnbevölkerung und ist somit ein Indikator für die aktive Arbeitsmarktpartizipation.[10]

Im Rahmen der Analyse werden eine Reihe verschiedener Arbeitsmarktinstitutionen berücksichtigt. Hierzu gehören Kündigungsschutzgesetze, Lohnsetzungsinstitutionen, Arbeitslosenunterstützung sowie aktive Arbeitsmarktpolitiken. Für den Kündigungsschutz wird auf den Employment-Protection-Legislation Index der OECD (2010) zurückgegriffen. Dieser erlaubt die Unterscheidung nach Kündigungsschutzregeln für reguläre Beschäftigung sowie Regelungen zur Nutzung von temporärer Beschäftigung. Ersterer enthält

[9] Streng genommen, handelt es sich um die Erwerbslosenquote.
[10] (1) Erwerbsquote für Geringqualifizierte dividiert durch Erwerbsquote für Hochqualifizierte, (2) Erwerbsquote für Geringqualifizierte dividiert durch Erwerbsquote für Mittelqualifizierte und (3) Erwerbsquote für Mittelqualifizierte dividiert durch Erwerbsquote für Hochqualifizierte.

Informationen über Kündigungsfristen und Abfindungszahlungen, prozedurale Erfordernisse sowie Richtlinien darüber, wann eine Kündigung als legitim zu bewerten ist. Regelungen zur temporären Beschäftigung enthalten Informationen über die maximale Anzahl und Dauer von Verträgen innerhalb eines Unternehmens, sowie Restriktionen hinsichtlich der Nutzung von temporärer Beschäftigung (OECD 2004; Venn 2009). Beide Indikatoren werden auf einer Skala von 0 bis 6 ausgewiesen, wobei höhere Werte einer strikteren Regulierung entsprechen.

Lohnsetzungsinstitutionen werden durch drei verschiedene Variablen abgedeckt. Die Daten basieren auf dem ICTWSS Datensatz nach Visser (2009). Die Gewerkschaftsdichte misst den Anteil an Gewerkschaftsmitgliedern an allen Erwerbstätigen und ist ein Maß für die Gewerkschaftsstärke. Der Zentralisierungsgrad gibt an, ob Lohnverhandlungen auf Firmen-, Sektor- oder nationaler Ebene stattfinden. Der Koordinationsgrad trifft Aussagen darüber, inwiefern verschiedene Arbeitsmarktakteure in den Verhandlungsprozess involviert sind. Beide Indikatoren werden auf einer 0-5er Skala gemessen. Je höher die Werte, desto höher der Zentralisations- bzw. Koordinationsgrad.

Die Arbeitslosenunterstützung geht in das Modell als durchschnittliche Bruttolohnersatzrate ein, die sowohl unterschiedliche Arbeitslosigkeitsdauern, Einkommensniveaus als auch den Familienstatus berücksichtigt. Die Daten hierzu werden ebenfalls von der OECD bereitgestellt (2011a). Da die Informationen nur im Zwei-Jahres-Rhythmus erhoben werden, werden die fehlenden Werte jeweils durch den Mittelwert des Vor- und Folgejahrs ersetzt.

Der Indikator zur aktiven Arbeitsmarktpolitik umfasst öffentliche Ausgaben für Training, Arbeitsplatzrotation und Jobsharing, Beschäftigungsanreize, unterstützte Beschäftigung zur beruflichen Wiedereingliederung, Gründungszuschüsse sowie die Schaffung von neuen Arbeitsplätzen (OECD 2011b). Der Indikator weist jedoch einige Probleme auf: Ausgaben für aktive Arbeitsmarktpolitik verändern sich antizyklisch, da diese gewöhnlich steigen, wenn auch die Arbeitslosigkeit wächst (de Beer/Schils 2009). Deshalb werden

die Ausgaben pro 100.000 Arbeitslose ausgewiesen, um die aktuelle Arbeitsmarktsituation des Landes zu berücksichtigen.[11]

Die seit Beginn des Untersuchungszeitraums stattfindende ökonomische Entwicklung wird durch drei unterschiedliche Variablen abgebildet. Der strukturelle Wandel wird durch die Größe des Service-Sektors operationalisiert (eurostat 2011b), gemessen als Anteil der Beschäftigten im Servicesektor an allen Beschäftigten. Die anteilige Beschäftigung im Bereich des Hochtechnologie-Sektors in Industrie und Service (eurostat 2011c) illustriert den bildungsspezifischen technologischen Fortschritt innerhalb des Untersuchungszeitraums. Das Ausmaß der Bildungsexpansion, die sowohl Indikator für die Nachfrage nach qualifizierter Arbeit, aber auch Maßstab für den herrschenden Wettbewerb auf dem Arbeitsmarkt darstellt, wird durch den Anteil niedrigqualifizierter Personen an der Gesamtbevölkerung im erwerbsfähigen Alter repräsentiert (eurostat 2011d). Um den Einfluss von Konjunkturzyklen zu berücksichtigen, wird weiterhin für das jährliche BIP-Wachstum kontrolliert.

Als Methode werden, neben der Darstellung deskriptiver und bivariater Ergebnisse, fixed-effects Panelregressionsmodelle mit länderrobusten Standardfehlern geschätzt. Hierdurch ist es möglich, zeitliche Abhängigkeiten innerhalb der Länder zu berücksichtigen. Zugleich wird für unbeobachtete Heterogenität, die sowohl auf Länder als auch auf Zeitebene besteht, kontrolliert. Kulturelle Besonderheiten, die beispielsweise die Arbeitsmarkt-partizipation insbesondere von Frauen beeinflussen, werden somit auch im Modell berücksichtigt.

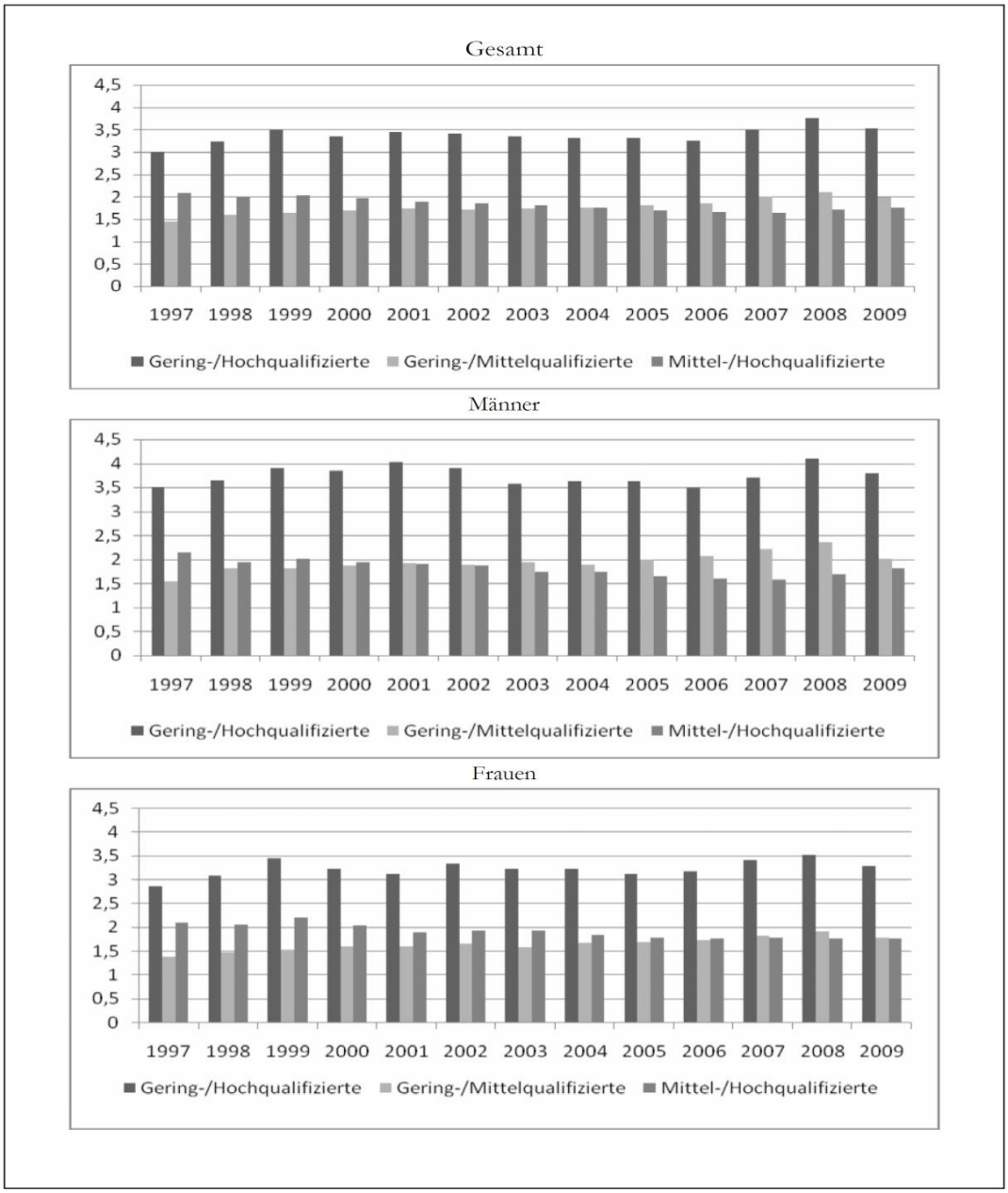
2.4 Ergebnisse

Auf Arbeitsmärkten der untersuchten europäischen Länder lassen sich zum Teil sehr große Arbeitsmarktungleichheiten aufgrund des Bildungsniveaus beobachten. Die deskriptiven Ergebnisse in *Abbildung 2.1* veranschaulichen die

[11] Im Prinzip müsste auch die „Stille Reserve“ in der Berechnung erfasst werden. Hierzu werden jedoch keine Daten von eurostat zur Verfügung gestellt.

Unterschiede in den Arbeitslosigkeitsrisiken zwischen den Bildungsgruppen und deren Veränderung über die Zeit. Hierbei handelt es sich um die relativen Unterschiede der Arbeitslosenquoten von Gering- und Hochqualifizierten, Gering- und Mittelqualifizierten sowie von Mittel- und Hochqualifizierten über alle Länder hinweg, jeweils für die gesamte Untersuchungspopulation sowie getrennt für Männer und Frauen.

Abbildung 2.1: Ungleiche Verteilung der Arbeitslosenquoten



Quelle: eurostat 2011a, eigene Berechnungen.

Die Unterschiede zwischen Gering- und Hochqualifizierten sind erwartungsgemäß am höchsten. Die Arbeitslosenquoten der Geringqualifizierten fallen im Durchschnitt etwa 3,4 Mal höher aus als die der

Hochqualifizierten. Über den Zeitverlauf lässt sich jedoch kein klarer Trend hinsichtlich der Entwicklung der Arbeitslosenquoten von Gering- und Hochqualifizierten beobachten. Phasen steigender und sinkender Ungleichheiten wechseln sich ab, wobei die Veränderungen insgesamt nicht sehr groß ausfallen.

Mit Ausnahme der letzten zwei Beobachtungsjahre nehmen die Unterschiede zwischen Personen mit mittlerem Bildungsniveau und Hochqualifizierten im Zeitverlauf hingegen tendenziell ab. Im Durchschnitt liegen die Arbeitslosenquoten der Mittelqualifizierten 1,8 Mal höher als bei Personen mit (Fach-)Hochschulabschluss. Dies bedeutet, dass die Unterschiede in der Verhandlungsmacht beider Gruppen sinken. Andersherum verhält es sich beim Vergleich der Geringqualifizierten zu Personen mit mittlerem Bildungsniveau. Hier lässt sich ein Aufwärtstrend beobachten, d.h. die Ungleichheit zwischen Gering- und Mittelqualifizierten nimmt tendenziell eher zu. Das Arbeitslosigkeitsrisiko für Personen mit niedriger Qualifikation ist durchschnittlich 1,8 Mal höher im Vergleich zu Personen mit mittlerem Bildungsniveau. In 2004 sind die Unterschiede zwischen Gering- und Mittelqualifizierten zum ersten Mal größer als die Differenzen zwischen Mittel- und Hochqualifizierten. Wird nach Geschlecht unterschieden, zeigt sich, dass die Unterschiede in den Arbeitslosigkeitsrisiken zwischen Gering- und Hochqualifizierten sowie zwischen Gering- und Mittelqualifizierten im Durchschnitt für Männer etwas stärker ausgeprägt sind. Die Unterschiede zwischen Mittel- und Hochqualifizierten sind jedoch bei den Frauen größer. Für beide Geschlechter lassen sich insgesamt aber ähnliche Trends wie in der Gesamtpopulation beobachten.

Ungleichgewichte in der Verhandlungsmacht, und damit auch bei den Jobchancen, lassen sich nicht ausschließlich anhand der Arbeitslosenquoten ablesen. Personen, die sich resigniert vom Arbeitsmarkt zurückziehen und nicht mehr aktiv nach Arbeit suchen, gelten definitionsgemäß nicht als arbeitslos. Aus diesem Grund ist es sinnvoll, neben den Arbeitslosen- auch die Erwerbsquoten zu berücksichtigen. Diese spiegeln die Arbeitsmarktpartizipation der Bevölkerung im erwerbsfähigen Alter wider. Wie *Abbildung 2.2* zeigt, sind

die Unterschiede in den Erwerbsquoten zwischen Gering- und Hochqualifizierten, gemessen als Durchschnitt über alle Länder, im Zeitverlauf konstant. Die Quote der Geringqualifizierten beträgt etwa 63 % der Quote der Hochqualifizierten. Für die anderen Vergleichsgruppen zeigt sich ein ähnliches Bild wie bei den Arbeitslosenquoten. Die Unterschiede in den Erwerbsquoten zwischen Gering- und Mittelqualifizierten nehmen im Zeitverlauf zu, während die Ungleichheit zwischen Mittel- und Hochqualifizierten sinkt. Zudem zeigt sich, dass die Unterschiede in den Erwerbsquoten zwischen Mittel- und Hochqualifizierten stets geringer ausfallen als zwischen Gering- und Mittelqualifizierten. Bei den Arbeitslosenquoten war dies erst ab 2004 der Fall. Dies deutet darauf hin, dass vor allem in der ersten Hälfte der Untersuchungsperiode Verdrängungseffekte bei den niedrig Gebildeten stattgefunden haben, die bei diesen zu einer Abwendung vom Arbeitsmarkt führten.

Die Differenzierung nach Geschlecht zeigt weiterhin, dass bildungsspezifische Unterschiede in den Erwerbsquoten bei Frauen besonders stark ausgeprägt sind. Im Durchschnitt, liegt die Erwerbsquote geringqualifizierter Frauen über alle Jahre und Länder hinweg bei rund 55 % der Erwerbsquote der Hochqualifizierten. Bei Männern liegt der Anteil mit etwa 71 % deutlich höher. Während die Differenzen in den Erwerbsquoten von Gering- zu Hoch- und Mittelqualifizierten über den Zeitverlauf relativ stabil blieben (im Gesamtdurchschnitt 67 %), ist eine Abnahme der Ungleichheiten zwischen Frauen mit mittlerem und gehobenen Qualifikationsniveau zu beobachten (von 79 % in 1997 auf 84 % in 2009).[12] Bei den Männern verhält es sich anders. Die Unterschiede zwischen Mittel- und Hochqualifizierten sind gering und stabil (im Gesamtdurchschnitt 91 %), die Ungleichheiten zwischen Gering- und Hoch- sowie Mittelqualifizierten steigen jedoch im Zeitverlauf um 5 bzw. 6 % (von 74 % in 1997 auf 69 % 2009 bzw. von 83 auf 77 %). Anders als

[12] Die Prozentwerte geben den Anteil der Erwerbsquoten der niedriger qualifizierten Bildungsgruppe an der besser qualifizierten wieder. Höhere Werte bedeuten demnach eine Abnahme der Ungleichheit.

bei den Arbeitslosenquoten lassen sich also für die Arbeitsmarktpartizipation geschlechtsspezifische Entwicklungen beobachten.

Abbildung 2.2: Ungleiche Verteilung der Erwerbsquoten

Quelle: eurostat 2011b, eigene Berechnungen.

Für die Untersuchungspopulation ist weiterhin insgesamt ein deutlicher Deregulierungstrend beobachtbar (*Tabelle 2.1*). Werden Start- und Endjahr der Untersuchungsperiode verglichen, zeigt sich für alle Arbeitsmarktinstitutionen im Durchschnitt ein Rückgang staatlicher bzw. gewerkschaftlicher Aktivität. Kündigungsschutzgesetze wurden gelockert und der Grad der Koordinierung und Zentralisierung von Tarifverhandlungen nahm ebenso ab wie die Gewerkschaftsdichte. Auch die Arbeitslosenunterstützung und die Ausgaben für

aktive Arbeitsmarktpolitik sind gesunken. Die Stärke der Deregulierung variiert jedoch je nach Arbeitsmarktinstitution. Die stärksten Veränderungen zeigen sich bezüglich der Regelungen zur Nutzung temporärer Beschäftigung und der Höhe der Gewerkschaftsdichte. Relativ stabil blieben Kündigungsschutzgesetze für reguläre Beschäftigung und der Koordinationsgrad bei Tarifverhandlungen. In einzelnen Jahren lassen sich zudem, wenn auch meist geringfügig, Re-Regulierungsprozesse beobachten. Dies lässt darauf schließen, dass die Deregulierung innerhalb Europas nicht stetig verlief und staatliche sowie gewerkschaftliche Einflussnahme nicht in allen Ländern gleichermaßen reduziert wurde.

Tabelle 2.1: Deregulierungsprozesse

	Regulärer Beschäftigungsschutz	Temporärer Beschäftigungsschutz	Gewerkschaftsdichte	Koordinationsgrad*	Zentralitätsniveau	Arbeitslosenunterstützung	Aktive Arbeitsmarktpolitik
1996	2,39	2,48	42,6	3,47	3,05	33,64	0,27
1997	2,38	2,21	41,26	3,47	3,00	33,53	0,28
1998	2,38	2,14	39,93	3,47	2,94	34,35	0,28
1999	2,38	2,07	38,82	3,29	2,76	35,16	0,31
2000	2,39	2,04	37,87	3,24	2,88	31,74	0,31
2001	2,39	1,99	37,03	3,29	2,76	32,45	0,32
2002	2,39	1,97	36,48	3,29	3,00	32,22	0,29
2003	2,36	1,9	36,53	3,29	2,82	31,99	0,25
2004	2,37	1,87	36,29	3,35	2,82	31,24	0,22
2005	2,37	1,9	35,78	3,41	2,82	30,49	0,21
2006	2,37	1,91	35,25	3,41	2,82	30,29	0,23
2007	2,34	1,93	34,42	3,35	2,71	30,1	0,23
2008	2,33	1,85	33,63	3,29	2,64	29,63	0,23
Ø	2,37	2,02	37,38	3,36	2,85	32,06	0,26

** Die Werte für Ungarn und die Tschechische Republik fehlen für die Jahre 1996-1999.*
Quellen: Regulärer und Temporärer Beschäftigungsschutz (OECD 2010); Gewerkschaftsdichte, Koordinationsgrad und Zentralitätsniveau (Visser 2009); Arbeitslosenunterstützung (OECD 2011a); aktive Arbeitsmarktpolitik (OECD 2011b).

Tabelle 2.2 zeigt die Korrelationen zwischen Arbeitsmarktinstitutionen und den bestehenden Ungleichgewichten auf dem Arbeitsmarkt verschiedener Bildungsgruppen. Richtlinien zur Nutzung temporärer Beschäftigung, der Grad der Zentralität und Koordinierung von Lohnverhandlungen, Arbeitslosenunterstützungen sowie Ausgaben für aktive Arbeitsmarktpolitik stehen in einem signifikant negativen Zusammenhang zu den Unterschieden im Arbeitslosigkeitsrisiko. Dies gilt für alle Gruppen, wenngleich auch die Größe des Korrelationskoeffizienten zum Teil etwas differiert. Deregulierung scheint

demnach insgesamt geeignet, um Ungleichgewichte in den Arbeitslosigkeitsrisiken abzubauen.

Tabelle 2.2: Arbeitsmarktungleichheit und Arbeitsmarktregulierung

	AQ Gering-/Hoch-qualifi-zierte	AQ Gering-/Mittel-qualifi-zierte	AQ Mittel-/Hoch-qualifi-zierte	EQ Gering-/Hoch-quali-Fizierte	EQ Gering-/Mittel-qualifi-zierte	EQ Mittel-/Hoch-quali-fizierte
Regulärer Beschäftigungsschutz	0.0519	-0.0037	-0.0043	0.0922	0.2214*	-0.2164*
Temporärer Beschäftigungsschutz	-0.5257*	-0.5244*	-0.3490*	0.2376*	0.4124*	-0.4574*
Gewerkschaftsdichte	-0.0506	0.0736	-0.0379	0.1587*	-0.0356	0.4207*
Zentralitätsniveau	-0.3130*	-0.2468*	-0.2091*	0.1226	0.2068*	-0.2249*
Koordinationsgrad	-0.3340*	-0.2002*	-0.2711*	0.0822	0.1163	-0.1305
Arbeitslosen-unterstützung	-0.5152*	-0.2240*	-0.5862*	0.5289*	0.4217*	0.1481*
Aktive Arbeitsmarktpolitik	-0.1300*	0.1643*	-0.2706*	0.2354*	0.0617	0.3608*

** signifikant auf 5 % Niveau*
Quelle: Eigene Berechnung.

Für die Erwerbsquoten zeigt sich ein etwas anderes Bild. Ein positiver Korrelationskoeffizient steht nun für eine Reduktion der Ungleichheit, da die Variablen hier den Anteil der Erwerbsquoten der niedriger qualifizierten Gruppe an der höher gebildeten Gruppe widerspiegeln. Regulärer Kündigungsschutz sowie Richtlinien für die Nutzung temporärer Beschäftigung stehen in einem positiven Zusammenhang zum Verhältnis der Arbeitsmarktpartizipation von Gering- zu Mittelqualifizierten; d.h. je strikter die Regelungen, desto geringer sind die beobachtbare Ungleichheit zwischen den Gruppen.[13] Die Unterschiede zwischen Mittel- und Hochqualifizierten steigen hingegen. Ähnliches lässt sich auch für die Zentralität von Lohnverhandlungen beobachten: Die Unterschiede in den Erwerbsquoten sinken zwischen den Gering- und Mittelqualifizierten und steigen für Personen mit mittlerem und hohem Bildungsniveau. Die Höhe der Arbeitslosenunterstützung korreliert positiv mit dem Verhältnis der Erwerbsquoten für alle drei Vergleichsgruppen. Für die Gewerkschaftsdichte und Ausgaben für aktive Arbeitsmarktpolitik lassen sich nur für die Vergleichsgruppen Gering- vs. Hochqualifiziert sowie Mittel- vs. Hochqualifiziert signifikante und positive Koeffizienten messen. Die Ergebnisse der Korrelation

[13] Der Anteil der Erwerbsquoten Geringqualifizierter an den Erwerbsquoten der Mittelqualifizierten steigt. Es gibt also weniger Unterschiede.

geben keinen Hinweis darauf, dass Geringqualifizierte Verdrängungsmechanismen in Folge zu strikter Regulierung unterliegen, die sie vom Arbeitsmarkt vertreiben. Im Gegenteil: Strikte Regulierung ist mit einer geringeren Arbeitsmarktbeteiligung der Mittel- im Vergleich zu den Hochqualifizierten verbunden.

Die Korrelationstabelle spiegelt jedoch sowohl Unterschiede zwischen als auch innerhalb der Länder wider. Zudem bleiben Wechselwirkungen sowie makroökonomische Einflüsse unberücksichtigt. Es ist deshalb nur sehr begrenzt möglich, Aussagen über Veränderungsprozesse am Arbeitsmarkt zu tätigen, die auf Deregulierungsmaßnahmen beruhen. Hierfür eignen sich Regressionsanalysen. Die Annahme, dass Deregulierung zu einem Abbau von Ungleichheiten innerhalb der Arbeitslosigkeitsrisiken führt, kann im Rahmen dieser Analysen aber nur zum Teil bestätigt werden. Insgesamt spielen Veränderungen gewerkschaftlicher Einflussnahme eine große Rolle, wobei je nach Bildungsgruppenvergleich oder Geschlecht Unterschiede zu beobachten sind.

In einem ersten Schritt werden zunächst die Deregulierungseffekte für die gesamte Stichprobe betrachtet (vgl. *Tabelle 2.3*, Modell 1a). Es zeigt sich, dass ein steigender Grad der Zentralisierung von Lohnverhandlungen Unterschiede in den Arbeitslosigkeitsrisiken von Gering- und Hochqualifizierten verringert. Dieses Ergebnis entspricht der Annahme, dass Tarifverhandlungen, die zentral erfolgen, eher makroökonomische Interessen, d.h. also auch Interessen der Outsider, berücksichtigen, als Vereinbarungen, die auf sektoraler oder Betriebsebene getroffen werden. Je höher allerdings das Koordinationsniveau ausfällt, desto größer die Ungleichheit. Anders als angenommen führt eine stärkere Koordinierung zwischen den Vertragspartnern nicht dazu, die Verhandlungsposition der Geringqualifizierten zu verbessern. Veränderungen anderer Arbeitsmarktinstitutionen haben keinen signifikanten Einfluss auf die Verteilung der Arbeitslosigkeitsrisiken. Das Wachstum des Bruttoinlandsprodukts steht in einem signifikant positiven Zusammenhang zur abhängigen Variable. Wirtschaftserfolge resultieren in Wettbewerbsvorteile für besser Qualifizierte.

Beim Vergleich von Gering- und Mittelqualifizierten (Modell 2a) zeigt sich ein signifikanter und negativer Effekt für die Gewerkschaftsdichte. Je mehr Arbeitnehmer gewerkschaftlich organisiert sind, desto geringer die Ungleichheit zwischen den beiden Gruppen. Die Annahme, dass ein hoher gewerkschaftlicher Organisationsgrad zu höheren Tariflöhnen und damit zu größeren Einstiegsbarrieren für wenig qualifizierte Erwerbspersonen führt, lässt sich ebenfalls nicht bestätigen. Im Gegenteil: Je höher der Organisationsgrad, desto geringer scheint die Konkurrenz um Arbeitsplätze zwischen Gering- und Mittelqualifizierten zu sein. Steigende Ungleichheit zwischen den beiden Gruppen ist jedoch vor allem ein Resultat ökonomischer Entwicklungen. Je höher der Anteil an Beschäftigten im Servicesektor bzw. im Hochtechnologie-Sektor, desto größer die Unterschiede. Bei wachsendem ökonomischen Fortschritt sinken also die Arbeitsmarktchancen der Geringqualifizierten im Vergleich zu Personen mit mittlerer Bildung. Die Ungleichheit steigt zudem, je höher der Anteil Geringqualifizierter an allen Erwerbstätigen ist. Das vergleichsweise größere Arbeitslosigkeitsrisiko resultiert dann möglicherweise aus der Konkurrenz innerhalb der eigenen Bildungsgruppe.

Der Kündigungsschutz für reguläre Beschäftigung beeinflusst lediglich das Verhältnis der Arbeitslosigkeitsrisiken von Mittel- und Hochqualifizierten (Modell 3a). Je strikter die Regelungen werden, desto größer die Unterschiede. Der Kündigungsschutz stellt demnach eine Beschäftigungsbarriere für Personen mit mittlerem Bildungsniveau dar, nicht aber für Geringqualifizierte. Richtlinien zur Nutzung temporärer Beschäftigung haben keinerlei Einfluss. Für das Koordinationsniveau lässt sich erneut ein signifikanter und positiver Effekt beobachten. Dies spricht dafür, dass ein höheres Koordinationslevel zu einer grundsätzlichen Verbesserung der Verhandlungsmacht höher Qualifizierter führt. Demnach scheint die unternehmerische Wirtschaftlichkeit bei koordinierten Tarifverhandlungen einen größeren Stellenwert einzunehmen als die Integration von Outsidern in den Arbeitsmarkt. Ein Anstieg der Arbeitslosenunterstützung reduziert die Unterschiede zwischen beiden Bildungsgruppen. Anzunehmen ist, dass höhere Kompensationszahlungen das Matching zwischen Arbeitgebern und Personen mit mittlerem Bildungsniveau

verbessern und so möglicherweise deren Kündigungsrisiko reduzieren. Nicht bestätigen lässt sich, dass Hochqualifizierte Beschäftigungsvorteile dadurch erwerben, dass die Reservationslöhne Mittelqualifizierter steigen. Des Weiteren ist ein negativer Zusammenhang mit der Beschäftigungsquote im Servicebereich sowie im Hochtechnologiesektor und dem Wachstum des Bruttoinlandprodukts zu beobachten. Wirtschaftlicher Fortschritt reduziert demnach die Verhandlungsvorteile der Hochqualifizierten gegenüber den Mittelqualifizierten. Hier kann es sich aber auch um einen indirekten Effekt handeln: Personen mit mittlerem Qualifikationsniveau steigern ihre Verhandlungsposition auf Kosten der Geringqualifizierten, deren Jobchancen in Folge ökonomischer Entwicklung sinken.

Im Folgenden werden nun die Ergebnisse getrennt nach Geschlecht näher betrachtet. Hierbei sollen vor allem die Abweichungen (positiv vs. negativ sowie signifikant vs. nicht signifikant) zur Gesamtpopulation benannt werden. Anders als im Gesamtmodell ist bei den Frauen in Modell 1c nur noch das Koordinationsniveau positiv und signifikant. BIP-Wachstum und Grad der Zentralität der Lohnverhandlungen spielen keine Rolle zur Erklärung der Ungleichheit zwischen Gering- und Hochqualifizierten. Bei den Männern gibt es keine Unterschiede zum Gesamtmodell. Dies gilt auch für das Modell 2b. Lediglich der Anteil Geringqualifizierter verliert hier seine Signifikanz. Bei den Frauen spielt nun das Gewerkschaftsniveau keine Rolle mehr. Dies bedeutet, dass Deregulierung keinerlei Einfluss auf die Verteilung der Arbeitslosigkeitsrisiken zwischen gering- und mittelqualifizierten Frauen hat. Ebenso sind nun auch die Größe des Servicesektors sowie der Anteil Geringqualifizierter an der Gesamtbevölkerung im erwerbsfähigen Alter unbedeutend.

Tabelle 2.3: Regressionsgleichungen Arbeitslosenquoten

	AQ Gering-/Hochqualifizierte			AQ Gering-/Mittelqualifizierte			AQ Mittel-/Hochqualifizierte		
Gesamt	1a			2a			3a		
	β	Std. Fehler		β	Std. Fehler		β	Std. Fehler	
Temporärer Beschäftigungsschutz	-0.138	0.153		0.033	0.079		-0.065	0.072	
Reg. Kündigungsschutz	0.586	0.631		-0.228	0.285		0.478	0.206	**
Gewerkschaftsdichte	-0.068	0.045		-0.037	0.020	*	-0.002	0.019	
Zentralitätsniveau	-0.134	0.054	**	0.021	0.052		-0.054	0.032	
Koordinationsgrad	0.286	0.125	**	-0.041	0.062		0.242	0.073	***
Arbeitslosenunterstützung	-0.024	0.016		0.001	0.010		-0.019	0.008	**
Aktive Arbeitsmarktpolitik	-0.001	0.057		-0.004	0.030		0.001	0.031	
Beschäftigung im Servicesektor	-0.028	0.075		0.089	0.031	**	-0.093	0.031	***
Anteil Geringqualifizierter	0.024	0.028		0.031	0.016	*	-0.010	0.007	
Beschäftigung im HighTech-Sektor	-0.054	0.124		0.170	0.058	**	-0.146	0.080	*
BIP Wachstum	0.059	0.025	**	0.068	0.022	***	-0.036	0.015	**
Konstante	6.190	6.948		-5.003	2.859	*	8.727	2.957	***
N	208			208			208		
R^2	0.144			0.378			0.339		
Männer	1b			2b			3b		
	β	Std. Fehler		β	Std. Fehler		β	Std. Fehler	
Temporärer Beschäftigungsschutz	-0.297	0.220		0.066	0.088		-0.113	0.097	
Reg. Kündigungsschutz	0.459	0.757		-0.290	0.292		0.343	0.271	
Gewerkschaftsdichte	-0.078	0.055		-0.039	0.022	*	0.001	0.024	
Zentralitätsniveau	-0.166	0.082	*	0.005	0.033		-0.048	0.037	
Koordinationsgrad	0.385	0.202	*	-0.046	0.042		0.225	0.071	***
Arbeitslosenunterstützung	-0.030	0.020		0.003	0.011		-0.017	0.008	*
Aktive Arbeitsmarktpolitik	0.005	0.084		-0.006	0.035		0.002	0.039	
Beschäftigung im Servicesektor	-0.041	0.135		0.089	0.041	**	-0.064	0.049	
Anteil Geringqualifizierter	0.053	0.044		0.028	0.021		0.010	0.007	
Beschäftigung im HighTech-Sektor	-0.307	0.225		0.207	0.061	***	-0.203	0.100	*
BIP Wachstum	0.086	0.026	***	0.108	0.022	***	-0.039	0.014	**
Konstante	9.629	12.53		-5.007	3.758		6.977	4.785	
N	202			208			202		
R^2	0.204			0.381			0.261		
Frauen	1c			2c			3c		
	β	Std. Fehler		β	Std. Fehler		β	Std. Fehler	
Temporärer Beschäftigungsschutz	-0.042	0.112		-0.118	0.058		-0.021	0.047	
Reg. Kündigungsschutz	0.768	0.531		-0.225	0.301		0.674	0.179	***
Gewerkschaftsdichte	-0.070	0.048		-0.023	0.018		-0.012	0.018	
Zentralitätsniveau	-0.162	0.114		-0.091	0.056		-0.026	0.039	
Koordinationsgrad	0.273	0.123	**	0.009	0.054		0.247	0.109	**
Arbeitslosenunterstützung	-0.020	0.015		0.003	0.007		-0.021	0.009	**
Aktive Arbeitsmarktpolitik	-0.004	0.068		-0.003	0.027		0.000	0.041	
Beschäftigung im Servicesektor	-0.048	0.053		0.050	0.029		-0.096	0.033	**
Anteil Geringqualifizierter	-0.001	0.019		0.012	0.015		-0.014	0.009	
Beschäftigung im HighTech-Sektor	0.161	0.106		0.141	0.052	**	-0.073	0.066	
BIP Wachstum	0.055	0.033		0.046	0.019	**	-0.025	0.017	
Konstante	5.758	4.338		-1.907	2.577		8.192	2.793	**
N	208			208			208		
R^2	0.117			0.295			0.269		

** p< 0.1, ** p< 0.05, p< 0.01, Quelle: Eigene Berechnung.*

In Modell 3 zeigt sich ein signifikanter Einfluss des Kündigungsschutzes sowie des Servicesektors nur für Frauen, nicht aber für Männer. Für Frauen spielt hingegen die Größe des Hochtechnologiesektors sowie das Wachstum des Bruttoinlandproduktes keine Rolle zur Erklärung der Ungleichheit zwischen Personen mit mittlerem und hohem Bildungsniveau.

Das Verhältnis der Erwerbsquoten wird, wie *Tabelle 2.4* zeigt, vorrangig durch Kündigungsschutzreformen verändert. Je strikter die Regelungen zur Nutzung temporärer Beschäftigung sowie zum regulären Kündigungsschutz sind, desto größer die Ungleichheit zwischen Gering- und Hochqualifizierten insgesamt (Modell 1d). Deregulierung führt dementsprechend zu einer größeren Arbeitsmarktbeteiligung der Geringqualifizierten, da Beschäftigungsbarrieren abgebaut werden. Veränderungen der gewerkschaftlichen Einflussnahme, Arbeitslosenzahlungen oder Ausgaben für aktive Arbeitsmarktpolitik haben keinen Einfluss, ebenso wie ökonomische Entwicklungen.

Im Modell 2d, welches die Unterschiede zwischen Personen mit niedrigem und mittlerem Qualifikationsniveau erfasst, ist keiner der Koeffizienten signifikant. Eine Verschärfung der Kündigungsschutzregeln erhöht jedoch Unterschiede in den Erwerbsquoten zwischen Mittel- und Hochqualifizierten (Modell 3d). Dies gilt jedoch nicht für Regelungen zur Nutzung temporärer Beschäftigung. Wirtschaftliche Entwicklungen, die Vergrößerung des Servicesektors sowie des Hochtechnologiesektors wirken sich positiv auf die Arbeitsmarktbeteiligung Mittelqualifizierter aus. Wird nur die Erwerbsquoten der Männer untereinander verglichen, verliert die Variable ‘Temporärer Beschäftigungsschutz’ ihre Signifikanz. Das Zentralitätsniveau ist nun jedoch signifikant positiv, d.h. je zentralisierter Lohnverhandlungen ablaufen, desto geringer ist die Ungleichheit. Dies gilt auch für das Verhältnis von Gering- zu Mittelqualifizierten (Modell 2e). Allerdings spielt anstelle des Kündigungsschutzes die Größe des Servicesektors eine Rolle. Je größer dieser ist, desto größer sind die Unterschiede in den Erwerbsquoten. Im Gegensatz zum Modell 3d verliert in Modell 3e die Variable zum regulären Kündigungsschutz ihre Bedeutung. Der Einfluss ökonomischer Entwicklungen bleibt jedoch weiterhin signifikant.

Tabelle 2.4: Regressionsgleichung Erwerbsquoten

	EQ Gering-/Hochqualifizierte			EQ Gering-/Mittelqualifizierte			EQ Mittel-/Hochqualifizierte		
Gesamt	1d			2d			3d		
	β	Std. Fehler		β	Std. Fehler		β	Std. Fehler	
Temp. Beschäftigungsschutz	-0.012	0.004	***	-0.010	0.006		-0.006	0.005	
Reg. Kündigungsschutz	-0.064	0.011	***	-0.016	0.031		-0.050	0.027	*
Gewerkschaftsdichte	0.002	0.002		-0.001	0.002		0.002	0.002	
Zentralitätsniveau	0.005	0.004		0.008	0.005		-0.001	0.003	
Koordinationsgrad	0.005	0.006		-0.007	0.011		0.011	0.009	
Arbeitslosenunterstützung	0.000	0.001		-0.001	0.001		0.000	0.000	
Aktive Arbeitsmarktpolitik	0.000	0.004		0.000	0.004		0.000	0.002	
Beschäftigung im Servicesektor	0.003	0.003		-0.005	0.003		0.007	0.003	**
Anteil Geringqualifizierter	0.001	0.001		0.001	0.001		0.000	0.001	
Beschäftigung im HighTech-Sektor	0.001	0.007		-0.009	0.008		0.010	0.005	**
BIP Wachstum	0.000	0.001		-0.001	0.001		0.001	0.001	
Konstante	0.482	0.284		1.205	0.354	***	0.376	0.252	
N	208			208			208		
R^2	0.119			0.204			0.426		
Männer	1e			2e			3e		
	β	Std. Fehler		β	Std. Fehler		B	Std. Fehler	
Temp. Beschäftigungsschutz	-0.007	0.004		-0.005	0.007		-0.004	0.006	
Reg. Kündigungsschutz	-0.062	0.027	**	-0.020	0.045		-0.037	0.025	
Gewerkschaftsdichte	0.003	0.002		0.000	0.003		0.002	0.002	
Zentralitätsniveau	0.008	0.004	*	0.009	0.005	*	0.000	0.003	
Koordinationsgrad	0.000	0.008		-0.013	0.015		0.010	0.009	
Arbeitslosenunterstützung	0.000	0.001		0.000	0.001		0.000	0.000	
Aktive Arbeitsmarktpolitik	0.000	0.005		0.000	0.004		0.000	0.003	
Beschäftigung im Servicesektor	-0.001	0.003		-0.008	0.004	*	0.005	0.003	*
Anteil Geringqualifizierter	0.000	0.001		0.001	0.002		0.000	0.001	
Beschäftigung im HighTech-Sektor	-0.003	0.009		-0.013	0.012		0.009	0.004	**
BIP Wachstum	0.000	0.001		-0.001	0.001		0.001	0.001	
Konstante	0.826	0.352	**	1.54	0.467	***	0.435	0.246	*
N	208			208			208		
R^2	0.133			0.249			0.295		
Frauen	1f			2f			3f		
	B	Std. Fehler		β	Std. Fehler		B	Std. Fehler	
Temp. Beschäftigungsschutz	-0.012	0.005	**	-0.008	0.005		-0.008	0.005	*
Reg. Kündigungsschutz	-0.073	0.015	***	-0.013	0.019		-0.013	0.019	**
Gewerkschaftsdichte	0.001	0.002		-0.001	0.002		-0.001	0.002	
Zentralitätsniveau	0.003	0.005		0.008	0.006		0.008	0.006	
Koordinationsgrad	0.009	0.006		-0.001	0.006		-0.001	0.006	
Arbeitslosenunterstützung	0.000	0.001		0.000	0.001		0.000	0.001	
Aktive Arbeitsmarktpolitik	0.000	0.005		0.000	0.004		0.000	0.004	
Beschäftigung im Servicesektor	0.006	0.003	*	-0.001	0.002		-0.001	0.002	**
Anteil Geringqualifizierter	0.002	0.001	**	0.002	0.001	**	0.002	0.001	
Beschäftigung im HighTechSektor	0.004	0.008		-0.004	0.008		-0.004	0.008	
BIP Wachstum	0.000	0.001		-0.001	0.001		-0.001	0.001	
Konstante	0.161	0.295		0.774	0.29	**	0.774	0.29	
N	208			208			208		
R^2	0.187			0.113			0.481		

*Anmerkungen: * p< 0.1, ** p< 0.05, p< 0.01; Quelle: Eigene Berechnung.*

Für Frauen sind neben den Kündigungsschutzgesetzen nun auch der Servicesektor sowie der Anteil Geringqualifizierter für die Erklärung von Unterschieden der Arbeitsmarktpartizipation zwischen Gering- und Hochqualifizierten (Modell 1f) bedeutsam. Beide sind positiv und signifikant, d.h. ein Anstieg führt zu einer Reduktion von Ungleichheit. Das Verhältnis von Gering- und Mittelqualifizierten (Modell 2f) wird lediglich durch den Anteil Geringqualifizierter beeinflusst. Auch hier besteht ein positiver und signifikanter Effekt. Andere Faktoren spielen keine Rolle. Unterschiede in den Erwerbsquoten zwischen Personen mit mittlerem und hohem Bildungsniveau (Modell 3f) verändern sich in Folge von Reformen des temporären und regulären Beschäftigungsschutzes. Unterschiede in den Erwerbsquoten sinken, je flexibler die Regelungen ausfallen. Insgesamt lässt sich damit ableiten, dass die Verhandlungsmacht der Hochqualifizierten durch strikte Kündigungsschutzgesetze, insbesondere im Bereich der regulären Beschäftigung, gestärkt wird und weniger Qualifizierten dadurch Arbeitsmarktnachteile entstehen. In Modell 3f zeigt sich zudem ein signifikanter negativer Effekt des Servicesektors. Eine Zunahme des Servicesektors vergrößert die Differenzen in den Erwerbsquoten der beiden Bildungsgruppen.

2.5 Diskussion

Ziel der Analyse war es zu untersuchen, inwiefern Deregulierungsmaßnahmen bestehende Arbeitsmarktungleichheiten zwischen verschiedenen Bildungsgruppen reduzieren können. Als Arbeitsmarktungleichheiten wurden hier Unterschiede in den Arbeitslosen-, aber auch in den Erwerbsquoten gefasst. Insgesamt wurde so ein Einblick in die jeweiligen Beschäftigungschancen von Gering-, Mittel- und Hochqualifizierten ermöglicht.

Aufbauend auf der Insider-Outsider Theorie wurde angenommen, dass Deregulierung die Verhandlungsmacht der Insider beeinflusst und damit auch die Arbeitsmarktposition der Outsider verändert. Geringqualifizierte gelten hier als Outsider, da sie in Folge des technologischen Fortschritts mit höheren Arbeitslosigkeitsrisiken konfrontiert sind. Es wurde angenommen, dass Maßnahmen, die die Fluktuationskosten senken, auch zu einer Reduktion der

Verhandlungsvorteile der besser qualifizierten Insider führen. Demzufolge war zu erwarten, dass eine Flexibilisierung des regulären Beschäftigungsschutzes zu einem Abbau von Arbeitsmarktungleichheiten führt. Eine Reduktion der Arbeitslosenzahlungen sollte die Verhandlungsmacht der Insider insofern einschränken, dass Outsider aufgrund geringerer Reservationslöhne eher zu einem Lohnunterbietungswettbewerb bereit seien. Im Umkehrschluss wurde angenommen, dass eine hohe Gewerkschaftsdichte mit hohen Tariflöhnen einhergeht, und somit Beschäftigungsbarrieren für Outsider darstellt, die das festgelegte Lohnminimum nicht unterschreiten dürfen. Der Zentralitäts- und Koordinationsgrad hingegen sollte zu einer Verbesserung der Arbeitsmarktposition von Outsidern führen, da anzunehmen war, dass bei Tarifverhandlungen, die zentralisierter und koordinierter ablaufen, auch makroökonomische Interessen, wie die Eingliederungsmöglichkeiten in den Arbeitsmarkt, stärkere Berücksichtigung finden. Die Rolle aktiver Arbeitsmarktpolitik und von Regelungen zur temporären Beschäftigung blieben auf Basis der theoretischen Überlegungen unklar.

Die empirischen Ergebnisse haben gezeigt, dass tatsächlich große Arbeitsmarktungleichgewichte zwischen den verschiedenen Bildungsgruppen bestehen. Zudem zeigt sich eine tendenziell rückläufige Entwicklung der Unterschiede zwischen Mittel- und Hochqualifizierten seit Beginn des Untersuchungszeitraumes in 1997. Ungleichgewichte zwischen Personen mit niedrigem und mittlerem Bildungsniveau steigen jedoch an. Die bivariaten Ergebnisse lieferten bereits erste Anhaltspunkte, dass sich die Effekte für die Arbeitslosen- und Erwerbsquoten unterscheiden. Die alleinige Betrachtung von Arbeitslosigkeitsrisiken reicht also nicht aus, um Arbeitsmarktbenachteiligungen in Folge zu strikter Regulierung zu beurteilen. Die ungleiche Verteilung von Arbeitslosigkeitsrisiken, aber auch Ungleichgewichte in der Arbeitsmarktpartizipation, die in Folge einer resignierten Abwendung vom Arbeitsmarkt resultieren, können das Resultat von Regulierungsmaßnahmen sein.

Die Ergebnisse der Regressionsanalysen sprechen dafür, dass die Flexibilisierung regulärer Kündigungsschutzregeln insgesamt zu einem Abbau von Arbeitsmarktungleichheiten zwischen Gering- und Hochqualifizierten bzw.

Mittel- und Hochqualifizierten führt. Ebenfalls den Erwartungen entsprechend sind die Ergebnisse für das Zentralitätsniveau der Lohnverhandlungen. Dezentralere Lohnverhandlungen führen zu einem Anstieg der Ungleichheit zwischen Gering- und Mittelqualifizierten. Überraschend sind die Ergebnisse für das Koordinationsniveau sowie für die Arbeitslosenunterstützung. Ein höherer Koordinationsgrad erhöht die Ungleichheit zwischen Gering- und Hochqualifizierten bzw. zwischen Mittel- und Hochqualifizierten. Demnach stärken koordinierte Lohnverhandlungen vor allem die Verhandlungsmacht gut qualifizierter Insider, anstatt auch Outsider-Interessen zu vertreten. Wirtschaftlichkeitsinteressen, die möglicherweise mit dem Erhalt bestehender Jobs verknüpft sind, scheinen bei solchen Verhandlungen also im Vordergrund zu stehen. Höhere Arbeitslosenzahlungen verringern zudem die Ungleichheit zwischen Mittel- und Hochqualifizierten. Es ist zu vermuten, dass Personen mit mittlerer Bildung bei hohen Transferzahlungen eher in der Lage sind, eine adäquate Beschäftigung zu finden und somit ihr Entlassungsrisiko zu reduzieren. Regelungen zur temporären Beschäftigung reduzieren Arbeitsmarktungleichheiten zwischen Gering- und Hochqualifizierten, indem sie Unterschiede in der Arbeitsmarktpartizipation reduzieren. Für die aktive Arbeitsmarktpolitik lassen sich keine signifikanten Effekte nachweisen.

Die Gewerkschaftsdichte steht in einem negativen Zusammenhang mit Arbeitsmarktungleichheiten zwischen Mittel- und Geringqualifizierten. Je höher die Zahl der Mitglieder ist, desto geringer die Unterschiede zwischen den Gruppen. Anders als erwartet führt ein hoher gewerkschaftlicher Organisationsgrad nicht automatisch zu Einstellungsbarrieren in Folge hoher Tariflöhne. Im Gegenteil scheinen starke Gewerkschaften eher in der Lage zu sein, Outsider-Interessen im Rahmen ihrer Tarifverhandlungen zu berücksichtigen. Wird nach Geschlecht differenziert, lassen sich weitere Unterschiede erkennen. Für die Frauen spielen insgesamt Kündigungsschutzregelungen eine etwas größere Rolle, während bei den Männern eher gewerkschaftliche Eingriffe vorhandene Arbeitsmarktun-gleichheiten beeinflussen.

Die ökonomischen Entwicklungen der letzten Jahre beeinflussen ebenfalls die Arbeitsmarktungleichgewichte zwischen den Bildungsgruppen. Mit

wachsendem technologischem Fortschritt sinken die relativen Beschäftigungschancen Geringqualifizierter, während die der Mittelqualifizierten steigen.

Insgesamt ist die Wirkung der Deregulierungsmaßnahmen in den untersuchten Ländern als gering einzuschätzen. Einzig die Flexibilisierung der Kündigungsschutzgesetze sowie eine Verringerung des Koordinationsgrades bei Lohnverhandlungen führten zu einer Verringerung der Ungleichheit. Auffallend ist auch, dass die Unterschiede der Arbeitsmarkchancen zwischen Mittel- und Geringqualifizierten kaum von Arbeitsmarktregulierungen abhängen. Dies könnte auf die Herausbildung eines zweiten Arbeitsmarktes zurückzuführen sein, auf den Geringqualifizierte ausweichen, ohne mit besser Qualifizierten zu konkurrieren.

Unterschiede in der Qualität der Beschäftigung konnten im Rahmen der Studie allerdings nicht berücksichtigt werden. Zu beachten ist, dass im Rahmen der Analyse ebenfalls keine Aussage über die Entwicklung von Arbeitslosigkeits- und Erwerbsquoten an sich getroffen werden, sondern lediglich über eine potentiell ungleiche Entwicklung von Beschäftigungschancen der verschiedenen Bildungsgruppen. Inwiefern Deregulierungsmaßnahmen insgesamt zu einer Verbesserung der Arbeitsmarktsituation führen, bleibt Gegenstand einer separaten Analyse.

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3. Skill-specific unemployment risks: Employment protection legislation and technological progress[14]

3.1 Introduction

A lack of numerical flexibility in the hiring and firing decisions of employers is generally regarded as a main reason for high and persistent unemployment rates in many European countries (Addison/Teixeira 2001; OECD 2004; Skedinger 2010; Walwei 1996, 2002). The relaxation of employment protection legislation (EPL) is believed to improve employment chances, particularly for people that are disadvantaged in the labour market; for example, the low skilled, who often appear to be the losers of technological progress. Due to structural change, jobs offered in the primary and secondary sector have decreased. Achieved knowledge on these fields has become obsolete. At the same time, new skills are needed to fulfill the requirements in the service sector and new established branches. These new jobs mainly demand rather higher levels of qualification (Iversen/Cusack 2000). In this context, the enhancement of labour market flexibility – particularly by facilitating the use of temporary employment – has been one of the main targets of the European Union's current and future employment strategies (Council of Europe 2005; European Commission 2012), which aims to reduce the degree of social exclusion and improve social cohesion. The easing of dismissal rules is expected to simplify access to the labour market by retrenching employment barriers.

Empirically, however, there is no clear evidence of a relationship between the relaxation of EPL and a reduction in the unemployment rate in general (for an overview, see Addison/Teixeira 2001; Skedinger 2010). Moreover, specific effects of EPL on different skill groups have only been of minor interest in the past. The OECD (1999) and Oesch (2010) both concentrated on the effects that

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EPL has on the low skilled unemployment rate, but were unable to show any significant relation. Esping-Andersen (2000) identified a significant and positive relationship between the long-term unemployment rate of less-educated workers and EPL, but again not with the low skilled unemployment rate in general. The first insights into skill-specific labour market outcomes for differently educated workers were provided by Gebel and Giesecke (2011). The authors concentrated on the relative differences between skill groups in temporary employment and unemployment. Their results show that deregulating restrictions on temporary employment increases the relative share of low skilled workers in temporary employment in comparison to better skilled workers; however, there was no effect concerning the distribution of unemployment risks. In their study, the easing of dismissal rules for regular employment decreased the relative unemployment risks for the low skilled. Bennett (2012) could only confirm these results relating to differences between individuals with medium and high levels of qualification, while also facilitating the possibility that employing workers on a temporary contract has no influence on the distribution of unemployment risks at all. However, the author shows that an increase in the level of EPL leads to bigger differences in the employment rates between the low and highly skilled, whereas differences in employment rates between the medium and highly skilled are strengthened only by an increase in the regulation of temporary employment.

The following analysis aims to provide more insights into the interplay between EPL and skill-specific unemployment risks. In contrast to previous studies, it does not concentrate on changes in EPL, but on the level of EPL that is implemented at a specific point in time. Previous studies mostly focused on the effects of a reform only by neglecting the base level of EPL. By taking a cross-sectional perspective, the existing differences between countries concerning the currently implemented levels of dismissal rules and their relation to individual unemployment risks are highlighted. Therewith, the general effects that are related to differences in the level of EPL can be captured. In addition, the article also deals with the likelihood that the observed unemployment status is permanent.

Furthermore, this article contributes to the literature by taking technological progress into account. In the course of an explorative analysis, the article tries to answer the question whether the relation between EPL and unemployment risks for different skill groups might be moderated by the level of technical progress that can be observed in a country. Since technological advancements are considered to be skill-biased, as will be outlined later, they might produce different flexibility requirements on varying skill groups.

The analysis is based on data from the Labour Force Survey (wave 2008) and captures 21 European countries. In order to account for compositional effects, hierarchical models are used.

The paper is structured as follows: Section 3.2 deals with skill-specific unemployment risks; potential positive and negative employment effects of EPL are initially described, before the role of technological progress and its possible interplay with EPL for different skill groups are discussed. Section 3.3 describes the data, variables and methods that have been used. In section 3.4, the descriptive, bivariate and multivariate results are presented. The paper ends with a discussion of the results.

3.2 Skill-specific unemployment risks

3.2.1 Employment protection legislation

Generally, EPL can be described 'as restrictions placed on the ability of the employer to utilize labor' (Addison/ Teixeira 2001: 2), or according to the OECD, as 'rules governing the hiring and firing process' (OECD 2004: 64). Actually, EPL is the sum of a rather complex system of rules that vary from country to country.

From an economic perspective, the strictness of EPL is determined by the costs related to the dismissal of an employee. One can distinguish between costs directly associated with a lay-off – i.e. quantifiable and already known before the employment relation starts, e.g. severance payments – and indirect costs arising from procedural inconveniences and difficulties to enforce a dismissal.

Given that the flexibility of wages is somehow restricted, the literature argues that strict EPL has both negative and positive employment effects that determine the probability of unemployment (Addison/Teixeira 2001; Skedinger

2010). Negative employment effects might result from high labour costs and restrictions on the flexibility of entrepreneurial activity. Dismissal regulations increase separation costs, for example by severance payments, and delay the optimal moment of a dismissal in a company. As neoclassical employment theory states, high labour costs are generally related to a reduction in labour demand so as to reach an optimal amount of labour. Furthermore, by limiting the freedom of action, appropriate responses to economic changes are constrained. Compared to labour markets with low requirements on firing rules, employers in strictly regulated markets are restricted in their competitiveness. Rigid EPL might thus result in recruitment freezes or shifts in foreign markets. By creating employment barriers, strict dismissal rules are specifically expected to increase the probability of being long-term unemployed.

However, hiring and firing decisions depend on the employer's expectation to what extent the additional labour costs will be compensated in the future (OECD 2004).

Redundancies often result from a decrease in demand (Nolte 2001). In this regard, labour demand for simple activities is more price elastic. According to Davis and Reeve (1997), the more easily input factors are substitutable, the more they respond to price fluctuations (here: in terms of decreasing marginal labour productivity). In the case of highly skilled workers, the elasticity of labour demand is, therefore, rather low. Future replacement of highly skilled workers in times of increasing demand is expensive. Moreover, highly skilled employees can even become indispensable as important service providers for the production process of the company. For the highly skilled, there is generally a greater need for functional flexibility. Functional flexibility describes the ability to redeploy workers from one task to another. These workers often participate in decision-making, work in teams, and their wages are often determined by the organizational performance of the company. Therefore, layoffs due to declines in consumer demand affect, at least in the short run, mainly low skilled workers.

However, the literature also gives some reason to suspect that there are positive employment effects resulting from strict dismissal rules (see, in particular, Belot et al. 2002; Storm 2007). First of all, those being employed profit

from a high level of job protection, and consequently the frequency to become unemployed should be lowered. Through the establishment of specific dismissal laws, long contract negotiations at the beginning of the employment relationship can be avoided and thus reduce transaction costs. Moreover, job security afforded by EPL increases the extent of human capital investments by workers. Increases in productivity could compensate for high labour costs. In order to obtain investment incentives, workers have to be provided with an appropriate employment guarantee, which protects them against the opportunistic behaviour of the employer so that, at the very least, the investment costs can be amortized (OECD 2004). Because productivity rates increase in relation with the skill level acquired, dismissal risks - for the same seniority – decrease more for highly skilled than for low skilled workers (Layte et al. 2002; Nolte 2001). Strict EPL also tends to improve the extent of cooperation by increasing job security. According to Walwei (1996) it promotes the identification with operational objectives, in-house mobility and the acceptance of technological progress. A lack of EPL might, in contrast, result in more frequent strikes, a reduced willingness to make concessions by workers' representatives and an increased amount of shirking (Walwei 1996).

However, the added value for the company resulting from an increased level of cooperation depends on how important cooperation in the production process is. The more ambiguous and unstructured the task is and the higher the required skill levels are, the more difficult the monitoring of performance is (Jones 1984). Productivity benefits from strict firing rules, therefore, derive priory for highly skilled workers.

Whether the detrimental or beneficial effects prevail is unclear. Unemployment risks are determined by both the frequency of unemployment periods and their duration. On the one hand, strict EPL can mutate into an employment barrier for those searching for a job by reducing hiring incentives to high labour costs; on the other hand, workers that are already employed profit from low dismissal risks because they are protected by legislation. Both effects might compensate for each other, so that the net effect is zero. Since the actual employment effects depend on the employers' expectations as to what extent

labour costs will be compensated and which productivity gains will be met in the future (OECD 2004), the negative effects should decrease with the skill levels acquired.

3.2.2 The interplay between EPL, skills and technological change

Differences in unemployment risks between skill groups can partly be explained by technological progress. The question that shall be answered within this study is whether technological progress also moderates the relation between EPL and unemployment risks. This would be the case if technological progress alters flexibility demands.

In the past, technological progress has led to skill-biased technological change, with different effects on the working conditions and labour market chances for differently skilled workers. There are two reasons for this development. One is the increase in the proportion of skilled workers in the labour force (Acemoglu 1999, 2002; Autor et al. 1998; Berman et al. 1997). Increases in skilled labour usually lead to decreases in the wage premium for investments in education. However, if a certain threshold is reached, it becomes more beneficial for employers to create jobs targeted specifically at highly qualified workers; this also results in higher returns to education. Thus, the key determinant of skilled-biased technological change has been the market size of skilled labour. The second reason is that increases in skill supply have been accompanied by technological progress, thereby reducing the optimal amount of labour by increasing the factor productivity at the same time. Technological change has resulted in a qualitative change in the composition of jobs. It has been associated with changes in production techniques, but also with organizational changes and capital deepening (Autor et al. 1998). The developments observable in the labour market confirm the existence of skill-biased technological change, and the formation of two separate job markets for skilled and unskilled workers (Acemoglu 1999). Furthermore, the highly skilled are encouraged to match with other highly skilled workers through positive wage effects, rather than working as managers in companies employing mostly low skilled workers. The positive wage effects result from increases in productivity

that can be realised in this context (Acemoglu 2002). The diffusion of computers and telecommunication technologies in the 1980s and early 1990s has largely contributed to this development. For both the manufacturing and non-manufacturing sector, the increase in demand for highly skilled individuals has been greatest in the most computer-intensive industries. In particular, the simple and repetitive tasks of white collar workers have been rationalized by computerization rather than complex and specific tasks. Many production processes have also been substituted. While many clerical and production jobs have been displaced from the labour market, workers with managerial and professional jobs have benefited from computerization by utilizing their manpower more effectively (Autor et al. 1998; Mortensen/Pissarides 1999).

Skill-biased technological change has also led to changes in the organizational structure of companies. For instance, the use of computer technology has increased firms' ability to monitor work (Acemoglu 1999, 2002; Autor et al.1998). Moreover, it was stated that:

> 'high wage firms are more selective in hiring than they were two decades ago, the distribution of physical capital to labor ratios across industries has become more unequal, workers appear to be better matched to their jobs, the distribution of on-the-job training across education groups has become more unequal, and some of the jobs in industries and occupations that typically pay close to the median of the wage distribution have been replaced by jobs from the more extreme parts of the quality distribution of jobs' (Acemoglu 1999: 1260-1261).

However, later Autor et al. (2003) claim that the low skilled are only little affected by technological progress, since routine labour is often done by medium skilled workers. In a more current article, Autor (2010) confirms a decrease in middle-wage, middle-skill white collar and blue collar jobs within the US and Europe. Manning (2004) argues however, that 'employment of the less-skilled is increasingly dependent on physical proximity to the more-skilled and may also be vulnerable in the long-run to further technological developments' (Manning 2004: 581).

Acemoglu (2002) found some evidence that labour market institutions and skill-biased technological change interact with each other. Employment protection rules have turned out to play a prominent role in this context. He argues that:

> 'Job security measures reduce job destruction by increasing actual or implicit firing cost, but also reduce the incentive to create new jobs in response to changing

technology patterns of demand, as firms hesitate before getting stuck with unwanted employees' (Acemoglu 2002: 243).

The question that arises in this context is, whether technological progress and the related polarization of labour markets has changed flexibility demands for different skill groups and how these changes might alter the relation between EPL and individual unemployment risks. If technological progress would increase the need for functional flexibility for the highly skilled and the need for numerical flexibility for less skilled workers, technological progress strengthens the positive and negative effects of EPL described above on individual unemployment risks related to the skill levels acquired.

Thus, in countries with a high level of skill-biased technological change one may assume that the highly skilled are less harmed by strict EPL in contrast to less educated workers. The negative effects of strict EPL might predominate the positive effects in the case of the less skilled, and turn into stricter employment barriers increasing individual unemployment risks – particularly the risk of being long-term unemployed – by reducing hiring chances.

However, in economies with less technological progress, the relationship between EPL and individual unemployment risks should be more similar for the different skill groups. Highly, medium and low skilled workers partly compete for the same jobs. The need for numerical flexibility in the case of unqualified work is less strong. The positive employment effects due to strict EPL are therefore more likely to dominate in countries with less technological progress. However, whether the adverse or beneficial effects actually predominate remains an empirical question.

3.3 Data, variables and methods

3.3.1 Data

Micro-level data is based on the European Labour Force Survey (LFS) from 2008. The LFS collects information on demographic, social and economic characteristics of numerous European countries (German Federal Statistical Office 2012). Due to restrictions in the availability of macro-level data, the study includes 21 countries: Austria, Belgium, Czech Republic, Germany, Denmark,

Estonia, Spain, Finland, France, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Sweden, Slovenia and the UK.[15] Only the working population is included, i.e. employed and unemployed people aged between 15 and 64 years old. In total, these constitute 1.6 million respondents.

3.3.2 Individual level variables

The employment status is at the focus of the analysis. At first, the analysis differentiates between being unemployed and being employed; all other groups are excluded. The variable is coded 1 if the individual is unemployed and 0 if the individual is employed. The second part of the analysis also accounts for long-term unemployment. In order to test whether unemployment remains more permanent in countries with strict EPL or not, the unemployed are distinguished according to the length of unemployment. The variable is coded 1 if unemployment lasts more than 12 months and 0 otherwise.[16] Several socio-demographic attributes are included as control variables in the models. These are gender, age, marital status and nationality. Age is divided into three groups: 15-24; 25-54; and 55-64 years old. The binary variable 'nationality' is coded 1 for respondents not having the citizenship of their residence and 0 for the opposite situation. Marital status is 1 for individuals being married and 0 otherwise. On the individual level, it is also controlled for the reference week respondents refer to. In most countries, surveys were equally spread over the whole year, while some were concentrated only on specific time periods. Individual unemployment risks, however, vary over time. Due to the in 2008 beginning economic crises, they increase the more the year has progressed.

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[15] Slovakia has been identified as an outlier, with a low skilled unemployment rate of 40 %. The Czech Republic, in comparison, which is the second worst performing country in this context, has a low skilled unemployment rate of 19 %

[16] In order to analyse whether unemployment is more likely to be permanent or not according to different levels of EPL, this approach has the advantage – in contrast to looking at the long-term unemployment rate – that it is not biased by the general risk of being unemployed. For example: in country A, the relative risk that unemployment remains permanent is 20 %; in country B, it is 40 %. The unemployment rate in country A is 10 %; in country B, it is 5 %. The corresponding long-term unemployment rates in both countries are 2 %, although it is much more difficult to overwhelm unemployment in country B.

Individuals are grouped according to their acquired skill level. Education is classified on the basis of the ISCED-97 scheme (UNESCO 2010). Respondents who have completed lower secondary education at most are categorized as low skilled (ISCED 0-2); those with upper secondary and post-secondary education are classified as medium-skilled (ISCED 3-4); and individuals with the first or second stage of tertiary education are defined as highly skilled (ISCED 5-6).

3.3.3 Country level variables

The level of EPL is measured by an index provided by the OECD for the year 2008 (OECD 2012). The index includes dismissal rules for regular employment and restrictions on the use of temporary employment. It consists, inter alia, of information on procedural processes, compensation payments, notice periods and the difficulty to enforce a dismissal. It also captures information on the requirements and restrictions of using temporary employment, i.e. fixed-term or temporary work agency employment (for detailed information, see Venn 2009). Data refers to the year 2008. The strictness of EPL is valued on a scale from 0 to 6, with larger numbers meaning stricter regulation. Since the regulation of the different dimensions might be influenced by each other, the use of the overall index seems to be more reasonable than looking at one specific dimension only. Due to methodological restrictions resulting from the low degree of freedom at the country level, it should be avoided to include the sub-indices separately.

Figure 3.1 provides an overview on the EPL indicator. With a value of 0.75, the UK had the most flexible EPL in 2008. Ireland (1.1), Denmark (1.5) and Hungary (1.7) also have relatively liberal dismissal rules. In contrast, Spain (3.0), France (3.1), Portugal (3.2) and Luxembourg (3.3) show comparatively strict employment protection regulations. The average value of the EPL index over all countries is 2.2.

Figure 3.1: Employment Protection Legislation

Source: OECD (2012).

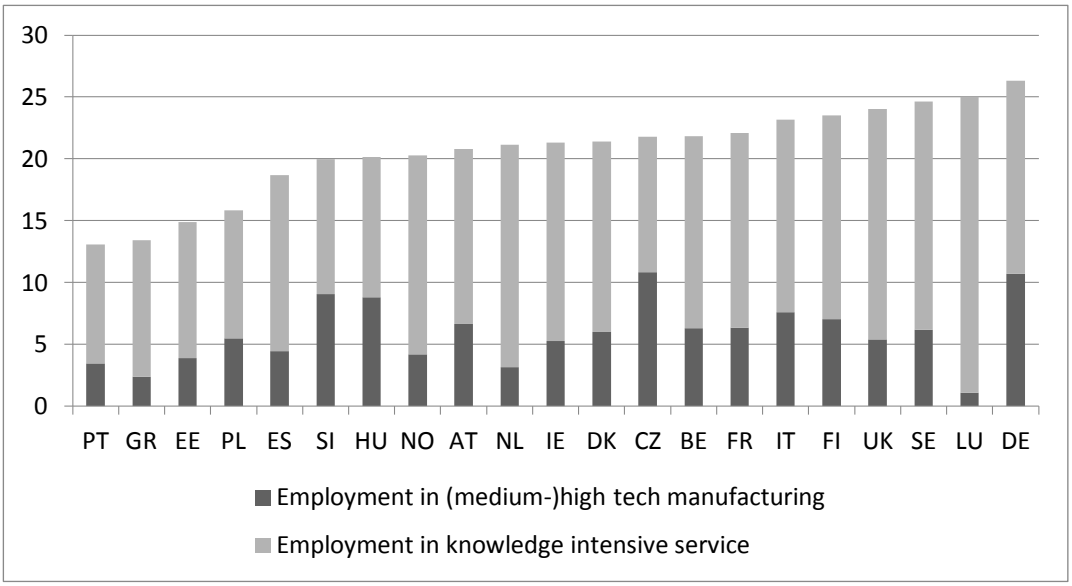
In order to represent the level of skill-biased technological progress that has taken place within countries, and which is reflected in the labour market, the share of employment in (medium-) high-tech manufacturing are taken into account, as well as employment in knowledge-intensive services. Information is taken from the European Innovation Scoreboard and refers to the year 2008 (PRO INNO EUROPE 2009).

Figure 3.2 gives an overview on the distribution of these indicators. By looking at the technological progress expressed in shares of employment relative to the total employment rate, Portugal (13.1 %), Greece (13.4 %) and Poland (14.9 %) bring up the rear with less than 15 % employment in (medium-) high-tech manufacturing and knowledge-intensive services in sum. Germany has a total share of 26.3 % at the top of the league, closely followed by Luxembourg (25.0 %) and Sweden (24.7 %). The average lies at 20.6 %. Between the different sectors, there are large differences depending on the economic structure of the country. With a share of 1.2 %, the lowest proportion of employment in (medium-) high-tech manufacturing can be observed in Luxembourg; conversely, it has by far the highest employment rate in knowledge-intensive services (24.0 %). The Netherlands also has a very low share in (medium-) high-tech manufacturing (3.2 %), but a big knowledge-intensive sector (18.0 %). Greece shows very little technological progress according to the distribution of employment for manufacturing (2.4 %) and services (11.1 %), and takes the

second-to-last place for both. The Czech Republic (10.9 %), Hungary (8.8 %) and Slovenia (9.1 %) all show a relatively strong progress in the manufacturing sector. The average share of employment in (medium-) high-tech manufacturing over all countries is 5.9 %; the share is 14.7 % in knowledge-intensive services.

At the country level it is also controlled for the growth in the gross domestic product. In order to measure the general economic activity and power of the country, the average growth rates of the last three years are used.[17]

Figure 3.2: Technological progress within national labour markets



Source: PRO INNO EUROPE (2009).

3.3.4 Methods

The analysis starts with some descriptive and bivariate findings, providing insights into the relationship between individual unemployment risks and country level determinants.

Since the data structure is hierarchical – individuals are nested in countries – multi-level modelling has been applied. Multi-level regressions allow simultaneous estimations of variations at various levels (Raudenbush/Bryk 2002). Moreover, they account for compositional effects due to the specific structure of the labour force, such as differences in the age structure or the degree of female

[17] Models have also been calculated with the average growth in GDP over the last five years. The results show no differences concerning the significance or direction of the effect.

employment. The dichotomous nature of the two dependent variables suggests using logistic regression techniques. The analysis concentrates on random intercept models with varying macro-level determinants, which are expressed in the following logit link function:

$$\text{(Level 1)} \quad \eta_{ij} = \log(\varphi_{ij} / 1 - \varphi_{ij}) = \beta_{0j} + \beta_{1j} X_{1j}$$

where η_{ij} is the log of the odds of success; and φ_{ij} is the probability that the observed event (i.e. being long-term unemployed) occurs. The term on the right of the equation includes the structural model. β_{0j} represents the context dependent regression intercept; β_{1j} is the regression slope; and X_{1j} is the micro-level predictor. Within the analysis represented in the following section, the micro-level predictor contains the control variables for age, gender, marital status, nationality and the reference week of the interview.

The structural equation of the macro-level models corresponds to the equation of a linear multi-level model. Within the analysis, the intercept β_{0j} is assumed to vary by context:

$$\text{(Level 2)} \quad \beta_{0j} = \gamma_{00} + \gamma_{01} W_1 + \gamma_{02} W_2 + \gamma_{03} W_1 W_2 + \gamma_{04} W_3 + u_{0j}$$

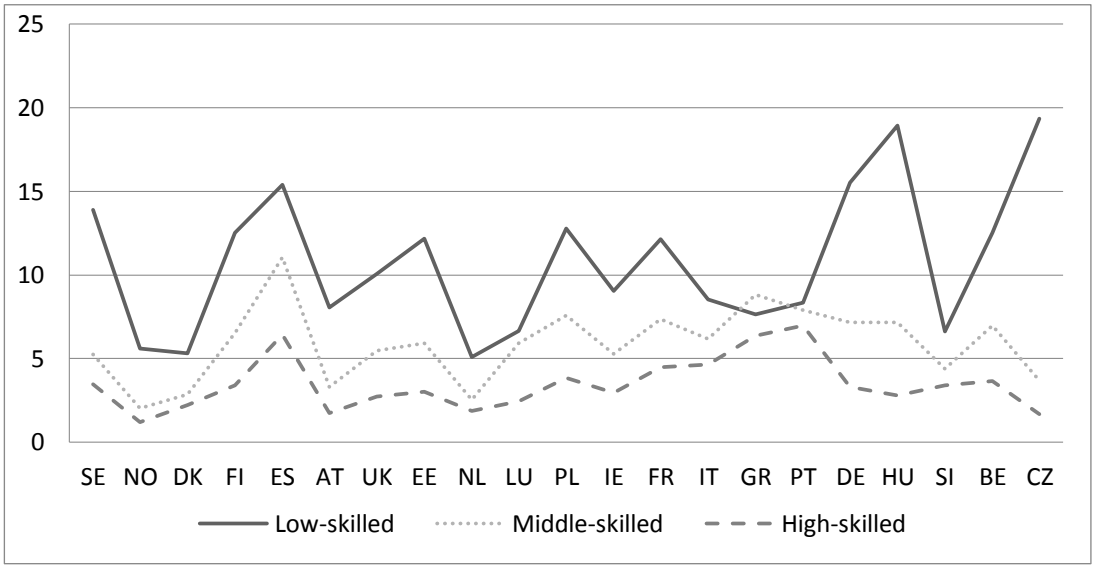
The regression intercept β_{0j} encompasses every country j at a context independent intercept γ_{00}, plus slope γ_{01} and a macro-level predictor W_1 for the level of EPL; slope γ_{02} and W_2 represent one of the technological progress indicators; and slope γ_{03} represents the interaction between both macro-level predictors W_1 und W_2 in the model. According to the theoretical considerations, it is expected that γ_{03} is negative for the highly skilled workforce and positive for the low skilled. W_3 represents the control variable at the country level by measuring the average GDP growth between the years 2006 and 2008. Moreover, the equation contains the residual term u_{oj}. Since there are only a limited number of countries, the model has only sparse degrees of freedom. Therefore, it is not possible to control for numerous country variables simultaneously (Maas/Hox 2004).

In order to avoid three-way interaction effects, models are estimated separately for the different skill groups. Multi-level models have been calculated with the software program HLM 6.06. The data is weighted at the individual level by the design weight provided with the LFS in order to account for potential selection biases.

3.4 Results

Figure 3.3 displays individual unemployment rates for the low, medium and highly skilled in each country based on the data from the LFS. There is much more variation between countries in the unemployment rates of the low skilled than in the other two groups. The low skilled unemployment rates range from 5.1 % in the Netherlands to 19.4 % in the Czech Republic. The unemployment rates for medium skilled individuals vary from 2.0 % in Norway to 11.1 % in Spain; meanwhile, the highly skilled rates range from 1.2 % in Norway to 7.0 % in Portugal. For the latter two groups, unemployment is particularly high in Southern European countries. Furthermore, Greece is the only country where unemployment risks for the medium skilled are higher compared to the low skilled.

Figure 3.3: Skill-specific unemployment rates



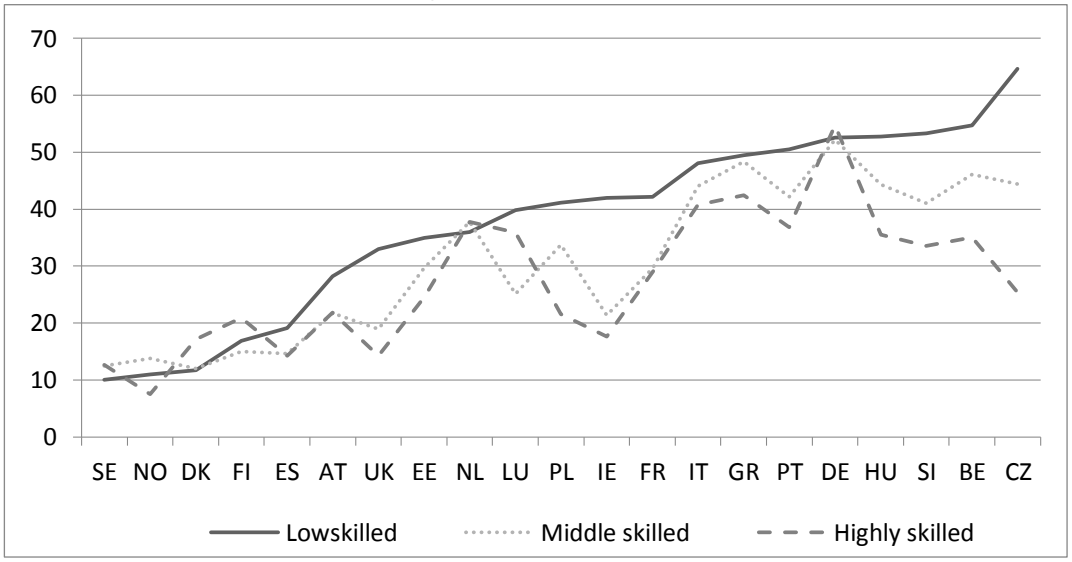
Source: Own calculations on the basis of the LFS (2008).

Figure 3.4 represents the proportion of the unemployed for whom unemployment lasts longer than 12 months. As such, the deviations between skill groups are

now lower compared to the distribution of unemployment risks. While again the low skilled face the highest risk on average, in some countries it is more likely that unemployment lasts more than 12 months for the highly skilled than for less skilled non-workers. This is true for Sweden, Denmark, Finland and Germany. In Norway and the Netherlands, the proportion of long-term unemployed is highest for the medium skilled, but only with little differences to the other two groups.

The comparison of *Figures 3.3* and *3.4* illustrates that the likelihood to be long-term unemployed is only partly related to the general unemployment risk. Spain, for instance, has relatively high unemployment rates, but unemployment seldom lasts longer than a year. In the Netherlands or Luxembourg, in contrast, unemployment rates are rather low, but job losses result relatively often in long-term unemployment.

Figure 3.4: Long-term unemployment risks (in percentages)



Source: Own calculations on the basis of the LFS (2008); only respondents are included who were unemployed at the reference week.

The bivariate results presented in *Tables 3.1* and *3.2* demonstrate the relationship between the skill-specific unemployment rates and the proportion of long-term unemployment with the level of EPL and the technological progress observable in the labour markets, respectively. A significant relationship between EPL and unemployment exists only for the highly skilled labour force. The direction of the correlation is positive. Stricter dismissal rules are related to higher unemployment rates for the highly skilled. The share of employment in (medium-)

high-tech manufacturing and knowledge-intensive services only correlates significantly with the highly skilled unemployment rate. Here, the relationship is negative, meaning that the higher the share of employment in both sectors, the lower the unemployment risks for highly qualified workers. By distinguishing both sectors, the coefficients are still negative, but lose significance. This indicates that the described correlation applies only in countries where technological advancements have been established in both sectors to a large degree. However, the share of employment in (medium-) and high-tech manufacturing is positively correlated to the low skilled unemployment rate. Thus, technological progress in manufacturing seems to lower the employment chances of the less educated workforce. There is no significant relationship between employment in knowledge-intensive services and unemployment. *Table 3.1* shows that EPL is not correlated to the level of technological progress.

Table 3.1: Unemployment rates and macro-level determinants

	Low skilled: unemploy-ment rate	Medium skilled: unemploy-ment rate	Highly skilled: unemploy-ment rate	EPL
EPL	-0.1261	0.3596	0.4646*	
Employment in (medium-) high-tech manufacturing and knowledge-intensive services	0.1246	-0.3106	-0.5085*	-0.3059
Employment in (medium-) high-tech manufacturing	0.5802*	-0.1163	-0.2364	-0.3516
Employment in knowledge-intensive services	-0.291	-0.2389	-0.3578	-0.0634

Sources: LFS (2008); PRO INNO EUROPE (2009); own Calculations.
** significant at the 10 % level.*

The proportion of long-term unemployed among all unemployed respondents within a country is not related to the level of EPL (*Table 3.2*). The level of technological progress that is represented in the distribution of employment only correlates significantly with the share of employment in knowledge-intensive services and long-term unemployment risks for the low and medium skilled workforce. For both groups, the relation is negative. Technological progress established in the service sector, therefore, seems to diminish long-term unemployment risks for these two groups.

Table 3.2: Long-term unemployment risks and macro-level determinants

	Low skilled: long-term unemploy-ment risk	Medium skilled: long-term unemploy-ment risk	Highly skilled: long-term unemploy-ment risk	EPL
EPL	0.0897	0.1644	0.2755	
Employment in (medium-) high tech manufacturing and knowledge-intensive services	-0.1536	-0.2132	-0.0093	-0.3059
Employment in (medium-) high tech manufacturing	0.3386	0.3198	0.1662	-0.3516
Employment in knowledge-intensive services	-0.4053*	-0.4538*	-0.1303	-0.0634

Sources: LFS (2008); PRO INNO EUROPE (2009); own calculations.
** significant at the 10 % level.*

The bivariate estimations do not allow either for differences in the composition of the labour force, nor for relations between macro-level determinants. The multi-level models presented in this section show that the bivariate results are biased by both restrictions. *Table 3.3* presents the results of the multi-level logistic regression analysis for the three skill groups separately (under the control of the individual level variables and GDP growth). Because relations are not linear, coefficients within and between models of different skill groups are not directly comparable. Firstly, the effect of EPL on the likelihood to be unemployed has been estimated exclusively for each skill group. Secondly, the indicators measuring the level of technological progress established at the labour markets have been added, as well as its interaction with EPL.

As *Table 3.3* shows, EPL is positively and significantly related to risk of unemployment for all three skill groups. Converted into percentage points, changes are very similar. An increase in EPL by one unit above the average is related to an increase in the probability to be unemployed by 1.46 percentage points for the low skilled, 1.62 for the medium skilled and 1.19 for the highly skilled. In relative terms, however, unemployment risks increase much stronger the higher the individual skill level is. An increase in EPL of one unit is, for example, related to an increase in the probability of unemployment by around 12 %, for the highly skilled the unemployment risk raises, in contrast, by 31 %.[18]

[18] Unemployment probabilities can be calculated by $1/[1+\exp(-\eta_{ij})]$. The probabilities are estimated under the control of GDP growth and refer to an average increase by 3 % within the last three years.

However, in the case of the low skilled, EPL loses significance when the macro-determinants for employment in (medium-) high-tech manufacturing and employment in knowledge-intensive services are included separately. For the medium and highly skilled, the coefficients remain positive and significant in all models. As expected, there are negative interactions between the level of technological progress and the unemployment risks of the highly qualified workforce. The positive effect of EPL is somewhat lower when the total share of employment in both the (medium-) and high-tech manufacturing and the knowledge-intensive service sector is higher.

By distinguishing the two sectors, the effect is only significant for employment in knowledge-intensive services. For the medium skilled, the interaction effect is only significant if employment in both sectors is taken into account as a whole. The effect goes into the same direction as for the highly skilled. In the case of the low skilled, no significant interaction effect between EPL and the macro-level determinants measuring the level of technological progress can be detected.

Table 3.3: Multi-level logistic regression analysis – Skill-specific unemployment risks

	Low skilled		Medium-skilled		Highly skilled	
Intercept	-2.192 ***	-2.426 ***	-2.816 ***	-3.115 ***	-3.343 ***	-3.556 ***
	(0.126)	(0.244)	(0.148)	(0.194)	(0.141)	(0.199)
EPL	0.128 **	0.270 **	0.225 ***	0.401 ***	0.285 ***	0.436 ***
	(0.050)	(0.119)	(0.048)	(0.095)	(0.058)	(0.080)
Employment in (medium-) high-tech manufacturing + knowledge-intensive services		0.030		0.032 *		0.008
		(0.019)		(0.018)		(0.014)
EPL * Employment in […] manufacturing and […]service		-0.052		-0.071 **		-0.085 ***
		(0.041)		(0.033)		(0.027)
Variance Component	0.114 ***	0.113 ***	0.123 ***	0.117 ***	0.097 ***	0.086 ***
Chi-Square	2908.075	3054.477	2897.304	4130.644	1085.525	846.707
Intercept	-2.192 ***	-2.237 ***	-2.816 ***	-2.850 ***	-3.343 ***	-3.332 ***
	(0.126)	(0.152)	(0.148)	(0.172)	(0.141)	(0.153)
EPL	0.128 **	0.140	0.225 ***	0.248 ***	0.285 ***	0.299 ***
	(0.050)	(0.081)	(0.048)	(0.075)	(0.058)	(0.059)
Employment in (medium-) high-tech manufacturing		0.035		0.032		0.004
		(0.022)		(0.019)		(0.017)
EPL * Employment in (medium-) high-tech manufacturing		-0.001		-0.056		-0.073
		(0.044)		(0.070)		(0.093)
Variance Component	0.114 ***	0.111 ***	0.123 ***	0.122 ***	0.097 ***	0.108 ***
Chi-Square	2908.075	3224.215	2897.304	3138.547	1085.525	1100.23
Intercept	-2.192 ***	-2.066 ***	-2.816 ***	-2.748 ***	-3.343 ***	-3.307 ***
	(0.126)	(0.292)	(0.148)	(0.247)	(0.141)	(0.234)
EPL	0.128 **	0.116	0.225 ***	0.243 *	0.285 ***	0.359 **
	(0.050)	(0.155)	(0.048)	(0.120)	(0.058)	(0.125)
Employment in knowledge-intensive services		-0.045		-0.036		-0.054 *
		(0.038)		(0.029)		(0.027)
EPL * Employment in knowledge-intensive services		-0.020		-0.029		-0.069 *
		(0.043)		(0.033)		(0.034)
Variance Component	0.114 ***	0.121 ***	0.123 ***	0.129 ***	0.097 ***	0.079 ***
Chi-Square	2908.075	3146.156	2897.304	2639.358	1085.525	744.522
N	389,468	389,468	727,360	727,360	332,398	332,398
N	21	21	21	21	21	21

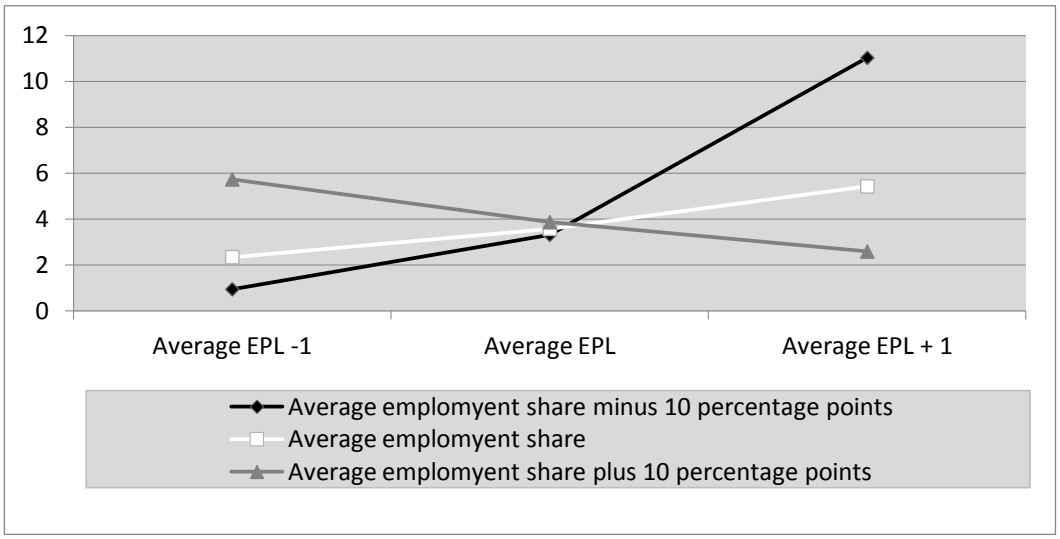
*Source: Own calculations. Models control for individual level variables and GDP growth. Macro variables in the table are mean centred. Robust standard errors in parentheses. *** significant at the 1 % level; ** significant at the 5 % level; * significant at the 10 % level.*

In order to illustrate the results of the logistic multi-level regression analysis, the corresponding probabilities have been estimated as exemplary for the highly skilled by taking the total share of employment in (medium-) high-tech manufacturing and knowledge-intensive services into account. The graph presents the individual unemployment probabilities due to differences in EPL and for varying proportions of technological progress. Probabilities are estimated for three different levels of EPL (average = 2.06; average plus 1 unit; average minus 1 unit) and three different employment shares in (medium-) high-tech manufacturing and knowledge-intensive services (average = 20.6 %; average plus 10 percentage points; average minus 10 percentage points).

Figure 3.5 demonstrates the moderating effect technological progress has on the impact of EPL. In countries with a very low share of employment in (medium-) high-tech manufacturing and knowledge-intensive services, EPL is strongly positively related to the unemployment risks of the highly skilled. The differences in unemployment probabilities become smaller when the share of employment in both sectors is higher. In countries with a large technological advancements – i.e. when the share of employment in (medium-) high-tech manufacturing and knowledge-intensive services is very pronounced – the effect of EPL changes its direction; EPL is then negatively related to the unemployment risks of the highly skilled, i.e. the highly skilled face lower unemployment risks when EPL is stricter.

However, individual unemployment risks comprise both the frequency of job losses and the duration of unemployment. Both aspects raise the probability to be unemployed at the reference week.

Figure 3.5: Unemployment probabilities for the highly skilled due to changes in EPL and different employment shares in (medium-) high-tech manufacturing and knowledge intensive service (in percentages)



Source: Own calculations. Data represent probabilities for men, aged between 25 and 54 years old, not married, having the nationality of the country of residence which had an average growth in GDP of 3 % between 2006 and 2008.

Therefore, in a second step, the article concentrates on the likelihood of being long-term unemployed for those having already lost their jobs. The results in *Table 3.4* show that the main effect of EPL on the likelihood of being long-term unemployed is not significant. This means that it does not depend on the strictness of the implemented dismissal rules, regardless of whether unemployment is mostly short- or long-term. However, there are a few exceptions. For the highly skilled, the main effect of EPL is significant and positive when employment in (medium-) high-tech manufacturing is included. If employment in knowledge-intensive services is taken into account, the interaction effect between EPL and the share of employment becomes significant, while the main effect is negative and insignificant. In contrast to the previous analysis, the interaction effect is now positive. The higher the share of employment in knowledge-intensive services, the more likely it is that strict EPL increases the probability for the highly skilled to be long-term unemployed; whereas, as *Table 3.4* shows, the general likelihood to be unemployed at all, in relation to strict EPL, shrinks with an increase in the share of employment in the service sector. The same can be observed for individuals who are medium skilled. However, the models generally show that the relationship between EPL and long-term unemployment is not robust.

Table 3.4: Multi-level analysis – Skill-specific long-term unemployment risks

	Low skilled		Medium-skilled		Highly skilled	
	-0.269	-0.713	-0.724	-1.271	-0.859	-1.614
Intercept	(0.204)	(0.341) *	(0.252) **	(0.373) ***	(0.306) **	(0.430) ***
	-0.046	0.142	0.029	0.318	0.137	0.541
EPL	(0.184)	(0.328)	(0.226)	(0.377)	(0.239)	(0.397)
Employment in (medium-) high-tech manufacturing and		0.103		0.109		0.138
knowledge-intensive services		(0.032) ***		(0.046) **		(0.047) **
		0.118		-0.043		-0.079
EPL * Employment in […] manufacturing and […] service		(0.114)		(0.137)		(0.142)
Variance Component	0.461 ***	0.348 ***	0.474 ***	0.356 ***	0.529 ***	0.339 ***
Chi-Square	2685.564	3128.379	3063.319	3234.637	950.440	1113.984
	-0.269	-0.471	-0.724	-0.955	-0.859	-1.130
Intercept	(0.204)	(0.224) *	(0.252) **	(0.165) ***	(0.306) **	(0.157) ***
	-0.046	0.005	0.029	0.118	0.137	0.232
EPL	(0.184)	(0.119)	(0.226)	(0.111)	(0.239)	(0.123) *
		0.150		0.170		0.192
Employment in (medium-) high-tech manufacturing		(0.030) ***		(0.031) ***		(0.039) ***
		0.006		0.042		-0.105
EPL * Employment in (medium-) high-tech manufacturing		(0.181)		(0.075)		(0.147)
Variance Component	0.461 ***	0.256 ***	0.474 ***	0.232 ***	0.529 ***	0.207 ***
Chi-Square	2685.564	1800.711	3063.319	1862.762	950.440	610.635
	-0.269	0.601	-0.724	0.333	-0.859	0.087
Intercept	(0.204)	(0.550)	(0.252) **	(0.565)	(0.306) **	(0.566)
	-0.046	-0.612	0.029	-0.628	0.137	-0.485
EPL	(0.184)	(0.393)	(0.226)	(0.375)	(0.239)	(0.373)
		-0.114		-0.153		-0.122
Employment in knowledge-intensive services		(0.062) *		(0.066) **		(0.063) *
		0.182		0.208		0.210
EPL * Employment in knowledge-intensive services		(0.106)		(0.159) *		(0.113) *
Variance Component	0.461 ***	0.438 ***	0.474 ***	0.414 ***	0.529 ***	0.482 ***
Chi-Square	2685.564	2087.684	3063.319	2376,956	950.440	701.739
N	37,038	37,038	41,129	41,129	12,296	12,296
	21	21	21	21	21	21

*Source: Own calculations. Models control for individual level variables and GDP growth. Macro variables in the table are mean centred. Robust standard errors in parentheses. *** significant at the 1 % level; ** significant at the 5 % level, * significant at the 10 % level.*

3.5 Discussion

The multi-level analyses have shown that the relationship between EPL and unemployment is positive for all skill groups. The negative impact due to high labour costs and restricted flexibility thus seem to dominate the positive benefits that are connected with higher levels of job security. However, this relationship becomes smaller – at least for the medium and highly skilled – with higher levels of technological progress, as reflected in the employment rates in (medium-) high-tech manufacturing and knowledge-intensive services. In countries with very large technological advancements, the relation can even be negative. The study, therefore, demonstrates that strict EPL is not associated with higher unemployment risks per se. It also illustrates that flexibility demands for medium and highly skilled workers vary due to the level of technological progress. The results underline the expectations that the need for functional flexibility increases with the implementation of technological improvements for the medium and highly skilled, and that employers are more interested in long-lasting and stable job relationships, so that the positive consequences of strict EPL can finally prevail.

For the low skilled, in contrast, the relationship between EPL and unemployment is not moderated by the level of technological progress. For this group, stricter dismissal rules are always related to higher unemployment risks. The need for numerical flexibility does not change with the implementation of technological advancements. The demand for simple tasks and workers that are easily substitutable seem to be independent from economic developments in contrast to the demand for better skilled workers.

The fact that the relationship between EPL and unemployment works in the opposite direction for the low and the better skilled individuals in countries with very high levels of technological progress indicates that job markets are probably not independent from each other. In fact, low and better skilled workers might be substituted by each other. This is also related to higher levels of inequality concerning individual unemployment risks to the detriment of the low skilled.

The results also show that there are differences due to the sectors in which technological progress is reflected. One has to distinguish between the general technological progress that is represented by high employment rates in both (medium-) high-tech manufacturing and knowledge-intensive sectors, and the consideration of the two sectors separately. Seen in isolation, the interaction between EPL and technological progress is only meaningful for the share of employment in knowledge-intensive services, and then only for the highly skilled. One reason for this might be that the proportions of employment in the specific sectors (particularly in manufacturing) are too small to significantly affect outcomes of the whole labour market.

One striking result of the study is the missing robust relationship between EPL and the likelihood to be long-term unemployed. In contrast to the theoretical literature and past empirical findings, strict EPL does not necessarily turn into an employment barrier for those being out of work. It can also lead to more frequent unemployment periods. If very strict dismissal rules are implemented in a country, employers might prefer to try to use legitimated exit options, e.g. employees might be terminated more often after a trial period ends, or fixed-term contracts are prolonged less often. A high share of employment in knowledge-intensive services alone can strengthen the long-term unemployment risks for the medium and highly skilled. However, in this context it is important to note that prior studies concentrating on EPL reforms have examined short-term effects only resulting from one year to another.

Since this analysis is cross-sectional, no reliable predictions can be made concerning future effects resulting from changes in EPL. The results indicate, however, that more flexible dismissal rules generally improve the employment chances of workers. They also show that the relationship between EPL and unemployment is not one-dimensional. If the technological progress continues, we should expect further relaxation of dismissal rules leading to strong negative labour market results – at least for the medium and highly skilled. By looking at the distribution of employment in (medium-) high-tech manufacturing and knowledge-intensive services, an increase in unemployment risks by relaxing EPL could be anticipated particularly for Sweden, Luxembourg and Germany,

while in countries like Portugal, Greece and Estonia, which only show rather low technological progress, the deregulation of EPL will probably result in lower unemployment risks for the medium and highly skilled.

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4. Do labour market policies work the same for all? Unemployment and early retirement of the older workforce in Europe considering their employment history[19]

4.1 Introduction

The labour market participation of older workers is of particular relevance for counteracting the challenges of demographic change (Lynch 2006). Problems in this context stem from an increasing shortage of skilled labour and the rising costs of state pensions. The integration of the 'generation 50+' into the labour market is of key importance to EU policy and, for instance, has been part of the European Employment Strategy from 2005 to 2008 (European Commission 2007). Many European countries have adopted national strategies to reduce the institutional incentives for early retirement, for example, by means of actuarial benefit reductions for early retirees as in Germany or with activation policies as in the UK (Macnicol 2008). However, we still find a high cross-national variation in the labour market participation of people older than 50 years within the European Union. The activity rates vary from 42 % in Malta to 81 % in Sweden (eurostat 2012). Furthermore, the political efforts to improve the activity of the 50+ age group in the labour market are accompanied by concerns that the abolishment of early retirement possibilities may also lead to higher unemployment rates (Brussig/Knuth 2011; Ebert et al. 2006; Promberger/Wübbeke 2006).

One crucial point which is often neglected in the discussion of these general trends is the diversity *within* the group of older workers. In this study, therefore, we apply a life course perspective to the employment situation of the older workforce in Europe and take into account differences in individuals' previous work history. Using data on employment histories of men in 13 European countries from the Survey of Health, Ageing and Retirement in Europe (SHARE), we analyse the individual determinants of the late career employment

[19] This article has been submitted to the Journal of Social Policy and is currently under review. The study has been presented inter alia at the following conferences and workshops: Doctoral research colloquium for economics at the City University of New York, Graduate Center, USA in 09/2012; lidA/IAB Workshop 'Älter werden in der Arbeit', Nuremberg in 10/2012; IAB PhD Workshop 'Perspectives on (Un-)Employment, Nuremberg in 11/2012.

situation and their interaction with policy factors.[20] Concerning late career employment status, we distinguish between being employed, unemployed or having retired before the statutory retirement age (early retirement). Contrary to previous research in this field which assumes rather uniform effects of policy regulations on the group of older workers, we show that the policy effects differ considerably according to individuals' accumulated status in working life. In line with the insider-outsider approach in labour market research, we assume that policy factors do not have the same effect for the entire older workforce (Lindbeck/Snower 1988). Instead, their effect will depend on the accumulated rights and experiences over the working life (Clemens/Himmelreicher 2008). This applies especially to the risk of late career unemployment, which is triggered by previous labour market experience, as well as to the risk of early retirement, which depends on the accumulation of pension rights.

The theoretical framework underlying our analysis combines mechanisms at the micro and macro level. The research questions are: (1) How are individuals' late career labour market situations related to previous employment history, specifically, the number of years a person has spent in regular employment and job tenure? (2) What effects do labour market policies have on this relationship? Do policy effects vary according to individual characteristics? To our knowledge, this is the first study which applies a life course perspective to the employment situation of older individuals for a large sample of European countries. Regarding the institutional framework, we focus on two labour market instruments, namely early retirement schemes and employment protection legislation, which are both expected to have a substantive impact on the labour market outcomes for older persons (Deelen et al. 2006; Ebbinghaus 2006; European Commission 2006; Guillermard/Rein 1993; Hofäcker/Unt 2013).

The following section outlines the theoretical background and describes individual, as well as macro-level determinants, of the employment situation of older people and how these factors interact. Section 3 gives an overview of the

[20] Among those birth cohorts covered by the SHARE sample, we find a large proportion of women who have never, or have only very shortly been employed, and thus, are not members of the potential work force. Therefore, the female older workforce is highly selective and we need to restrict our analysis to the male labour force.

data, operationalization and methods. The results of the multilevel analysis are described in section 4. The last section includes a discussion of the findings.

4.2 Previous research and theory

4.2.1 Individual employment history

Among older individuals, we find a high level of heterogeneity in terms of labour market outcomes which, in the light of previous results, can be described as polarization. Dannefer (1987) as well Chrystal and Shea (1990) showed, for instance, that many older workers have high-status jobs, while, at the same time, many are overrepresented in low-wage jobs. According to a study by O'Rand (1996), income inequality is also highest among older people. Giesecke and Groß (2003) analysed the likelihood of temporary employment and found that older people, on the one hand, are more often employed in permanent jobs compared to other age groups, possibly as a result of specific human capital requirements and seniority rules. On the other hand, older and younger people have the highest risk of finding only a temporary job when re-entering the labour market. Furthermore, the elderly have a lower risk of becoming unemployed, but also show higher rates of long-term unemployment compared to younger individuals (OECD 2006). Other previous studies support these results and demonstrate that unemployed older workers experience severe difficulties in re-entering the labour market and that unemployment is then often permanent (Dietz/Walwei 2011; Whittaker 2007).

This polarisation at the end of working life should be viewed in the broader context of previous employment history for two reasons. Firstly, individual labour market experience and tenure within a company are closely related to the risk of late career inactivity (Schulze Buschoff 2011). Persons with inconsistent working histories, i.e. with frequently changing employers and with long periods of unemployment, can be described as labour market outsiders who also face rough conditions later in their career. Secondly, the qualifying conditions of early retirement schemes also depend on previous employment history. In earnings-related pension schemes, a certain number of years in regular employment are necessary to meet entry rules and to achieve a sufficient pension income

(Hofäcker 2010; OECD 2006). Thus, the interrelation of employment history and late career is determined at both the individual and institutional level, as we will outline in the following.

In the mostly earnings-related pension systems in Europe, consistent labour market integration over the career leads to high pension entitlements. Moreover, the number of years spent in regular employment during working life is expected to correlate with good job positions, high earnings and high levels of employment security. Thus, persons with consistent careers in regular employment and long job tenures at an employer are considered labour market insiders (Lindbeck/Snower 1988). In addition, persons with long job tenures are more likely to benefit from seniority wages, and thus, may expect higher pensions. On the contrary, those with unstable job histories and mainly atypical employment during their career will suffer from increased unemployment risk and lower re-employment chances later in their career (Dustmann/Meghir 2001; Zwick 2008). These divergences cumulate over the life course and lead to increased inequalities over time between those better and less privileged (O'Rand 1996).

Employment history has an institutional significance since it is the means of access to social security and social assistance schemes. For example, the eligibility criteria of early retirement schemes mostly take into account the duration of labour market participation over the course of an individual's career. Consequently, those with unstable careers in marginal employment also have had fewer possibilities to accumulate public pension entitlements. Furthermore, an individual's labour market and job history serves as a personal knowledge bank of firm- and job-specific processes and techniques, which also determine individual employment chances. Generally, we can differentiate two aspects of individuals' working histories in this context. Firstly, the accumulation of *general* labour market experience and social rights throughout the career, which is reflected in the overall years in employment. Secondly, *firm-specific* knowledge and work experience, for which job tenure with one employer is a proxy.

However, the actual effects of those individual preconditions depend on contextual factors related to the specific national institutional framework and policies (Ebbinghaus 2006; Engelhardt 2012; Guillermard/Rein 1993). Especially

work incentives and disincentives caused by labour market and retirement policies are expected to have a high impact (Walwei/Dietz 2011). Policies targeted at the labour market situation of older individuals exist in two broader categories. Early retirement options and their related benefits constitute institutional 'pull-factors' which 'pull' the individual into retirement (Foden/Jepsen 2002). On the other hand, the reduction of employment barriers for older workers, for instance through the relaxation of employment protection legislation, may serve to keep them on the labour market (Lafoucrier 2002; Platman 2012). In the following, we will outline these effects related to policies and institutions.

4.2.2 Retirement-related policies

Several studies confirm a strong positive correlation between generous early retirement provisions and the labour market participation of older men (Foden/Jepsen 2002; OECD 2006). Mostly, the relationship between early retirement schemes and withdrawal from the labour market has been highlighted from a labour-supply perspective and, thus, conceptualized as a voluntary decision of the worker (Dorn/Sousa-Poza 2005). From this perspective, early retirement decisions are determined by the assessment of future incomes stemming from either job wages or social benefits, respectively. Individuals compare their current actual and potential future wages with the expected amount of retirement benefits. The attractiveness of retirement in comparison to continued employment increases in line with the level of pension benefits. Likewise, retirement becomes more unattractive if potential future earnings are assessed to be higher than pension benefits. Consequently, if individual retirement decisions are conceptualized as voluntary, they highly depend on the generosity of pension payments and early retirement benefits (Hofäcker 2010; OECD 2006).

However, the current employment situation of the elderly also depends to a large degree on the labour demand side. From this perspective, employers play a key role in retirement decisions (Laczko et al. 1988). Hutchens (1999) demonstrated that high pension payments may also be a trigger of retirement because they decrease the separation expenses which have to be paid by

employers to separate from their older employees. The level of pension benefits, thus, influences the incentives for employers to displace their older workforce.

These incentives are based on various factors, for instance, on general negative perceptions about the productivity of older workers, but also on seniority payments which lead to higher wage costs for older employees. Furthermore, older workers might be confronted with a depreciation of human capital and obsolescence of their skills as a result of technological change or other structural changes in the labour market (Dorn/Sousa-Poza 2005; OECD 2006). To sum up, either the perceived or the actual productivity of older workers, relative to the wages paid, leads to a decrease in the labour demand for the older workforce (Hutchens 1999). Retirement is then understood as a situation in which the access to acceptable wages and attractive job opportunities are restricted (Dietz/Walwei 2011; OECD 2006; Radl/di Fiesole 2006; Taylor/Walker 1998). In this case, '[r]etirement legitimatizes withdrawal from the work force in the face of difficulties in finding suitable work' (Bould 1980: 124).

The reservation wages of older workers are not only determined by the generosity and accessibility of public early retirement benefits, but also by other benefits like unemployment, long-term sickness and disability benefits, as well private pension arrangements. However, previous studies have shown that public pension benefits are one of the main predictors of early retirement, even when other social transfer payments are taken into account (Fischer/Sousa-Poza 2006). Generous statutory early retirement benefits allow firms to reduce their own costs related to the layoff of older employees in terms of company pensions and compensation payments and, therefore, might increase the incentives to push older workers out of their jobs (Foden/Jepsen 2002).

However, adverse working conditions and dismissals do not necessarily only lead to early retirement, but may also result in unemployment. The employment situation after job loss, therefore, depends on the interplay of early retirement provisions with other policy factors, such as the strictness of employment protection legislation (Ebbinghaus 2006; Hofäcker/Unt 2013).

These possibly contrary incentives resulting from (early) retirement possibilities might also be an indication that policies and regulations do not affect

all older individuals in the same way, and further individual-level characteristics have to be taken into account in order to comprehend the actual effects and micro-macro interrelations. This holds especially in the case of early retirement, where the institutionalised access requirements mostly refer to an individual's previous employment history.

4.2.3 Employment-related policies

Employment chances of older workers are also influenced by the level of employment protection legislation (EPL) implemented in a country. Besides negative perceptions about the adaptability or productivity of older workers and the increasing labour costs due to seniority payments, strict employment protection rules have been identified as an important determinant of the employment situation of older workers (OECD 2006; European Commission 2006). The strictness of EPL is determined by the costs related to the dismissal of an employee. Typically, it is distinguished by costs directly associated with a layoff which are quantifiable and already known before the employment relationship starts, e.g. severance payments, and indirect costs arising from procedural inconveniences and difficulties enforcing a dismissal (OECD 2004).

Although employees of all ages are affected by the strictness of dismissal rules, they have turned out to be particularly relevant for the elderly since in many countries the level of legal protection depends on tenure (Deelen/Bourmpoula 2009). However, the effects of EPL are twofold (Addison/Teixeira 2001; Engelhardt 2012; Skedinger 2010). On the one hand, rigid EPL restricts the possibilities of firms to force older workers out of the labour market. High severance payments make it more expensive to dismiss a worker. Rules determining the legitimacy of a dismissal make separations even more difficult. They specify, for instance, whether changes in the productivity of workers can justify a layoff, or whether alternative measures have to be taken to enable the continuance of the employment relationship, such as a change in job characteristics. Thus, the stricter the level of EPL is, the higher the job security and the lower the likelihood of forced unemployment or early retirement are. On the other hand, EPL also constitutes barriers to re-entering the labour market

after job loss. Separation costs are part of the labour costs that employers take into account when hiring new employees. The higher these costs are, the lower the incentives are to employ workers (OECD 2004, 2006). Furthermore, strict EPL constitutes an incentive for employers to use early retirement schemes as an alternative method of displacing older employees with high wages. Strict EPL, therefore, strengthens the general risk of long-term unemployment for older workers. However, while it is broadly accepted that strict dismissal rules are positively related to *long-term* unemployment, there is no clear empirical evidence concerning a *general* relationship between EPL and unemployment (Addison/Teixeira 2001; Skedinger 2010).

Again, the inconsistent previous findings regarding the presumed effects of EPL on the employment situation of older individuals can be related to the fact that the actual impact of EPL varies according to individual characteristics. While, for example, strict dismissal rules protect those older employees with long job tenure from layoff, it may constitute, firstly, a barrier to regular employment for those in marginal employment or even unemployment, and secondly, an incentive for employers to use early retirement schemes instead of direct dismissal.

4.3 Hypotheses

As described, we expect that the generosity of early retirement schemes and the strictness of EPL do not have one uniform effect on the employment situation of older workers. Rather their effects will vary according to individual determinants related to employment history and labour market experience.

The duration of regular employment over the career indicates an individual's labour market experience. Those with stable employment biographies have gained employment advantages throughout their working life, especially due to investments in human capital that are related to higher wages and higher levels of job security, in particular when employment careers are characterized by long job tenure (Dannefer 1987, 2003). Therefore, persons with longer periods in regular employment should have a lower risk of unemployment in their late career. The same applies to job tenure: firm-specific knowledge and experiences

prevent from lay-off. Thus, persons with long-term attachment to one employer are expected to have a generally lower risk of being unemployed.

Hypothesis 1a: The more consistent and stable the individual's working history, the lower the unemployment risk late in their career.

The relationship of previous career and early retirement risk is more ambiguous since consistent careers in regular employment and stable employment relationships are also associated with the accumulation of pension rights. Thus, its effect on the probability of early retirement is twofold. On the one hand, individuals with long labour market experience in regular employment are less likely to leave the labour market early because they have acquired high human capital and good job positions. On the other hand, long duration in regular employment also constitutes pension rights and, thus, is related to a high expected pension income which provides an incentive to withdraw from the labour market. Furthermore, long periods of regular employment may also be a qualifying condition for early retirement schemes. Considering these contradictory presumptions, it is an empirical question of which effect is most predominant.

H1b: The individual-level relationship between the consistency and stability of the individual's working history and the risk of early retirement is unclear.

We assume that the individual-level effect of years in regular employment on early retirement risk will be dependent upon the generosity of early retirement benefits. Generally, the likelihood of a transition into early retirement should increase along with the generosity of pension benefits. However, primarily persons with stable careers in regular employment can opt for early retirement as an alternative to employment or unemployment, because they are likely to meet the eligibility criteria and their expected pension benefits are high.

Hypothesis 2: The more generous the early retirement incentives, the higher the probability of early retirement for individuals with consistent and stable working histories.

EPL, especially the strictness of dismissal rules, intensifies the effect of job tenure on the risk of unemployment. The longer someone is employed in the

same job, the higher their job protection. In contrast, for those already having lost a job, rigid employment protection rules might turn into employment barriers impeding the possibility to procure employment in the future. Therefore, workers who have spent a long time with one employer benefit from rigid EPL and have a lower unemployment risk. Previous career instabilities, periods of unemployment and atypical employment increase the risk of remaining in a disadvantaged position late in one's career, particularly when EPL is rigid. The stricter dismissal rules are, the lower the incentives for employers to hire new workers are. Consequently, in countries with strict dismissal rules, persons with long-term job tenure have an even greater advantage since their risk of being unemployed is lower, whereas the situation of those with previously unstable careers is worse.

Hypothesis 3: The stricter the EPL, the lower the late career unemployment risk for individuals with consistent and stable working histories.

In addition, we also assume that the relation between EPL and early retirement differs depending on individual working history. The more rigid employment protection laws are, the higher the separation costs are, i.e. the more difficult it is for the employer to displace a worker with high job tenure. In this situation, early retirement constitutes an alternative to dismissal and might be an option which is mutually agreeable for both the employer and the employee. The former can circumvent the strict dismissal regulations, and the latter might resign and decide to leave the labour market if they see no future employment chances due to employment barriers produced by rigid dismissal rules.

Hypothesis 4: If the EPL is strict and the early retirement incentives are generous, the probability of early retirement is high for individuals with consistent and stable working histories.

4.4 Data and methods

We use SHARE-data with Wave 3 providing retrospective information on the life histories of older individuals in 12 countries (Austria, Belgium, Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden and

Switzerland).[21] The biographical data includes information on the individual employment situation from leaving school until retirement entry (Börsch-Supan et al. 2011; Schröder 2011). Information on the current situation of respondents comes from SHARE Wave 2 (surveyed in 2006/07) and Wave 1 for those who did not participate in Wave 2 (surveyed in 2004/05).[22] We restrict our analysis to the male older workforce, excluding long-term sick and disabled persons. This results in an analysis group of 4,447 men aged between 50 and the statutory retirement age of a country (typically 65 years).

The dependent variable of the analysis is the employment status at the time of the interview, divided into three categories: (1) employed (full-time, part-time, and self-employment); (2) retired; (3) unemployed. 'Employed' serves as a reference category in all multivariate models. In order to cover the different labour market situations of older workers, we use two indicators which describe individuals' employment histories based on the retrospective biography information included in SHARELIFE. The first indicator is measured as the sum of years in regular full-time employment. The second indicator 'job tenure' represents the duration of the last job. For employed persons, this applies to the current job, while for those in early retirement or unemployment, it applies to the last job before they left the labour market. The following individual characteristics are included as control variables: age; educational level according to the International Standard Classification of Education (ISCED: level 0-2 indicates a low educational level, 3-4 a medium educational level, and 5-6 a high educational level); a binary variable indicating cohabitation with a partner or not; the subjective health status as a binary variable indicating poor health; and, in order to account for significant differences in retirement provisions, a binary variable

[21] This analysis uses data from SHARELIFE release 1, as of November 24th, 2010 and SHARE Wave 1 and 2, release 2.5.0, as of May 24th, 2011. The SHARE data collection has been primarily funded by the European Commission through the 5th framework programme (project QLK6-CT-2001- 00360 in the thematic programme Quality of Life), through the 6th framework programme (projects SHARE-I3, RII-CT- 2006-062193, COMPARE, CIT5-CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the 7th framework programme (SHARE-PREP, 211909 and SHARE-LEAP, 227822). Additional funding from the U.S. National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, Y1-AG-4553-01 and OGHA 04-064, IAG BSR06-11, R21 AG025169) as well as from various national sources is gratefully acknowledged (see www.share-project.org for a full list of funding institutions).
[22] This applies to 365 of the 4,447 respondents in our final analysis sample.

indicating whether someone has been mostly self-employed during their working life.

As contextual factors, we include the strictness of EPL and the generosity of early retirement benefits. The strictness of the national EPL is operationalized with an index provided by the OECD (OECDa 2011; data refers to the year 2007). We use only the component of the index which provides information about dismissal rules for regular employment and gives information, for example, on procedural processes, compensation payments, notice periods and the difficulty of enforcing a dismissal (for detailed information see Venn 2009). The strictness of EPL is measured on a scale from 0 to 6, with larger numbers indicating stricter regulation. In our sample, this EPL measure varies between 1.19 in Switzerland and 3.00 in the Czech Republic.

We operationalize early retirement generosity with an OECD indicator providing information about the monetary incentives for older workers preferring employment over retirement. The indicator shows the change in gross pension wealth for each year of leaving the labour force before reaching the statutory retirement age for a man aged 60 to 65 with average earnings. A positive value of this measure indicates that the monetary incentives of early retirement are stronger than the additional value of staying in the labour force, and vice versa. A low monetary incentive for early retirement stems from high actuarial reduction in benefits and/or restrictions of possibilities to apply for public pension benefits before the statutory retirement age (OECD 2011b). The range of this indicator in our sample is from -24.0 in the Netherlands to 20.5 in Belgium.

To test the micro-macro hypotheses on the employment situation of older workers, we apply multilevel methods. However, due to the rather small number of macro-level units in the SHARELIFE data, the conventional random effects regression models are not appropriate. Maas and Hox (2005) and Meuleman and Billiet (2009) pointed out the problems of the application of multilevel analysis with a small sample of countries. Due to the low number of cases on the second level, only a very small number of macro variables can be controlled for. In this case, the application of robust fixed effects models, which control for country-level heterogeneity, is recommended in the econometric literature (Allison 2009;

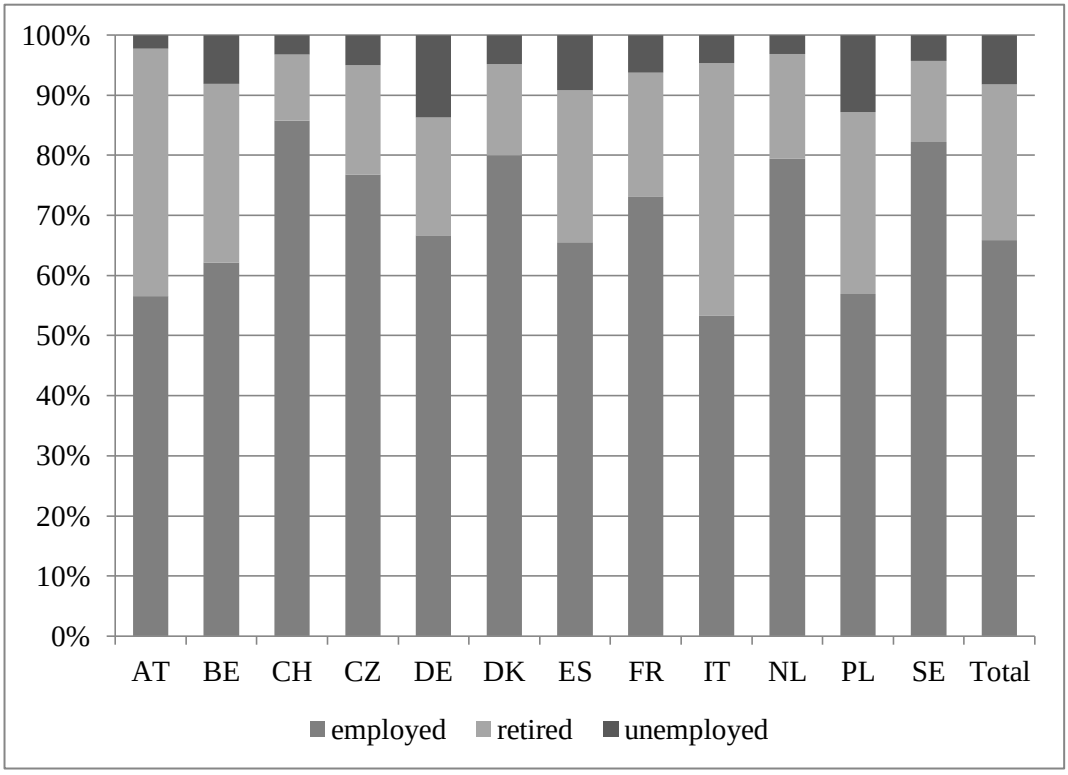
Wooldridge 2010). Thus, we apply country fixed effects models and integrate the country-level indicators by means of cross-level interaction effects. In conceptual terms, the cross-level interaction effects represent the interrelated effects of individual characteristics and policy factors.

4.5 Results

4.5.1 Descriptive results

Figure 4.1 gives an overview of the distribution of employment statuses among the older workforce in country comparison. First of all, the proportion of unemployed older men is rather low in all countries, with the exception of Poland and Germany. The main variation in the labour market status of the elderly is between early retirement and employment. In four countries, the proportion of employment among the older workforce is high, nearly reaching, or even exceeding, 80 %. These are the Netherlands, Denmark, Sweden and Switzerland. However, we find rather low employment rates in Austria, Poland and Italy, where only around 50 % are actively participating in the labour market.

Figure 4.1: Employment status of men age 50-64 in country comparison (weighted percentage shares)



Source: Own calculations from SHARE waves 1 and 2 (Release 2.5.0).

4.5.2 Multivariate results

We estimate several country fixed effects regression models including the individual-level variables in Model 1 (*Table 4.1*) and additionally the cross-level interactions effects for: EPL in Model 2, early retirement generosity in Model 3, and the interaction of both in Model 4 (*Table 4.2*).[23] First of all, we find slightly different patterns in the structure of the individual-level determinants of early retirement and unemployment. Generally, without considering any cross-level interaction effects, impact factors related to the individual employment history have a stronger impact on late career unemployment risk than on early retirement risk (Model 1). The number of years spent in regular employment over the career has no significant effect on the risk of early retirement; however, tenure is negatively related to early retirement. The longer a person is employed in the same job, the higher the probability is that he will stay in this job also later in his career. On the other hand, the involvement in regular employment over the whole career neither induces nor prevents early retirement. The effects of the number of years in regular employment and job tenure on late career unemployment risk are both negative. The more time a person was in regular employment during his working life, and the longer he has been attached to the same employer, the lower is the probability of late career unemployment. Consequently, our individual-level Hypotheses 1a and 1b regarding the relationship of employment history and late career employment are mainly supported. As assumed, we find no clear effect regarding the relation of employment history and the probability of early retirement.

[23] As a robustness check, country-separated regressions and two-stage plots were estimated. These tests confirmed the results of the country fixed effects regression models.

Table 4.1: Multinomial logit model for the employment situation of men age 50-64, relative risk ratios: Individual factors

	(Model 1)	
Reference category: employed	**Category: retired**	**Category: unemployed**
Age	1.646***	1.174***
	(0.028)	(0.023)
Years in regular employment (age 25-50)	1.004	0.952***
	(0.011)	(0.011)
Duration of last job	0.985***	0.955***
	(0.004)	(0.005)
Mainly self employed	0.247***	0.208***
	(0.061)	(0.060)
Educational level (Reference-category: Low)		
Medium educational level	0.675***	0.605**
	(0.076)	(0.099)
High educational level	0.405***	0.248***
	(0.053)	(0.052)
Self-reported health: Poor	5.231***	5.196***
	(1.210)	(1.331)
Living with spouse/partner	0.820	0.422***
	(0.116)	(0.067)
	+ Country Fixed Effects	
N	4447	
Pseudo-R^2	0.317	

*Standard errors for the logit-values in parentheses; * p < .05, ** p < .01, *** p < .001; Source: Own calculations from SHARE waves 1 and 2 (Release 2.5.0) and SHARELIFE (Release 1).*

For the other individual-level characteristics, we find the following results. The relative risk of early retirement or unemployment significantly increases with age and significantly decreases with the educational degree. The risks of being unemployed or entering early retirement are strongly reduced for persons who have been mainly self-employed over their career and strongly increased for persons who indicate a poor health status.

In the next step, we introduce policy factors in our models for the analysis of the micro-macro interrelation of employment career and policy factors. The results demonstrate that the impact of years in regular employment on the relative risk of early retirement is significantly moderated by both policy indicators.[24] As assumed in Hypothesis 2, we find a significant positive cross-level interaction effect of the generosity of early retirement and years in regular employment (Model 3), meaning that persons with a long duration of regular

[24] There is no significant interaction between job tenure and the macro-level indicators. Interactions with policy indicators are, thus, not primarily induced by the duration of the last job, but rather by developments during the whole working career.

employment have a higher probability of early retirement, but only in countries where the associated benefits are generous.

Table 4.2: Multinomial logit models for the employment situation of men age 50-64, relative risk ratios: Cross-level interaction effects

	(Model 2)	(Model 3)	(Model 4)
Reference category: employed			
Category: retired			
Years in regular employment (age 25-50)	1.140***	1.019	1.023
	(0.038)	(0.012)	(0.012)
Duration of last job	0.999	0.986***	0.987**
	(0.016)	(0.004)	(0.004)
Cross-level interaction effects			
Regular employment*EPL	0.943***		
	(0.013)		
Last job duration*EPL	0.994		
	(0.007)		
Regular employment* Early retirement generosity		1.003***	
		(0.001)	
Last job duration* Early retirement generosity		1.000	
		(0.000)	
Regular empl.*Early retirement generosity*EPL			1.001***
			(0.000)
Last job duration*Early retirement generosity*EPL			1.000
			(0.000)
Category: unemployed			
Years in regular employment (age 25-50)	0.990	0.953***	0.953***
	(0.042)	(0.012)	(0.012)
Duration of last job	0.940*	0.956***	0.956***
	(0.024)	(0.006)	(0.006)
Cross-level interaction effects			
Regular employment*EPL	0.983		
	(0.018)		
Last job duration*EPL	1.007		
	(0.011)		
Regular employment* Early retirement generosity		1.000	
		(0.001)	
Last job duration* Early retirement generosity		1.000	
		(0.000)	
Regular empl.*Early retirement generosity*EPL			1.000
			(0.000)
Last job duration*Early retirement generosity*EPL			1.000
			(0.000)
	+ Country Fixed Effects		
N	4447	4447	4447
Pseudo-R^2	0.317	0.320	0.322

*Models 2-4 include all individual-level variables as in Model 1. Standard errors for the logit-values in parentheses; * p < .05, ** p < .01, *** p < .001; Source: Own calculations from SHARE waves 1 and 2 (Release 2.5.0) and SHARELIFE (Release 1).*

For unemployment, we do not find significant cross-level interaction effects, neither for EPL nor for the early retirement generosity, and therefore, no indication which supports Hypothesis 3. Consequently, in the case of unemployment, individual factors work rather independently from the national

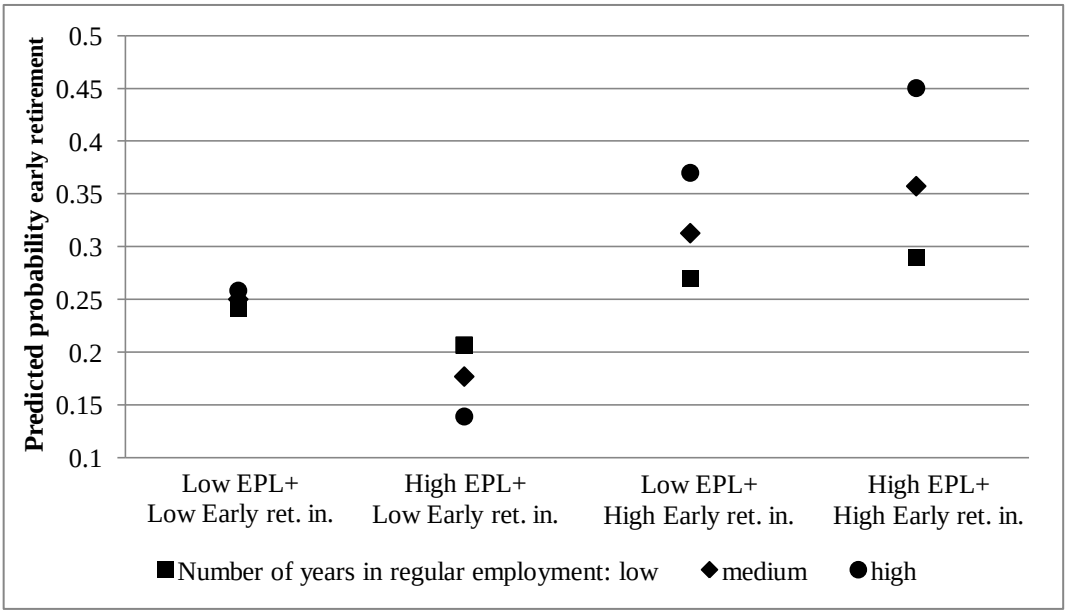
labour market and retirement regulations. As we showed in the previous section, the share of persons becoming unemployed at the end of their career is very low. Those few who are affected exhibit certain individual-level risk factors, such as low educational level, marginal employment and short job tenure. The policy factors regarded in this study neither compensate for, nor intensify, the effect of these disadvantageous characteristics.

For early retirement risk, we find a significant cross-level interaction effect of EPL and years in regular employment. Stricter EPL leads to a lower risk of early retirement for those who have spent more time in regular employment during their career (i.e., the labour market insiders), in comparison to those with inconsistent careers (i.e., the outsiders) (Model 2). However, Model 4 reveals that the effect of EPL is dependent on the generosity of early retirement incentives. If rigid dismissal rules are combined with a generous pension system (Model 4), the coefficient becomes positive, i.e. then persons with consistent careers have a higher risk of early retirement. Thus, Hypothesis 4 is confirmed. The results indicate that early retirement schemes are more likely to be accepted by labour market insiders when public early retirement benefits are high. It can be assumed that employers use generous early retirement schemes in order to avoid seniority wages for their older workforce. On the other hand, in countries where early retirement is rather unattractive due to low benefits, persons with inconsistent careers have a higher chance of early retirement.

To illustrate this three-way cross-level interaction effect, we display the predicted probabilities of early retirement by means of marginal effects computed for ‘average individuals’ which differ in the number of years in regular employment over the career holding constant all other factors on the mean value of the sample. *Figure 4.2* is based on Model 4 and shows the combined effect of employment protection rules and early retirement incentives on the probability of early retirement. For all groups of workers, the probability of early retirement is highest when EPL is rigid and early retirement benefits are high. It is lowest when the dismissal rules are rigid and the early retirement incentive is low. Thus, EPL and the early exit incentive have divergent effects on early retirement risk, yet, the generosity of early retirement benefits are more influential than the EPL

rigidity. While generous pension benefits generally result in a higher probability of early retirement, the effect of EPL is more complex. Rigid dismissal rules also encompass a higher probability of early retirement, however, only if early exit incentives are high. If these incentives are low, strict dismissal rules have the reverse effect and *de facto* diminish the individual probability of early retirement.

Figure 4.2: Marginal effects for the probability of early retirement for different numbers of years in regular employment and different country-levels of EPL and the early retirement incentive



'Early ret. in. 'means early retirement incentive, values 10 (high), -20 (low). Values for EPL: 3 (high), 1 (low). Source: Own calculations from SHARE waves 1 and 2 (Release 2.5.0) and SHARELIFE (Release 1); based on Model 4 (see Table 4.2).

The central result is that the effect of the policy factors differs and even moves in the opposite direction depending on the individual's previous working history, i.e. for labour market insiders with a high number of years in regular employment, and outsiders with a low number of years in regular employment. When EPL is strict and early retirement benefits are low, the early retirement probability of a person with many years in regular employment is only around 14 %, whereas those with more inconsistent careers have a higher probability of early retirement. Accordingly, rigid dismissal rules create disincentives for employers to displace workers, who due to the high labour market integration over their career, are strongly protected by EPL. However, this is only the case if the alternative route of displacement by means of early retirement is denied.

In contrast, if the EPL is strict and early retirement benefits are generous, the probability of early retirement for individuals who spend many years in regular

employment is around 45 %, by far exceeding the probability of those with inconsistent employment histories. Early retirement generosity has the strongest impact on the employment situation of labour market insiders, i.e. people having spent the most years in regular employment. The higher the monetary incentives to withdraw from the labour market before the statutory retirement age, the more likely those with a long duration of regular employment will do so. Consequently, early retirement benefits serve as an exit option for individuals who have been well integrated in the labour market during their career, but are only sparsely available for those in marginal labour market positions. Moreover, the gap between labour market insiders and outsiders is largest when EPL is strict and early exit options are generous, while there is almost no difference between these groups when both EPL and early retirement benefits are low. Thus, inequalities in labour market outcomes in later life are driven by the interaction of labour market policies and their specific interplay with individuals' accumulated status over the working career.

4.6 Conclusion

Our analysis of the labour market chances of the older workforce has shown that, firstly, individuals face different risks of inactivity and unemployment later in their career depending on their previous employment history. We found clear patterns regarding the individual-level determinants of unemployment and early retirement. Late career unemployment results from an accumulation of disadvantages over the previous career, including a low educational level and a fragmented career in marginal employment without long-term attachment to one employer. Since the developments of the last years have shown that the share of discontinuous career paths has increased considerably (Schulze Buschoff 2011), one may expect that unemployment risks of older people will rise in the future.

Those who retire early, on the other hand, are persons who have had rather consistent careers in regular employment and use early retirement possibilities if they are available in their country. Thus, mainly individuals who are well integrated in the labour market and could accumulate sufficient pension rights throughout their careers make use of generous retirement benefits. In

contrast, persons with fragmented employment histories face a higher risk of late career unemployment and are less like to use early retirement as an alternative. Presumably, one reason for this is their lower capacity to accumulate pension rights over their career, which then results in burdens to meet the possibly demanding eligibility rules of early retirement schemes.

Secondly, regarding early retirement we found that also the effect of EPL varies among older workers depending on their previous employment history. According to our results, strict EPL particularly decreases the probability of early retirement for individuals with consistent careers in regular employment, but only when the expected pension benefits are small. In this context, rigid EPL appears to have the effect that older employees actively participate longer in the labour market, presumably because employers want to avoid costly layoff procedures. Therefore, strict dismissal rules appear to give some security against possibly involuntary early retirement. The high costs of dismissal might have the side effect that employers implement alternative strategies to preserve the employability of their older staff members. However, these firm-level effects have to be tested in further research with data that also includes employer information. Furthermore, older labour market insiders seem to accept early retirement schemes offered by employers in order to avoid seniority wages when public pension benefits are also high. As the outcomes of the study have shown, the consideration of only one single policy factor can be too one-sided and might lead to biased expectations.

In general, generous early retirement options are not a last resort for individuals with low employability, but rather serve as an appropriate option for well-integrated insiders of the labour market. Two reasons can be named for this result. Firstly, only labour market insiders with previously stable employment histories have access to early retirement. Secondly, employers have higher incentives to lay off these employees because of their high seniority wages.

Therefore, the strategy of using early retirement to avoid unemployment of older workers has to be questioned. Against the background of an ageing workforce and increasing demand for skilled labour, the results of our analysis provide support for active measures to keep qualified older employees in the

labour market and for not restricting these measures to the supply side. Furthermore, strategies to avoid late career unemployment should start earlier in the career, for example, by means of incentives for life-long learning (Jepsen et al. 2002).

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5. Why employment protection reforms are not used as a policy tool to fight back unemployment in Europe: The role of labour market conditions and the relation between insiders and outsiders on the implementation of reforms[25]

5.1 Introduction

For decades, in numerous European countries, employment protection legislation (EPL) has been relaxed. The biggest changes can be observed concerning the use of temporary employment and fixed-term contracts.

Reform processes[26] have been initiated, inter alia, by the Jobs Study of the Organization for Economic Co-operation and Development (OECD) that was published in 1994. The Jobs Study was published due to the high number of unemployed within the EU-member states (35 million or 8.5 % of the labour force) and the strong prevalence of long-term unemployment. An insufficient adaptability of the labour markets towards a preceding technological development and globalization of economies has been identified as the main reason for high and persistent unemployment by the OECD. Rigid employment protection rules and, along with this, missing capabilities of a flexible work organization have been criticized, in this context, as an essential obstacle for the reduction of structural unemployment by decreasing hiring incentives (see OECD 1994).

The relation between employment protection and unemployment has been examined in numerous studies (e.g. Addison/Teixeira 2001; Baker et al. 2005; Belot et al. 2002; European Commission 2006; OECD 2004; Skedinger 2010). However, in the empirical literature, no clear effect concerning the relation between the deregulation of EPL and a decrease in unemployment could be confirmed. Only some of the studies identified a positive relation between EPL and unemployment; in most of the cases, the effects were not significant.

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[25] This article has been submitted to the European Journal of Social Security and is currently under review. The study has been presented inter alia at the following conferences and workshops: SOCLIFE winter workshop, Cologne in 02/2012; Doctoral research colloquium at the chair for empirical social and economic research, University of Cologne, in 01/2013.

[26] Within this paper, the term ‘reform’ refers only to amendments that led to more flexible EPL.

One potential explanation for this contradictory outcome can be attributed to a conflict of interests on the political level. While high unemployment rates and the economic and social consequences involved would legitimate the implementation of reforms from an economic perspective, high and increasing unemployment rates, in contrast, are considered to diminish the political support that is needed by the decisive voters for the actual implementation of the amendment.

In contrast to the large number of studies that deal with the effects of changes in EPL, the empirical literature analyzing the determinants for the implementation of employment protection reforms is only sparse (Emmenegger 2011) and concentrates mainly on political determinants like the number of veto-points or the dominance of left or right wing parties (e.g. Botero et al. 2004; Bonoli 2003; Hoe et al. 2008; Ochel et al. 2008; Rueada 2005). The present study tries to fill the gap in the empirical literature by highlighting the role of labour market conditions, particularly the meaning of unemployment, and the relation between labour market insiders and outsiders.

The paper is structured as follows: First, the theoretical considerations concerning the relation between unemployment and EPL are introduced. Afterwards, the data and the methodological approach are presented. The study concentrates on EU-15 countries between 1995 and 2005. In order to identify potential necessary conditions for the implementation of amendments, crisp-set qualitative comparative analysis (crisp-set QCA) has been applied. Within the result section, the paper provides an overview on the reforms that have taken place between 1995 and 2005. The results of the truth tables are discussed and differentiated according to the type of employment affected and the strength of reforms. The study ends with a conclusion and discussion of the findings.

5.2 Theoretical considerations

First insights into the interdependency of unemployment and the realizability of employment protection reforms are provided by the work of Saint-Paul (1993, 1996). He highlights the relation between unemployment and the political support for dismissal reforms by different groups of voters. The unemployed are generally

interested in eliminating employment barriers in the form of hiring disincentives and to improve their own job chances. However, the employees represent due to their numerical predominance the decisive voters, whose support is needed by the political actors for not being punished by deselection in the next legislative period. The employees have primarily an interest to maintain their own job security (cf. Ochel et al. 2008). Employees in regular employment, the so-called labour market insiders (Lindbeck/Snower 1989), are generally against reforms that reduce their own employment protection and, therewith, their own advantages. The effort to protect their own job security is higher the larger unemployment is. This also means that a reform that aims to make EPL more flexible is less likely to get the necessary support when unemployment is high and in particular, when unemployment is increasing (Ochel et al. 2008; Saint-Paul 1993). Policies that contribute to the persistence of unemployment get the greatest consent by voters. An employment protection reform that leads to a relaxation of dismissal rules is, thus, only possible when unemployment is low or decreasing, i.e. when the incentive of the insiders to protect the status quo is rather low.

Saint-Paul (1993) claims for this reason that the high (long-term) unemployment rates as they could be observed in many European countries, did not have a huge influence on the relaxation of EPL. Since the unemployed still form a minority despite high unemployment rates, their interests are not taken into account or they step back behind the interests of the employees.

These assumptions are associated with certain restrictions (Saint-Paul 1996). The unemployed would not declare themselves in favour of a complete abolishment of dismissal rules if the individual costs arising from continual job changes would be higher than the gains from employment, although it might facilitate easier access to employment as such.

Furthermore, specific aspects can influence the support of the employees. Workers would not prefer infinitely high separation costs if this would lead companies into bankruptcy or if it would thwart the necessary progress to remain competitive.

The ‘tax-effect’ can also be influential. Unemployment increases the tax burden for employees. Therefore, workers have an incentive to support measures that reduce unemployment in order to diminish their individual tax load.

The decisive voters are also more likely to contribute to reforms that reduce unemployment and facilitate labour market entry when they anticipate acute job insecurity themselves. According to Saint-Paul (1996), the political support of the decisive voters increases when unemployment is distributed over broad population groups and when employment rates are decreasing. In the case that unemployment is distributed only among specific groups, i.e. low skilled and young people or specific regions or sectors, the political pressure by insiders to reduce unemployment is rather low.

Generally, the realizability of amendments that are detrimental for regular employees is expected to be rather difficult. However, there might be some differences for deregulation measures that affect temporary employment only. Persons with a regular employment contract are not harmed by these changes. In contrast: ‘Two-tier systems give incumbent employees the best of both worlds: their current terms are unaffected, but if they lose their job, they will benefit from higher job creation’ (Saint-Paul 1996: 280). Reforms that facilitate the use of temporary employment and fixed-term contracts influence the outside options of workers positively. According to Saint-Paul (1996) this also promotes the bargaining power against employers that, in turn, has a positive effect on the level of job security.

Therefore, it is easier for politicians to implement reforms that regulate temporary employment or fixed-term contracts, without being punished by the insiders. The support for such amendments is bigger the higher the share of outsiders (i.e. the unemployed, or persons that work on a temporary basis) because they would directly benefit from the increased hiring incentives by the employer. Saint-Paul (1993) explains thereby the introduction of the two-tier employment protection system that differentiates between regular and temporary employment and that has led to a dual labour market with flexible and rigid employees (Saint-Paul 1993). Moreover, a negative labour market situation with high and increasing unemployment is related to an increase in the number of

outsiders and a rise in political power.[27] It can be assumed that reforms are more likely the bigger the share of outsiders on the labour market is.

Some authors (Eichhorst/Marx 2011; Ochel et al. 2008), however, expect that insiders nevertheless anticipate negative effects through the expansion of the temporary employment sector at least in the long term. Due to the 'dualization' of the labour markets, the competition increases for insiders. Employers may have incentives to hire less expensive outsiders via fixed-term contracts. This diminishes the bargaining position of the insiders, with the result of low wages and lower employment security. The authors, therefore, claim that decisive voters generally have no interest to support employment protection reforms, even if they only affect temporary employment and fixed-term contracts. Moreover, one may assume that an easier use of temporary employment or fixed-term contracts is only of limited value for the perceived outside-options. In the long run, the unemployment risks increase in the case of job loss if this is connected with a change into temporary employment relationships in the future.

Emmenegger (2009) further argues that outsiders might also have motives not to support deregulations on temporary employment at all. The experience of job loss can lead to a stronger appreciation of job security in future employment relationships. Moreover, further deregulation makes it more difficult to switch into regular employment later. Emmenegger (2009) provides some evidence that the differences between insiders and outsiders concerning their preferences for EPL might be overestimated. He argues in this context that voters do not decide on amendments on employment protection only but on policy packages with different contests that are offered by parties in election campaigns.

[27] Saint-Paul (1996) assumes that increasing unemployment has a positive influence on the bargaining power of insiders, because the number of regular employed is lower and the rents only have to be distributed among fewer workers. However, the author neglects in this context that the increasing number of outsiders leads to a growing wage undercutting competition.

5.3 Results of the empirical research literature

There are only a few studies that deal with the relation between labour market conditions and the implementation employment protection reforms. Furthermore, they differ concerning the operationalization of EPL, the methods used, the sample included and the reference period. Direct comparisons of results are, therefore, only possible to a limited extent.

In his empirical analysis, Saint-Paul (1996) focuses on European countries between 1960 and 1995. In order to examine the role of labour market conditions on the implementation of reforms, he takes the following determinants into account: Unemployment, the change in unemployment and the output growth.[28] Reforms are determined on the basis of OECD country reports from various years and articles dealing with EPL reforms. For his study, he uses descriptive analyses. Saint-Paul (1996) identifies different empirical regularities. One result is that two-tier reductions[29] in EPL only occur when unemployment is rising and output growth is below the country-specific trend. Two-tier reforms have taken place in bad economic conditions, but not in extremely difficult times. In many cases unemployment has been above the country specific average. Saint-Paul concludes that 'Two tier reforms are, therefore, driven by opportunity more than ideology' (Saint-Paul 1996: 284). For reforms that lead to changes in the regulation of regular employment, the picture is less clear. In half of the cases, unemployment has decreased prior to the reform. Concerning the level of unemployment and the development of output growth, no explicit relations can be observed.

Ochel (2009) concentrated on two-tier reforms that have taken place in Europe between 1985 and 2003. He analyses the prevalent conditions in countries with implemented reforms and countries that have failed to implement a reform by having a closer look at the deregulation processes of some selected

[28] Saint-Paul also examines the role of some political determinants. These are the party in power and the electoral cycle.

[29] Two-tier reductions are reforms that lead to the creation of a two-tier system with regular employement on the one side and a market for temporary emmployent on the other side, or, if the two-tier system already exists, to a further increase in the flexibility of the temporary employment sector.

countries. EPL is measured by the EPL-index provided by the OECD (OECD 2004). He observed a strong resistance of incumbent workers to reforms and that governments preferred to avoid conflicts with unions. According to Ochel (2009), increases in unemployment did not support EPL reforms on regular but on temporary employment.

The European Commission provided current empirical investigations in 2012. The Directorate-General for Economic and Financial Affairs examined the role of potential labour market determinants for amendments of EPL in the EU-member states between 2000 and 2010. In this context, it concentrates on employment-friendly reforms, i.e. reforms relaxing EPL, but without distinguishing between regular and temporary employment. Information concerning EPL is based on the Labour Market Reforms Database (LABREF) (European Commission 2013b). As a methodological approach, a Poisson regression analysis has been applied. The results show that low job finding rates, a high share of temporary employment and low GDP growth increase the likelihood of employment-friendly reforms. Tax wedges on labour, the employment rate, the net replacement rate and the duration of unemployment benefits, the share of long-term unemployment, unemployment, real per-capita GDP and wage shares are not significant.

5.4 Hypotheses

On the basis of the presented theoretical considerations, employment protection reforms are expected to be rather rare events. Under the assumption that the implementation of a reform depends on the support of the decisive voter, different necessary conditions can be derived.

Generally, it is assumed that a positive labour market situation with regard to the development and distribution of unemployment is necessary for the implementation of a reform. Politicians need the support of the decisive voters or the labour market insiders. This group particularly tries to protect the status quo, when unemployment is high or increasing. Conversely, this means that reforms are only supported in the case of low and/or decreasing unemployment.

H1: A positive labour market situation, i.e. unemployment rates below average or decreasing unemployment rates, are necessary for the implementation of employment protection reforms that lead to a relaxation of dismissal rules.

On the basis of the presented theoretical considerations, reforms are also expected to occur under certain exceptions although unemployment is high or increasing. In addition to hypothesis H1, some alternating hypotheses can be derived. However, it is expected that the decisive voter has to feel threatened by the current labour market situation in order to support reforms relaxing EPL. These threats can result from an actual anticipation of job loss, high social expenditures or tax burdens as a consequence of high unemployment rates. Reforms that lead to a relaxation of employment protection are also expected to be implemented by politicians, when the competition by labour market outsiders is particularly high or increasing

H2a: A negative labour market situation, i.e. unemployment rates above average and increasing unemployment, in connection with an increasing degree of job insecurity are necessary for the implementation of employment protection reforms that lead to a relaxation of dismissal rules.

H2b: A negative labour market situation, i.e. unemployment rates above average and increasing unemployment, in connection with high social expenditures for unemployment benefits are necessary for the implementation of employment protection reforms that lead to a relaxation of dismissal rules.

H2c: *A negative labour market situation, i.e. unemployment rates above average and increasing unemployment, in connection with a high share of workers that are employed on a temporary basis are necessary for the implementation of employment protection reforms that lead to a relaxation of dismissal rules.*

Moreover, it is expected that amendments concerning the use of temporary employment or fix-term contracts are more likely to occur than the deregulation of dismissal rules for regular employment.

5.5 Data

Within this analysis, deregulation processes are taken into account that have taken place in the EU-15 countries and during 1995 and 2005. Due to missing data on the level of employment protection, Luxembourg had to be excluded.

The operationalization of employment protection is provided by the EPL-index of the OECD (see OECD 2004, 2010). The index differentiates between rules for regular and temporary employment (including fixed-term contracts) and is based on the average of the two. The sub-index for regular employment captures the following aspects: procedural inconveniences of individual dismissal of employees on regular contracts, notice and severance pay for no-fault individual dismissal and the difficulty to enforce a dismissal. The sub-index for temporary employment captures the existence of objective reasons that prohibits the use of temporary employment and fixed-term employment, the maximum allowed duration of such contracts and the possibilities of renewals for both employment types. Both sub-indices are measured on a scale from 0 to 6. The higher the value is, the more rigid regulation is. In this context, all relevant legislation and provisions of collective agreements are taken into account (for a detailed description of the indices see OECD 2004).

The implementation of an *employment protection reform* represents the outcome Y. The study concentrates on deregulation processes only. This implies that Y is coded 1, whenever EPL has been relaxed. In all other cases (no change, reregulation) the outcome is coded 0. In a second step, it is furthermore differentiated between reforms on regular employment and temporary employment as well between weak and strong reforms. Changes in the EPL-index above 0.5 units are considered to represent a strong reform.

In order to study the role of unemployment for the implementation of employment protection deregulation, *unemployment rates and their development prior to the reform* are taken into account. In this context, two different aspects are included: (1) the unemployment rate lies below the EU-15 average of the corresponding year or not, and (2) unemployment is decreasing. Unemployment

trends display the development within the country that has taken place within the last three years.[30] It is assumed that the medium-term development of unemployment is most important, since the implementation of a reform is mostly time consuming. The variable is coded 1 whenever unemployment is below the average or when the unemployment rate has decreased within the last three years before the implementation of the reform (eurostat 2013a).

Increasing job insecurity for labour market insiders is operationalized by employment rates. It is coded 1, when employment rates decreased within the last three years before the reform took place and 0 otherwise (eurostat 2013b).

High social expenditures for unemployment are derived from the average *unemployment benefits* of a single earner with two dependent children. Unemployment benefits are coded 1, when unemployment benefits are above the EU-15 average of the corresponding year (van Vliet/Caminada 2012). Social expenditures are considered to be high or increasing, when unemployment is high or increasing.

The influence of labour market outsiders is captured by the *degree of temporary employment* within a country. It is coded 1, when the share lies above the EU-15 average of the corresponding year (eurostat 2013c).

5.6 Methods

The empirical analysis starts with a descriptive overview on the deregulation of EPL that has taken place between 1995 and 2005 within the EU-15 countries.

In order to analyse the role of unemployment for the implementation of an employment protection reform, crisp-set qualitative comparative analysis is applied. An advantage of crisp-set QCA is that it can be used to identify causal relations, although the number of cases is low. However, the results from the selected sample are not generalizable. Crisp-set QCA requires that all relevant variables are dichotomized.

[30] Unemployment rate $_{t-1}$ – Unemployment rate $_{t-3}$, with t = the year of reform.

The study is limited to the analysis of necessary conditions.[31] A condition is said to be necessary for an outcome Y, if the falsity of the condition guarantees the nonexistence of Y. In other words, whenever the outcome Y occurs, X will be there as well (X ← Y). This also implies that the analysis can be restricted to those cases in which the outcome is available, i.e. in which employment protection has been relaxed (Schneider/Wagemann 2007). The results are illustrated by truth tables.

In contrast to multivariate regression techniques, QCA allows for the combination of different conditions in order to explain the underlying causal mechanisms. In this context, it is important to note that QCA uses Boolean algebra and not linear algebra. The link between different necessary conditions is indicated by the logical OR which is expressed by the symbol '+' and the logical AND expressed by **'*'**. According to the hypotheses formulated in section 4, it is tested whether the following equation is true:

$$A + a * (B + C + D) \leftarrow Y$$

With:
A = low or decreasing unemployment
B = high proportion of temporary workers
C = high unemployment benefits
D = increasing job insecurity for insiders
a = high and increasing unemployment
Y = relaxation of EPL

Theoretically, four conditions would lead to 16 different combinations of variables. However, in practice, we are confronted with bounded empirical diversity: not all of the possible combinations are usually recorded by the sample. They might exist in reality, but are not captured due to the small number of cases. For this analysis, the conservative approach has been chosen in order to deal with the bounded empirical diversity, i.e. only those combinations of variables are taken

[31] The analysis of sufficient conditions is in light of the theoretical considerations outlined in section 5.2 not adequate. One reason for this is that reforms are path dependent, i.e. the implementation of a reform in one year influences the likelihood of potential following reforms. For the sake of completeness, without theoretical foundation, it has been tested whether the conditions A and aBC are sufficient for Y, that means whether Y can always be observed when the conditions A and aBC are present. This is not the case. In addition, no other combination of configurations has turned out to be sufficient for Y.

into account for which we have empirically observable cases (for more information on different approaches to deal with bounded empirical diversity, see Schneider/Wagemann 2007).

The quality of the results derived by a crisp-set QCA, are illustrated by a consistency measure. This measure describes how many single cases can be explained by a condition in relation to the total number of cases and is calculated as:

$$\frac{\text{number of cases with X=1 and Y=1}}{\text{number of cases with X=1}}$$

Another measure that is generally reported in the context of crisp-set QCA is the coverage score. It represents the share of cases with X=1 for which the outcome can be observed and is calculated as:

$$\frac{\text{number of cases with X=1 and Y=1}}{\text{number of cases with X=1}}$$

The coverage score is an indicator for the triviality of a condition. It controls for the total number of cases in which the condition is present. If the condition also occurs in numerous cases in which the outcome Y is not existent, one may assume that the condition is irrelevant for Y.

For the present analysis, however, the coverage score has only limited meaning and will, therefore, not be taken into account. The reason for this is that the cases in the sample used are not independent.[32] It includes country information from different point in times. The implementation of a reform in one year has, however, an effect on the implementation on the next reform. If EPL has been relaxed at one point in time, it is unlikely that a new reform will take place in the following year independent of the economic or political conditions. Moreover, changes in economic and political conditions are expected to be rather slow. In the case of this specific sample, the coverage score does, therefore, not lead to meaningful conclusions.

[32] Usually, QCA is not applied to examine countries at different point in times but at one specific year.

5.7 Empirical results

According to the OECD database (2010), 23 employment protection reforms have taken place between 1995 and 2005 in the EU-15 countries that have led to a relaxation of dismissal rules if reforms on regular and temporary employment are treated separately (see *Table 5.1*). Nearly two-thirds of the reforms affected the use of temporary employment.

Only three countries did not relax their levels of EPL within the investigation period. These are France, Ireland and the United Kingdom. The latter two already had very flexible employment protection rules from the beginning. Finland and Spain relaxed rules only for regular employment; Germany, Belgium, Greece, Italy and Sweden only for temporary employment. Denmark, the Netherlands and Portugal implemented a dual strategy.

By looking at the strength of the reforms, one can observe big differences, in particular between the two employment types. For regular employment, EPL is reduced on average by 0.17 units, with a minimum of 0.03 units and a maximum of 0.55 units. For temporary employment, the changes in EPL are considerably larger. On average, legislation for temporary employment has been reduced by 0.89 units. The smallest reform captures a change in the EPL-index of 0.25 units. The biggest changes imply a difference of 2.00 units on the EPL-scale. However, in most of the cases, reforms were only marginal. While some countries have implemented only one reform, others took several deregulation steps.

One special case is Italy. It has implemented five different EPL reforms between 1997 and 2003. These changes go back to the ‘Treu Law’ which introduced temporary contracts and extended the applicability of fixed-term contracts by means of reform packages that are planned to be implemented in several consecutive years (Ochel 2009; Sciulli 2006). The implementation of these reforms was independent from labour market influences. Therefore, Italy will be excluded from the QCA.

Table 5.1: Employment protection deregulation 1995-2005 (EU-15)

State	Year	Type of reform	Content of the reform	Change	EPL before
DK	1995	Regular	Notice period	0.05	1.68
DK	1995	Temporary	Conditions for temporary work agency employment, number of contracts, duration of contracts	1.75	3.13
FI	1996	Regular	Notice period	0.14	2.45
PT	1996	Temporary	Conditions for temporary work agency employment	0.38	3.38
ES	1997	Regular	Compensation payment after unfair dismissal	0.16	2.77
BE	1997	Temporary	Duration of temporary work agency contracts + number of contracts, duration and conditions for fixed-term contracts	2.00	4.63
DE	1997	Temporary	Conditions for temporary work agency employment + number of contracts, duration and conditions for fixed-term contracts	1.5	3.50
IT	1997	Temporary	Number of contracts, duration and conditions for fixed-term contracts	0.63	5.38
SE	1997	Temporary	Number of contracts, duration and conditions for fixed-term contracts	0.45	2.08
IT	1998	Temporary	Introduction of temporary work agency employment	1.12	4.75
NL	1999	Regular	Notification procedure, notice period[1)]	0.03	3.08
NL	1999	temporary	Conditions for fixed-term contracts + conditions for temporary work agency employment	1.19	2.38
IT	2000	temporary	Conditions for temporary work agency employment	0.38	3.63
FI	2001	Regular	Notice period	0.14	2.31
IT	2001	temporary	Duration and conditions for fixed-term contracts	1.00	3.25
DE	2002	temporary	Conditions for temporary work agency employment	0.5	2.00
AT	2003	Regular	Severance Payment	0.55	2.92
ES	2003	Regular	Definition of a fair dismissal, compensation payments after an unfair dismissal	0.15	2.61
IT	2003	temporary	Conditions for temporary work agency employment	0.37	2.25
GR	2003	temporary	Introduction of temporary work agency employment + number of fixed term contracts	1.62	4.75
PT	2004	Regular	Trial period	0.16	4.33
DE	2004	temporary	Duration of temporary work agency employment	0.25	1.50
PT	2004	temporary	Duration of fixed-term contracts	0.25	3.00

1) At the same time, severance payment has become obligatory for short-term and medium-term employment.2) At the same time severance payments have increased somewhat for all types of employment duration.4) The maximum allowed duration of fixed-term contracts has, in contrast, been reduced.
The EPL-index works for most of the items with ranges in order to make legislation comparable between countries. For some items, the OECD-index distinguishes between the duration of the employment relationship by using different employment durations: short-term = 9 months, medium-term = 4 years, long-term = 20 years.
Source: OECD 2010.

Table 5.2 shows the truth table according to the crisp-set QCA. Since we are only interested in necessary conditions, it contains only configurations where the outcome is present (Y=1) independent of the type of employment that has been affected.[33]

Table 5.2: Truth table – Deregulation of EPL

Conditions	A	B	C	D	Y= EPL	N
	1	1	1	1	1	2
	1	1	1	0	1	4
	1	0	1	1	1	1
	1	0	1	0	1	1
	1	0	0	0	1	3
	0	1	1	1	1	2
	0	1	1	0	1	2
Consistency	0.73	0.67	0.8	0.2		

A = low or decreasing unemployment
B = high proportion of temporary workers
C = high unemployment benefits
D = increasing job insecurity for insiders
Y = relaxation of EPL

Source: Own research.

The table consists of seven different configurations. That implies that nine configurations are empirically non-existent. None of the four conditions are necessary if seen in isolation.

With a consistency measure of 0.8, condition C (high unemployment benefits) shows the highest value. 80 % of all cases in which a reform has taken place provide unemployment benefits that are above the EU-15 average. In the literature, a consistency of 80 % is generally considered as too low for a necessary condition (Schneider/Wagemann 2007).

However, in the case of employment protection reforms leading to the relaxation of dismissal rules, there can be alternate necessary conditions.[34] It is assumed that either a positive labour market situation, expressed by low and decreasing unemployment rates, is necessary for a reform or a negative labour market situation that is linked with conditions that might have adverse effects on the labour market insiders, like high social expenditures, increasing job insecurity or strong competition through temporary workers.

[33] If a country has implemented changes on both types of employment, this is now regarded as one reform.
[34] Note: in order to use alternate conditions to identify necessary conditions, strong theoretical arguments are necessary (Schneider/Wagemann 2007).

As the analysis of the truth table in *Table 5.2* shows, not all of the alternate conditions are important. For the sake of simplification, aD drops out as a necessary condition for the implementation of the reform. However, in the absence of a positive labour market situation and the presence of an employment protection reform, both conditions, high unemployment benefits and a high share of temporary workers, are met. This leads us to the following equation A + aB + aC ← Y, which can be further summarized to A + aBC ← Y.

For our sample, thus, two necessary conditions can be identified. The first is a positive labour market situation expressed by low or decreasing unemployment; the second is a negative labour market situation in combination with high unemployment benefits that represents high social expenditures for the insiders *and* a high share of temporary workers who are competitors and might also be influential for the political support of the reform. The two conditions A and aBC together show a consistency rate of 100 %, i.e. they capture all cases of the sample with Y=1.

In five of the eleven cases where a positive labour market situation is present (A=1) this is due to decreasing unemployment rates; in three cases unemployment was below the average of the EU-15 countries in the corresponding year and in the remaining three cases unemployment was both decreasing and below the average.

In many cases, A goes along with B (high proportion of temporary works), C (high unemployment benefits) and D (increasing job insecurity). However, the absence or the presence of these conditions is not sufficient for A.

Reforms on Temporary and Regular Employment

Due to the theoretical considerations, results might change according to the type of employment that is affected by the reform. Therefore, truth tables are also presented separately for the deregulation of regular (EPR) and temporary employment (EPT).

Table 5.4: Truth table – Deregulation of EPR and EPT

	A	B	C	D	Y= EPR	N
	1	1	1	1	1	1
	1	1	1	0	1	3
	1	0	1	1	1	1
	1	0	1	0	1	1
	1	0	0	0	1	1
	0	1	1	0	1	1
Consistency	0.88	0.63	0.88	0.25		
	A	B	C	D	Y=EPT	N
	1	1	1	1	1	2
	1	1	1	0	1	1
	1	0	1	1	1	1
	1	0	1	0	1	1
	1	0	0	0	1	2
	0	1	1	1	1	2
	0	1	1	0	1	1
Consistency	0.70	0.50	0.80	0.50		

A = low or decreasing unemployment
B = high proportion of temporary workers
C = high unemployment benefits
D = increasing job insecurity for insiders
Y= relaxation of regulations on regular employment (EPR) and temporary employment (EPT)

Source: Own research.

The equation A + aBC ← Y is also confirmed for deregulations on regular and temporary employment. The consistency scores of A and B are somewhat higher in the case of reforms for regular in contrast to temporary employment. In seven out of eight cases where a reform on regular employment has taken place, unemployment has either been below average or has decreased within the years before.[35] Except for one case (Finland 1996), a positive labour market situation is a necessary condition for the deregulation of dismissal rules for regular employment. In addition, in seven out of eight cases, unemployment benefits have been above average while the reform has been implemented. However, as discussed before, the meaning of condition C is considered to be dependent from the existence or absence of A. For reforms on temporary employment, the consistency of A is lower compared to C. A occurs in seven out of ten cases,[36] C in eight out of ten.

[35] In three out of the eight cases, unemployment has decreased and in two cases it was below the average. In the remaining three cases, both conditions were present.

[36] In two cases unemployment was either below average or decreasing; in three cases, both conditions were present.

Weak and Strong Reforms

A large number of deregulation processes concerning the relaxation of EPL are only marginal. The actual changes in EPL are, therefore, mostly low. The following examines whether there is a difference between weak and strong reforms. Since the perception and the experienced threat is likely to depend on the size of reform (Ochel et al. 2008; Pierson 1996), the role of unemployment and other labour market conditions might vary from each other. The empirical configurations for weak and strong reforms (changes in the EPL-scale ≤ 0.5 and above 0.5) are represented in *Table 5.5*.

Table 5.5: Truth table – Weak and strong reforms

	A	B	C	D	Y=EPL > 0.5	N
	1	0	1	0	1	1
	1	0	1	1	1	1
	1	0	0	0	1	3
	0	1	1	1	1	1
Consistency	83.3	0.17	0.50	0.33		
	A	B	C	D	Y=EPL ≤ 0.5	N
	1	1	1	1	1	2
	1	1	1	0	1	4
	0	1	1	1	1	1
	0	1	1	0	1	2
Consistency	0.67	1.00	1.00	0.33		

A = low or decreasing unemployment
B = high proportion of temporary workers
C = high unemployment benefits
D = increasing job insecurity for insiders
Y= relaxation of regulations on regular employment (EPR) and temporary employment (EPT)

Source: own research.

For strong reforms, the equation A + aBC ← Y can be confirmed. The employment protection reform in Germany in the year 1997 is the only major reform, where unemployment was neither below the average nor decreasing.[37] Conversely, all the other conditions were present, i.e. strong competition by temporary workers, high social expenditures for unemployment and increasing job insecurity for labour market insiders.

[37] In one case unemployment has decreased prior to the reform, in another one it was below the average. In the remaining three cases both conditions were present.

In the case of weak reforms, the picture is different. We can now observe two other necessary conditions: these are B (high share of temporary workers) and C (unemployment benefits above the average). Both conditions are totally consistent, i.e. they both are present in all cases were a weak reform has been implemented. For weak reforms the following equation can be derived: BC ← A.[38]

5.8 Conclusion

The motivation of the paper was to shed some light onto the rationales that lie behind the implementation of a reform. The main assumption in this context was that there is a conflict of interests on the political level. While the relaxation of EPL might have positive economic effects, politicians might be punished with deselection by not satisfying the interests of the labour market insiders who are the decisive voters. In this context, it is assumed that politicians only get the necessary support when unemployment is low or decreasing, or when the incumbent employees are threatened by detrimental conditions, like high social expenditures for unemployment, increases in acute job insecurity and strong competition by outsiders.

The results for the EU-15 countries between 1995 and 2005 show that there have been several reforms. Nearly two-thirds affected temporary employment or the use of fixed-term contracts. Moreover, changes in EPL for temporary employment were mostly more pronounced. In this respect, the results already suggest that the implementation of essential reforms on regular employment seem to be accompanied by certain difficulties that might prevent the actual realization.

The configurations of the QCA illustrate that there is no single but alternate necessary conditions in order to explain the presence of a reform within the sample. All cases can be explained by a positive labour market situation, i.e. unemployment rates that are below average or decreasing, or, on the other hand, by a negative labour market situation in combination with a high share of

[38] However, the equation A + a*(BC) is not wrong, but it can be further simplified. The reduction of complexity is one of the main aims of QCA.

temporary workers who compete with the incumbent employees and high levels of unemployment benefits that can be interpreted as high social expenditures for the insider. So, at least two threatening conditions have been present in the absence of a positive labour market situation to implement a reform. However, increasing job insecurity has played only a minor role. Moreover, decreasing employment rates might not be sufficient for measuring acute job insecurity. The fear of job loss is mainly determined by operational factors (Mohr 1997).

By distinguishing between reforms on regular and temporary employment, it was expected that the existence of positive labour market conditions are more meaningful for amendments on regular dismissal rules. This can be, at least to a certain degree, confirmed by the results. In all but one case, labour market conditions have been positive prior to a reform for dismissal rules for regular employment. In the context of deregulations on temporary employment, in three out of ten cases a negative labour market situation with high and increasing unemployment rates can be observed prior to the reform.

According to the literature, it was expected that the role of temporary employees is more influential in the case of reforms affecting regulation of the use of temporary work and fixed-term contracts. However, the consistency rates confirm the opposite. This indicates that outsiders have been generally interested in more flexible employment protection and that they were influential for both types of reforms.

The analysis also shows that there are differences between weak and strong reforms. For weak reforms, i.e. changes in the EPL-index lower than 0.5 units, the existence of a high share of temporary employment together with high unemployment benefits can be identified as necessary conditions. The role of labour market conditions has been in the case of weak reforms only of minor importance. In contrast, in the case of strong reforms, the presence of a positive labour market situation explains nearly all cases, while high unemployment benefits or high shares of temporary employment were mostly absent. These results confirm the assumption that there are different underlying mechanisms for the implementation of weak and strong reforms. This might be explained by

differences in the perception of reforms and the corresponding resistance towards them.

The results clearly demonstrate that in most cases the relaxation of employment protection has not been used as a labour market instrument to fight back high and increasing unemployment. Although the relaxation of EPL might in the long run lead to a reduction of unemployment. Politicians seem to apply strategic approaches in order to avoid punishment by the decisive voters.

The findings deviate in comparison to the previous research results. Saint-Paul (1996) and Ochel (2009) both state that reforms facilitating the use of temporary employment are initiated by an increase in unemployment. Within the present analysis, however, unemployment has been either low or decreasing before the reform. Differences might be a result of variations in the sample and the reference period. This indicates that the underlying mechanisms strongly depend on present conditions. There seems to be no general and time consistent pattern that explains the role of unemployment for the implementation of employment protection reforms.

The results also demonstrate that, independent of the level and trends in unemployment, reforms that have taken place between 1995 and 2005 within the EU-15 countries were in line with the flexicurity strategy of the European Commission (2013b). The main assumption of this strategy is that more and better jobs can be achieved by combining flexible EPL with high level of income security provided by generous unemployment benefits. Except for strong reforms, consistency rates for the condition ‘high unemployment benefits’ always count at least 80 %. Thus, the provision of adequate income security levels was probably an important condition for getting the support of the decisive voters independent of other labour market influences.

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Annex: Employment protection reforms and labour market conditions between 1995 and 2005

	Development of unemployment rates	Unemployment rates	Positive labour market situation	Share of temporary employment	Unemployment benefits	Employment insecurity	EPL reforms	Strong reforms	Reforms on regular employment	Reforms on temporary employment
AT_2003	0	1	1	0	0	0	1	1	1	0
BE_1997	1	1	1	0	0	0	1	1	0	1
DE_1997	0	0	0	1	1	1	1	1	0	1
DE_2002	1	0	1	1	1	0	1	0	0	1
DE_2004	0	0	0	1	1	1	1	0	0	1
DK_1995	1	1	1	0	1	1	1	1	1	1
ES_1997	1	0	1	1	1	0	1	0	1	0
ES_2003	1	0	1	1	1	0	1	0	1	0
FI_1996	0	0	0	1	1	0	1	0	1	0
FI_2001	1	0	1	1	1	0	1	0	1	0
GR_2003	1	0	1	0	0	0	1	1	0	1
NL_1999	1	1	1	0	1	0	1	1	1	1
PT_1996	0	1	1	1	1	1	1	0	0	1
PT_2004	0	1	1	1	1	1	1	0	1	1
SE_1997	0	0	0	1	1	0	1	0	0	1

Source: own research on the basis of Eurostat 2013a, 2013b, 2013c and OECD 2010.

Development of unemployment rates: 1 = unemployment decreased within the three years prior to the reform, i.e. between t_{-3} and t_{-1}; 0 = otherwise
Unemployment rates: 1 = unemployment rates are below the average of the EU-15 countries in the corresponding year; 0 = otherwise
Positive labour market situation: 1 = unemployment either decreased within the last three years and/or is below the average; 0 = otherwise
Share of temporary employment: 1 = share is above the average of the EU-15 countries in the corresponding year; 0 = otherwise
Unemployment benefits: 1 = benefits are above the average of the EU-15 countries in the corresponding year; 0 = otherwise
Employment insecurity: 1 = employment decreased within the three years prior to the reform, i.e. between t_{-3} and t_{-1}; 0 = otherwise
EPL reforms: 1 = EPL has been relaxed; 0 = otherwise
Strong reforms: 1= the change on the EPL-index is bigger than 0.5 units; 0 = otherwise
Reforms on regular employment: 1 = the reform affected legislation for regular employment; 0 = otherwise
Reforms on temporary employment: 1 = the reform affected legislation for temporary employment; 0 = otherwise

6. Conclusion

Over the last few decades, EPL has been relaxed in many European countries. In particular, the use of temporary employment has been simplified. However, the empirical literature shows ambiguous results concerning the general relation between EPL and unemployment. In many studies, the effects are insignificant; a change in EPL does not alter the level of unemployment (Skedinger 2010). Besides methodological aspects (Addison/Teixeira 2001), one reason for this outcome might be that EPL works differently for the labour force depending on the position of the workers in the labour market. Although the net effect on unemployment might be zero, benefits of one group resulting from more rigid or flexible EPL may be balanced by the disadvantages of others. This would imply that changes in EPL influence existing imbalances on the labour market.

By examining the relation between EPL and its labour market outcomes for different labour force groups, this assumption is in the focus of the thesis. The thesis provides evidence to what extent social inequalities among different labour force groups are related to the level of or changes in EPL in particular concerning the distribution of unemployment risks. It also investigates the role of social inequality for the implementation of EPL reforms leading to more flexible labour markets. For this purpose, different European countries have been compared. Moreover, the thesis makes a contribution concerning the applicability of the insider-outsider theory of Lindbeck and Snower (1987, 1988, 2001, 2002), which provides the theoretical basis for the studies.

6.1 The relation between EPL and social inequality

The thesis investigates whether EPL is related to changes in social inequality. In this regard, it mainly concentrates on the question of how EPL regulates access to employment and unemployment respectively. Employment is considered to be central for different manifestations of social inequality, e.g. the level of income, access to goods, the extent of social participation. Each of the studies has addressed specific aspects in this context.

The *first study* deals with deregulation processes and their influence on the differences in unemployment and employment rates between individuals with different skill levels. The analysis focuses on changes in European countries between 1997 and 2007. The effects of EPL are examined separately for regulation of regular and temporary employment and under the control of further labour market policies and economic developments.

The regression results show that the relaxation of dismissal rules for regular employment actually decreases the imbalances in the distribution of unemployment between medium and highly skilled individuals. By distinguishing unemployment rates according to gender, the effect turns out to be significant only for women. This indicates that the effects of EPL on unemployment are not only moderated by skills but also by gender. One central difference to the male labour workforce is that women take career breaks more often because of parenting. Therefore, opportunities to re-enter the labour market seem to be differently affected by EPL for women with medium and high qualifications. Less rigid EPL seems to reduce employment barriers in particular for medium skilled women.

However, the study also demonstrates that more flexible dismissal rules for regular employment decrease inequalities in employment rates between low and highly skilled individuals of both genders. For women, a decrease in inequalities in employment rates can also be observed among medium and highly skilled workers.

Reforms facilitating the use of temporary employment have no effect at all on the distribution of unemployment risks. In contrast to what was expected, a relaxation of EPL does not improve the labour market position of low skilled workers compared to individuals with higher qualifications, at least in the short-term. However, it must be taken into consideration that EPL reforms might have long-term effects that are not controlled for. The present analysis only concentrates on potential changes in the distribution of unemployment risks one year after the reform has taken place.

Changes in EPL, thus, influence the access to employment for various skill groups in different ways. An approximation of unemployment risks by

relaxing EPL for regular employment can only be observed between medium and highly qualified women. At first sight, thus, the effect of EPL on social inequality seems to be rather low. However, the consideration of employment rates conveys a different picture: The more flexible regulation on EPL for regular employment becomes, the smaller the differences between the low and highly skilled workers (for women also between the medium and highly skilled) are. This implies that more rigid EPL for regular employment leads to exclusionary effects influencing the access to employment in a very negative way. Thus, stricter EPL rather forces disadvantaged labour force groups completely out of the labour market instead of increasing their unemployment risks. A relaxation of dismissal rules, therefore, could lead to a reduction of social inequality. With regard to regulation of temporary employment, effects are only significant concerning the differences in employment rates for women. Thus, a more simplified use of temporary employment could be an instrument in order to increase labour market participation of low and medium skilled women in comparison to the highly skilled.

The *second study* is a cross-sectional analysis and focuses on the level of EPL and its relation to individual unemployment risks; in contrast to the first study, where the effects of EPL reforms on unemployment have been investigated. The underlying assumption is that the level of EPL remains relatively stable over time and the study, therefore, reveal more general correlations between EPL and unemployment. Since it is assumed that the disadvantages of the low skilled have been mainly induced by skill-biased technological change, the study also focuses on interactions between EPL and levels of technological progress. The level of EPL is measured by the overall index provided by the OECD capturing regulation of regular and temporary employment. Technological progress is operationalized by the share of employment in (medium-) high-tech manufacturing and knowledge intensive services. The results of the multilevel regression analyses demonstrate that EPL is positively related with the likelihood to be unemployed for all skill groups. Strict EPL is disadvantageously for all workers whatever the skill level acquired, although the differences due to the level of EPL are rather low. In relative terms,

the relation between EPL and unemployment is strongest for the highly skilled. Therefore, strict EPL is generally related to higher unemployment rates, but to fewer differences in individual unemployment risks between skill-groups. In this regard, higher levels of EPL should lead to less social inequality. In contrast, the relaxation of EPL is then related to greater imbalances between skill groups.

However, the relationship between EPL and the individual unemployment risks of the medium and highly skilled is moderated by the level of technological progress. In countries with considerable technological advancements, the relation between EPL and unemployment can even become negative. The results indicate that flexibility demands for the low skilled do not depend on or change with technological developments. For the medium and highly skilled, the need for numerical flexibility seems to become less with technological advancements, probably due to the higher demand for functional flexibility. Thus, in countries with high levels of technological progress, high levels of EPL are related to greater imbalances in unemployment risks between individuals with low qualifications and individuals with medium or high skill levels compared to countries with more flexible dismissal rules.

With regard to social inequality, the results show that the relation between EPL and unemployment risks for different skill groups varies with contextual factors. In countries with less technological development, unemployment risks are more equally distributed among different skill groups when EPL is strict, while imbalances are strong between the low skilled and the medium and highly skilled in countries with considerable technological advancements.

The study, furthermore, examines the link between EPL and long-term unemployment risks. However, no robust relation was identified between them. In contrast to what is claimed in the literature, strict EPL does not necessarily create employment barriers for outsiders by decreasing hiring incentives. It may also result in more frequent transitions between employment and unemployment. In the case of strict EPL, employers might prefer to use a legitimate exit option, for example, by not prolonging existing employment relationships after the end of trial periods or fixed-term contracts in contrast to countries with more flexible dismissal rules. What the paper does not look for, is the relation between EPL

and inactivity. As the first study has demonstrated, changes in EPL primarily lead to the displacement from the labour market. Therefore, it may be possible, that there is a relation between the level of EPL and individual and country specific inactivity risks.

The *third study* concentrates on older men and examines the relation between EPL, previous employment biographies and current labour market positions. Here it is distinguished between employment, unemployment and early retirement. It is also a cross-sectional analysis in which micro and macro variables are simultaneously taken into account. The study examines whether EPL is related to differences in the labour market position for older individuals with stable or unstable work histories. The stability of work histories is defined by job tenure and the share of regular employment (i.e. full-time employment). Individuals with unstable work histories are more likely to be unemployed in old age. In contrast to what might been expected, the relation between unemployment risks and previous employment biographies is not moderated by dismissal rules.

However, the regression results of the third study demonstrate that inequalities in the likelihood of taking early retirement resulting from previous labour experiences are affected by the level of EPL. Older workers with a high share of regular employment are more likely to retire compared to people who spend fewer years in full-time employment. According to the results, rigid dismissal rules reduce the probability of early retirement for individuals with consistent careers in regular employment, but only when the expected pension benefits are small. If benefits are generous, the reverse effect can be observed, i.e. the probability of early retirement increases. Strict EPL, thus, protects older workers with stable careers against dismissal, but only if alternative options of displacement by means of early retirement are not available. For people with inconsistent careers, in contrast, the observed differences in early retirement risks due to the implemented level of EPL are only marginal.

Again, as in the second study, we can observe diverging relations between EPL and social inequality. In general, early retirement is seen as a socially accepted alternative to unemployment. In countries, with generous early

retirement pensions, strict EPL leads to great differences in the probability of early retirement between older labour market insiders and outsiders. These differences become smaller, and might even reverse direction, the less generous early retirement pensions are. EPL is not related to individual unemployment risks. Thus, social inequalities due to existing differences in the distribution of unemployment between older workers with stable and instable careers cannot be altered by strengthening or relaxing dismissal rules.

The *fourth study* of the thesis takes a totally different perspective. It examines the role of unemployment in the implementation of reforms relaxing EPL and, thereby, focuses on the meaning of already existing inequalities in the labour market. As methodological approach, the study applies QCA. It addresses a conflict of interests on the political level. While more flexible EPL is, from an economical perspective, expected to decrease unemployment, high and increasing unemployment rates might reduce the political support by insiders for such reforms. Due to their numerical dominance, insiders are considered to be the decisive voters. Generally, insiders are expected to increase the existing inequalities with outsiders by supporting policies that improve their own labour market position and worsen employment chances of outsiders, in particular, when they feel threatened by unemployment.

The results of the QCA, capturing the EU-15 countries between 1995 and 2005 demonstrate that there is no single condition but several alternate necessary conditions for the presence of a reform. However, in most cases, the labour market situation has been positive: i.e. with low or decreasing unemployment rates. Thus, countries with low or decreasing social inequality in their labour force, expressed in the level of unemployment rates, seem to be more likely to implement reforms which facilitate labour market entry for outsiders. That means that there might be self-reinforcing effects which influence imbalances in unemployment risks between insiders and outsiders. However, threatening conditions like high social expenditures and a high share of temporary employment together with high and increasing unemployment rates can also explain the presence of a reform leading to more flexible EPL.

Moreover, the study detects some differences between the implementation of weak and strong reforms. In the case of weak reforms, the role of labour market conditions is only of minor importance in contrast to the implementation of strong reforms. Between changes in EPL for regular and temporary employment differences are less pronounced.

As the discussion of the findings has demonstrated, the relation between EPL and social inequality is ambiguous. A relaxation of EPL can work in both ways. Mechanisms of social closure, thus, can only partly be observed. Furthermore, it strongly depends on external effects, e.g. the level of technological progress or, with respect to early retirement, the generosity of early retirement pensions. Moreover, the results indicate that EPL is rather related to the complete displacement from the labour market, e.g. in terms of inactivity or early retirement, instead of unemployment.

6.2 Theoretical contribution

The insider-outsider theory of Lindbeck and Snower (1987, 1988, 2001, 2002) has been originally established in order to explain differences in unemployment risks. Within the present studies, the relation between EPL and the observed inequalities in unemployment risks is less strong than expected by following the theoretical assumptions of the theory. According to the insider-outsider theory, a reduction of labour turn-over costs should improve the employment chances of outsiders and reduce their unemployment risks. In this regard, the relaxation of EPL is expected to decrease labour turnover costs for the company. Deregulation processes should, furthermore, decrease the bargaining power of insiders and, by reducing separation costs, improve the labour market position of outsiders.

For individuals with different skill levels, the thesis provides some supporting evidence. The relaxation of dismissal rules for regular employment decreases imbalances between medium and highly skilled women. However, workers with medium skills are not considered as labour market outsiders. Due to their greater unemployment risks in general, as a consequence of technological progress, this characteristic should rather apply to the low skilled.

In countries with a very high degree of technological progress, which are only few, we can observe contrasting relations between the low skilled in comparison to the medium and highly skilled. Very flexible EPL is related to lower unemployment risks for the low skilled in comparison to countries with more rigid EPL, but to higher unemployment risks for the medium and highly skilled. This might imply that a relaxation of EPL can reduce existing inequalities in the distribution of unemployment between skill groups. However, this finding does not apply to countries which are less technologically developed. In contrast, there, more flexible EPL is related to greater imbalances between skill groups. These results indicate that countries differ according to their flexibility demands.

Moreover, the level of EPL does not moderate unemployment risks for old men with stable or instable careers nor is it related to individual long-term unemployment risks.

There are different explanations why the expected results concerning the distribution of unemployment risks according to the insider-outsider theory cannot be observed[39]:

- Positive (e.g. increase in productivity) and negative (e.g. increase in labour costs) outcomes may compensate each other. This might also explain why the general effects of EPL on unemployment are mostly insignificant (Skedinger 2010).
- Companies are not able or willing to adapt their hiring and firing decisions or the composition of their work force (in the short term) respectively, e.g. because changes in EPL are too small to cause any significant effect. Changes in labour turnover costs might also be transferred to their customers.
- The classification of insiders and outsiders is not applicable to the described groups. In some countries, for instance, the variation in unemployment risks between low, medium and highly skilled are rather low. These countries also show less technological progress, which could explain the differences in the relation between EPL and unemployment.

[39] The list does not make a claim on completeness.

- EPL interacts with other contextual factors, e.g. economic determinants or labour market policies that might compensate or dominate the relation between EPL and unemployment.
- Changes in EPL may cause long-term effects. Changes in EPL, therefore, are rather related to differences in employment rates or inactivity rates respectively. This assumption is confirmed by the first study, which has demonstrated that a relaxation of EPL is related to fewer imbalances in employment rates between low and highly skilled workers.

Following the assumptions of the insider-outsider theory with regard to the implementation of a reform, it has been expected that insiders, who are considered to be the decisive voters, do not support any legislative amendments that interfere with their own labour market position. Therefore, reforms relaxing EPL should only be implemented in times of low or decreasing unemployment. For most cases, this assumption could be confirmed within the fourth study. However, in some, unemployment was high and increasing prior to the reform, but insiders were also confronted with threatening conditions that are expressed in high social welfare contributions and competition by temporary workers. These conditions probably had a positive effect on the insiders' incentives to support such EPL reforms.

The insider-outsider theory has already been criticized several times for its explanation of labour market regulations (Emmenegger 2009). In this context, it has been argued that EPL reforms are only one part of a policy package. The decision to support a specific party might also result from other political targets that are pursued by politicians. Moreover, outsiders might also be interested in higher levels of job-security:

> 'If one does not have a job, one may believe that job security regulations decrease one's chance of becoming employed. But being unemployed may also make one realize that once in a new job, regulations will be beneficial for him or her too. Thus, while the benefit of job security regulations is rather obvious for labour market insiders, there are also good reasons for labour market outsiders to value job security regulations highly' (Emmenegger 2009: 134).

6.3 Limitations

Studies need to deal with certain limitations that are mainly caused by methodological restrictions. In order to ensure comparability between countries, it is necessary to refer to more general indicators that are available for as many cases as possible. For this reason, not all aspects that are captured by national EPL can be taken into account.

Moreover, the methods that have been used, do not apply an unrestricted number of country level variables. This is in particular true for the studies that estimate micro and macro level coefficients simultaneously. Due to the small number of cases that could be included at the macro level, only a few selected country level variables can be taken into account. For this reason, it was not possible to differentiate the various dimensions that are captured by the EPL index provided by the OECD. Differences in one aspect, for instance the amount of severance payment, might be more influential for the hiring or firing decisions of employers, than others, such as the obligation to re-employ an employee after a dismissal.

Since the results of the second and third study are cross-sectional, they also do not allow causal explanations. However, they illustrate the general relation between EPL and individual labour market outcomes, from which at least presumptions concerning the effects of EPL reforms can be derived.

This thesis has demonstrated that the relation between EPL and unemployment, at least for the medium and highly skilled, is moderated by the level of technological progress that has taken place in a country. The relation between EPL and early retirement for older individuals is moderated by the generosity of early retirement pensions. In addition, there are also several theoretical arguments that the relation between EPL and unemployment can also be moderated by other labour market policies that could not be included in the empirical analyses because of methodological restrictions (Esping-Anderson 2000, de Beer/Schils 2005). In this regard, wage systems are expected to be particularly meaningful. Wage systems set the framework for wage competitions between insiders and outsiders. Theoretically, outsiders could improve their bargaining position by only demanding low wages. However, such wage

underbidding processes are usually restricted in practice, for instance, by the establishment of minimum wages or very low standard wages (Lindbeck/Snower 1988). Very flexible wage systems, in contrast, may compensate the negative employment effects of EPL by allowing outsiders to negotiate low wages. On the other hand, the relation between EPL and unemployment might be strengthened the more rigid the wage systems are.

In addition, several studies have demonstrated that the growth and distribution of unemployment depends on numerous influences (Blanchard 2005, Nickell et al. 2005).

Each of the studies concentrates on very specific details concerning the relationship between EPL and unemployment, i.e. on selected labour force groups and specific labour market conditions. This means, of course, that there are still a bunch of open questions that can be raised with regard to the relation between EPL and social inequality. It remains still unclear, for instance, how EPL is related to social inequality for other outsider groups like migrants, individuals with disabilities and so on. Furthermore, the results do not refer to the quality of employment that might be related to labour market segmentation. Several studies demonstrate that there is a relation between EPL and atypical employment. The level of EPL is, for example, related to low wages and the share of temporary employment (Bertola 1990; Gebel/Giesecke 2011; Koeniger et al. 2007; van Lancker 2012). Reductions in inequality due to the improvement of employment opportunities for outsiders could be compensated, e.g. by low incomes or higher levels of job insecurity. Moreover, differences do not only exist between, but also within countries. EPL might also have varying effects for different branches or sectors. Because of the absence of firm specific determinants in cross-national data sets, these interrelations could not be addressed within the thesis.

6.4 Policy Implications

One striking result of the thesis is that no general policy implications can be drawn from the studies. The deregulation of EPL is no panacea to solve labour market problems in particular with respect to the existence of social inequality. Therefore, the demand of the European Commission for more flexible dismissal

rules within the member states of the European Union has to be regarded critically (European Commission 2013).

The relation between EPL and labour market outcomes varies for different labour force groups. Therefore, political targets that are pursued by a reform have to be tested carefully and, where necessary, balanced against each other.

Moreover, politicians who are willing to change EPL, have to consider the circumstances determining the possibilities to implement a reform and to develop an appropriate strategy to receive the support by the decisive voters. The results of the fourth study have shown that reforms have mostly been implemented, when labour market conditions have been positive, i.e. with low or decreasing unemployment rates or when insiders have been confronted with strong competition by outsiders or high social expenditures as a result of high and increasing unemployment.

EPL can be used as labour market instrument in order to address current social developments. Social inequalities between low and highly skilled workers that have been caused by technological progress can be reduced by more flexible EPL. This can be seen in the relation between the level of EPL and the individual unemployment risks of the different skill groups in the second study, but also by the short-term effects of EPL reforms on the employment rates that are demonstrated in the first study.

An increase of labour market participation of older workers – as a response to demographic change – can only be achieved by the relaxation of dismissal rules if early pension benefits are low. In countries with generous benefits, the reverse is the case.

6.5 References

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