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ARE UNEMPLOYMENT INSURANCE SYSTEMS IN EUROPE ADAPTING TO NEWS RISKS ARISING FROM NON-STANDARD EMPLOYMENT?

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Are unemployment insurance systems in Europe adapting to new risks arising from non-standard employment?

Abstract

This paper addresses the question to what extent social protection systems in different European countries do succeed in coping with the risks arising from non-standard forms of employment. Focusing on the examples of part-time and temporary employment, the paper will examine exclusionary transitions and the access to unemployment insurance benefits of workers concerned by these forms of employment. The European Community Household Panel Data (ECHP) will be used. The general hypothesis is that the adaptability of unemployment insurance systems varies between welfare regimes. Therefore, four countries will be compared: Denmark, Germany, Spain and the United Kingdom.

Key words: part-time employment, temporary employment, unemployment insurance, comparative analysis

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1 Introduction

Owing to the growing labour market participation of women and continuing mass unemployment, non-standard forms of employment have been gaining more importance in western European countries since the 1980s. The promotion of more flexible employment in the form of part-time and temporary employment (fixed-term employment, casual employment and temporary agency employment) is seen as a possible solution to persistent unemployment, underemployment and also to requirements to better reconcile work and family life.

The increasing importance and active promotion of non-standard forms of employment have brought up the question of the extent to which those affected have access to social security benefits frequently modelled on standard, full-time continuing employment careers (compare for example Rubery *et al.* 1998; Eurofound 2003).[1]

The assumption that part-time and temporary employment have important implications for entitlement to social security benefits (compare Grimshaw *et al.* 1998, 1997; Eurofound 2003) is tested in this paper in a comparative way with examination of the situation in Denmark, Germany, Spain, and the United Kingdom. This selection of countries includes one of each of the welfare regimes postulated in Esping-Andersen (1990; 1999). Denmark is usually classified as a social democratic welfare regime. The combination of weak employment protection legislation and comprehensive protection of unemployment coupled with activation measures, as well as the recent comprehensive labour market reforms, make it an appealing choice for research on non-standard employment forms and benefit coverage. Germany represents the prototype of the corporatist welfare regime. Institutions are family-centred; the unemployment system is less individualised than in Denmark and the insurance principle prevails. Non-standard employment forms – especially part-time employment – were promoted during the 1990s and, more recently, extensive labour market reforms have been taking place. In the EU context the United Kingdom comes closest to representing the liberal welfare regime. Employment protection legislation is weak, part-time employment rates are very high and the unemployment benefit system relies strongly on welfare principles. Furthermore, encompassing activating unemployment insurance reforms took place during the 1990s. Spain, according to modified versions of the welfare regime typology, is classified as a 'Mediterranean' regime (compare for example Muffels *et al.* 2002; Arts *et al.* 2002; Schulte 1998; Ferrera 1996). A closer look at this country is not only appealing in view of its very strong familialistic tradition, but especially because strict employment protection legislation for permanent jobs has led to enormous increases in the share of different forms of temporary employment since the mid-1980s. The design of the unemployment benefit system is similar to the German one, with a strong emphasis on insurance principles.

Although, at first sight, part-time work and temporary employment seem to differ substantially, in the context of unemployment insurance coverage simultaneous treatment could well prove useful insofar as it allows more comprehensive assessment of the influence of eligibility criteria (hours or earnings thresholds and contribution requirements) on benefit coverage. The combined treatment of these two forms of flexible employment should thus help to make more precise statements about the inclusiveness of different countries' unemployment insurance schemes towards non-standard employment.

What are the advantages of granting non-standard workers encompassing access to unemployment benefit systems?

Among other things, unemployment benefits allow effective job search and prevent transitions to inactivity. Workers who are not eligible for unemployment benefits have to be supported by other, often more costly means (Maier 1992). Social assistance payments as benefits of last resort, besides their stigmatising effects and their heavy reliance on means-testing, are usually much less aimed at

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[1] This subject has not only been discussed in the research community but has also been brought up in public discourse (compare for example Dublin European Council 1996; Employment Taskforce 2003; The Social Protection Committee 2003, The Council of the European Union 2005).

labour market re-entry. Inadequate protection in the event of job loss dampens employees' incentives for risk-taking and constitutes further discrimination against those who have no choice but to accept sub-standard employment. If, on the other hand, encompassing social protection is granted, workers may be more inclined to take up risky or sub-standard employment (incentive function) that could prove a stepping stone to regular employment (compare for example Booth *et al.* 2002). This could contribute to the rising employment levels called for in the context of the European Employment Strategy and, by supporting active labour market participation, it might in the long run also add to the viability and sustainability of welfare state financing.

An in-depth analysis and comparison of social protection regulations and empirical evidence on the insurance situation of non-standard workers in four countries should facilitate some kind of an answer to the following central question: **"Are unemployment insurance systems in Europe capable of covering the special risks faced by persons with non-standard employment contracts?"**

The following hypothesis, to be further elaborated upon in the theoretical part, will be tested in order to answer the above question:

(1)   Persons with non-standard employment contracts face greater risks of making transitions to unemployment or inactivity than persons with regular contracts;

(2)   Unemployment insurance systems that incorporate strong welfare principles rather than insurance principles grant better coverage to non-standard workers.

The first hypothesis is intended to clarify whether non-standard workers are more often faced with downward transitions than standard workers. Due to the short-term nature of their contracts temporary workers are expected to alternate more frequently than permanent workers between employment and unemployment. The situation is less clear for part-time employees but it may be expected that they are more prone to make transitions to inactivity.

The second hypothesis implies that the unemployment protection systems of some countries are modelled less strongly on standard employment and are therefore better suited to catering for the needs of non-standard workers. It is expected that unemployment systems that incorporate welfare principles rather than insurance principles, that are tax-financed rather than contribution-financed, and that grant individualised instead of means-tested benefits, are comparatively more advantageous to non-standard workers. The testing of the hypothesis will contribute to the discussion of the segmentation potential of non-standard employment. If upward transitions are common and non-standard employment thus serves as a bridge to regular employment, and if encompassing coverage on unemployment is granted to both non-standard and standard employed persons, the segmentation potential of non-standard employment can be termed low in this regard. If, on the other hand, non-standard employment is persistent or recurrent, associated with downward transitions, or connected with deficient coverage on unemployment, then segmentation is evident.

Existing studies that provide specific analysis on the topic of deficient social insurance coverage among non-standard workers can be subdivided into three broad areas: firstly, comparative, mostly descriptive studies (compare for example Bosco 1996; Eurofound 2003; Grimshaw *et al.* 1997; Maier 1992); secondly, country-specific studies focussing on either non-standard employment in general, part-time employment or temporary employment (compare for example Tálos 1999; Klammer *et al.* 2001a; Micklewright 1990); and, thirdly, studies that focus on discrimination against women in social insurance systems (compare for example Luckhaus 2000; Rubery *et al.* 1998; Jepsen *et al.* 2002; Sainsbury 1996; Bennett 2005).

Section two provides brief information on the extent of non-standard employment and the general labour market situation in the four countries, while section three recalls the main components of segmentation theory and insurance theory. Section four will connect the theoretical discussion of insurance principles with the relevant unemployment insurance regulations that potentially limit the access of non-standard employees to unemployment benefits. Sections five and six test the hypotheses empirically, making use of the European Community Household Panel data. The segmentation potential of non-standard employment is assessed by looking at upward and downward transitions from non-

standard employment and comparing the emerging patterns to those of persons in standard employment (full-time and/or permanent workers). In a further step unemployment benefit entitlement of workers with non-standard and standard contracts is discussed. The conclusion will examine some strategies for financing more inclusive benefits.

2 Labour market situation and extent of non-standard employment

The United Kingdom and Denmark are currently characterised by low unemployment rates coupled with high employment rates – women's employment rates are exceptionally high in Denmark. Germany and Spain, in contrast, have relatively high unemployment rates (albeit in Spain markedly improved since the mid-1990s) and employment rates are lower than in the United Kingdom and Denmark. Despite notable increases in the employment rates of women, they remain especially low in Spain.

Part-time employment has been spreading increasingly with women's rising labour market participation. On the demand side part-time employment is used, for example, to meet organisational or economic needs (peaks in service requirements or regular variations in workload). It is especially attractive to employers if it is exempted from contributions (marginal employment) (Smith *et al.* 2000: 179 et seq.). On the other hand, it often also meets employees' needs insofar as they wish or find themselves compelled to combine waged employment with other activities such as childcare or gradual retirement.

Part-time employment is especially widespread in the United Kingdom – where it accounts for approximately 25% of total employment – but also in Germany (24%) and in Denmark (22%).[2] While in Denmark part-time employment has slightly decreased since the late 1980s, in Germany it has been rising considerably as increasing numbers of women have entered the labour market. In Spain, in international comparison, part-time employment remains low (about 13%) but considerable increases could be observed between 2004 and 2005.

Restrictions on the use of fixed-term contracts have been relaxed in many European Union countries since the early 1980s (Schömann *et al.* 1998), while temporary agency work has been subject to significant deregulation in recent years (Storrie 2002; Michon 1999). Temporary employment mainly meets employers' demands for a more flexible workforce that can be hired and fired according to need and at low cost because the regular dismissal legislation usually does not apply.[3] Fixed-term contracts are typically used for specific activities of limited duration or in order to replace workers who are temporarily absent due to maternity leave, education and the like. In a number of countries temporary employment contracts are also used in order to screen employees who do not yet have a sufficient work record. It allows the testing of potential employees' occupational qualifications, abilities, and social competences before taking them on 'permanently'.[4]

Temporary employment is exceptionally high in Spain (about 33% in 2005). It is considerably lower in Germany (14%), Denmark (10%) and especially the United Kingdom (5%). In absolute terms temporary employment has been rising fast since the late 1980s in Spain and Germany while remaining at a constant level in Denmark and rising slightly, until the late 1990s, in the United Kingdom.

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[2] The results in this section are based on the European Union Labour Force Survey (LFS) (compare Eurostat 2006).

[3] Bielenski *et al.* (1994: 173-257) support this. Their firm survey covering eight countries shows that in an overwhelming majority of cases fixed-term contracts were accepted by employees only because they had no other option.

[4] In countries such as Germany, Denmark or Austria the use of temporary contracts with a probationary function is to some extent offset by the certified 'dual system' of vocational education and training which already provides employers with important information about the qualification of the newly employed.

For some groups of workers, particularly women but also those with few skills, non-standard or atypical employment has already become 'typical' (compare also Hutsebaut 2002: 3, 4). Table 1 shows the share of women who are either part-time or temporary workers, or both, in 2005. At least in the countries examined here, there is no clear pattern as to the use of non-standard forms of employment. While Germany and Denmark combine high part-time employment rates with average temporary employment rates, the United Kingdom combines high part-time employment with low temporary employment. As in the other Southern European countries part-time employment is slow to gain ground in Spain whereas the soaring rate of temporary employment is unrivalled elsewhere.[5]

Table 1: Non-standard employment among women in 2005

%	Denmark	Germany	Spain	United Kingdom
part-time	32	44	25	42
temporary	11	14	36	6

Source: Eurostat LFS data (2nd quarter 2005), age group: 15-64.

3   Theoretical background

In the following section segmentation theory is reviewed. The standard requirements of secondary sector employment – high labour turnover, low upward mobility and general insecurity – are at least partly fulfilled by non-standard employment. Especially those versions of the theory that focus on the supply side seem useful for shedding light on the segmentation potential of non-standard employment situations. A second part looks at insurance theory. The discussion will focus on the advantages and shortcomings of voluntary and compulsory insurance, contributory and tax financing and the resulting predominance of either the insurance or the welfare principle. On the assumption that adequate unemployment insurance benefits for non-standard employed workers require redistribution efforts, the possible trade-offs between efficiency and equity are addressed.

3.1   Segmented labour markets?

In the late 1960s, the dual labour market theory was simultaneously developed by different American groups of scholars (Boston, Chicago, Michigan, and Detroit) who studied local labour markets especially in regard to racial labour market segregation in order to explain urban poverty and underemployment (Gordon 1972). The researchers emerged with a theory on the dichotomisation of the labour market into a 'primary' and a 'secondary' segment characterised by diverging features. While the primary labour market segment offers high wages, good working conditions, employment stability, advancement possibilities and greater equity, the secondary segment is characterised by low wages, low fringe benefits, poor working conditions, high labour turnover, low upward mobility and generally unstable employment (Doeringer *et al.* 1971: 165ff.). Most empirical studies reviewed in Dickens *et al.* (1984) and Huguet Roig (1999: 296, 297) affirm the existence of distinct labour markets. According to dual labour market theorists, access to the primary segment is especially restricted in the cases of women, ethnic minorities, migrant workers, disabled, and young persons. Labour market segmentation does not result only from employer's discriminatory practice but also from union-imposed constraints on labour supply, information shortages, and the working of feed-back mechanisms (Peck 1996).[6] The existence of a secondary labour market segment is of advantage to employers and the economy due to its relative flexibility that can be exploited by way of adapting supply and demand through this channel.

Initially the segmentation approach focused mainly on job characteristics and not on the special features of individuals. It thus predominantly pointed to the demand side of the labour market. Recent

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[5] Self-employment, especially solo self-employment, as an additional form of non-standard employment is not taken into account here. Non-standard employment is therefore even more pronounced than stated above.

[6] In Peck (1996) a good condensed account of the development of segmentation theory is given.

developments – 'third-generation approaches' – pursue a more multidimensional approach and, amongst other things, also take into account labour supply as well as state actions and institutional features. Peck (1996) and Holst *et al.* (1998), among others, emphasise the labour market segmentation imposed by the household division of labour between the male 'breadwinner' and the female caretaker with a marginal labour market role at the most. This 'gendered division of labour' does not apply only to women in this specific household constellation but, by way of employer's discrimination or anticipation, to all potential mothers. In this context, part-time employment and especially marginal employment can be seen as a component of the secondary labour market segment. Empirical accounts of wage and insurance discrimination of part-time workers confirm this assessment (O'Connell *et al.* 2003 for Ireland; Fagan *et al.* 1998 for the Netherlands, Germany and the UK).

The association of non-standard employment forms with the secondary segment is also supported by Atkinson's 'flexible firm' model. Pressures for flexibility and market adaptation are met through functional flexibility within the relatively secure core sector of the firm (full-time permanent career employees with firm-specific skills) and, on the other hand, through numerical flexibility (sometimes also serving functional flexibility) in the form of peripheral employer-employee relations by way of using part-time, temporary and self-employed workers with more general skills (Atkinson 1984). The peripheral group of workers helps maximise flexibility by minimising the firm's commitment to the workers' job security and career development.

Early theoretical studies already recognised that primary-sector work is sometimes shifted to the secondary sector by making use of subcontracting or temporary contracts (Gordon 1972). Spain, especially, is associated with segmented labour markets that consist of very well protected permanent jobs and, on the other hand, high segments of unemployment and insecure temporary employment with relatively low wages (OECD 2003). Similarly, Esping-Andersen (1995) points out that evidence for Spain and France indicates that temporary contracts serve to fuel dual segmentation while hardly generating any additional net employment growth. Not only may flexibilisation deepen the cleavage between the core and peripheral workforce but the wage and job-security privileges of permanent workers or 'insiders' might be strengthened precisely because firms can regulate their labour force needs at the margin through temporary workers that can be easily dismissed (compare ibid.). A similar assessment is given by Bentolila *et al.* (1994) who point out that flexibility at the margin has been created in Spain in a manner that leads to a dual segmentation within firms which again strengthens the position of insiders.

According to Polavieja (2003) existing studies on segmentation for the most part disregard the important role of institutional regulations regarding labour market stratification. In this author's view, most studies focus too strongly on macro-level factors of segmentation and thus do not take account of the influence of economically rational behaviour of individual workers and firms. To counter these shortcomings an explanatory model that focuses more strongly on the regulatory context while at the same time linking the macro-outcomes of deregulation to micro-level behaviour is suggested. With reference to the Spanish labour market context, Polavieja (2003) argues that deregulation through temporary contracts within an institutional context that is characterised by high dismissal costs for permanent workers will lead to intensified segmentation – workers with temporary contracts will have to work harder than permanent workers in order to avoid unemployment. Polavieja (2003) tests this assumption empirically and concludes that the growing segment of temporary workers in the Spanish labour market has become increasingly unstable, while the decreasing core of permanent workers has grown increasingly secure and impenetrable.

Among recent studies of non-standard employment and social security that use the segmentation approach as a theoretical foundation are O'Connell *et al.* (2003) and O'Reilly *et al.* (2002). In their study of the relationship between working time, gender, wages and pension benefits in Ireland O'Connell *et al.* (2003) suggest including labour market dynamics (transition from unemployment or inactivity into part-time employment) alongside segmentation approaches when determining workers' compensation. They conclude that even if individual and job characteristics are controlled for, occupational pension entitlement is much less likely for part-time than for full-time workers. In their empirical paper on the potential bridging function of part-time work O'Reilly *et al.* (2002) make use, among others, of the segmentation concept. Based on firm size and sector data from the German Socio-

Economic Panel (GSOEP) and the British Household Panel Survey (BHPS), they try to measure the effects of labour market segmentation. Their analysis supports the segmentation hypothesis for Germany and the United Kingdom as they find that transitions from part-time to full-time employment are relatively low, especially for women.

If we acknowledge the role of the state in producing, enforcing, or weakening segmentation through its institutional settings, we can assume that through its regulation of employment (stability) and unemployment (security) it does not influence only the extent of labour market segmentation but also its composition. It is thus an important function of the state to level out possible job creation incentives brought about by weak employment protection legislation and resulting polarisation between different forms of employment.

3.2 Insurance Theory

The extent and distribution of social welfare benefits are strongly determined by the structure of society (age distribution, family structure, job structure), its financial resources for insurance and redistribution and the prevailing societal values and norms that are decisive for the design of benefits (Petersen 1989: 29).

Unemployment insurance is usually publicly organised and the programmes are administered either by the state itself at the central or a lower level or by state-appointed bodies such as trade unions (for instance in Denmark).[7] The predominance of public and in most cases obligatory insurance is ascribed to the existence of asymmetric information on the type of risk (adverse selection through hidden knowledge), on the employment opportunities of beneficiaries and on their job search willingness (moral hazard). While transaction costs arising from enforcing and monitoring contracts are too high for private insurers the state can counter adverse selection through requiring membership or eliminating competition. In this constellation, information about the distribution of good and bad risks and their respective proportion are sufficient for calculating a universal cost covering premium. In a competitive system, good risks can opt for alternative insurance with lower premiums – leaving the bad risks behind which would eventually lead to the collapse of the insurance market. Public insurance can generally not counter moral hazard problems more efficiently than private insurance. Nevertheless, due to its legislative competences, public insurance might be in a better position than private insurance to adjust or strengthen control measures (for further information refer to Wagner *et al.* 1997; Schönbäck 1988; Berthold 1988). Other points adduced to explain the predominance of publicly organised unemployment insurance are lower administrative costs (no marketing costs due to absence of competition), low processing and reimbursement costs due to standardisation as well as, owing to the magnitude of the enterprise, economies of scale (Barr 1998).

While the unemployment insurance systems of the countries examined here are thus all publicly organised, they differ considerably in other insurance principles, namely the extent to which the programmes are voluntary or compulsory, the degree of contribution and tax financing and the resulting predominance of either the insurance (equivalence) or the welfare principle. The prevalence of specific insurance principles is expected to have an influence on the degree to which the system is redistributive and thereby on its ability to attend to the needs of non-standard employed persons.

3.2.1   Voluntary vs. compulsory insurance

In most countries unemployment insurance is compulsory for the main body of employees. Usually, all dependent employees are required to pay social insurance contributions; the self-employed and civil servants are often excluded from the general unemployment insurance schemes. Obligatory participation allows for a pooling solution and thereby reduces the efficiency problem caused by

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[7] Exceptions constitute privatisation processes of certain subtasks such as employment and placement services that have lately taken place in a number of countries. Well-known examples in this context are Australia and the Netherlands. Compare for example OECD (2001) and Riggs (2000).

breaking the link between premium and individual risk. Within a pooling solution, universal coverage, independent of risk probability, is possible (Barr 1992: 791).

Why then are there some countries that abstain from compulsory unemployment insurance, notably, Denmark, Finland, and Sweden? Interestingly, these systems not only differ from other unemployment insurance systems in that membership is voluntary but they are all administered by trade unions and are open to the self-employed (European Commission 2003b). How do voluntary insurance systems counter adverse selection and free-riding problems and do they entail potential advantages in comparison with obligatory insurance?

Although a standard pooling solution is not possible in a voluntary insurance system, premiums are usually uniform and thus independent of individual risk. In order to avoid excessively high premiums – brought about by the potential opting out of good risks – voluntary unemployment insurance is usually heavily subsidised out of general revenues.[8] This helps to counter adverse selection losses. Another argument put forward in favour of compulsory insurance is that society has to be protected from a free-riding mentality in the form of recourse to alternative tax-funded welfare benefits. This concern is for example expressed by Parsons *et al.* (2003) in their empirical account of Danish voluntary unemployment insurance. Self-selection out of unemployment insurance can take place as a result either of rational free-riding consumers with risk aversion of varying intensity, or of myopic consumers who ill calculate their risk probability. Parson *et al.* (2003: 7) find substantial evidence for rationality in individual decisions for or against insurance: the non-insured are over-proportionally those individuals who have low unemployment probabilities or those who have access to alternative forms of public income support (Parsons *et al.* 2003: 7). Free-riding within voluntary unemployment insurance can either be reduced through strong means-testing of alternative benefits or through introducing compulsory basic insurance (comparable in size to social assistance) while maintaining a voluntary upgrading component that provides earnings-related benefits.[9] Membership of voluntary systems can be encouraged through certain features such as additional benefits only indirectly related to unemployment, through solidarity, social pressure, or insurance requirements for union members.[10]

From their empirical analysis of voluntary unemployment insurance in Denmark, Parsons *et al.* (2003) conclude that high voluntary participation, as well as substantial adverse selection, argue for a compulsory public system or alternatively – but more difficult and more costly to implement – premiums based on risk rating. Their answer to why Scandinavian unemployment insurance systems nevertheless remain for the most part voluntary is that, according to their calculations, revenue gains would be modest and, more importantly, a high share of increased revenue would come from low-skilled workers.[11]

What conclusion can we draw for our group of interest? Does voluntary unemployment insurance carry possible advantages for non-standard workers? From the theoretical literature on this issue and the limited empirical evidence, we can conclude that non-standard employed persons (potentially bad risks) would be disadvantaged in a voluntary system only if it operated with a risk-rated premium structure – this is usually not the case. Generally – in order to avoid unbearably high premiums and opting out of good risks – voluntary systems are highly subsidised by the state. This implies a predominantly tax-financed system.

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[8] Between the mid-1970s and the mid-1990s fund membership fees in Denmark covered approximately one third of costs on average (Parsons *et al.* 2003). In Sweden individual contribution to unemployment insurance funds is even smaller; approximately 95% of insurance costs are met from government funds that are for the most part funded from employer's contributions (Eurofound 2004).

[9] In 1997, the voluntary unemployment insurance system in Sweden was modified by introducing a compulsory basic insurance (*grundförsäkring*). Interestingly, it is entirely state-financed.

[10] Voluntary unemployment insurance coverage in Denmark as well as Sweden amounts to approximately 80% of the labour force.

[11] Obligatory unemployment insurance had been introduced in Sweden in the early 1990s but was abolished again after only one year.

3.2.2 Insurance vs. welfare principle

Although unemployment insurance is usually financed through a mix of taxes and contributions, in most countries a clear tendency exists towards either contribution or tax financing. Contributions to unemployment insurance are typically based on gross wages and are financed by employers and employees. In many systems lower and upper contribution and benefit ceilings are defined which considerably influence the redistributive power of the specific system. By definition, tax financing is based on a broader group than contribution financing. Additionally, the connection between taxes paid and subsequent benefits is less clear than the relationship between contributions and benefits.

If contribution financing is more important than tax financing and contributions as well as benefits are strongly earnings-related, the insurance or equivalence principle predominates. The welfare principle prevails in schemes with no clear linkage between benefits and contributions (systems with flat-rate contributions and/or flat-rate benefits or a high degree of tax financing). Accordingly, insurance benefits can pursue two fundamentally different allocative aims: either protecting accustomed living standards and therefore ensuring contributory justice or preventing and mitigating poverty (Rolf 1988: 525). The first aim is more pronounced in insurance schemes which are based on the equivalence principle; the second function is more evident in schemes that are in close accordance with the welfare principle. Although the practical implications of the predominance of one of the two principles should not be underestimated, the validity of the term equivalence in connection with unemployment insurance is restricted. This is due to the predominant use of risk-independent premiums and, in some countries, the consideration of family composition in benefit allocation.

What are the pros and cons of the insurance and the welfare principle, and how do these principles theoretically fare if it comes to the insurance situation of non-standard employed persons?

Since the insurance principle incorporates a strong reciprocity between contributions and benefits (equivalence), insurance benefits are perceived as a right, and cutbacks in times of economic downturn are more difficult to justify than under schemes based on the welfare principle. In this study Spain and especially Germany are good representatives of the insurance principle because contributions are much more important than tax financing and Germany additionally operates with high earnings ceilings. In schemes that are more strongly based on welfare principles, here Denmark and, especially, the United Kingdom, there is theoretically a higher chance that benefit levels may be challenged arbitrarily. Due to the close connection between former wages and benefit levels, schemes in which insurance principles predominate are usually advantageous for persons with higher wages. Our group of interest – especially part-time workers – are comparatively disadvantaged. Petersen (1989) confirms this by stating that schemes which focus too strongly on equivalence exclude persons with below-average income from a satisfactory insurance situation.

A prototype unemployment insurance system which closely confirms to welfare principles is one that operates with flat-rate benefits (the United Kingdom in our case). Although benefits of equal size are granted in case of eligibility – levels vary subject only to family composition – possible advantages for non-standard workers are attenuated because benefit levels in flat-rate systems are usually comparatively low. High or no ceilings on contributions in combination with low-benefit ceilings serve the needs of workers with lower wages without incorporating the drawbacks of flat-rate benefit systems. This is the case in Denmark where replacement rates decrease with rising income.

In the scientific discourse there is no clear preference for either the insurance or the welfare principle. Krupp (1988), for example, accords the insurance principle at least as much adaptability as the welfare principle. Basing his assessments on the German system, he even calls for a contributory financed minimum insurance (replacing social assistance) for those left out of the general insurance due to discontinuous employment careers. Spahn *et al.* (1988) cannot find allocative advantages of contribution financing as compared to tax financing which, according to them, better serves minorities in the system. They vote for an effective mix of both instruments. Rolf (1988: 527-531) also argues for a flexible design of social insurance that should allow for a better management of long-term demographic, economic and societal changes.

Apparently, the financing of unemployment insurance schemes is not clear-cut but some schemes tend more towards protecting accustomed living standards while others grant benefits that are more strongly based on equity principles. We assume that schemes that are more in line with welfare principles are more favourable towards non-standard workers than schemes that are strongly characterised by insurance principles. Schmid *et al.* (1996) confirm this by stating that schemes which are based on insurance principles are biased towards protecting core workers as opposed to marginal workers (women, young, casual) while welfare schemes usually generate more equal outcomes. It will later be tested to what extent this theoretical assessment complies with empirical evidence.

3.2.3 Redistribution in unemployment insurance schemes

Redistribution refers to interventions that reallocate market outputs or inputs in a way believed to be closer to collective goals (Shanahan *et al.* 1994). Social insurance always incorporates a certain degree of income redistribution either between persons or households, generations, or over time. According to Eisen (1988: 125ff.) redistribution from good to bad risks has to take place in order to increase efficiency of market outcomes in the presence of asymmetric information. Redistribution does not occur only by way of omnium insurance with average premiums but can also take place through other channels: low maximum benefits, flat-rate benefits, and family complements constitute possibilities to redistribute insurance benefits. These regulations vary between countries and thus make certain benefit systems more redistributive than others.

The extent of redistribution generated by social insurance schemes is a consequence of the underlying intentions. Redistribution will probably be more important if poverty relief or considerations of solidarity are central aims of a given scheme, whereas, if great importance is attached to protection of living standard or to income smoothing, benefits will be at least partly earnings-related and therefore at first sight less redistributive.

The financing principles which underlie the benefit systems reveal much about the importance accorded to redistribution within a certain scheme. According to Barr (1992: 776ff.) the most redistributive unemployment insurance schemes comprise income-tested benefits financed from progressive contributions; flat-rate benefits financed from general taxation are the second most redistributive; the least redistributive are earnings-related benefits financed out of regressive proportional social insurance contributions. This ranking order, although very broad, gives us a general idea of the redistributive effects of different insurance schemes. At least from a theoretical viewpoint – based on our knowledge of benefit financing – Germany and Spain can be ranked among the least redistributive group. The schemes of the United Kingdom and Denmark diverge in certain aspects from the examples given here but they probably conform most closely to the second group. Denmark operates with comparatively low maximum benefits. The United Kingdom pays out flat-rate benefits that are financed out of earnings-related, though unspecific, contributions. Due to this design the British scheme seems to be somewhat more redistributive than the Danish one.

Even though this classification looks appealing at first sight, two points have to be stressed that in some ways call into question the above categorisation of the countries under analysis. First, according to Barr (1992: 778), a programme with a highly redistributive formula has little redistributive effect if expenditure is small. This is confirmed by Korpi *et al.* (1998) who are critical of the way in which the debate on the redistributive outcomes of welfare state programmes has focused almost exclusively on how to distribute the money available for transfers while it has largely ignored variations in the size of the redistributive budget. According to Korpi *et al.* (1998), the degree of redistribution that is finally achieved depends on both the size of the budget and the degree of low-income targeting. Based on their empirical analysis which focuses on pensions in a range of OECD countries, they put forward a second point that questions the above classification. They show that encompassing social insurance institutions, by providing high-income earners with earnings-related benefits and thereby crowding out private pensions and other sources of income that tend to be even more unequal than public pensions, can reduce gross income inequality and poverty more efficiently than can flat-rate or targeted benefits.

Although these empirical results cannot be generalised and they relate to pension insurance and not to unemployment insurance, they nevertheless remind us that redistribution should be regarded in

a broader sense and should not be judged solely on the basis of the working of a specific social insurance system. Individual welfare actually does not primarily derive from state institutions but from at least four sources: labour market, private provision, voluntary welfare (family), and the state.

Redistribution is frequently discussed in terms of equity and efficiency and is often described as conflicting with efficiency goals.[12] According to Barr (1992: 745ff.), efficiency consists of macro and micro efficiency and incentives; benefits should be constructed so as to minimise adverse effects on labour supply, employment, and savings. Important dimensions of the equity objective are vertical equity (redistribution towards individuals or families with lower income), horizontal equity (differences in benefits should account for age, family size, etc.) and social solidarity. While poverty relief as a possible insurance aim fulfils mainly equity objectives, efficiency and equity objectives form the basis of the alternative aims of protecting accustomed living standards and income smoothing.

Economic literature often treats equity and efficiency as trade-offs (compare Okun 1975). Snower (1995: 629-632), for example, favours efficiency objectives within unemployment insurance in order to tackle market failures such as moral hazard and adverse selection. Since redistribution to low-income individuals or households could evoke incentive problems, equity should not be an objective of unemployment insurance but should rather be achieved through negative income tax schemes and related measures (Snower 1995). This popular mode of arguing can stand in the way of redistributing benefits. Possible solutions to incentive problems are obligatory activation measures, sanctions if job offers are rejected, or reemployment incentives. Snower (1995) emphasises that unemployment benefit systems are in practice far from being optimally designed to achieve either equity or efficiency objectives.

Equity and efficiency do not have to be treated as trade-offs, however. Headey *et al.* (1999), on the basis of an empirical assessment of the economic and social performance of the three prototypes of welfare regime, actually come to the conclusion that there is no sharp trade-off between equity and efficiency.[13] On the basis of Rawls' 'Theory of Justice', Schmid (2003) asserts that equity and efficiency are compatible if the rules of the game are regarded as fair because people will then be inclined to participate in competitive or cooperative actions and will thereby achieve efficient outcomes. Four rules that can support allocative justice are put forward: fairness or distributive justice, solidarity or redistributive justice, equal opportunities which do not necessarily lead to equal outcomes, and equality in the outcome. The following section will draw some assumptions and strategies for the following empirical analysis.

3.3 Assumptions from theory

Labour market segmentation takes place not only between standard and non-standard workers but also between different groups of non-standard workers. It can be assumed that type and significance of risk associated with non-standard employment vary considerably with specific characteristics of the job and the job holder. Highly qualified individuals who are engaged in fixed-term project work probably do not face the same unemployment risks as low-skilled temporary workers. Additionally, the level of personal income and the household context play an important role when it comes to mitigating risks. Similarly, voluntary part-time employment in a two-earner household context is to be judged differently than part-time employment that is exercised involuntarily due to, for instance, insufficient childcare facilities. Accordingly, socio-demographic information, qualification levels and employment characteristics, as well as the household context of non-standard workers have to be taken into account in any subsequent analysis. Compensation of individual insurance entitlement by house-

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[12] For a thorough literature review of theory and empirical research on distribution and redistribution refer to Shanahan and Tuma (1994).

[13] According to a study by Headey et al. (1999) the Netherlands which they define as prototype of the social democratic welfare regime do not only perform very well in reducing poverty and inequality but they also equal the other two countries of the study (Germany and the United States) on their preferred welfare goals – household income stability and economic growth coupled with efficiency, respectively.

hold income is questionable, however, because risk management within the family is not gender neutral, nor is it a viable long-term strategy if we consider the increasing instability of families.

At first sight, compulsory insurance seems more appropriate for covering special risks. But since voluntary unemployment insurance systems in Europe operate with uniform premiums and level out deficiencies through high tax-financing they are assumed to cover the risks of non-standard employed workers at least as well as obligatory systems. Tax financing which, by definition, is based on a broader group probably generates a more inclusive system than contribution financing. This line of argument is supported by the assumption that contribution financing is more likely to result in a perceived entitlement right further complicating redistribution. Hypotheses can also be drawn from the perceived aims of the respective unemployment insurance systems. Schemes that more strongly promote the maintenance of accustomed living standards (insurance principle) through, for example, the use of high earnings ceilings are probably less appropriate for non-standard workers than schemes aimed at preventing and mitigating poverty (welfare principle) through either universal flat-rate benefits or the application of relatively low benefit ceilings. Nevertheless, the redistributive effects of flat-rate benefits tend to be limited if expenditure is small. We therefore assume that tax financing coupled with relatively low benefit ceilings and high expenditure generates the highest degree of inclusiveness and equality.

Table 2 summarises the dominant insurance principles in the countries under observation. It will allow deduction of a more solid hypothesis on the insurance situation of non-standard workers in the different countries.

Table 2: Unemployment insurance principles

	Denmark	Germany	Spain	United Kingdom
public vs. private	public but administration through trade unions (more than 30 independent funds)	public	public	public
voluntary vs. compulsory	voluntary	compulsory	compulsory	compulsory
contributory vs. tax financing	contributory financing (partly flat rate) global contributions to the Labour Market Fund	contributory financing of unemployment insurance, tax financing of unemployment assistance and deficit financing	global contributions to social security system, the state covers the costs of unemployment benefits that are not covered by contributions	mix of contribution financing (contribution-based JSA*) and tax financing (income-based JSA) per capita national insurance fund contribution dependent on income
insurance vs. welfare principle	mix of insurance and welfare principles: strong welfare component due to low ceilings	insurance principle: strong relation between former earnings and benefits through high ceilings; the introduction of the basic benefit (ALG II) has weakened the insurance principle	insurance principle: strong accordance between contribution time and benefit period, benefits dependent on former earnings	welfare principle: global contribution to general national insurance and flat rate benefits
means for redistribution**	high: 4.49 (2.66)	relatively high: 3.46 (2.31)	medium: 2.22 (1.50)	low: 0.81 (0.29)
general redistribution (theoretically)	+	-	-	? (welfare principle, weak contributory system but relatively low expenditure)
family related redistribution	- (strongly individualised system)	+	+	- (contribution-based JSA) + (income-based JSA)

* JSA: Job Seekers' Allowance, ** Public labour market programme expenditure (total expenditure and expenditure on passive benefits in brackets) as percentage of GDP in 2004 (OECD 2006).

Denmark is the only country in this sample that operates with voluntary unemployment insurance. One point that indicates higher inclusiveness of voluntary systems is that, in contrast to most other systems, they are open to self-employed people. On the other hand, the voluntary character could possibly lead to the deliberate recourse of non-standard workers on alternative benefits.[14] Questions relating to this issue cannot be answered with the data available. The voluntary organisation of unem-

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[14] Parson et al. (2003) show that take-up rates are lower among two presumably distinct groups: those with low unemployment probabilities and those that have access to alternative income support.

ployment insurance in Denmark should be kept in mind, however, when interpreting results from analysis, but no great distortions of the comparability of results are expected because most Danish people are members of an unemployment insurance fund. Contributions are paid globally and are partly earnings-related and partly flat-rate (weak equivalence principle) which might be in favour of redistribution. Benefit payments are earnings-related but redistribution takes place via low benefit ceilings which is assumed to be favourable for non-standard workers with low earnings.

In the United Kingdom the insurance or equivalence principle is rather weak because, instead of a specific unemployment insurance contribution, a general National Insurance contribution is levied. There is thus no clear connection between premium payments and subsequent benefits. This relative lack of connection is further supported by the flat-rate nature of benefit payments. All this speaks for a potentially high degree of redistribution. This system may nevertheless not be as favourable to non-standard workers as the Danish one because overall expenditure on unemployment benefits is comparatively low.

The unemployment insurance systems of Germany and Spain incorporate a strong link between contributions and benefits (equivalence principle). Both schemes aim at maintaining accustomed living standards and therefore are presumably less redistributive than their British and Danish counterparts. This should be especially true for Germany which operates with high benefit ceilings and thereby fosters status maintenance. On the other hand, the financial means for redistribution are high in Germany and thus potentially available to counteract this effect.

The following section will look more closely at country-specific design features of unemployment insurance that might either benefit or stand in the way of encompassing coverage of non-standard workers.

4 Unemployment insurance systems and non-standard employment

A number of features built into the design of unemployment insurance systems can influence the entitlement of non-standard workers to benefits. Hours' and/or wage level thresholds are especially problematic for part-time workers with low working hours. Minimum contribution requirements within a specific reference period can be problematic for temporary workers who frequently alternate between contracts of short duration and spells of unemployment. Problems for part-time workers can arise if contribution requirements are specified not in weeks or months but in hours. In some countries, namely Germany and Spain, the duration of benefit payments is scaled according to the former insured employment period which can lead to shorter maximum benefit periods among temporary workers with short contribution records. Furthermore, benefit levels often depend on former earnings which can lead to relatively low benefits for part-time workers.

Table 3 gives a synopsis of the four countries' insurance regulations as far as they affect the coverage of non-standard workers. In all countries examined here, unemployment benefits are modelled on standard employment. The general principles on which the countries' social insurance systems are based, as well as the specific rules governing unemployment benefits, nevertheless suggest variations between the countries when it comes to the inclusion of non-standard workers.

Table 3: Synopsis of unemployment insurance rules concerning non-standard workers

	Denmark	Germany	Spain	United Kingdom
hours' or wage level threshold (only applies to part-time workers) → **access**	• until 1994 membership in UI* fund was not possible for persons who were employed for less than 15 hours a week • at present membership is possible from the first hour onwards	• until 1997 hours threshold at 18 hours (for UI and UA**) • since April 1997 threshold at 15 hours and possibility to add up employment for access • since 1999 uniform earnings threshold of €322 • Hartz reform: hours threshold was abolished, earnings' threshold of €400	• before 1993 no hours threshold applied • between 1994 and 1998 part-time employment below 12 hours was excluded from unemployment insurance benefit receipt • it was re-included in the end of 1998 (pro rata temporis)	• an earnings threshold applies • since 2000 there is a small earnings bracket in which persons do not have to pay National Insurance Contributions but gain entitlement to benefits
minimum contribution period → **access**	general: • one year membership in UI fund • until 1996 26 weeks insured employment within preceding 3 years after joining fund • since 1997 52 weeks in last 3 years (full-time employment), renewal of rights after 26 weeks part-time insured: • before 1997 uniform 26 weeks • since 1997 34 weeks full-time equivalent instead of 52 weeks, renewal of rights after 17 weeks temporary workers: • access has become more difficult due to prolonged insurance period requirement, but lax renewal rule applies	general: • UI: 12 months of insured employment during last 3 years, since 2006 during last 2 years • UA until 1999: 150 calendar days of insured employment, until the end of 2004 only as follow-up benefit • since 2005 low flat-rate benefit (ALG II) for all employable without contribution requirement part-time workers: • no disadvantages temporary workers: • primary UA that was beneficial to temporary workers was abolished • shortening of reference period from 3 to 2 years problematic • remaining entitlements can be carried forward	general: • UI: at least 360 days of insured employment in the 6 preceding years • UA: at least 90 days part-time workers: • from 1994 on contribution is based on time actually worked • since 1999 every working day counts towards contribution period independent of hours worked (more difficult to enter for those who work less than 5 days per week) temporary workers: • remaining entitlements can be carried forward but due to comparatively short benefit duration not so effective	general: • UI: 25 times the minimum contribution in the preceding year, additionally, in the two preceding years at least 50 times the minimum contribution • UA: no conditions but means-tested part-time workers and temporary workers: • no direct disadvantages but difficulty to gain entitlement to contribution-based JSA*** for persons with low earnings (part-time) and/or discontinuous employment
dependence on former wage level **only applies to part-time workers** → **level**	• yes, replacement rate is 90% combined with low ceilings part-time insured: • can at the highest receive 2/3rd of maximum benefit; the minimum benefit does not apply to former part-time employed • low ceilings lead to redistribution from high to low incomes	• yes, UI: 67% (60% without children) combined with high ceilings • UA: formerly 57% (53%), now low flat-rate basic benefit part-time workers: • special rule for those that changed from full-time to part-time: for a certain period they can receive UI benefits dependent on their former wage	• yes, UI: 70%, after 6 months 60%, • no, UA: between 80% and 225% of IPREM+ depending on age, contribution time and children part-time workers: • upper benefit limit and minimum benefit (UI and UA) are reduced for former part-time employed proportional to their hours	• no, UI and UA are low flat rate benefits
dependence on former contribution time and age → **duration**	• no, UI is granted to all who are entitled for 4 years (1 year passive, 3 years active) • UA does not exist but social assistance is paid at a relatively high level	• yes, UI: contribution time and age are taken into account, proportion: 12 months of contribution = 6 months of entitlement • UI: maximum 12 months (18 months for elderly) • no, UA (now basic benefit): indefinite but subject to means-testing temporary workers: • disadvantaged if short contract duration (see above)	• yes, UI and UA • UI: contribution time is taken into account as a proportion of 3 (contribution months) to 1 (entitlement), before 1992 the proportion was 2 to 1 • UI: maximum 24 months • UA: 3 to 30 months; proportion in some cases 1 to 1 temporary workers: • disadvantage (see above) part-time workers: • disadvantage for those working less than 5 days a week (see minimum contribution period)	• no, UI: 6 months for all • UA: indefinite but subject to means-testing

* Unemployment insurance; ** Unemployment assistance; *** Jobseeker's Allowance; + Public Indicator of Multiple Effects Income. Source: Own synopsis drawn from various sources.[15]

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[15] On hours thresholds compare for example Dingledey (1998). For information on Denmark refer to The National Directorate of Labour (2006) as well as Braun (2001). On Germany compare Neuhold (1999) and Bundesgesetzblatt (30. Dezember 2002). On hours threshold regulations in Spain and the United Kingdom compare Royal Decree No. 15/1998 and, respectively, Inland Revenue (2005) and Equal Opportunities Commission (1998). On minimum contribution requirements compare among others European Commission (2004) and Rubery (1998). On contribution requirements in Denmark and Germany compare Hansen (2004) and Fink (1999) and, respectively, Neuhold (1999), Stascheit (2004) and SGB III, § 123, 124. On Spain compare Toha-

The theoretical part already revealed that the Danish and the British unemployment insurance systems more strongly incorporate welfare principles whereas the German and the Spanish systems favour insurance principles. This is confirmed by a closer look at the relevant design features of the countries' unemployment benefit systems. Flat-rate benefits independent of former wages (United Kingdom) and low upper ceilings combined with high net replacement rates (Denmark) clearly support the welfare principle. The same is true of uniform duration of benefit receipt regardless of contribution time (both the United Kingdom and Denmark). In Germany and Spain, on the other hand, certain rules in the unemployment insurance systems clearly work in favour of the insurance principle. In Germany, earnings and benefit ceilings are high leading to strong equivalence between former earnings and benefits; in Spain, and to a lesser degree also in Germany there is a strong connection between the number of contribution days and the benefit period. The hypothesis that systems based on welfare principles are more favourable to non-standard workers than systems that are more strongly based on insurance principles might hold in general, but the systems as such are much more complicated than the theoretical principles suggest.

There is a variety of specific rules that either directly or indirectly influence the coverage of non-standard workers. Examples are specific maximum benefits for part-time (insured) workers[16] in the Danish and the Spanish system or strong links between former wages and replacement benefits. Such rules not only counter possible disincentives to take up new employment but also make the systems financially more viable. The British system does not require specific rules for non-standard workers who have entered the system because as benefits in general are very low, of short duration, or subject to means-testing, they constitute no serious financial or incentive problems.

Restrictions on access to benefits for specific groups of unemployed exist in all four countries. The clearest and most exclusive rules are those concerning marginal part-time employees. A regulation that works less directly is the minimum contribution period that is usually disadvantageous for persons in discontinuous employment or, in certain cases, for persons with less than five working days per week (Spain). As far as favourable rules (on access and benefit levels) are concerned, these mostly apply to part-time workers (Denmark and Germany). This can be explained by the political intention to create more part-time employment by setting incentives to take up this kind of employment. At least in the German case this line of argument has been used when allowing part-time workers to base unemployment insurance claims on former full-time employment for a transitional period.

All in all, no clear trends towards better inclusion of non-standard workers can be detected in the countries under analysis. Hours thresholds in Germany and Denmark have been relaxed but the earnings threshold for marginal employment in Germany is still in place and has even been raised.[17] In Spain an hours threshold was in place for about four years in the mid-1990s but, in the attempt to make part-time work more attractive, it has been abolished. Modifications in qualifying and reference periods (Denmark, Germany, and Spain) have especially impaired the access of non-standard workers to benefits. In all four countries benefit duration has been shortened but these developments disproportionately affect non-standard workers only in Germany and Spain. Net replacement rates have been cut in Germany and Spain, while in the United Kingdom the adult dependent allowance has been abolished and lower benefit rates have been introduced for young unemployed persons. These developments equally affect standard- and non-standard workers. On the basis of available information it is evident that unemployment benefit coverage of non-standard workers had not been directly on the

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ria (2000), Ministerio de Trabajo y Asuntos Sociales (2006) and Fassler-Ristic (1999), and on the United Kingdom compare Hansen (2002) and Cebulla (2001).

[16] Part-time workers (at the maximum 30 hours a week, calculated as average over one months) can choose to either be part-time or full-time insured (The National Directorate of Labour 2006). Some unemployment insurance funds do not offer part-time insurance.

[17] Using an earnings threshold for marginal jobs without specifying an upper hour's limit can lead to a situation where very low hourly wages are paid to marginal workers.

agenda in any of the countries under analysis.[18] Non-standard workers seem to lack adequate representation of interest.

Kvist (1998) as well as Atkinson *et al.* (1991) stress the importance of bearing in mind the complex mechanisms that underlie cash benefits for unemployment. The fact that individuals are characterised by great heterogeneity must elicit caution when making generalisations about the effects of systems of unemployment compensation. According to Kvist (1998), only by combining institutional knowledge with panel or register data is it possible to get a proxy of benefit generosity and its effect on different segments of the population. The following two sections will use the European Community Household Panel (ECHP) data in order to look at the segmentation potential of non-standard employment.[19] First, the risks or chances of non-standard workers to make downward (unemployment and inactivity), upward (standard employment) and sideward (education) transitions are assessed. Furthermore, entitlement to unemployment benefits is analysed taking into account former labour market status (part-time, fixed-term), individual circumstances (age, gender), as well as household situation. An adequate account of the operation of social security benefits should thus be possible.

5 Transition patterns of standard and non-standard workers

What trends in mobility patterns of standard and non-standard workers are revealed if year-to-year transitions are compared between the four countries under observation? Are there pronounced differences in downward trends to non-employment between standard and non-standard workers as expected in the hypothesis? And are there higher shares of non-standard workers making transitions to inactivity instead of unemployment? If so, which inactivity categories are most prevalent? Training activities in times of non-employment could strengthen employability, whereas most other categories of inactivity can clearly be regarded as downward transition. High incidence of transitions to inactivity among non-standard workers could indicate discrimination in access to unemployment insurance benefits, although it should be borne in mind that transitions to unemployment which are observed here are transitions to self-assessed unemployment and not necessarily to unemployment covered by social insurance benefits.

This section is going to test the hypothesis that persons with non-standard employment contracts face greater risks of making transitions to unemployment or inactivity than persons with regular contracts. Pronounced differences in downward transition patterns between non-standard and standard workers and low shares of upward transitions among part-time and temporary workers would point to a segmentation potential of non-standard employment.

5.1 Year-to-year transitions

Tables 4 and 5 reveal that full-time workers or workers with permanent jobs in year t are, in all countries, more likely than part-time workers or temporary workers to still be employed one year later (t+1).[20] In order to gain a clear picture of transition patterns, upward, downward, and sideward transitions are now considered. Upward transitions are transitions from part-time to full-time employment or from temporary to permanent employment. Downward transitions are transitions from employment to non-employment, either unemployment or inactivity (household/carer, community/military service, retirement, or other inactivity). Sideward transitions are transitions to education or training.

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[18] This is different in retirement insurance. In Germany, since 2001, contributions to retirement insurance of part-time workers and workers with low earnings who care for a child, as well as for non-employed who care for at least two children, are graded up during the first ten years after child-birth (Bäcker 2001: 477-479).

[19] Refer to the annex or a short description of the data.

[20] Here, we do not differentiate between combinations of full-time or part-time employment and permanent or temporary employment. The multivariate models in section six will control for these combinations.

As shown by Table 4, part-time employment is rather persistent. In Denmark, Germany, and the United Kingdom more than 60% of part-time workers are still part-time employed one year later. Consistently, only around one fifth of part-time employees make upward transitions to full-time employment in these three countries. In Spain, on the other hand, transitions from part-time to full-time employment are more common. Part-time employment in Spain actually plays a different role than in the other three countries, insofar as it is more often exercised involuntarily and less often used to combine work with childcare responsibilities.

Downward transitions are considerably more important among part-time employees than among full-time employees in all four countries. Except for Germany where there are hardly any differences in movements from part-time or full-time employment to unemployment, transitions to unemployment are more common for part-time employees than for full-time employees. As expected, movements to inactivity are especially prevalent among part-time employees – the shares of part-time employees that move into inactivity one year later are 3 to 4 times larger than the shares of full-time employees. This is not surprising because the inactivity category explicitly contains 'housework and caring' and at least in Germany and in the United Kingdom part-time employment is often combined with care activities (Eurostat 2006; OECD 2002: 78). The United Kingdom stands out when it comes to transitions to inactivity as compared to unemployment. Among both full-time and part-time workers, transitions to inactivity are considerably more frequent than transitions to unemployment, which might constitute a hint that the overall inadequacy of unemployment insurance coverage in the United Kingdom leads to different self-assessment behaviour.

Sideward transitions (movements to education) are more frequent among part-time workers than among full-time workers in all four countries, most particularly in Denmark and Spain. Especially in Denmark we can assume that this result is in part due to the large share of students among part-time workers. Additionally, the table shows that in Denmark transitions between unemployment and education play an important role, and further education, and activation are, indeed, integral parts of the Danish system (compare Madsen 2002; Braun 2001).

Table 4: Upward, downward, and sideward transitions from and to full-time and part-time employment (%)

t		t+1				
		full-time	part-time	educa-tion	unem-ployment	inactivity
full-time	DK	91.43	2.17	1.58	2.88	1.94
	G	90.40	1.84	0.86	3.92	2.98
	SP	88.36	2.28	0.40	5.64	3.33
	UK	90.82	3.10	0.46	1.97	3.65
part-time	DK	20.29	61.39	6.91	5.08	6.32
	G	17.52	65.66	2.17	3.21	11.44
	SP	31.58	42.60	2.75	10.45	12.36
	UK	18.18	64.22	1.25	2.62	13.73
education	DK	26.69	7.44	56.55	6.96	2.36
	G	17.88	5.19	61.89	6.17	8.89
	SP	10.00	3.34	73.75	10.20	2.71
	UK	24.13	9.13	45.11	11.55	10.08
unemploy-ment	DK	32.19	6.29	9.38	38.38	13.76
	G	25.26	3.16	4.30	49.77	17.51
	SP	30.16	4.81	3.31	46.68	15.05
	UK	16.46	4.24	2.08	59.03	18.19
inactivity	DK	4.77	2.59	1.69	3.15	87.80
	G	4.33	3.87	1.37	2.66	87.76
	SP	4.71	2.69	0.49	5.51	86.60
	UK	6.87	7.62	1.20	7.05	77.26

Source: own calculation, weighted data, 8 waves (1994-2001); age: 18-64.
Employment refers to employment of more than 1 hour.

Upward transitions from temporary to permanent employment are most common in the United Kingdom where some 45% of temporary workers are permanently employed one year later (compare Table 5). In Spain, on the other hand, only one quarter of temporary workers move into permanent

employment from one year to the next. Persistence of temporary employment is accordingly very high in Spain at around 54%. In Denmark and Germany it is around 40% and, in the United Kingdom, around 30%.

As expected in the hypothesis, temporary workers are more likely than permanent workers to enter either unemployment or inactivity. The shares of temporary (permanent) workers who are unemployed or inactive one year later lie between 13 (3)% in Denmark and about 21 (6.5)% in Spain. In all countries except for the United Kingdom movements of temporary workers to self-assessed unemployment (with or without benefit receipt) are more important than movements to inactivity. Reintegration after unemployment often takes place via temporary employment – this is especially the case in Spain where the unemployed are considerably more likely to re-enter employment by way of a temporary job than by way of a permanent job. This route of integration is also quite frequent in Denmark. Interestingly, the United Kingdom, which has the lowest share of returns to employment via temporary employment, has the highest unemployment persistency (more than 60%) in this sample.

Sideward transitions are in all four countries more frequent among temporary than among permanent workers. While transitions from permanent employment to education hardly figure in any of the countries, transitions from temporary employment to education are quite frequent in Denmark with shares of about 9% and in the United Kingdom with shares of about 6%. While very high shares of transition to education among temporary workers occur mainly among young employees, in all age groups temporary workers are more likely than permanent workers to move to education.

Table 5: Upward, downward, and sideward transitions from and to permanent and temporary employment (%)

t		t+1				
		permanent	temporary	education	unem-ployment	inactivity
permanent	DK	92.01	2.92	1.08	2.20	1.79
	G	89.47	3.63	0.50	3.05	3.34
	SP	89.70	5.45	0.13	2.51	2.21
	UK	91.35	1.89	0.35	1.79	4.62
temporary	DK	39.00	38.96	9.09	7.53	5.42
	G	38.54	38.55	3.93	13.55	5.43
	SP	24.94	53.62	1.38	15.46	4.59
	UK	45.82	30.62	6.21	7.40	9.95
education	DK	15.22	14.45	59.81	7.93	2.60
	G	9.40	6.66	67.93	6.81	9.21
	SP	2.25	8.14	76.70	10.47	2.45
	UK	19.15	13.19	45.54	11.66	10.46
unemploy-ment	DK	20.13	12.78	11.45	38.78	16.86
	G	15.52	9.39	4.48	53.70	16.91
	SP	5.76	24.10	3.67	49.95	16.51
	UK	12.38	4.20	2.11	63.40	17.92
inactivity	DK	3.36	1.86	1.82	3.14	89.82
	G	4.73	1.81	1.39	2.75	89.31
	SP	0.75	2.92	0.47	5.08	90.78
	UK	10.22	2.32	1.27	8.17	78.02

Source: own calculation, weighted data, 7 waves (1995-2001); age: 18-64. Permanent and temporary employment in t refers to employment of more than 15 hours.

The above year-to-year transitions confirm the hypothesis of higher transitions out of employment for non-standard workers as compared to standard workers. On the other hand, we also observe more sideward transitions among non-standard workers. Sideward transitions in the form of (further) education could strengthen employability and could thereby ameliorate the chances for reemployment and possibly even for qualitative job improvements such as higher wages.

If longer-term transitions (t+4) are assessed, standard employment forms (full-time as well as permanent employment) are very stable in all countries. Between 80% (Germany) and 84% (Denmark) of full-time employees in t were still (or again) in this state four years later. This is also true for between 77% (Spain) and 86% (Denmark) of workers with permanent contracts.

Among part-time workers between 27% (Germany) and 43% (Spain) were full-time employed four years later while considerable shares had moved to inactivity (between 17% in Denmark and Spain and 23% in the United Kingdom). Persistency in part-time employment is greatest in Germany (47%) in this sample.

As might be expected, due to the greater involuntary character of this form of employment and the rules governing it (limit of prolongation), persistency of temporary employment is considerably lower than persistency of part-time employment. It is by far highest in Spain where about 34% of temporary workers in t are still (or again) working on the basis of a temporary contract four years later. Movements to permanent jobs are most common in the United Kingdom where almost 70% of temporary workers hold permanent contracts four years later. This is only the case for about 45% of Spanish temporary workers.[21]

5.2 Failure rates for standard and non-standard workers

Event history methods allow simultaneous analysis of observed and censored event times.[22] Life tables with information on survival, cumulative failure or hazard rates, and their graphical presentation, are the primary tool for describing event occurrence data. A life table follows the event histories of a sample of individuals from the beginning through the end of the data collection. Life tables include information on people who are eligible to experience the event (risk set), on people who experience the event and on people who were censored at the end of the interval (one month in this case) (Singer *et al.* 2003: 326 et seqq.).

In order to summarise and present the information from the life tables for the four countries, failure functions (inverse of the survivor function) are used, which provide a way of describing the distribution of event occurrence over time. The failure function cumulates period-by-period risks of event occurrence to assess the probability that a randomly selected individual will experience the event (Singer *et al.* 2003: 334). The estimated failure function provides maximum likelihood estimates of the probability that an individual randomly selected from the population will fail (make an exit from employment). It does not reach 1 in this example because a certain proportion of individuals continuously remains in employment longer than seven (eight) years.

There will be a difference between the percentage of workers that is still employed (not necessarily by the same employer) at the end of the data collection and the estimate of the percentage of workers that is still employed – this is exactly because censoring is adjusted for (estimation is done indirectly via the individuals who remain in the risk set). Under the assumption of independent censoring, one can thus use the risk set to estimate what would have happened to the entire remaining population had there been no censoring. The results might be somewhat distorted by the fact that many inter-

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[21] The results are based on the ECHP data and calculated in the same manner as tables 4 and 5. The tables can be provided on request.

[22] A survival time is said to be censored if all we know is that it began or ended within some particular time interval but we do not know the total spell length. Two types are distinguished: right censoring and left censoring. Right censoring means that at the time of the last observation the event under study has not yet occurred to some observations – in our case persons remaining in employment over the whole time period or persons leaving the study prematurely without having experienced the event. The term left censoring, on the other hand, is used when the start date or start interval of the spell has not been observed – the person has already been employed when the survey started. It is assumed that the process giving rise to censoring of survival times is independent of the survival time process (compare Jenkins 18 July 2005: 4, 5). The basic problem with disregarding right censoring is that if censored and uncensored cases are treated equally, then parameter estimates from a model that treats the duration time as a function of covariates may be misleading – the relationship between the covariates and the duration times may be under- or over-stated (Box-Steffensmeier et al. 2004: 16-19). While right censoring can be dealt with in a straight forward way in event history analysis, most event history methods are not designed to handle left censoring.

viewed people were already employed at the start of the survey and we do not know the real length of their employment spell (left censoring).

The following Figures 1 and 2 display the cumulated failure rates for standard and non-standard workers all exit types combined.[23] In order to be able to directly contrast transitions to non-employment for part-time and full-time employees and for workers with fixed-term and permanent contracts, respectively, individuals are treated as censored as soon as they make a transition from fixed-term employment (part-time employment) to permanent employment (full-time employment) and vice versa. As soon as missing values appear in the covariate, the individual is also treated as censored.[24]

In all countries, non-standard workers exit employment to higher degrees than standard workers but countries vary markedly in the extent of the differences.[25] Failure rates of full-time and part-time workers are closest in Germany, followed by the United Kingdom, whereas part-time workers show much higher exit rates than full-time workers in Denmark and especially in Spain (compare Figure 1). The hazard of exit is very high during the first 24 month of recorded employment which might be especially problematic because people might not have spent enough time in employment to be entitled to unemployment benefits. After two years about 50% of part-time workers in Denmark and about 70% in Spain have left employment at least for a short period. The higher incidence of exits from employment to non-employment among part-time workers in Denmark and in Spain, as compared to Germany and the United Kingdom, might be due, at least in part, to the fact that part-time contracts in Denmark and especially in Spain are more often of a temporary nature.

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[23] The ECHP data only provides yearly information on covariates. They are assigned to every corresponding month of the specific year.

[24] Specifying changes in the covariates of interest as censoring seems to provoke somewhat higher failure rates for non-standard workers during the first two years and an assimilation of both failure rates thereafter. The general tendencies and pronounced differences between countries as well as between standard and non-standard workers are very similar independent of specification.

[25] The differences between countries are supported by the log-rank test for equality of survivor function. In all cases, the probability that subgroup differences occur by chance is less than 0.000. The null hypothesis of no subgroup differences in survivor functions can thus be rejected (compare StataCorp 2005b).The sample sizes in the part-time employment models range from 524 in Denmark to 1533 in Germany. In the temporary employment models they range from 442 in Denmark to 2924 in Spain.

Figure 1: Exits from employment for full-time and part-time workers (cumulated failure)
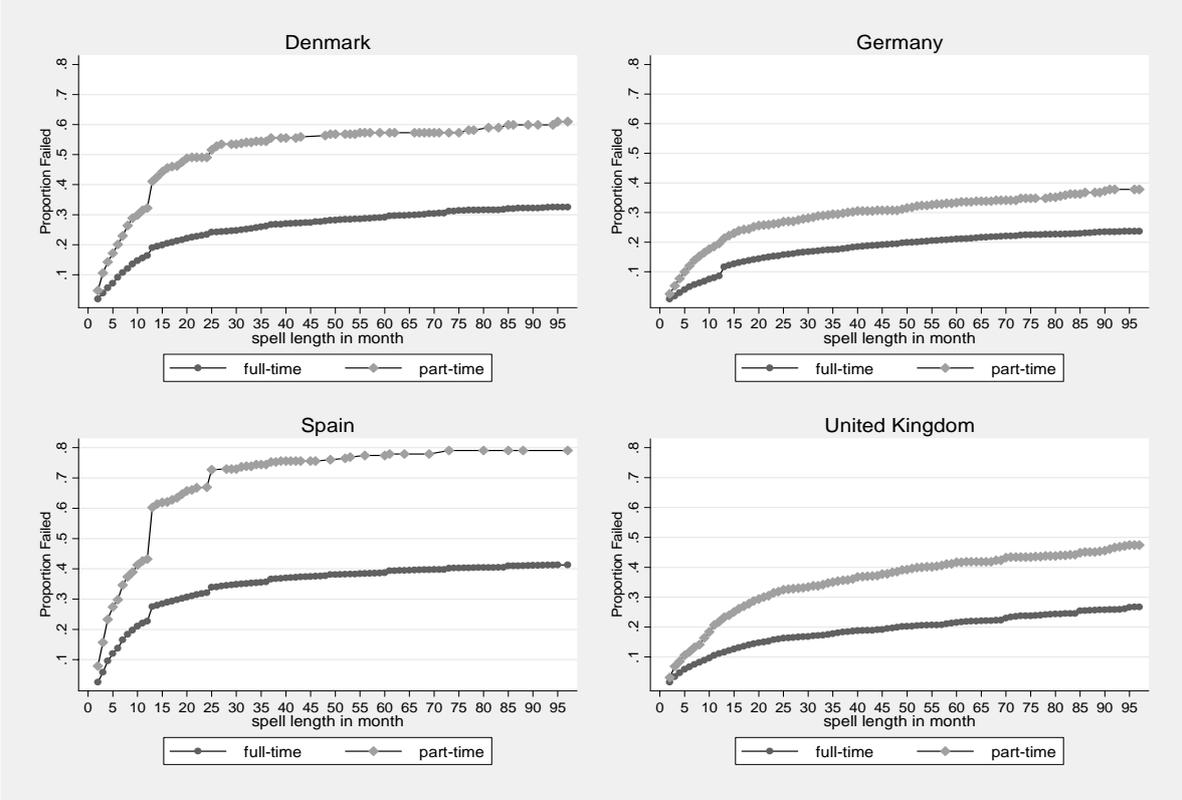
Source: Own calculation based on ECHP data (8 waves), multiple spells per individual are possible, age: 18-64.

  Temporary workers show similar exit patterns as part-time workers in Denmark and in Spain. They are considerably more likely to exit employment than their permanently employed counterparts (compare Figure 2). After two years about 60% of temporary workers have left employment at least for a short period in Denmark and in Spain. In the United Kingdom, temporary workers are considerably more likely than permanent workers and part-time workers to leave employment. After two years, about 50% have left employment at least for a short period. Differences in exit patterns between workers on temporary and permanent contracts are smallest in Germany where, after two years, about 28% of temporary workers, as compared to about 10% of permanent workers, have left employment at least for a short interval.

Figure 2: Exits from employment for workers with permanent and temporary contracts (cumulated failure)

Exit from employment for permanent and temporary employees (cumulated failure), 7 waves, repeated spells
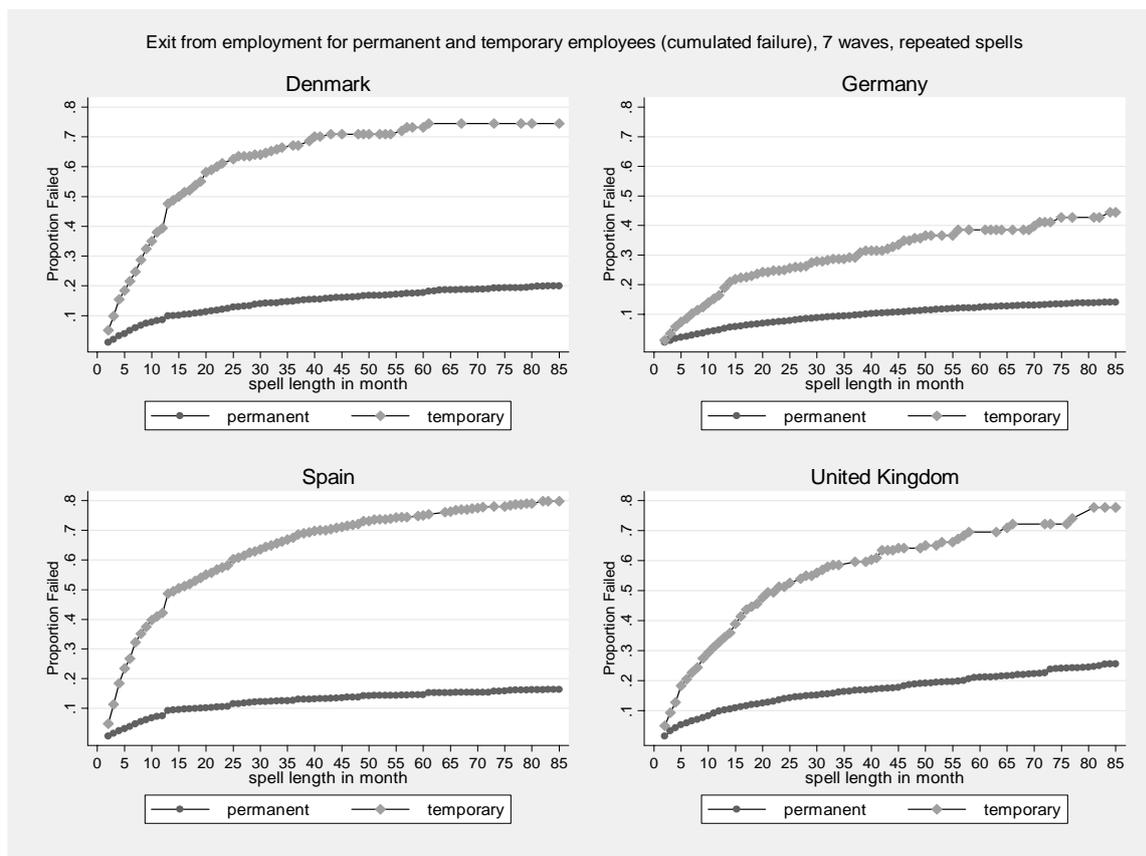
Source: Own calculation based on ECHP data (7 waves), multiple spells per individual are possible, age: 18-64.

The above tables show only one side of the picture: we have information on how long employment lasted before unemployment or inactivity set in but we do not know how long the subsequent non-employment period lasts. Exit profiles in Denmark and Spain might be similar, but considerably lower unemployment rates in Denmark suggest very different re-entry profiles (much faster in Denmark than in Spain). Lower unemployment rates in Denmark are also driven by the fact that in Denmark far fewer people are affected by non-standard employment patterns than in Spain.

It can be concluded from this section that non-standard employment contains some segmentation potential. In all countries, transitions to non-employment are more frequent among persons with non-standard contracts than among those with standard contracts. Nevertheless, there are manifest differences between the countries regarded here: temporary employment, for example, takes over stepping stone functions in the United Kingdom, whereas in Spain it exhibits a high segmentation potential. Similarly transitions between part-time employment and inactivity are frequent; here the stepping stone function is most evident in Spain, while persistency is highest in Germany. A positive albeit preliminary finding is that sideward transitions to (further) education that potentially enhance employability and thereby re-employment possibilities are relatively frequent among non-standard workers, especially in Denmark.

By asking whether part-time and temporary workers are less likely than their full-time and permanently employed counterparts to receive benefits on unemployment, the next section will look into the segmentation potential of unemployment insurance benefits.

6 Are non-standard workers disadvantaged when it comes to entitlement to unemployment benefits?

Does the ECHP data confirm the second hypothesis that indicates that unemployment insurance systems which more strongly incorporate welfare principles are more inclusive to non-standard workers than those that incorporate insurance principles? The institutional analysis has already revealed that all unemployment insurance systems penalise workers with non-standard contracts to varying degrees.

6.1 Literature overview

In their critical review of unemployment compensation and labour market transitions, Atkinson *et al.* (1991:1688 ff.) state that only a fraction of the unemployed receive unemployment insurance benefits and that the extent of coverage is likely to vary with the characteristics of individual workers. Among others they classify part-time workers – especially marginal workers – and precarious workers with insufficient unemployment insurance contribution records as potentially disadvantaged groups.

There are very few studies that treat unemployment-related benefits among non-standard workers empirically. Grimshaw *et al.* (1997) deal with unemployment insurance and part-time employment in a comparative way. They describe differential access to unemployment benefits and calculate net replacement rates separately for women and men taking into account, among other things, threshold levels and additions for dependent spouses. Similarly, Rubery (1998) and Klammer (2005; 2000; 2001b: 252 ff.) focus on gender differences in access to and level of unemployment benefits; they thus indirectly take into account non-standard employment, especially part-time work. Based on administrative data, Micklewright (1990) shows for the British context that in 1990 only one in five claimants received unemployment insurance benefits, while the majority received means-tested assistance. Micklewright points out that preliminary descriptive results point to a relationship between a rising flexible workforce (part-time work and self-employment) and deficient unemployment insurance coverage but he calls for more detailed analysis over longer periods, preferably involving flow as well as stock data. According to Cebulla (2001: 604 ff), in 2000, only about 16 percent of all claimants in the United Kingdom received contribution-based Jobseeker's Allowance (the insurance benefit). Insufficient contribution records were by far the most important reason for lack of entitlement.

A recent conceptual OECD study compares estimates from alternative data sources on the number of persons who participate in social programmes in different countries. The study recalls the fact that eligibility to benefits is likely to differ depending on the age and gender of the individual (inadequate contributions due to short or no employment history). Taking as the basis survey respondents that are either unemployed, inactive or employed, entitlement to unemployment benefits in 2001 was somewhat higher among women than men in Denmark but considerably lower in Germany, in the United Kingdom and, among elderly women (55-64) in Spain (compare Immervoll *et al.* 2004).

Based on the first two waves of the ECHP data, Ghysels *et al.* (1999) examine benefit coverage, level and replacement rates and not only look at differences according to gender, age, qualification level and household type but also try to relate benefit receipt to former working time.[26] Gender differences in benefit coverage are small in Denmark and Germany and account for ten to 15 percentage points in the United Kingdom and Spain.[27] Benefit coverage of former part-time workers as compared to former full-time workers hardly varies in Denmark, whereas entitlement of part-time employees in

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[26] This study was to provide more realistic information on net replacement rates for new types of unemployment that do not satisfy the assumption of long-time contribution records which traditional calculations usually imply. It was the basis for a section in the publication Employment in Europe (compare European Commission 2000).

[27] The analysis of Ghysels et al. refers to the age group 16 to 54. A separate analysis is conducted for elderly people.

Germany, the United Kingdom and Spain is about 20 to 25 percentage points lower (Ghysels *et al.* 1999: 53).

The following section will look at differences between non-standard and standard workers concerning entitlement to unemployment benefits.

6.2 Descriptive results

The ECHP data distinguishes between people who are registered at the employment office and those who are not registered. This is an advantage over administrative data because it allows relating benefit receipt to all kinds of unemployed persons. Looking exclusively at registered unemployed can be misleading because unemployed persons who do not expect to be eligible for benefits might not register as unemployed in the first place. Micklewright (1990: 13) points out the importance of this distinction and demonstrates for the British case that more than half of all unemployed women (based on search activity) were not claimants in the administrative records. We would, for example, expect that marginal workers are less prone to register at the employment office especially in unemployment insurance systems with high hours' thresholds. Table 6 highlights this issue. Indeed, in all countries unemployed who have formerly worked part-time are less likely to register at the employment office. The lower the former hours the less likely the part-time workers are to register – this is especially evident in Denmark and Germany. Differences between part-time workers with high hours (20-29) and full-time workers are especially great in the United Kingdom and Germany while they are non-existent in Denmark. In Spain registration is high among former part-time and former full-time workers; there might be non-material reasons to register as unemployed even if benefit receipt is not expected.

Table 6: Registration at employment office by former working hours[28]

%	1-19 hours[29]	20-29 hours	30+ hours
Denmark	32	76	78
Germany	20	48	78
Spain	73	84	91
United Kingdom	28	28	54

Source: Own calculation based on pooled and weighted ECHP data;
basis: people with no job who are looking for a job.

A similar but less pronounced picture is revealed if workers who held a temporary job are compared to workers who held a permanent job before they became unemployed. There is no difference in Spain and only a small difference in the United Kingdom while significant differences are found in Denmark and especially in Germany (compare Table 7).

Table 7: Registration at employment office by reason for stopping last job

%	end of contract/ temporary job	obliged to stop by employer
Denmark	74	87
Germany	61	81
Spain	91	89
United Kingdom	55	62

Source: Own calculation based on pooled and weighted ECHP data;
basis: people with no job who are looking for a job.

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[28] The lagged information on working hours is used (t-1). In the case of missing in the last wave (for example due to unemployment, inactivity or non-response) the information from t-2 was used.

[29] The hours' category 1-14 is not shown separately because especially in Denmark and the United Kingdom, case numbers get critically small.

In order to assess the difference in unemployment benefit[30] coverage between non-standard and standard workers it will thus be useful if the examination is not confined to the registered unemployed. A similar strategy is suggested by Atkinson *et al.* (1991: 1683). Figure 3 compares benefit coverage rates between registered full-time and part-time workers and all persons who are looking for a job (registered and not registered). Coverage rates of registered unemployed (fond) are in all countries higher than coverage rates of all people looking for a job (stripes). Regarding only registered unemployed, differences between former part-time workers (grey) and former full-time workers (black) are evident but considerably less pronounced than if all persons who are looking for a job are taken into account. In general, Denmark with its highly individualised unemployment insurance system fares best with the majority of former part-time workers being covered by unemployment benefits. Whereas registered unemployed are quite well covered in Germany – the coverage rate of all job-seeking unemployed is very low, especially for former part-time workers. Different explanations for non-coverage are possible. Besides insufficient contribution records or working hours (earnings) below the hours (earnings) threshold, this group can also consist of long-term unemployed who are not receiving benefits due to means-testing or of people who want to return to the labour market after a childcare break for example. These factors are controlled for in the later regression analysis. Means-testing plays an important role in the United Kingdom where, since 1996, unconditional unemployment benefits have been payable for only a short period of six months. In the United Kingdom, less than 50% of registered unemployed who have been full-time employed are in receipt of benefits and only about one third of former part-time workers are covered. It can be expected that the low share of covered part-time workers is at least in part due to the prevalence of the male breadwinner-plus model (male full-time worker and female part-time worker) and the importance of means-testing in the British system. In Spain, coverage rates in general are very low and they are even lower among former part-time workers.

Figure 3: Unemployment benefit receipt of former full-time and part-time workers: comparison of registered unemployed and all unemployed who are looking for a job
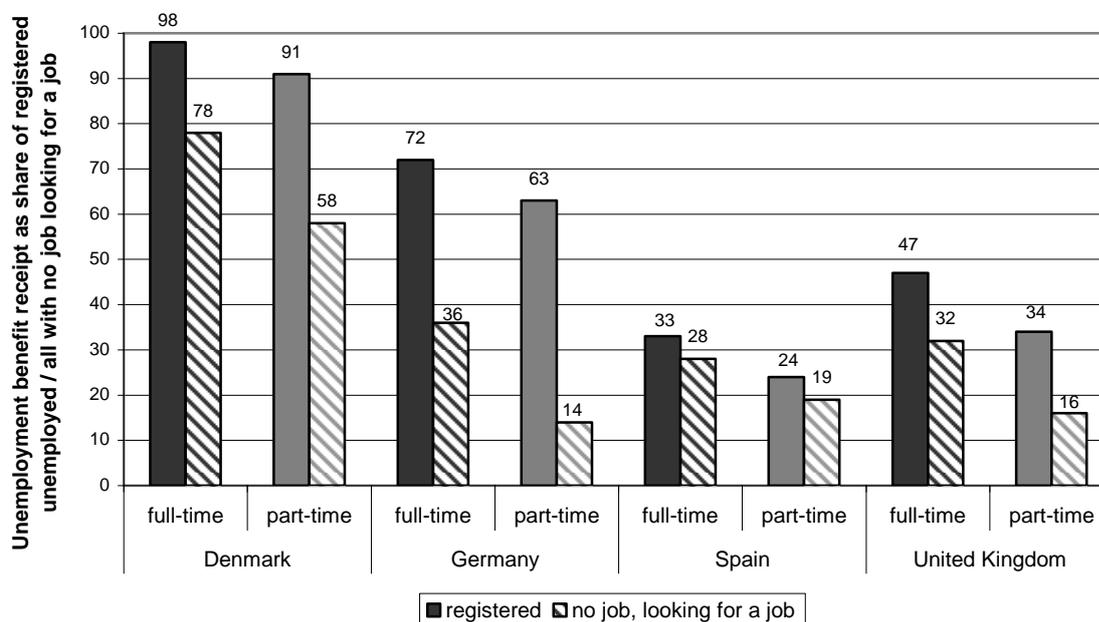
Source: Own calculation based on pooled and weighted ECHP data. Retrospective survey information on part-time employment is used.

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[30] The ECHP does not provide separate information on unemployment insurance and unemployment assistance receipt. The term 'unemployment benefit' which is used in the following analysis will thus refer to both benefit types. If not stated differently, the following tables are valid for the age group 18 to 64.

According to the eligibility rules there should be differences in coverage rates between part-time workers with low and part-time workers with high hours. Table 8 confirms this for all countries except the United Kingdom. The relatively high coverage rate among registered British unemployed who were part-time employed in the last wave or the wave before, which is not in line with above results that are based on the more exact retrospective variable (that potentially goes further into the past), points to the fact that means-testing at an early stage of unemployment actually seems to play an important role in the United Kingdom.

Table 8: Unemployment benefit receipt by working time: comparison of registered unemployed and all unemployed who are looking for a job

%	1-19 hours *		20-29 hours	
	registered	all looking	registered	all looking
Denmark	(90)**	34	92	75
Germany	49	10	75	34
Spain	12	9	31	26
UK	59	18	(48)**	15

* Working time was measured at the time of the last survey before unemployment.
The retrospective part-time variable used in table 7 cannot be broken down into hours;
** Results refer to less than 30 cases. Source: Own calculation based on pooled ECHP data.

Are former temporary workers also disadvantaged when it comes to unemployment benefit coverage? Figure 4 shows that the differences between workers who formerly had a permanent and those who formerly had a temporary contract are less pronounced than among former full-time and part-time workers. Among the registered unemployed, former temporary workers are better off than former permanent workers in Germany and in the United Kingdom. The opposite is true for Spain, the country with the highest share of temporary employment. If all unemployed who are looking for a job are taken into account, coverage rates of former temporary workers are approximately ten percentage points below the coverage rates of former permanent workers, except for the United Kingdom where temporary workers are somewhat better off than permanent workers. The British contribution regulation that requires minimum contribution payments instead of a certain time spent in employment (as is the case for the other countries) seems to be beneficial for temporary workers; furthermore the second-tier system is usually open to all unemployed as long as their household income does not exceed a certain limit. It can be assumed that means-testing does not play too significant a role among former temporary workers who constantly alternate between periods of employment and unemployment.

Figure 4: Unemployment benefit receipt of former permanent and temporary workers: comparison of registered unemployed and all unemployed who are looking for a job
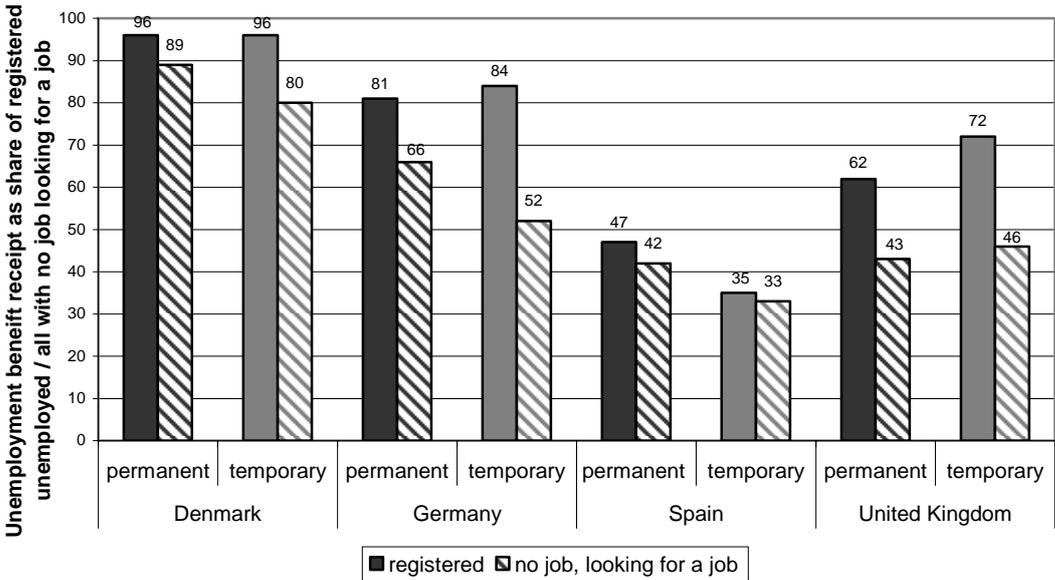
Source: Own calculation based on pooled and weighted ECHP data. A proxy is used for permanent and temporary employment.

For temporary workers restrictions on access to benefits arise mainly because of insufficient contribution time. In many schemes at least one year of continuous employment within the reference period is necessary in order to qualify for benefits, so that qualification depends on contract length and the possibility of changing employer without having to rely on unemployment benefits during an interval between jobs. Table 9 shows the average duration of temporary employment contracts in the mid-1990s. In Denmark and especially in Spain the majority of temporary contracts are shorter than one year. In the United Kingdom the share is almost 50% and in Germany it is about 40%. These numbers conceal the fact that temporary contracts can usually be renewed at least once. Case numbers are only large enough in Spain to calculate access to benefits based on the contract length specified in the previous wave. As expected, access increases strongly with previously specified contract length.

Table 9: Duration of fixed-term contracts

%	< 6 month	6 month to < 1 year	1 to < 2 years	more than 2 years
Denmark	18	35	29	19
Germany	13	26	26	34
Spain	23	48	22	7
United Kingdom	26	22	25	28

Source: Own calculation, based on wave 2 and 3 of ECHP data. The original ECHP data
is used for Germany and the United Kingdom (no information in the SOEP and BHPS data).

In a last descriptive step it is useful to assess to what extent non-coverage by unemployment benefits is cushioned by subsidiary systems such as social assistance. If we look at any social benefit receipt on unemployment, without distinguishing between different benefit types, the following picture emerges. The best performers are Denmark, with almost total coverage, and Germany, with coverage rates of about 90%. In the United Kingdom more than two thirds of all unemployed receive some kind of benefit on unemployment, whereas in Spain the situation is disconcerting in that only about 40% of all unemployed people receive any social benefit, so that many unemployed have to rely on family income or the like (compare Figure 5).

Figure 5: Any social benefit receipt at unemployment
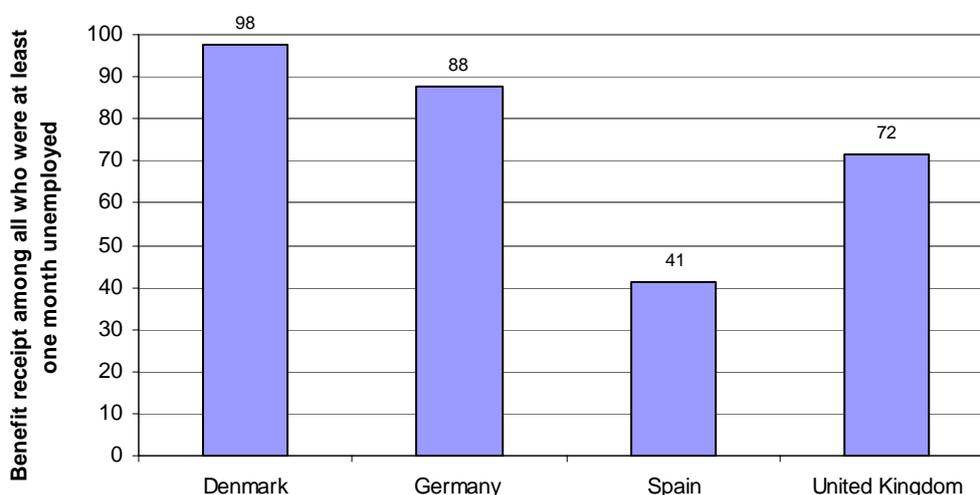
Source: Own calculation based on ECHP data.

The above descriptive results give a first impression of the coverage of non-standard employed people in the individual countries but they control neither for the length of unemployment nor for individual and household characteristics, and nor do they take into account simultaneous part-time and temporary employment. Differences in coverage between former temporary and permanent workers could, for example, be due merely to their different age profiles (inadequate contribution records among young temporary employed). The following section will therefore look at the effects of part-time and temporary employment on unemployment benefit entitlement controlling this time for individual, household and job characteristics.

6.3 Multivariate Models

What are the direct effects of part-time and temporary employment on benefit receipt, after controlling for individual, household and job characteristics?

Table 10 shows that unemployed persons (not only registered but all those seeking work) who have formerly worked part-time as compared to those who have formerly worked full-time have significantly lower odds of receiving benefits in Denmark and in the United Kingdom (about a third) as well as in Germany (about half) even if individual factors such as age, gender and qualification level, household characteristics (composition of household and income) and job related characteristics (occupation and former individual wage) are controlled for. The part-time coefficient for Spain is not significant. None of the coefficients for temporary employment as compared to permanent employment are significant although they point in the right direction except for Spain. Apart from Denmark with its highly individualised system, women, as expected, have considerably lower odds of receiving benefits than men, the difference being especially great in the United Kingdom probably as a result of means-testing at an early stage of benefit receipt.

Table 10: Random effects logit model – access of non-standard workers to unemployment benefits

dependent variable: unemploy-ment benefit receipt (no/yes)	Denmark	Germany	Spain	United Kingdom
	odds ratios			
last job part-time	0.32**	0.47**	0.80	0.29**
REFERENCE: reason for stopping last job: obliged to stop				
reason: end of contract/temporary job	0.55	0.70	1.01	0.47
women	1.56	0.58*	0.43**	0.36**
observations	892	2266	4200	588
number of groups	562	967	2280	417
Wald chi2(32) (Germany(24))	164.03	310.50	447.14	76.75
Prob > chi2	0.0000	0.0000	0.0000	0.0000
Rho	.24	.48	.45	.38
Prob >= chibar2	0.004	0.000	0.000	0.001
Further variables included in models but not shown here: age, household type, qualification level, personal wage before unemployment, current household wage, occupation last job (except for Germany), length of unemployment, and year dummies.				
+ significant at 10%; * significant at 5%; ** significant at 1%; p-values in parentheses				

Source: Own calculation based on ECHP data, all those without job, looking for a job.

In order to better understand the above results we look at individual predicted probabilities for part-time and full-time workers (compare Table 11). Since the coefficient for temporary employment is not significant we merely display the results here without further comment. Taking women with medium qualification levels in couples without children, with mean former wage income, mean current household income, and mean length of unemployment (about ten months), predicted probabilities for benefit receipt are in all countries lower for former part-time than for former full-time workers. Concerning Denmark, we are 95% confident that the predicted probability of receiving benefits for former part-time workers lies between 0.40 and 0.84. Probabilities to receive benefits are very low for part-time workers in the other three countries and also remain below 0.30 for former full-time workers with the above stated profile (all unemployed who are looking for a job are the basis).

Table 11: Individual predicted probabilities of benefit receipt for typical non-standard and standard workers[31]

ideal type*	Denmark	Germany	Spain	United Kingdom
	predicted probability (95% confidence interval in brackets)			
part-time woman in couple without children	0.62 (0.40-0.84)	0.14 (0.07-0.20)	0.23 (0.15-0.30)	0.11 (0.03-0.19)
full-time woman in couple without children	0.83 (0.71-0.95)	0.24 (0.16-0.32)	0.27 (0.20-0.34)	0.18 (0.06-0.30)
woman with **temporary job** in couple without children	0.91 (0.86-0.96)	0.52 (0.45-0.59)	0.34 (0.29-0.40)	0.27 (0.14-0.40)
woman with **permanent job** in couple without kids	0.93 (0.89-0.97)	0.54 (0.48-0.61)	0.51 (0.43-0.59)	0.28 (0.16-0.40)

* Age, former wage, current household income, and length of unemployment are set to their mean; a medium qualification level (ISCED 3) applies. Source: Own calculation based on ECHP data, adapted from Long et al. (2006: 162).

Last but not least, some insight into interactions between temporary and part-time employment is given. It is expected that people with temporary contracts and part-time hours are especially badly off if they become unemployed. The share of temporary employment which is exercised as part-time employment is especially large in the United Kingdom, whereas the majority of part-time contracts in Spain are of a temporary nature which is confirmed by Fassler-Ristic (1999: 371) and Cebrián (2000: 213) (compare Table 12).

Table 12: Share of workers whose contracts are simultaneously part-time and temporary

%	Denmark	Germany	Spain	United Kingdom
share of temporary contracts which are part-time as compared to full-time	20.3	18.0	12.2	32.4
share of part-time contracts which are of temporary nature as compared to permanent nature	23.3	14.3	55.7	11.7

Source: Own calculation based on pooled and weighted ECHP data.

Significant results of interacting part-time and temporary employment can be found only for Germany and the United Kingdom (compare Table 13).[32] In these two countries temporary workers with full-time hours are much more likely to receive benefits in case of unemployment than are temporary workers with part-time hours. The same is true for part-time workers with permanent contracts; in the case of unemployment they are considerably more likely to receive benefits than part-time workers with temporary contracts. In countries with a male-breadwinner-plus model, a combination of relatively high hours or earnings thresholds (especially evident in Germany and the United Kingdom) and high importance of means-testing[33] seems to provoke the double disadvantage. Neither the Danish nor the Spanish coefficients are significant. In the Danish unemployment insurance system means-testing does not take place and in Spain part-time employment takes on a different function than in Germany and the United Kingdom – the traditional breadwinner model (with a non-working mother) being much more in evidence.

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[31] The regression models that this table is based on have to be calculated separately for former part-time and full-time workers (no control for former contract type) and for former temporary and permanent workers (no control for working time). This is necessary due to relatively high missings on these two variables that lead to a matrix with missing values – based on this matrix with missing values the individual predicted probabilities cannot be calculated.

[32] Interaction effects are like main effects with the only difference that the effect of one predictor is conditioned or moderated by levels of another one. Interactions are included in the model by multiplying the two components of the interaction and adding this new term as a predictor to a model that includes the main effects of both variables. The main effects, in this case full-time employment and permanent employment, then show the effects for those persons for whom the interaction term is zero.

[33] Unemployment assistance receipt in both, Germany (prior to 1999) and the United Kingdom require short or no contribution periods.

Table 13: Interaction between working part-time and having a temporary job

dependent variable: unemployment benefit receipt (no/yes), odds ratios	Denmark	Germany	Spain	United Kingdom
full-time (temporary)	1.14	4.06**	1.17	8.77*
permanent (part-time)	0.44	3.78*	1.43	18.44*
temporary*part-time	5.22	0.33+	0.69	0.12
Observations	539	1221	3271	277
number of groups	337	581	1764	193
Prob > chi2	0.000	0.000	0.000	0.016
Further variables included but not shown here: gender, age, household type, qualification level, personal wage before unemployment, current household wage, occupation last job (except for Germany), length of unemployment, and year dummies.				
+ significant at 10%; * significant at 5%; ** significant at 1%				

Source: own calculation based on ECHP data. Lower observation numbers than in the models above come about because the other categories constituting reasons for stopping the last job (proxy for temporary employment) have been dropped.

7   Conclusion

The use and active promotion of fixed-term and casual contracts, temporary-agency employment, and part-time employment has undoubtedly helped some groups to enter or re-enter the labour market; on the other hand, these developments have made the employment of certain subgroups less stable and thus contributed to enhancing risks such as unemployment, inactivity, income poverty and insufficient social insurance coverage. Non-standard employment forms thus entail segmentation potential. The analysis showed that part-time workers and employees with fixed-term or casual contracts are, in all four countries, more likely than their counterparts in standard employment to become unemployed or inactive. While temporary employment also plays an important bridging function to regular permanent employment – an exception being Spain – part-time employment is persistent especially in the countries that closely comply with the male-breadwinner-plus model (male full-time worker and female part-time worker), namely Germany and the United Kingdom.

The expectation that the unemployment insurance systems of the countries analysed here would vary strongly in their potential to cover non-standard employment did not prove true. Non-standard workers in all four countries have lower access to unemployment benefits. The countries' differences in coverage rates among non-standard workers are driven by differences in overall coverage levels rather than by specific principles such as tax financing or the predominance of the welfare principle. Part-time workers are especially disadvantaged – this is most visible in the countries that operate with hours or earnings thresholds. At least the descriptive results, except for the United Kingdom, point to the fact that entitlement to benefits is less likely among temporary than among permanent workers but the differences are not as evident as between part-time and full-time workers. Due to the high overall coverage levels which are driven by relatively lax contribution requirements and long duration of non-means-tested benefits (high individualisation of benefit receipt), overall coverage and also coverage of non-standard workers is comparatively high in Denmark. In Spain, on the other hand, overall coverage levels are very low, which is attributed not only to the extent of non-standard employment but also to the high incidence of young unemployed who have no access to unemployment insurance if they have never worked (compare OECD 2003: 74, 75). Systems that heavily and at an early stage rely on means-tested benefits generate especially adverse effects in terms of overall benefit coverage. In countries that incorporate elements of the male-breadwinner-plus model, part-time employed mothers in couples are usually strongly affected by means-testing.

In all four countries unemployment insurance reforms have been taking place during the last decade and a half but the reforms usually did not directly tackle deficient coverage of non-standard workers. On the contrary, some of the reform measures that aimed to make the systems more financially viable worsened the situation of non-standard workers. Examples are the abolition of original unemployment assistance in the late 1990s in Germany, the shortening of reference periods in Germany and Spain, the extension of contribution requirements in Denmark and the cutting of the duration of non-means-tested unemployment benefits in the United Kingdom and Germany. On the other hand, hours thresholds have been lowered or abolished in countries like Germany and Spain, and Germany, for example, has installed favourable but provisional benefit regulations for workers who change from

full-time to part-time employment. The Spanish government has sought to promote standard employment forms by granting employers partial exemption from social security contributions if they recruit certain categories of worker (for example women, long-term unemployed, or elderly) on the basis of permanent full-time or part-time contracts, or if they transform temporary contracts into permanent ones.

How problematic deficient coverage is very much depends on the function and the extent of non-standard employment. Denmark, Germany, and the United Kingdom have high shares of part-time workers especially among women. In Denmark part-time employment is prevalent among young people who combine work and education, while in Germany and in the United Kingdom, in the absence of sufficient childcare services, it is mainly used by mothers to combine work and care activities. Since students usually have other subsistence means, deficient benefit coverage of part-time workers should thus be more problematic in the latter two countries, even more so because part-time employment in Germany and the United Kingdom is comparatively persistent. In Spain, part-time employment often goes hand in hand with temporary employment, further downgrading the situation of the people concerned. Temporary employment clearly is associated with being young (especially in Spain and Germany) and with low qualification levels, the United Kingdom being an exception. Deficient unemployment benefit coverage of temporary workers in Spain is especially problematic. The share of fixed-term and casual employment in overall employment has been higher than 30% since the beginning of the 1990s and, despite labour market improvements, unemployment still remains at a comparatively high level. While temporary employment in Denmark and in the United Kingdom remained relatively stable, in Germany the absolute numbers increased considerably over the 1990s. Since the low degree of regulation, extensive childcare provision, and an ongoing positive labour market situation seem to support standard employment in Denmark, social security for non-standard workers is quantitatively less significant there than in other European countries.

An important supplement or even alternative to unemployment insurance entitlements would be encompassing access of all labour market groups to active labour market policy measures. Periods of non-employment due to unemployment or family circumstances have to be bridged actively in order to maximise chances for labour market re-entry. Maintenance of qualifications during non-employment periods will also contribute to alleviating possible downward movements, as concerns wage levels and qualification profiles, of jobs that are usually associated with longer periods of non-employment. Activation measures can also be used to test the willingness to work in order to counter possible disincentives to take up employment that can arise in generous compensation systems. The transition matrices had shown that inactivity will not, in most cases, lead back to employment. This could be changed if countries further harmonised the active reintegration services that they are offering to unemployment insurance, unemployment assistance, and social assistance recipients and make a wide variety of re-integration measures available to all unemployed independent of their beneficiary status. In this case non-coverage or under-coverage of non-standard workers by insurance benefits would be less of a problem. In Germany, Denmark and the United Kingdom there have been some recent movements in this direction. All three countries have adopted a mix of strategies that, on the one hand, focus on positive activation measures open to broader groups of unemployed (placement, services, and in some instances training) but on the other hand also put more pressure on the beneficiaries. The higher short-term costs associated with active labour market measures (ideally financed from taxes instead of contributions) could in the long run (financially) be compensated and rewarded through, for instance, higher employment rates and lower numbers of social assistance recipients.

Adequate access of non-standard workers to passive and active benefits would require different modes of financing and higher expenditure. The following paragraph will discuss some of the possibilities in this regard. Several of the proposals are already used in certain countries, others are hypothetical. There are potentially at least three actors who could contribute to a higher financing base: the government, employers, and employees.

What could governments do in order to better cater to the needs of non-standard workers? First of all, a stricter separation of financing of passive and active benefits seems useful. Since at least parts of the active measures usually cater to a bigger group than the insured one, financing of active measures should take place through the tax system. The same is true for family complements that are part of

insurance schemes. Decoupling of passive and active financing could also prevent cutbacks in active measures at times of rising unemployment (higher financial needs for passive benefit payments). Secondly, a stronger integration of insurance and assistance systems could not only save administrative costs – the spare money could then be used in a more active way – but could also ensure more consistent active services to all groups of unemployed. Recent British and German reforms integrated different compensation systems but these two examples cast doubts on the assumption that administrative savings are used to more actively serve all beneficiaries. Furthermore, an individualisation of entitlements, at least for a sufficiently long initial period of unemployment, should be high on the agenda. If non-means-tested benefits are coupled with strict and early activation measures, disincentives to take up employment could be prevented.

In order to facilitate movements between different statuses reference periods should be relaxed and hours and earnings thresholds should be abolished. Abolition of earnings or hours thresholds would also contribute to increased state revenues because employees and employers would be required to pay contributions from the first working hour onwards. Furthermore it can be expected that in the long run marginal employment would then be replaced by real part-time or even full-time employment. In addition to marginal employment it would also be worthwhile to include self-employment and civil servant employment (possibly at reduced contributions) in the insurance pool. Furthermore, employers who use internal adaptation through training instead of hire-and-fire policies should be supported financially and organisationally. Social security revenues could also be increased by abolishing upper ceilings on contribution payments – as they exist in, for example, Germany – while keeping upper ceilings on benefit payments. This modification would affect employees with relatively high earnings (mostly core workers) and would therefore be a way of strengthening the redistribution component. Another possibility would be to levy contributions or specific taxes on all income from assets. Individual private saving accounts – such as are sometimes suggested (compare for example Feldstein et al. 1998) as an alternative to public omnium insurance – are problematic for non-standard workers (and employees with low wages) because interpersonal redistribution usually does not take place.

A risk fund would be one way of more strongly engaging employers in the financing of non-employment periods. Employers who make excessive use of non-standard employment (especially fixed-term or casual contracts) could be obliged to pay into a special fund that is later used to passively and actively cushion the non-employment periods of non-standard workers. A similar solution, currently extensively practised in the United States, is experience rating. Under this system employers' contributions will depend on their hiring and firing practice. To be effective in preventing hiring on the basis of fixed-term contracts such a system would have to make sure to also take into account fixed-term contracts which are not prolonged or not transformed into permanent contracts. Situations that cannot be directly influenced by the employer (economic downturns and regional differences in the labour market situation) should be taken into account when calculating the contribution rate.

It is evident that the security situation of non-standard workers requires further investigation. Questions of financing more encompassing social insurance schemes – in a manner which, while equitable, does not give rise to incentive problems – will have to take centre stage in further investigation. Furthermore, longer-term effects of non-standard employment have to be assessed in future investigations on this issue. In this regard especially a thorough examination of longer-term wage losses due to non-standard employment and the entitlement of non-standard workers to pensions (public, occupational and private) would be worthwhile topics.

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Annex

The European Community Household Panel (ECHP)

The ECHP provides comprehensive harmonised cross-sectional and longitudinal data for EU-15 countries. It has been running from 1994 to 2001.[34] In 1994 a sample of approximately 60500 nationally representative households composed of about 130000 individuals aged 16 and over was interviewed in the then twelve member states (Eurostat 2002). Austria joined the ECHP in 1995, Finland in 1996. Sweden provided data for the ECHP derived from the Swedish Living Conditions Survey from 1997 onwards. The data was collected by national statistical offices or research institutions based on a common questionnaire. It was then transmitted to Eurostat which further processed the data (editing, weighting, imputations) and created the user data base (Wirtz et al. 2002). In Germany, the United Kingdom and Luxembourg the original ECHP survey was stopped after three waves and replaced by comparable data derived from existing national panels.

Mainly due to protection of data privacy the information that is available in the user data base is more restrictive than the original data. Occupation, industry, and education categories are for example highly aggregated in comparison to the original questionnaire. Furthermore, the user data base provides only aggregated information on many income variables.

What are the advantages of ECHP data as compared to other data sources? First, the data is very comprehensive: on the household level, information on income, accommodation, durables, and children is available. The individual data includes demographic information, information on current and previous jobs, on unemployment and job search, on income, training and education, health, social relations and migration (compare Eurostat 2003). Second, information on partners and children can be matched to the individuals of interest. Third, the panel design of the data makes it possible to study dynamics and mobility. Fourth, whereas information on benefit receipt from administrative sources is often restricted to persons registered at the employment office, the ECHP data allows choosing a broader reference group (all persons looking for a job). Fifth, the panel structure is beneficial for accuracy of the results because it allows controlling for unobserved heterogeneity.

As to the disadvantages of the ECHP data, the sample size restricts the accuracy of analysis. Especially if subgroups of employees such as part-time or temporary workers are at the centre of interest the sample size can become a problem. A viable solution to this problem is the pooling of data over all waves. For more accurate analysis of small subgroups national census data or administrative data is necessary, but this data is not easily available for comparative analysis. Another problem with the ECHP data is that most information is recorded on a yearly (status at the time of the interview) and not on a monthly or a daily basis. This not only leads to underestimation of certain transitions but also makes causal statements more difficult and imprecise. Additionally, nevertheless its comprehensive variable list certain aspects of interest to this study are not available in the data. There is for example no separate information on unemployment insurance and unemployment assistance receipt and the duration of benefit receipt is not recorded either. Furthermore, typical problems associated with panel data such as panel attrition and over- or under-sampling of certain groups have to be dealt with.

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[34] Due to concerns about timeliness and comparability, in 1999 it was decided to replace the ECHP with a new data base, the 'Statistics on Income and Living Conditions' (EU-SILC). The main difference to the ECHP is that existing national data sources (survey or register data) are used (ex-ante-output harmonisation), a rotating panel structure is adopted and new EU members states as well as Norway and Island participate. The survey was launched in seven countries in 2003 (Ehling et al. 2003).

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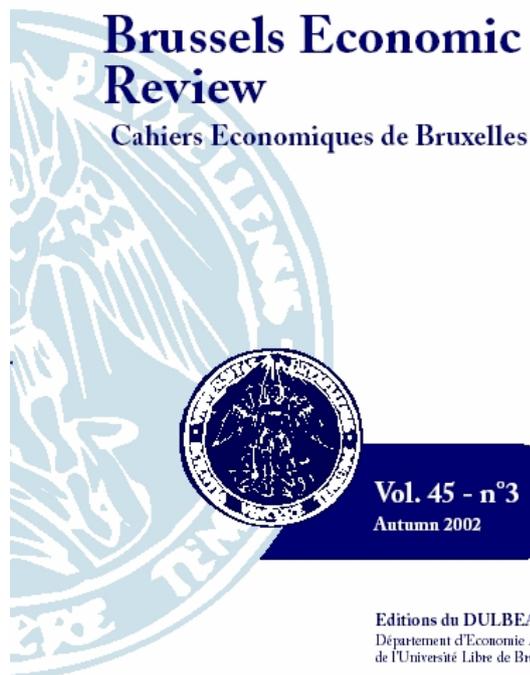
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