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ATYPICAL EMPLOYMENT AND IN-WORK POVERTY

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Abstract

Both part-time and temporary employment have been shown to be associated with particular high poverty rates across Europe. Yet, theoretical arguments as to why this is the case remain scarce. Given the multifaceted nature of in-work poverty, the main aim of this paper is to unravel the different mechanisms that either cause or potentially limit the poverty risk of both groups of atypical workers. The results indicate that both groups are unable to secure a decent income to maintain themselves, not to mention their inability to sustain a family. However, their poverty risk remains remarkably limited when we take all income sources into account. We find that temporary and part-time workers tend to be protected against poverty differently. Government transfers are particularly important for temporary workers as they partially compensate periods out of work. Part-timers are more likely to rely on the earnings of other household members to avoid poverty, but with important differences across countries.

Introduction

This paper bridges the literature on non-standard employment with in-work poverty research. 'Standard' employment is historically rooted in a Fordist employment system where stable full-time male breadwinner jobs provided enough income to support a family (Bosch, 2006). Hence, jobs that deviate from this standard are implicitly assumed to be unable to fulfil this basic function. While various deviations of the 'standard' are possible (Koch & Fritz, 2013), this paper focuses on part-time and temporary employment. Both types are particularly interesting from an in-work poverty perspective because they are characterised by an incomplete labour market attachment (Crettaz, 2013).

The problematic income position of part-time and temporary workers is highly relevant against the contemporary background of slow economic growth, high unemployment rates and pressures of international competition. These contextual features brought non-standard employment back on the table as one of the highly debatable solutions to restore, or at least maintain, overall employment rates (Lang, Schömann, & Clauwaert, 2013; Vaughan-Whitehead, 2012). New types of contracts that deregulate working time and employment stability have become increasingly popular, like zero-hour contracts and mini-jobs. Yet, they contrast the former European objectives to regulate non-standard forms of employment to reduce labour market segmentation (Lang et al., 2013; O'Connor, 2013). Consequently the fear revives that more non-standard jobs come with the danger of ending up in a similar situation as the USA, that is: "a situation where labour force participation increases but at the same time poverty stays unaffected. In other words, unemployed poor just shift into working poor" (Airio, 2008: 34).

These fears are not unwarranted as both part-time and temporary employment have been shown to be associated with substantially higher at-risk of poverty rates across Europe (Horemans & Marx, 2013b; Van Lancker, 2013). Most studies on in-work poverty control for job characteristics when addressing the profile of the working poor, but the theoretical arguments as to why non-standard workers face an increased poverty risk remain scarce (Crettaz, 2013; Kalugina, 2013). This can partially be attributed to the multifaceted nature of in-work poverty and the indirect relationship between individual earnings and household income (Andress & Lohmann, 2008). Hence, the main aim of this paper is to unravel (1) how non-standard workers, who typically have lower earnings, avoid poverty, (2) how differences in profile characteristics between standard and non-standard workers contribute a higher poverty risk, and (3) whether the narrative is similar for part-time and temporary workers.

The next section provides an overview of the theoretical arguments by incorporating theoretical considerations from both research on non-standard employment and in-work poverty. Section 2 provides an overview of the incidence and evolution of the poverty risk of part-time and temporary workers. Next, in section 4 we empirically show how both types of non-standard workers are protected against poverty by looking at particular income components. Section 4 examines more closely how differences in characteristics contribute to the difference in poverty risks between standard and non-standard workers. The last part concludes and suggests pathways for future research.

1 Non-standard jobs and in-work poverty: unravelling the historical overlap

This part of the paper highlights the aspects of the research on non-standard employment that are relevant from an in-work poverty perspective (for an extensive overview of the recent literature on non-standard employment see: Eichhorst & Marx, 2015; Hipp, Bernhardt, & Allmendinger, 2015; Koch & Fritz, 2013; Schmid, 2010). 'Non-standard', 'atypical', 'flexible', or 'precarious' employment are often used as substitutes in international literature, but originated in country specific circumstances and have an inherent socio-political interpretation (Barbier, 2013). 'Atypical' and 'non-standard' are commonly used as less value-loaded terms. Because 'atypical' employment has a more statistical connotation, this paper adopts the notion of non-standard employment. Yet, in essence both terms summarise similar deviations from a particular historical employment relationship that is characterised by a full-time job of unlimited duration where labour is performed at the employer's place of business under the employer's discretion (Kalleberg, 2000). The dominance and persistence of this standard stems from its importance as a normative reference during the development of contemporary Western welfare states. In this context stable full-time (male breadwinner) jobs had the central function of providing an adequate living standard for the household (Bosch, 2006). In other words, non-standard work is from an historical perspective implicitly assumed to go hand in hand with working poverty. This paper focusses on two specific types of non-standard work: temporary and part-time employment. Both may lead to an increased in-work poverty risk as they indicate an incomplete actualisation of individuals' full work potential (Airio, 2008; Crettaz, 2013).

The first type, temporary employment, is non-standard because workers are only *hired as dependent workers for a specific period of time*. Fixed-term contracts are the most common form and are regulated by specific legal provisions regarding, among other things, the maximum duration of the contract and the number of renewals (ILO, 2015). The key point is that some jobs do not offer workers the prospect of a long-lasting employment relationship. In reality a variety of country specific practices exist, like fixed-term, project, task-based or replacement contracts, as well as seasonal, on call or casual work, or even trainees and persons in job creation schemes (OECD, 2002).

The second type, part-time employment, is characterised by an employment relation where the *normal hours of work are less than those of a comparable full-time worker* (Bollé, 1997). As 'normal' and 'comparable' vary across jobs, sectors and countries three options are used to define part-time work in empirical research: (1) the use of a clear cut-off point, usually 30 or 35 hours (OECD), (2) the qualification by the respondent (Eurostat), or (3) a combination of the previous two (van Bastelaer, Lemaître, & Marianna, 1997). Relying on respondents' spontaneous answer takes into account the complexity of part-time work in a particular setting, whereas an hour cut-off allows clear comparability. Moreover, the latter makes a more nuanced assessment possible regarding the non-standard nature as shown by studies on 'marginal' or 'small' part-time jobs of less than 15 or 20 hours (Messenger & Wallot, 2015).

Both forms of non-standard employment have become more common as of the nineteen eighties across Europe. On-line available Eurostat figures indicate that in 2014 on average about fourteen percent of the employees had a temporary job, with the rate for women only a little higher than for men. Temporary employment ranges from below five percent in Estonia, Romania, Latvia, and Lithuania to more than one in five jobs in Spain, the Netherlands, Poland and Portugal. Part-time work is more gendered and varies more substantially across countries. The male part-time rate in 2014 was on average 8.8 percent in Europe, ranging from 2.2 percent in Bulgaria to with 26.1 percent in the Netherlands. For women the average part-

time rate was 32.2 percent and varied from 2.8 percent in Bulgaria to 76.7 percent in the Netherlands (Eurostat, 2016).

Overall, the evolution and cross-country variation in non-standard employment resulted from profound social changes, like globalisation, routinisation of labour and the feminisation of the labour force in more service-oriented economies. These changes not only resulted in the creation of a low paid labour market segment (DiPrete, 2005; DiPrete, Goux, Maurin, & Quesnel-Vallee, 2006). In some countries, employment insecurity increased for all (low skilled) workers. In other countries, especially in conservative-corporatist countries, non-standard jobs have become concentrated among specific groups that do not belong to the core workforce (Prosser, 2015). Yet, even in the cluster of continental European countries, creative strategies of economic actors and policy makers resulted in a different dissemination of specific types of non-standard jobs (Eichhorst & Marx, 2012; Yerkes & Visser, 2006). Hipp et al. (2015) give an overview of how legal regulations, industrial relations, taxation, and social policies affect the long-term evolution and variation in both part-time and temporary employment. Because the creation of non-standard employment is to some degree context specific, we can expect the same for the degree to which incomplete labour market attachments are translated in an increased poverty risk. In this paper, however, the main aim to discover the common patterns why non-standard workers are more likely to end up in poverty in all countries.

1.1 How non-standard workers avoid in-work poverty

As the very nature of non-standard employment leads to lower annual earnings, non-standard workers potentially face an increased poverty risk. However, low earnings and working poverty are inherently different concepts (Marx & Nolan, 2014). Hence, some overlap exists with what we know from the fuzzy relationship between low pay and in-work poverty (Maitre, Nolan, & Whelan, 2012). Indeed, the scarce literature on the poverty risk of non-standard workers indicates that problematic earnings are not the only factor that we need to look at.

Van Lancker (2012, 2013) argues that controlling for wages reduces the poverty gap between temporary and permanent workers considerably, but at the same time shows that the risk-factors associated with in-work poverty do not differ much between temporary and permanent workers. Amuedo-Dorantes and Serrano-Padial (2010) indicate for the Spanish case that especially a problematic work attachment in very short-term temporary contracts is associated with an increased poverty risk. Furthermore, they highlight that when temporary work does not act as a stepping-stone to more stable employment, it is more strongly related to poverty. Transitions from a temporary to a permanent job, however, do not necessarily decrease the poverty risk because "*even significant wage increases are sometimes not enough to escape poverty*" (European Commission, 2013: 160). For multi-earner families, Debels (2008a), indicates that changing from a temporary to a permanent contract has very little or no effect in most EU-15 countries. Only, for Southern European countries and Ireland she finds evidence that switching to a permanent contract does help to avoid poverty for families with multiple (low wage) earners (Debels, 2008a).

Regarding the poverty risk of part-timers, studies indicate that the presence of other workers in the household reduce the poverty risk of part-timers substantially (Debels, 2008b; Rodgers, 2003; Shaefer, 2009). OECD (2010) findings suggest that dual breadwinning among part-time workers tends to be higher in countries with more part-time workers, which at the same time is associated with a reduced relative poverty risk of part-timers in those countries. Overall, part-timers, and in particular involuntary part-timers, have a higher poverty risk in countries where they combine different risk factors, including a low wage, unstable jobs, single breadwinning and dependent household members (Horemans & Marx, 2013b). Also regarding part-time work, the degree to which jobs differ from the standard matter. The smaller the part-time job, the more likely these workers end op in poverty (Snel, de Boom, & Engbersen, 2008).

In sum, because non-standard workers do not realise their full work potential, they are less likely to be able to provide for a family. The earnings (or income replacement benefits) of other household members are typically found to help workers to avoid poverty when their individual earnings are insufficient for the entire family (Gardiner & Millar, 2006). Non-standard workers, however, are also more likely to combine earnings and benefits themselves because of their incomplete labour market attachment (Horemans & Marx, 2013a). There are thus good reasons to expect that other household's income sources as well as individually received benefits are more important as a poverty reducing mechanism for non-standard workers compared to standard workers. Section 3 examines this assumption empirically.

1.2 Non-standard employment: low wage or not working enough?

Temporary and part-time workers do not only face an increased poverty risk because of an incomplete actualisation of their work potential. In addition, an overlap exists with low wage jobs. Similar debates exist regarding the extent to which both types of jobs act either as a 'stepping-stone' towards stable and full-time employment, or lead to an insecure 'dead-end' jobs with a higher risk of unemployment and/or a low wage. This ambivalent nature is rooted in hiring practices of employers (Blossfeld & Hakim, 1997; Bollé, 1997; Debels, 2008c; Fagan, Norman, Smith, & González Menéndez, 2014; Gebel, 2013; Houseman, 2001; O'Reilly & Fagan, 1998; Tam, 1997; Tilly, 1996).

Non-standard jobs are typically associated with lower wages when employers use them as a flexible staffing strategy. Because part-time and temporary jobs usually do not belong to the core workforce, people occupying them have less bargaining power, are less likely to receive additional training, are more likely to experience recurrent unemployment spells, and hence signal to have lower human capital. In turn, this limits future employment opportunities and earnings potential (Debels, 2008c; European Commission, 2014; Giesecke & Gross, 2003; Manning & Petrongolo, 2005; Matteazzi, Pailhé, & Solaz, 2012; Messenger & Ray, 2015; Webber & Williams, 2008). Moreover, the recent crisis has further intensified the wage difference between standard and non-standard jobs. Full-time permanent employment increased in the top wage quintile and decreased in all other quintiles, while non-standard jobs increased gradually across the wage distribution, including the bottom part (Eurofound, 2015).

Thus, an incomplete labour force attachment as well as a wage penalty lead to an increased poverty risk for non-standard workers. The relative magnitude of both factors, however, remains the subject of empirical debate, but has important policy consequences (Halleröd, Ekbrand, & Bengtsson, 2015). Section 4 of this paper contributes to this question by decomposing the poverty difference between standard and non-standard workers in differences in profile characteristics.

1.3 Part-time and temporary employment: no one size fits all story

Individual labour market outcomes are not necessarily the same for part-time and temporary jobs. Research that compares both types indicates that the situation of temporary workers is more problematic in terms of wages and employment stability (De Grip, Hoevenberg, & Willems, 1997; Giesecke, 2009). This may also explain why a vast and stable majority of temporary workers are unable to find a permanent job, about 60 percent on average in Europe, but 'only' about 30 percent of the part-timers is unable to find a full-time job (European Commission, 2014). Temporary employment is mainly created to increase flexibility of employers, whereas a substantial share of part-time jobs are created as a retention strategy to accommodate to the wishes of employees in the internal labour market (Delsen, 1995; Fagan & et al., 2007; Tilly, 1996). As a work-family reconciliation strategy, part-time employment can be relatively stable in high level jobs. However, switching to a part-time job may, depending on the institutional context, come with an important wage penalty due to occupational downgrading (Connolly & Gregory, 2009). The labour market outcomes

of working part-time are thus less determined solely by the employer-employee relationship, but also related to the gendered division of labour within households which is influenced by the institutional and cultural support for working mothers (Haas, Steiber, Hartel, & Wallace, 2006; O'Reilly & Fagan, 1998).

Given the growing importance of household income patterns to understand poverty, working poverty is no longer merely a situation where a working household head is unable to provide for his family (Airio, 2008). The household level, however, is usually not addressed in research on non-standard employment because theories for understanding labour market outcomes typically take the employment relationship between employers and employees as their primary lens (Kalleberg, 2009). Given the importance of household-level employment for understanding social inequalities, recent studies have tried to redefine non-standard employment at the household level (Grotti & Scherer, 2014; Horemans, 2016b; OECD, 2015). According to the OECD (2015), non-standard employment has an impact on income inequality and poverty, mainly through the increase in households where all workers do so non-standard. However, it is important to note that income problems at the household level do not only happen through non-standard employment alone, but also through a combination of non-standard and non-employment (Grotti & Scherer, 2014). Furthermore, the patterns of concentration of incomplete work histories within households differ considerably across countries by the type of non-standard work (Horemans, 2016b). Because of its gendered nature, part-timers typically have another full-time earner in the household, while temporary workers cannot necessarily count on another permanent worker.

In sum, because the labour market situation of temporary workers is more problematic in terms of wages and job stability, we expect their poverty risk to be more strongly related to job characteristics and more severe on average compared to part-time workers. Furthermore, the gendered nature of part-time employment indicates that it is more likely to serve as a secondary income (Airio, 2008). Consequently, part-time workers are expected to be less able to provide for the household compared to temporary workers, but at the same time are more likely to contribute to the household and hence be protected against poverty when all income sources are taken into account.

2 The poverty risk of non-standard workers empirically

Turning to the poverty risk of non-standard workers empirically, this section first provides an overview drawing on the readily available statistics reported on the Eurostat website (Table 1). These figures are based on the EU-Statistics on Income and Living Conditions survey (EU-SILC), the main source to monitor income poverty across Europe. The reference population includes all private households and their current members. All household members are surveyed, but only those aged 16 and more are interviewed. The data collection follows a uniform framework with shared guidelines and procedures as well as common concepts and classifications aimed at maximising comparability of the data (for a detailed discussion see: Lohmann, 2011; van Oorschot, 2013) .

Table 1. At-risk of poverty rate of standard and non-standard workers, 2005-2013

	permanent		temporary		full-time		part-time	
	2005	2013	2005	2013	2005	2013	2005	2013
AT	6.1	6.8	6.9	13.5	5.9	6.8	10.8	9.5
BE	2.4	2.7	5.9	10.0	3.3	3.5	4.7	5.9
BG		4.9		25.3		6.4		20.9
CH		6.1		11.8		6.6		9.8
CR		4.1		10.5		5.3		26.2
CY	5.2	6.2	18.8	25.9	6.0	7.8	9.0	16.6
CZ	2.8	2.3	6.3	7.3	3.0	3.5	6.6	10.5
DE	3.3	6.6	8.6	17.0	3.5	6.3	6.6	13.4
DK	2.9	3.3		12.9	4.2	2.7	5.5	7.5
EE	5.4	5.7	16.2	13.4	6.5	6.4	17.4	16.4
EL	4.8	5.8	17.3	13.8	12.0	10.7	24.1	27.0
ES	4.9	5.4	11.3	17.5	10.1	8.9	13.9	18.7
FI	1.7	1.7	5.9	6.5	2.9	2.7	10.6	10.6
FR	3.6	5.1	9.6	15.2	5.3	6.0	8.4	12.8
HU	4.0	4.9	7.1	23.7	6.7	5.4	15.1	16.5
IE	3.6	2.2	10.3	7.2	4.6	2.9	11.0	7.4
IS	4.4	3.3	12.9	10.7	6.5	4.1	9.8	9.7
IT	5.6	7.0	16.1	18.6	8.1	9.0	14.5	17.9
LT	5.8	8.2	23.1	11.5	7.8	7.6	30.1	24.7
LU	8.3	8.9	24.0	23.1	8.9	10.1	12.6	14.0
LV	6.7	7.2	12.2	17.6	8.0	7.7	25.3	20.5
MT	3.7	3.5	6.5	4.7	3.9	5.3	9.7	12.1
NL	2.6	3.3	3.9	6.8	5.8	3.4	4.6	4.5
NO	3.2	3.3	12.6	18.3	3.4	4.6	7.7	7.9
PL	6.6	5.1	13.5	12.2	12.6	9.7	23.0	20.2
PT	6.7	5.5	11.9	11.7	10.1	8.8	27.8	28.0
RO		4.9		12.1		13.1		57.3
SE	3.4	4.4	8.0	18.8	4.7	5.2	7.4	11.1
SK	6.1	3.0	7.5	7.3	8.7	5.3	13.7	17.8
SL	2.9	3.9	8.7	8.1	4.3	5.8	10.4	13.4
UK	4.7	5.9	7.5	8.0	5.8	6.2	12.3	13.6
EU-27	4.3	5.5	10.9	14.7	7.2	7.2	11.2	14.6

Source: Eurostat: EU-SILC

The Eurostat definition of being 'in-work' and being 'poor' is used here (Bardone & Guio, 2005). The distinction between standard and non-standard workers is based on the labour market situation at the time of the interview. Three main conclusions can be drawn from Table 1. First, the poverty risk of part-time and temporary workers is substantially higher compared to that of full-time and permanent workers respectively. Second, the difference in the at-risk of poverty rate between standard and non-standard workers increased gradually in recent years, mainly attributable to the increase in the poverty risk of non-standard workers. Third, the poverty rates of non-standard workers vary more than that of standard workers, illustrating the diversity in the nature of non-standard jobs across countries.

Because temporary workers typically face a higher wage penalty and part-time work serves as an additional income, temporary workers are expected to face a higher poverty risk. Table 1, however, does not confirms this as a general finding. Moreover, in several Eastern and Southern European countries the opposite holds. One explanation is that in these countries part-time jobs tend to be more concentrated within households compared to continental European countries (Horemans, 2016b). Furthermore, if part-time work is more widespread, for example when the combination of work and care is institutionally supported, the poverty risk of part-timers tends to be lower on average (OECD, 2010). On the other hand, despite the pay penalty, temporary jobs may also act as an additional income in some countries, for example, when concentrated among youngsters who still living with their parents (Lohmann & Marx, 2008). However, for temporary workers little correlation exists between the share of temporary workers and their at-risk of poverty rate (results not shown, but available upon request). In sum, country specific nature of non-standard work should not be neglected, but a detailed study of this variation is beyond the scope of this paper.

In the next section we compare the extent to which standard and non-standard workers are able poverty by their own earnings and income replacement benefits. The last section looks at the extent to which differences in the specific profile characteristics between non-standard and standard workers contribute to a higher poverty risk and further decomposes the contribution of low annual earnings in a low pay and incomplete work history part. In what follows we draw on EU-SILC 2012 data and use the Eurostat approach to measure poverty. As non-standard workers work history is more unstable during the income reference period of a year, this paper defines being in-work by looking at the self-reported employment situation at the time of the interview. As such we do not exclude certain in-work poverty mechanisms a priori (Crettaz, 2013). Because different approaches of being 'in-work' have important consequences regarding the magnitude of in-work poverty in general (Ponthieux, 2010), and among non-standard workers in particular (Horemans & Marx, 2013a), figures differ from those reported by Eurostat. In the calculations that follow, employees aged 18-64 were selected. The self-employed are left out because their income is more difficult to grasp correctly in a survey and because part-time self-employment is often done under different circumstances.

3 When individual earnings are not enough, other resources become vital

To answer the question how workers are protected against poverty, the household income is typically split up into different components and added in a particular sequence (Millar et al., 1997; Strengmann-Kuhn, 2003). Drawing on this 'income packaging approach', this part of the paper focusses on two specific counterfactuals to assess how non-standard workers avoid poverty. First, following previous research (Allègre, 2013; Debels, 2008b; Gardiner & Millar, 2006), we start with constructing a counterfactual poverty rate based on individual earnings that indicates whether an employee would be poor in the hypothetical ceteris paribus situation that (s)he would rely solely on her/his own earnings to provide for the entire family. In other words, we first look to what extent own earnings are a sufficient resource. Second, as periods out of employment characterise non-standard work, we examine the relative poverty risk of non-standard workers if they would not receive income replacement benefits.

3.1 Poverty earnings and in-work poverty

Table 2 and 3 give an overview of the poverty risk when workers are assumed to provide for their entire family relying solely on their own earnings, the share of earnings poor that end up in poverty, and in-work poverty rates. A first observation is that especially part-timers are not able to support their family. This is what we could expect because they work less by definition. Furthermore, given the gendered nature of part-time employment, this also illustrates the latent in-work poverty risk of women (Peña-Casas & Ghailani, 2011). Overall the figures confirm that having only one labour income is far from sufficient for all workers, including those working with a full-time or with a permanent contract (Maitre et al., 2012; Marx & Nolan, 2014). If the share of employees in earnings poverty that actually end up in poverty is lower for non-standard workers compared to standard workers, it suggests that other income resources are more helpful for former (Debels, 2008b). The figures, however, indicate the opposite. In almost all countries non-standard workers with poverty earnings are more likely to end up in poverty compared to standard workers. This can be explained by the fact that the amount of income from other resources needed to be lifted above the poverty line remains smaller for standard workers. Indeed, additional analysis shows that earnings poor who end up in poverty are further away from the poverty line compared to those that do not end up in poverty (results not shown, but available upon request). Furthermore, the severity of earnings poverty, measured by FGT1 and FGT2 earning poverty gap indicators (Foster, Greer, & Thorbecke, 1984), is correlated with the degree to which non-standard workers are able to avoid poverty by other household income (results not shown, but available upon request). In other words, in countries where the (annual) earnings penalty of non-standard workers is more severe, their in-work poverty risk is higher as well.

Table 2. Incidence of earnings poverty (and the share that ends up in poverty), and in-work poverty by type of contract

	Permanent workers			Temporary workers		
	Earnings poverty	Share of earnings-poor in poverty	In-work poverty	Earnings poverty	Share of earnings-poor in poverty	In-work poverty
AT	57.2	(9.6)	5.6	75.5	(16.4)	12.4
BE	48.9	(5.8)	3.0	77.4	(17.2)	13.7
BG	68.1	(9.6)	6.6	84.8	(32.3)	27.9
CH	38.1	(14.2)	6.6	75.4	(18.7)	15.5
CY	48.8	(9.8)	5.1	81.7	(30.2)	25.6
CZ	55.4	(5.0)	2.8	76.0	(15.2)	11.5
DE	27.7	(14.8)	5.6	68.6	(22.2)	18.0
DK	12.9	(27.2)	5.5	34.5	(24.0)	11.5
EE	46.4	(15.3)	7.3	75.4	(34.2)	25.8
EL	31.4	(12.4)	4.6	68.2	(21.5)	15.2
ES	32.9	(15.5)	5.5	69.2	(25.6)	18.7
FI	16.2	(10.9)	2.2	41.1	(19.6)	8.9
FR	52.0	(10.6)	5.9	81.9	(18.9)	15.6
HR	51.2	(7.9)	4.2	80.3	(16.0)	12.8
HU	44.6	(8.5)	4.3	81.3	(25.1)	21.1
IE	46.6	(6.3)	2.9	77.7	(9.9)	7.7
IS	24.8	(10.9)	4.2	45.6	(18.1)	8.3
IT	49.1	(14.5)	7.4	83.0	(24.7)	20.6
LT	52.5	(12.4)	6.7	65.1	(19.9)	13.0
LU	50.3	(15.9)	8.6	82.0	(29.3)	24.6
LV	53.3	(15.7)	8.5	73.9	(33.6)	24.8
MT	36.5	(8.2)	3.1	61.3	(10.2)	6.3
NL	19.3	(11.1)	3.1	41.4	(22.7)	11.6
NO	25.3	(15.0)	4.6	59.5	(37.4)	25.6
PL	52.9	(9.4)	5.0	78.0	(15.9)	12.5
PT	52.4	(10.0)	5.3	74.8	(13.2)	9.9
RO	51.1	(9.5)	4.9	73.5	(13.5)	10.0
SE	38.1	(9.5)	3.9	76.5	(31.0)	23.7
SI	51.3	(7.5)	4.1	72.1	(19.2)	16.9
SK	55.8	(6.9)	4.0	76.6	(12.3)	9.4
UK	36.5	(11.5)	4.8	51.9	(11.0)	5.9

Note: Earnings poverty indicates whether someone would be poor if (s)he had to rely on her/his own earnings to make ends meet for the entire family, taking into account the OECD-equivalence scale, The figures in parentheses indicate the share of the earnings poor that end up in poverty when taking into account all income sources.

Source: EU-SILC 2012, own calculations

Table 3. Incidence of earnings poverty (and the share that ends up in poverty), and in-work poverty by employment status

	Full-time workers			Part-time workers		
	Earnings poverty	Share of earnings poor in poverty	In-work poverty	Earnings poverty	Share of earnings poor in poverty	In-work poverty
AT	51.1	(9.8)	5.2	87.1	(10.8)	9.5
BE	40.5	(5.9)	2.6	80.9	(9.5)	7.8
BG	68.8	(11.4)	7.9	88.5	(30.3)	26.8
CH	28.4	(16.7)	5.9	75.5	(13.1)	11.1
CY	50.6	(13.4)	7.2	91.3	(17.3)	15.9
CZ	56.8	(6.2)	3.5	92.4	(16.0)	14.8
DE	19.1	(19.9)	5.6	69.4	(14.4)	11.3
DK	11.5	(18.7)	4.0	35.7	(16.9)	7.1
EE	44.8	(14.9)	6.9	79.2	(24.8)	19.6
EL	34.3	(17.2)	6.6	89.1	(28.4)	25.7
ES	35.2	(18.0)	6.9	86.6	(23.3)	20.2
FI	21.8	(8.5)	2.2	69.5	(13.2)	9.4
FR	49.3	(10.6)	5.6	88.1	(16.9)	15.0
HR	54.6	(9.4)	5.3	86.2	(10.4)	8.9
HU	46.4	(11.1)	5.6	88.3	(17.3)	15.9
IE	35.1	(4.8)	1.7	89.4	(10.1)	9.0
IS	26.6	(7.4)	2.7	76.2	(7.4)	7.0
IT	47.6	(15.9)	7.8	90.6	(19.1)	17.6
LT	51.4	(11.8)	6.2	89.7	(27.6)	24.7
LU	47.0	(18.1)	9.2	81.9	(17.5)	14.5
LV	52.2	(15.5)	8.3	91.5	(28.7)	26.2
MT	36.7	(9.7)	3.9	89.4	(16.0)	14.4
NL	12.0	(15.7)	3.0	49.0	(7.0)	4.3
NO	28.8	(13.2)	4.5	76.4	(8.2)	6.9
PL	58.0	(11.4)	6.7	87.2	(15.5)	13.5
PT	55.1	(10.3)	5.7	93.0	(23.5)	21.8
RO	51.5	(9.6)	5.0	88.2	(28.9)	25.5
SE	41.1	(8.4)	3.6	83.1	(11.7)	9.9
SI	62.9	(6.0)	4.1	88.2	(11.2)	9.9
SK	57.0	(7.1)	4.2	92.3	(20.4)	18.8
UK	26.6	(9.0)	3.1	82.2	(16.4)	13.6

Note: Earnings poverty indicates whether someone would be poor if (s)he had to rely on her/his own earnings to make e

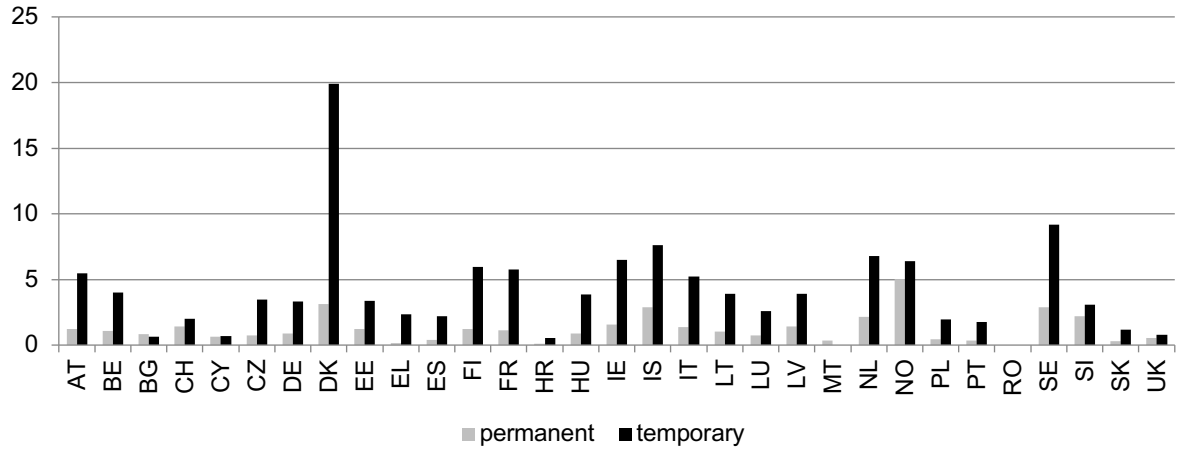
nds meet for the entire family, taking into account the OECD-equivalence scale. The figures in parentheses indicate the share of the earnings poor that end up in poverty when taking into account all income sources.

Source: EU-SILC 2012, own calculations

3.2 A combination of earnings and benefits

Because of their unstable labour market trajectories temporary and part-time workers are potentially less likely to meet eligibility criteria to receive replacement benefits, especially in insurance based social security schemes (Buschoff & Protsch, 2008; OECD, 2010). On the other hand, in practice they receive additional benefits more often because of their non-standard nature (Horemans & Marx, 2013a). Figure 1 and 2 show that benefits received by non-standard workers are an income source that should not be neglected when assessing their poverty risk. Benefits received by workers are defined as the sum of unemployment, sickness, disability, old age and survivor benefits received during the income reference period. While for full-time and permanent workers the poverty rate would increase with less than two percentage points, in several countries the poverty risk of part-time as well as temporary workers would rise with five percentage points or more. No clear correlation appears to exist between the poverty risk of non-standard workers and the degree to which benefits protect them against poverty across countries (results not shown, but available upon request).

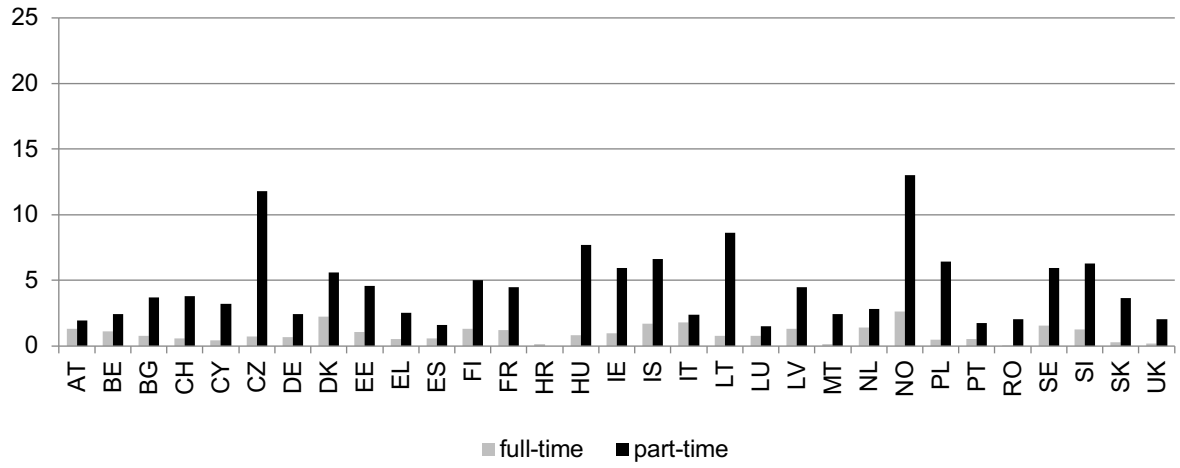
Figure 1. Percentage point increase in the at-risk of poverty rate when excluding benefits received by the worker himself/herself, by employment status



Note: The outlier of Denmark can be attributed to the applied weighting scheme (Eurostat, 2012).

Source: EU-SILC 2012, own calculations

Figure 2. Percentage point increase in the at-risk of poverty rate when excluding benefits received by the worker himself/herself, by employment status



Source: EU-SILC 2012, own calculations

4 Decomposing the in-work poverty gap between standard and non-standard workers

In this part we gauge the degree to which differences in profile characteristics contribute the difference in the at-risk of poverty rate between standard and non-standard workers. The added value of this section is that it provides an empirical estimate regarding the contribution of both a wage penalty and an incomplete labour market attachment to the higher poverty risk of non-standard workers, while also taking into account other socio-demographic differences. This is done by applying an Oaxaca (1973)-Blinder (1973) decomposition for binary response models (Fairlie, 2005). For a more detailed discussion on the method see Horemans (2016a).

Basically, the decomposition attributes the poverty gap between standard and non-standard workers to a part that can be explained by differences in observed characteristics and an unexplained part due to unobserved or unobservable characteristics (Appendix 1 provides a mathematical elaboration). First, the 'expected' non-standard poverty gap is calculated as the difference in the profile of non-standard and standard workers at the pooled coefficients. It indicates what the difference in the poverty risk would be if non-standard workers had a similar profile as standard workers. This is done under the assumption that socio-demographic characteristics are to a similar degree related to an increased poverty risk for all workers. More technically, we first regress various characteristics on poverty for all workers simultaneously and use these coefficients to calculate the 'expected' poverty risk for non-standard workers with the typical characteristics of standard workers. Lastly, the estimated 'expected' non-standard poverty gap needs to be compared with the observed non-standard poverty gap to gauge the share that is attributable to the differences in observable characteristics between standard and non-standard workers.

The total and separate contributions to the poverty risk of the observable differences between standard and non-standard workers are reported in Table 4 and 5, both in absolute and relative terms. The underlying regression models include a variable for the work-intensity of other household members (ranging between 0 and 1, see also: Ward & Ozdemir, 2013) as well as a dummy for sex (men or women), education (low, middle, or high), age (20-29, 30-49, or 50-64), family type (single, couple, or other), the presence of children

(yes or no), full-year employment (yes or no), occupation level (ISCO 1 + 2 = managers and intellectuals, ISCO 3 = technicians, ISCO 4 = administration, ISCO 5 = services and sales, ISCO 6 + 7 + 8 = archiculture, crafts and machines, ISCO 9 = elementary occupations.ISCO 1 +2, 3, 4, 5, 6+7+8, or 9), and whether an individual benefit was received during the income reference period (yes or no). We also control for the overlap between part-time and temporary employment, which a non-negligible situation among the working poor (see appendix 5.2). Lastly, hourly wage are included in the analysis. Yet, EU-SILC data comes with some important limitations when looking at hourly wages (Matteazzi, Pailhé, & Solaz, 2013). Because of pragmatic considerations the analysis is only presented for countries for which monthly earnings are available. Furthermore, the sample is also restricted to employees with only one job.

All the variables included in the underlying regression model proved relevant in previous research on in-work poverty, with low resources (low wages, low work-intensity of other members, low skills, youngsters, singles, not in full-year employment, low occupation level, working part-time or temporary, and not receiving benefits) and high needs (presence of children) associated with an increased poverty risk (Andress & Lohmann, 2008; Crettaz, 2013; Fraser, Gutiérrez, & Peña-Casas, 2011; Lohmann, 2009). Figures with a positive sign in Table 4 and 5 indicate the degree to which the poverty risk between standard and non-standard workers can be attributed to the difference in profile characteristics. A negative sign indicates that if non-standard workers would have the characteristics of standard workers, the expected poverty gap would in fact be higher compared the observed gap.

Table 4. Decomposition of the difference in the poverty risk between temporary and permanent workers

	AT		BG		CH		EL	
poverty risk temporary workers	0.167		0.336		0.129		0.166	
poverty risk permanent workers	0.073		0.066		0.058		0.059	
difference in poverty risk	0.094		0.270		0.072		0.107	
	coef	%	coef	%	coef	%	coef	%
sex (ref.: men)	-0.002	-1.6	0.001	0.3	0.001	2.0	0.001	0.9
edu (ref.: low)	0.002	1.9	0.023	8.5	0.008	11.5	0.002	1.5
age (ref.: 20-29)	0.007	7.4	-0.002	-0.8	0.002	3.2	-0.002	-2.3
famtype (ref.: single)	-0.004	-4.7	-0.002	-0.6	0.003	4.6	-0.006	-5.7
WI others	0.012	12.8	0.040	14.9	-0.041	-56.4	-0.003	-2.5
children (ref.: no)	-0.001	-1.2	0.006	2.2	-0.006	-8.2	-0.010	-9.1
full year (ref.: no)	0.039	42.0	0.091	33.6	0.014	19.0	0.056	52.9
hourly wage	0.023	24.4	0.059	21.9	0.104	145.2	0.031	29.5
occupation (ref.: ISCO 1 + 2)	0.001	1.6	0.008	2.9	0.003	4.1	0.002	1.8
part-time (ref.: yes)	0.010	10.7	0.009	3.3	-0.013	-17.5	0.028	25.8
benefit (ref.: no)	-0.008	-9.0	0.005	1.8	-0.001	-2.0	-0.001	-1.2
total explained	0.079	84.3	0.237	87.8	0.076	105.4	0.098	91.7
n-values	4476		4194		5821		2074	

	IE		IT		LU		PL	
poverty risk part-timers	0.083		0.184		0.239		0.157	
poverty risk full-timers	0.027		0.063		0.079		0.061	
difference in poverty risk	0.056		0.121		0.160		0.096	
	coef	%	coef	%	coef	%	coef	%
sex (ref.: men)	0.000	0.5	0.000	-0.3	0.001	0.9	0.000	-0.1
edu (ref.: low)	0.000	-0.3	0.002	1.4	0.001	0.7	0.003	2.9
age (ref.: 20-29)	-0.002	-3.8	0.006	4.6	-0.007	-4.6	-0.001	-1.5
famtype (ref.: single)	0.003	5.5	-0.004	-3.2	0.000	-0.2	-0.005	-5.0
WI others	0.002	3.8	-0.002	-2.0	0.021	12.9	0.005	4.8
children (ref.: no)	-0.002	-3.2	-0.007	-5.5	-0.004	-2.4	0.000	-0.5
full year (ref.: no)	0.028	50.7	0.036	30.1	0.065	40.6	0.061	63.6
hourly wage	0.007	12.4	0.040	32.8	0.067	41.5	0.023	24.5
occupation (ref.: ISCO 1 + 2)	0.000	-0.2	0.014	11.8	0.008	4.7	0.007	6.8
part-time (ref.: yes)	0.020	35.8	0.010	8.0	0.003	1.9	0.001	1.4
benefit (ref.: no)	-0.009	-15.5	-0.005	-4.3	-0.009	-5.9	-0.007	-7.6
total explained	0.048	85.6	0.089	73.5	0.144	90.1	0.086	89.2
n-values	2778		11822		5613		9386	

Note: [a] figures for UK are not shown because missing values render the results unreliable.

Source: EU-SILC 2012, own calculations.

Table 5. Decomposition of the difference in the poverty risk between part-time and full-time workers

	AT		BG		CH		EL	
poverty risk part-timers	0.112		0.241		0.097		0.203	
poverty risk full-timers	0.068		0.078		0.049		0.063	
difference in poverty risk	0.044		0.163		0.048		0.140	
	coef	%	coef	%	coef	%	coef	%
sex (ref.: men)	-0.001	-1.4	-0.001	-0.6	0.003	6.3	0.007	5.2
edu (ref.: low)	0.000	-1.1	0.023	14.1	0.000	-0.8	0.005	3.6
age (ref.: 20-29)	-0.005	-12.4	-0.004	-2.5	0.002	4.7	0.002	1.5
famtype (ref.: single)	0.002	4.7	0.000	0.1	-0.001	-2.7	-0.006	-4.3
WI others	-0.017	-38.8	0.023	13.9	-0.019	-39.0	-0.016	-11.4
children (ref.: no)	0.006	14.5	0.002	0.9	0.001	1.9	-0.004	-3.0
full year (ref.: no)	0.005	12.0	0.018	10.9	0.005	9.9	0.013	9.3
hourly wage	0.014	32.3	0.022	13.7	0.011	24.0	0.016	11.6
occupation (ref.: ISCO 1 + 2)	0.002	5.5	0.002	1.0	0.007	15.3	0.002	1.4
temporary contract (ref.: yes)	0.001	2.3	0.015	9.2	0.001	1.2	0.010	7.1
benefit (ref.: no)	0.000	-0.8	0.000	-0.1	-0.001	-1.7	0.002	1.1
total explained	0.007	16.7	0.099	60.7	0.009	19.1	0.031	22.1
n-values	4476		4194		5821		2074	

	IE		IT		LU		PL	
poverty risk part-timers	0.081		0.145		0.124		0.133	
poverty risk full-timers	0.015		0.067		0.085		0.087	
difference in poverty risk	0.066		0.078		0.039		0.046	
	coef	%	coef	%	coef	%	coef	%
sex (ref.: men)	0.003	5.3	0.004	4.6	-0.005	-13.1	-0.001	-2.9
edu (ref.: low)	0.001	2.0	0.001	1.1	0.001	3.5	0.002	4.0
age (ref.: 20-29)	0.000	-0.6	0.001	1.0	0.001	2.2	-0.001	-2.0
famtype (ref.: single)	0.002	3.5	-0.001	-1.3	0.000	-0.6	-0.002	-5.1
WI others	0.003	4.4	-0.025	-31.6	-0.020	-52.0	0.000	-0.2
children (ref.: no)	0.003	3.9	0.003	3.7	0.006	14.5	-0.006	-12.2
full year (ref.: no)	0.007	11.4	0.006	7.7	0.008	21.7	0.037	80.7
hourly wage	0.011	16.2	0.014	18.1	0.018	46.1	0.013	27.6
occupation (ref.: ISCO 1 + 2)	0.000	0.0	0.014	17.8	0.011	27.4	0.001	2.0
temporary contract (ref.: yes)	0.004	6.6	0.006	7.2	0.001	1.4	0.004	9.3
benefit (ref.: no)	-0.002	-3.3	0.000	-0.5	-0.003	-8.0	-0.013	-28.3
total explained	0.033	49.4	0.022	27.8	0.017	42.9	0.034	72.9
n-values	2778		11822		5613		9386	

Source: EU-SILC 2012, own calculations

Table 4 shows that observable differences explain at least three quarters of the difference in the poverty risk between temporary and permanent workers on average. In most countries the strongest contributing factor is the incomplete labour market attachment of temporary workers, captured by 'full-year dummy'. Only in Switzerland, the hourly wage penalty is the key factor to understand the poverty difference. The results for Poland, for example, indicate that 63.6 percent of the difference in the temporary poverty gap can be attributed to difference in incomplete labour market attachment between temporary and permanent workers. Differences in hourly wages are the second most important factor on average and in Italy and Luxembourg of a similar magnitude as an incomplete labour market attachment. Because temporary workers are more likely to receive additional benefits because they work less during the income reference period, benefits partially compensate their higher poverty risk. Overall, however, the consequence for the differences in the poverty risk are small. For example, if temporary workers, would, ceteris paribus, be as likely as permanent workers to receive additional benefits (read become less likely to receive benefits), the expected temporary poverty gap in Austria would be about one percentage point higher compared to the current observed gap. In Switzerland, we see that if household members of temporary and permanent workers would have the same work intensity, the poverty gap between both would increase with 56.4 percent. The work intensity of other household members is on average higher for temporary workers and are therefore on average more protected by earnings of other household members as permanent workers. This can be explained by the strong concentration of temporary employment among young workers still living at home (results not shown). Conversely, in Austria, Bulgaria, Hungary, and Luxembourg the opposite is true, indicating that permanent workers on average are more likely to live with other workers in stable full-time jobs. In Greece, Spain, Italy, Poland, Portugal and Ireland, differences in the work intensity of other household member appear less relevant for understanding the poverty difference between temporary and permanent employees.

Table 5 suggests that the part-time poverty gap appears on average less strongly attributable to the difference in observable characteristics compared to the temporary poverty gap in Table 4. Yet, for part-time workers, part of the explanation lies in the fact that they work less by definition and thus earn less annually, irrespective of the hourly pay penalty or periods out of work during the income reference period. Fewer hours of work cannot be incorporated in the explained part as working hours are precisely what sets part-timers and full-timers apart. Consequently, part of the potential explanation of the poverty difference between part-time and full-time workers remains within the unexplained part which is attributable to unobservable differences.

Overall, Table 5 shows that between 16.7 percent in Austria and 75.9 percent in Hungary of part-time poverty gap can be attributed to observable differences. The picture appears more diverse as in the case of temporary employment. Several factors contribute to the part-time poverty gap, but the degree to which varies substantially across countries. In Austria, Switzerland, Greece, Hungary, Ireland, Italy, Luxembourg, and the UK, the part-time wage penalty is a key factor contributing to the part-time poverty gap. In some countries an incomplete labour market history contributes to a similar degree as the wage penalty, including Bulgaria, Greece, Spain, Hungary, and Portugal. In Poland the part-time poverty gap is almost entirely attributable to unstable employment history of part-timers. Occupations differences, also matter in Switzerland, Italy, Luxembourg and Portugal and educational differences appear only relevant in Bulgaria. That part-timers are more likely to have children contributes little to an increased poverty risk in most countries. It only appears relevant for Austria and Luxembourg. The negative sign for the work intensity of other household members indicates the part-time poverty gap would increase substantially when the household composition would be similar for full-time and part-time workers. In other words, it illustrates the latent (gendered) poverty penalty associated with working part-time jobs in countries like Austria, Switzerland, Italy and Luxembourg, but also in Spain and Greece. In other words, the work intensity of

other household members tends to compensate the increased poverty risk of part-time workers. Conversely, in Bulgaria and Portugal, and to a limited degree also in Ireland and the UK, the work-intensity of other household members contribute to the difference in the poverty difference between part-time and full-time workers. In these countries part-time jobs thus tend to be concentrated among single earners.

5 Concluding thoughts and the way forward

This paper examined the relationship between non-standard employment and in-work poverty by focussing on two types of non-standard work in particular, temporary and part-time employment. The first part of this paper bridged the literature on non-standard employment with in-work poverty research. In essence, we integrated the theoretical roots of non-standard employment, where the employment relationship takes a central place, with research on the working poor, where the balance of welfare triangle of labour, family, and government is more important.

From the studies on non-standard employment, we know that both part-time and temporary workers earn less annually because they work less, but also because they typically face an hourly wage penalty. Overall this leads to lower annual earnings, which has repeatedly been shown to be not unequivocally related to in-work poverty because the overall household composition and income package distort a straightforward relationship. Subsequently, we argued that one of the distinct elements in the income package of non-standard workers is the likelihood of receiving income replacement benefits. Hence, as regard the income security of non-standard workers, the theoretical lens of placing the relationship between employees and employers at the centre provides a myopic perspective. The poverty risk of non-standard workers cannot be understood without taking into account earnings from other household members or government transfers. On the other hand, in-work poverty research has been focussing primarily on the relationship between low earnings and in-work poverty and often disregarded the accumulation of a low wage and an incomplete labour market attachment, which characterises both forms of non-standard work. Contributing to the existing studies, this paper examined which factor matters the most empirically, which is important as it may lead to different policy responses (Halleröd et al., 2015).

Three main conclusions can be drawn from this paper. First, the results confirm that when individual earnings are not sufficient to provide for a family, it does not necessarily result in working poverty for both standard and non-standard workers. On the other hand, lower earnings do tend to contribute to the higher poverty risk of non-standard workers because standard workers need less additional income from other resources to be lifted above the poverty line. Second, because non-standard workers are often compensated for their incomplete labour market attachment, not only incomes from other household members should be taken into account. For non-standard workers personal income replacement benefits matter considerably more than for standard workers as a way to avoid poverty. Third, the narrative for temporary and part-time workers differs. The basic reason why both part-time and temporary workers are poor is because they do not work enough, and in addition face a wage penalty. Government transfers tend to compensate periods out of work for temporary workers to a limited degree. For part-time workers, the work-intensity at the household level tends to provide a strong protection against poverty. However, as the profile characteristics of non-standard workers are not necessarily the same across countries, the degree to which low wages, or other characteristics contribute to the difference in the poverty risk between standard and non-standard workers is subjected to noteworthy cross-country variation, especially regarding part-time employment.

How various institutional characteristics correspond to the higher poverty risk of both part-time and temporary workers is beyond the scope of this paper, but should be looked at by future research. For now, we can conclude that potential candidates are institutional characteristics that allow part-time work to become more widespread as part of a dual earner strategy, including labour market institutions that support high quality part-time jobs as well as (family) policies that support labour market participation of parents in those high-quality jobs. As especially periods out of work contribute to the difference in poverty risk between temporary and permanent workers, policies and institutions that support a smooth transition between two jobs or generous income support during periods out of work should be looked at primarily to grasp the variation in the poverty penalty associated with temporary work.

Lastly, for single earner families the link between non-standard employment and in-work poverty is perhaps straightforward, but in most countries dual- or multi-earnership has become the norm (Airio, 2008). Hence the basic function that one job needs to provide for the household is outdated. As the work intensity at the household level has become increasingly important for understanding income inequality in general (Salverda & Checchi, 2015), recent attempts to understand clustering of non-standard employment at the household level should be examined further (Horemans, 2016b; OECD, 2015). In particular the question why non-standard employment tends to be clustered in certain households can provide new insights in the poverty risk of non-standard workers. Furthermore, future research needs to examine how non-standard employment at the household level can be conceptualised. Which particular level of household work-intensity is necessary in order to avoid poverty, and is it the same for all types of families?

References

Airio, I. (2008). *Change of Norm? In-Work Poverty in a Comparative Perspective*. Finland: Studies in social security and health 92.

Allègre, G. (2013). From Wage Inequalities to Living Standard Inequalities at Household Level. In N. Fraser, R. Gutiérrez, & R. Peña-Casas (Eds.), *Working Poverty in Europe: A Comparative Approach*. Houndmills: Palgrave Macmillan.

Amuedo-Dorantes, C., & Serrano-Padial, R. (2010). Labor market flexibility and poverty dynamics. *Labour Economics, 17*(4), 632-642.

Andress, H.-J., & Lohmann, H. (2008). *The Working Poor in Europe: Employment, Poverty and Globalizatio*. Cheltenham: Edward Elgar.

Barbier, J.-C. (2013). A Conceptual Approach of the Destandardization of Employment in Europe since the 1970s. In M. Koch & M. Fritz (Eds.), *Non-Standard Employment in Europe: Paradigms and Policy Responses* (pp. 13-28). Houndmills: Palgrave Macmillan.

Bardone, L., & Guio, A. C. (2005). In-Work Poverty *Statistics in Focus - Population and Social Conditions*. Luxembourg: Eurostat.

Blinder, A. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human Resources, 8*, 436-455.

Blossfeld, H.-P., & Hakim, C. (1997). *Between Equalization and Marginalization: Women Working Part-Time in Europe and the United States of America*. Oxford: Oxford University Press.

Bollé, P. (1997). Part-time work: Solution or trap? *International Labour Review, 136*(4).

Bosch, G. (2006). Working Time and the Standard Employment Relationship. In J.-Y. Boulin, M. Lallement, J. Messenger, & F. Michon (Eds.), *Decent Working Time: New Trends, New Issues*. Geneva: International Labour Organisation.

Buschoff, K. S., & Protsch, P. (2008). (A-)typical and (in-)secure? Social protection and "non-standard" forms of employment in Europe. *International Social Security Review, 61*(4), 51-73.

Connolly, S., & Gregory, M. (2009). The part-time pay penalty: earnings trajectories of British Women. *Oxford Economic Papers, 61*(1), 76-97.

Crettaz, E. (2013). A state-of-the-art review of working poverty in advanced economies: theoretical models, measurement issues and risk groups. *Journal of European Social Policy, 23*(4), 347-362.

De Grip, A., Hoevenberg, J., & Willems, E. (1997). Atypical employment in the European Union. *International Labour Review, 136*(1), 49-71.

Debels, A. (2008a). *Flexibility and Insequrity. The Impact of European Variants of Labour Market Flexibility on Employment, Income and Poverty Dynamics*. (PhD), KU Leuven, Leuven.

Debels, A. (2008b). Maakt een flexibele job arm? In J. Vranken, G. Campaert, K. De Boyser, C. Dewilde, & D. Dierckx (Eds.), *Armoede en sociale uitsluiting jaarboek 2008* (pp. 177-197). Leuven: Acco.

Debels, A. (2008c). Transitions out of Temporary Jobs: Consequences for Employment and Poverty across Europe. In R. Muffels (ed.) (Ed.), *Flexibility and Employment Security in Europe: Labour Markets in Transition* (pp. 51-78). Cheltenham: Edward Elgar.

Delsen, L. (1995). *Atypical Employment: an International Perspective: Causes, Consequences and Policy*. Groningen: Wolters-Noordhoff.

DiPrete, T. A. (2005). Labor Markets, Inequality, and Change. A European Perspective. *Work and Occupations, 32*(2), 119-139.

DiPrete, T. A., Goux, D., Maurin, E., & Quesnel-Vallee, A. (2006). Work and pay in flexible and regulated labor markets: A generalized perspective on institutional evolution and inequality trens in Europe and the U.S. *Research in Social Stratification and Mobility, 24*(3), 311-332.

Eichhorst, W., & Marx, P. (2012). Whatever works: Dualisation and the service economy in Bismarkian Welfare States. In P. Emmenegger, S. Häusermann, B. Palier, & M. Seeleib-Kaiser (Eds.), *The age of dualization: The changing face of inequality in deindustrializing societies* (pp. 73-99). Oxford: Oxford University Press.

Eichhorst, W., & Marx, P. (Eds.). (2015). *Non-Standard Employment in Post-Industrial Labour Markets: An Occupational Perspective*. Cheltenham: Edward Elgar.

Eurofound. (2015). *Recent developments in temporary employment: Employment growth, wages and transitions*. Luxembourg: Publications Office of the European Union.

European Commission. (2013). *Employment and Social Developments in Europe 2013*. Luxembourg: Publications Office of the European Union.

European Commission. (2014). *Employment and Social Developments in Europe 2014*. Luxembourg: Publications Office of the European Union.

Eurostat. (2016). LFS series-Detailled annual survey results. http://ec.europa.eu/eurostat/web/lfs/data/database

Fagan, C., & et al. (2007). *Part-Time Work in European Companies: Establishment Survey on Working Time 2004-2005*. Luxembourg: Eurofound.

Fagan, C., Norman, H., Smith, M., & González Menéndez, M. C. (2014). *In search of good quality part-time employment*. Geneva: ILO.

Fairlie, R. W. (2005). An extension of the Blinder-Oaxaca decomposition technique to logit and probit modes. *Journal of Economic and Social Measurement, 30*, 305-316.

Fortin, N., Lemieux, T., & Firpo, S. (2010). Decomposition Methods in Economics. *NBER Working Paper Series No. 16045*.

Foster, J., Greer, J., & Thorbecke, E. (1984). A Class of decomposable poverty measures. *Econometrica, 52*(3), 761-766.

Fraser, N., Gutiérrez, R., & Peña-Casas, R. (2011). *Working Poverty in Europe: A Comparative Approach*. Houndmills: Palgrave Macmillan.

Gardiner, K., & Millar, J. (2006). How Low-Paid Employees Avoid Poverty: An Analysis by Family Type and Household Structure. *Journal of Social Policy, 35*(3), 19.

Gebel, M. (2013). Is a temporary job better than unemployment? A cross-country comparison based on British, German, and Swiss Panel Data. *Journal of Applied Science Studies, 133*(2), 143-156.

Giesecke, J. (2009). Socio-economic Risks of Atypical Employment Relationships: Evidence from the German Labour Market. *European Sociological Review, 25*(6), 629-646.

Giesecke, J., & Gross, M. (2003). Temporary Employment: Chance or Risk? *European Sociological Review, 19*(2), 161-177.

Grotti, R., & Scherer, S. (2014). Accumulation of Employment Instability Among Partners - Evidence from Six EU Countries. *European Sociological Review, 30*(5), 627-639.

Haas, B., Steiber, N., Hartel, M., & Wallace, C. (2006). Household employment patterns in an enlarged European Uniona. *Work, employment and society, 20*(4), 751-771.

Halleröd, B., Ekbrand, H., & Bengtsson, M. (2015). In-work poverty and labour market trajectories: Poverty risks among the working population in 22 European countries. *Journal of European Social Policy, on line first*(October 7).

Hipp, L., Bernhardt, J., & Allmendinger, J. (2015). Institutions and the prevalence of nonstandard employment. *Socio-Economic Review, 13*(2), 351-377.

Horemans, J. (2016a). *Half a job, twice the poverty risk: Empirical investigations into the role of earnings, family composition, and institutions as factors underlying the higher in-work poverty risk of part-timers across Europe.* (Doctoral dissertation), University of Antwerp, Antwerp.

Horemans, J. (2016b). Polarisation of Non-standard Employment in Europe: Exploring a Missing Piece of the Inequality Puzzle. *Social Indicators Research, 125*(1), 171-189.

Horemans, J., & Marx, I. (2013a). In-work poverty in times of crisis: do part-timers fare worse? *Improve Discussion Paper No. 13/14*.

Horemans, J., & Marx, I. (2013b). Should We Care about Part-Time Work from a Poverty Perspective? An Analysis of the EU15 Countries. In M. Koch & M. Fritz (Eds.), *Non-Standard Employment in Europe: Paradigms, Prevalence and Policy Responses* (pp. 169-189). Houndmills: Palgrave Macmillan.

Houseman, S. N. (2001). Why employers use flexible staffing arrangements: evidence from an establishment survey. *Industrial and Labour Relations Review, 55*(1), 149-170.

ILO. (2015). Non-standard forms of employment. *Report for discussion at the Meeting of Experts on Non-Standard Forms of Employment, Geneva 16-19 February 2015*.

Jann, B. (2006). Fairlie: Stata module to generate nonlinear decomposition of binary outcome differentials. Available from: http://ideas.repec.org/c/boc/bocode/s456727.html.

Kalleberg, A. L. (2000). Nonstandard Employment Relations: Part-time, Temporary and Contract Work. *Annual Review of Sociology, 74*(1-22).

Kalleberg, A. L. (2009). Precarious Work, Insecure Workers: Employment Relations in Transition. *American Sociological Review, 74*, 1-22.

Kalugina, E. (2013). The Working Poor. In J. Hellier & N. Chusseau (Eds.), *Growing Income Inequalities: Economic Analyses* (pp. 76-104). Houndmills: Palgrave Macmillan.

Koch, M., & Fritz, M. (2013). *Non-Standard Employment in Europe: Paradigms, Prevalence and Policy Responses*. Houndmills: Palgrave Macmillan.

Lang, C., Schömann, I., & Clauwaert, S. (2013). Atypical forms of employment contracts in times of crisis. *Etui working paper 2013.03*.

Lohmann, H. (2009). Welfare States, Labour Market Institutions and the Working Poor: A Comparative Analysis of 20 European Countries. *European Sociological Review, 25*(4), 489-504.

Lohmann, H. (2011). Comparability of EU-SILC survey and register data: the relationship among employment, earnings and poverty. *Journal of European Social Policy, 21*(1), 37-54.

Lohmann, H., & Marx, I. (2008). The different faces of in-work poverty across welfare state regimes. In H.-J. Andress & H. Lohmann (Eds.), *The Working Poor in Europe: Employment, Poverty and Globalization* (pp. 17-46). Cheltenham: Edward Elgar.

Maitre, B., Nolan, B., & Whelan, C. T. (2012). low pay, in-work poverty and economic vulnerability: a comparative analysis using EU-SILC. *The Manchester School, 80*(1), 99-106.

Manning, A., & Petrongolo, B. (2005). The Part-Time Pay Penalty. *CEP Discussion Paper No 679*.

Marx, I., & Nolan, B. (2014). In-Work Poverty. In B. Cantillon & F. Vandenbroucke (Eds.), *Reconciling work and poverty reduction: How succesful are European welfare states?* (pp. 131-156). Oxford Oxford University Press.

Matteazzi, E., Pailhé, A., & Solaz, A. (2012). Part-time wage penalties in Europe: A matter of selection or segregation. *ECINEQ WP 2012-250*.

Matteazzi, E., Pailhé, A., & Solaz, A. (2013). Does Part-Time Employment Widen the Gender Wage Gap? Evidence from Twelve European Countries. *ECINEQ WP 2013-293*.

Messenger, J. C., & Ray, N. (2015). The 'deconstruction' of part-time work. In J. Berg (Ed.), *Labour Markets, Institutions and Inequality: Building Just Societies in the 21st Century* (pp. 184-209). Cheltenham: Edward Elgar.

Messenger, J. C., & Wallot, P. (2015). The Diversity of "Marginal" Part-Time Employment *INWORK Policy Brief No. 7*. Geneva: ILO.

Millar, J., Webb, S., & Kemp, M. (1997). *Combining Work and Welfare*. York: York Publishing Services for the Joseph Rowntree Foundation.

Neumark, D. (1988). Employers' discriminatory behavior and the estimation of wage discrimination. *Journal of Human Resources, 23*(3), 279-295.

O'Connor, J. S. (2013). Non-Standard Employment and European Union Employment Regulation. In M. Koch & M. Fritz (Eds.), *Non-Standard Employment in Europe: Paradigms, Prevalence and Policy Responses* (pp. 46-63). Houndmills: Palgrave Macmillan.

O'Reilly, J., & Fagan, C. (1998). *Part-time prospects: An international comparison of part-time work in Europe, North America and the Pacific Rim*. London/New York: Routledge.

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic Review, 14*(3), 693-709.

Oaxaca, R., & Ransom, M. (1994). On Discrimination and the Decomposition of Wage Differentials. *Journal of Econometrics, 61*(1), 5-21.

OECD. (2002). OECD Employment Outlook 2002, Chapter 3: Taking the measure of temporary employment. Paris: OECD Publishing.

OECD. (2010). *Employment Outlook 2010: How Good is Part-Time Work? (Chapter 4)*. Paris: OECD Publishing.

OECD. (2015). *In it together: why less inequality benefiits all: Chapter 4: Non-standard work, job polarisation and inequality*. Paris: OECD publishing.

Peña-Casas, R., & Ghailani, D. (2011). Towards Individualizing Gender In-Work Poverty Risks. In N. Fraser, R. Gutiérrez, & R. Peña-Casas (Eds.), *Working Poverty in Europe: A Comparative Approach* (pp. 202-231). Houndmills: Palgrave Macmillan.

Ponthieux, S. (2010). In-work poverty in the EU *Eurostat-Methodologies and Working Papers*. Luxembourg: Publications Office of the European Union.

Prosser, T. (2015). Dualization or liberalization? Investigating precarious work in eight European countries. *Work, employment and society, on-line first*.

Rodgers, J. R. (2003). Are Part-time Workers Poor? *Australian Journal of Labour Economics, 6*(1), 177-193.

Salverda, W., & Checchi, D. (2015). Labor Market Insititutions and the Dispersion of Wage Earnings. In A. B. Atkinson & F. Bourguignon (Eds.), *Handbook of Income Distribution* (pp. 1535-1727). Amsterdam: Elsevier.

Schmid, G. (2010). Non-standard employment and labour force participation: A comparative view of the recent developments in Europ. *IZA DP No. 5087*.

Shaefer, H. L. (2009). Part-time workers: some key differences between primary and secondary earners. *Monthly Labor Review, 132*(10), 3-15.

Snel, E., de Boom, J., & Engbersen, G. (2008). The silent transformation of the Dutch welfare state and the rise of in-work poverty. In H.-J. Andress & H. Lohmann (Eds.), *The Working Poor in Europe: Employment, Poverty and Globalization* (pp. 124-154). Cheltenham: Edward Elgar.

Strengmann-Kuhn, W. (2003). *Armut trotz Erwerbstätigkeit. Analysen und sozialpolitische Konsequenzen*. Frankfurt/New York: Campus Verlag.

Tam, M. (1997). *Part-time employment: A bridge or a trap?* Avebury: Aldershot.

Tilly, C. (1996). *Half a job: bad and good part-time jobs in a changing labor market*. Philadelphia: Temple University Press.

van Bastelaer, A., Lemaître, G., & Marianna, P. (1997). The Definition of Part-Time Work for the Purpose of International Comparisons. *OECD Labour Market and Social Policy Occasional Papers, No. 22*.

Van Lancker, W. (2012). The European world of temporary employment: gendered and poor? *European societies: official journal of the European Sociological Association, 14*(1), 83-111.

Van Lancker, W. (2013). Temporary Employment and Poverty in the Enlarged European Union: An Empirical and Comparative Analysis. In M. Koch & M. Fritz (Eds.), *Non-Standard Employment in Europe: Paradigms, Prevalence and Policy Responses* (pp. 190-208). Houndmills: Palgrave Macmillan.

van Oorschot, W. (2013). Comparative Welfare State Analysis with Survey-based Benefit Recipiency Data: The "Dependent Variable Problem" Revisited. *European Journal of Social Security, 15*(3), 224-249.

Vaughan-Whitehead (Ed.) (2012). *Work Inequalities in the Crisis: Evidence from Europe*. Cheltenham: Edward Elgar Publishing Limited.

Ward, T., & Ozdemir, E. (2013). Measuring low work intensity - an analysis of the indicator. *ImPRoVe Discussion Paper No. 13/09. Antwerp.*

Webber, G., & Williams, C. (2008). Mothers in "good" and "bad" Part-time Jobs: Different Problems, Same Results. *Gender & Society, 22*(6), 752-777.

Yerkes, M., & Visser, J. (2006). Women's preferences or delineated policies? The development of part-time work in the Netherlands, Germany and the United Kingdom. In J.-Y. Boulin, M. Lallement, J. C. Messenger, & F. Michon (Eds.), *Decent working time: New trends, new issues* (pp. 235-262). Geneva: ILO.

6 Appendix

6.1 Oaxaca-Blinder decomposition for non-linear models

Following Fortin, Lemieux, and Firpo (2010) the mean gap in at-risk of poverty between non-standard and standard workers can be expressed as follows for non-linear models:

$$
\begin{aligned}
\Delta^{\mu}_{\text{Poverty}} &= \mathrm{E}\left(\mathrm{Y_{ns}}|\mathrm{D_{ns}}=1\right) - \mathrm{E}\left(\mathrm{Y_{s}}|\mathrm{D_{s}}=1\right) \\
&= \mathrm{E}\left[\mathrm{G}(\mathrm{X};\,\beta_{\mathrm{ns}})|\mathrm{D_{ns}}=1\right] - \mathrm{E}\left[\mathrm{G}(\mathrm{X};\,\beta_{\mathrm{s}})|\mathrm{D_{s}}=1\right] \\
&= \mathrm{E}\left[\mathrm{G}(\mathrm{X};\,\beta_{\mathrm{ns}})|\mathrm{D_{ns}}=1\right] - \mathrm{E}\left[\mathrm{G}(\mathrm{X};\,\beta_{\mathrm{s}})|\mathrm{D_{ns}}=1\right] \\
&\quad + \mathrm{E}\left[\mathrm{G}(\mathrm{X};\,\beta_{\mathrm{s}})|\mathrm{D_{ns}}=1\right] - \mathrm{E}\left[\mathrm{G}(\mathrm{X};\,\beta_{\mathrm{s}})|\mathrm{D_{s}}=1\right] \\
&= \Delta^{\mu}_{\text{coefficients}} + \Delta^{\mu}_{\text{characteristics}}
\end{aligned}
$$

The first term indicates the 'unexplained' gap due to unobserved or unobservable differences. The second term is the 'explained' gap due to differences in observed characteristics. Because overall differences in composition (observed characteristics) as well as differences in (estimated) coefficients matter to understand the overall gap, the choice of reference group is important. This is commonly known as the 'index number problem' and different solutions to the index problem may yield different results (Oaxaca & Ransom, 1994). Neumark (1988) provides an alternative by using coefficient estimates from a pooled sample as weights for the group differences in distributions of the independent variables. Adopting this approach, the decomposition answers the question: what would the poverty structure be if part-time and full-time work is 'valued' similarly in society with respect to the underlying covariates?

Fortin et al. (2010) also point out that the contributions of separate variables do not add up to the total in non-linear models. As a solution, we adopt the pooled approach implemented by Fairlie (2005) where the coefficient of each variable is switched the reference group values in sequence based on a series of counterfactuals. This approach, however, yield a problem in terms of assessing the individual contributions of different variables because the results are sensitive to the ordering of the variables. Therefore, we randomized the ordering of the variables as recommended by Jann (2006) and show the results of 10000 repeated estimations.

Table A1. Composition of the working poor by employment status (in %)

	part-time	temporary	part-time and temporary	permanent full-time
AT	26,7	8,7	5,4	59,2
BE	33,7	11,4	19,8	35,2
BG	3,6	20,1	5,0	71,3
CH	36,0	12,8	4,9	46,4
CY	7,7	37,2	5,8	49,2
CZ	4,6	33,8	5,6	56,0
DE	30,8	20,6	12,5	36,1
DK	19,2	10,2	5,0	65,6
EE	16,7	7,1	2,5	73,8
EL	10,7	20,9	18,7	49,7
ES	12,9	35,5	16,4	35,3
FI	19,4	25,1	14,0	41,6
FR	22,7	18,2	14,8	44,3
HR	1,5	37,8	1,9	58,9
HU	6,5	31,4	5,2	57,0
IE	47,7	4,7	17,4	30,2
IS	17,5	9,6	9,9	63,0
IT	17,3	21,4	9,2	52,1
LT	15,5	10,1	0,5	74,0
LU	23,3	19,0	3,7	54,0
LV	13,7	14,3	2,3	69,7
MT	14,3	11,3	4,3	70,0
NL	30,5	19,0	22,0	28,5
NO	12,2	27,9	7,0	53,0
PL	3,3	43,8	9,8	43,2
PT	5,1	20,9	9,4	64,6
RO	1,1	4,1	0,9	94,0
SE	19,6	26,2	18,7	35,5
SI	4,8	33,7	6,3	55,2
SK	6,6	19,8	5,4	68,2
UK	40,5	4,3	3,7	51,6

Source: EU-SILC 2012, own calculations