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The standard of living among the poor across Europe. Does employment make a difference?

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ABSTRACT
Employment does not always guarantee sufficient income and a decent standard of living anymore. In this paper, we analyze the relationship between income poverty and material deprivation for employed and unemployed individuals across Europe. To do so, we focus on relevant mechanisms at the individual and institutional levels. We examine how economic, structural and institutional factors shape the relationship between employment, poverty and deprivation. We explore our subject using EU-SILC data from 2015 and cross-national macro-level data from the OECD, Eurostat and UNECE. According to our findings, employment is associated with a higher standard of living even among the poor and when controlling for savings and income level, which may point to the non-monetary benefits of employment. At the macro level, we show that the impact of employment on the living standard of the poor varies according to economic conditions and institutional settings. Our results suggest that policies that promote integration into the labour market without taking into account the quality of jobs and working conditions devalue gainful employment in terms of maintaining a decent standard of living.

1. Introduction

The face of poverty has changed over the last decades. Unemployment has typically been regarded as the major risk factor for income poverty and material deprivation across European welfare states. Consequently, integration into the labour market has been the main target of European activation and employment strategies such as those of the Lisbon Treaty

and 'Europe 2020' aiming to enhance social integration and a decent standard of living. However, in recent years, many European countries have witnessed an increase in non-standard employment and in-work poverty (Horemans *et al.* 2016; Lohmann and Marx 2018). At the same time, unemployment has not been substantially reduced, and the connection between unemployment and poverty has not weakened. These aspects muddle the distinction between the non-working and working population and their poverty affection. Thus, we were motivated to closely examine the differences between these two groups according to their level of material deprivation, an indicator of an insufficient standard of living widely discussed and accepted in poverty research as a direct measure of disadvantaged supply situations (Townsend 1987).

Previous research has shown that, across countries, those who are employed enjoy a higher standard of living than those who are unemployed (Figari 2012; Halleröd *et al.* 2006). Several studies have focused on country differences and sought to explain the level of material deprivation based on welfare generosity and further institutional and structural characteristics (Bárcena Martín *et al.* 2014; Nelson 2012; Verbunt and Guio 2019; Visser *et al.* 2014; Whelan and Maître 2012, 2008). While these studies explain differences in living standards between the unemployed and employed mostly with regard to income and benefits, it is unclear whether other aspects of employment may also play a role. In this paper, we focus on differences in the level of material deprivation between employed and unemployed poor individuals. We assume that employment is not only relevant as a source of monetary income but also provides additional benefits that affect the standard of living. A few studies have shown that the working poor also face material deprivation, albeit less than the unemployed poor (Crettaz 2015; Lohmann and Groh-Samberg 2018; Saltkjel and Malmberg-Heimonen 2017). Why this is the case remains an open question: Why does employment positively affect the standard of living even when the income is too low for the individual to live outside poverty? Although our focus is on the poor, we include the non-poor in our analysis as a point of reference. If employment positively affects the standard of living, we expect to find this result for the poor as well as for the non-poor. If not, this would indicate differences in the potential of employment to reduce material deprivation for the poor and non-poor. These may be attributed to lower monetary resources such as income level and savings, as well as lower non-monetary job benefits that may affect the standard of living, such as fringe benefits or social resources. To take into account

differences across welfare states, we explore the subject with a focus on the individual and institutional levels as well as associated mechanisms simultaneously.

On this basis, the present study explores two questions. First, are the employed poor across Europe less deprived than the unemployed poor? We hypothesize that employed poor individuals face a lower level of material deprivation even when controlling for differences in poverty gaps and levels of savings. We reason that these individuals encounter less persistent poverty spells and benefit from the non-monetary advantages of employment, which increase their living standard in comparison with unemployed poor persons. Second, how do economic, structural and institutional factors shape the relations between employment, poverty and deprivation? We assume that, in addition to countries' economic conditions, activation measures, eligibility criteria and social protection benefits are the main factors affecting this relationship. In answering these questions, we add to previous research on in-work poverty and deprivation by broadening the understanding of how the monetary and non-monetary aspects of work and living standards are related. This relies on a cross-country comparison that focuses on the relevance of the structural and institutional characteristics of European welfare states.

To address these issues empirically, we used EU-SILC micro-level data from 2015, including a material deprivation index featuring 13 items of disposable goods and activities. *Income poverty* is defined as the condition of having a stable disposable household income below the at-risk-of-poverty threshold, set at 60% of the national median income. At the macro level, we worked with three different cross-national databases (OECD, Eurostat and UNECE).

2. Theoretical framework and previous research

2.1. The concept of material deprivation

The concept of material deprivation goes back to Townsend (1979) and his study about poverty in the United Kingdom. While the *minimum living standard* encompasses the possession of goods and/or access to activities perceived as necessities by the majority of a population, *deprivation* means the lack of some of these items. Deprivation exists along different dimensions, such as housing, food, clothing, financial means and social and cultural participation (Townsend 1987). It increases based on the number of items that are unaffordable yet important.

Mack and Lansley (1985) highlighted the fact that *material deprivation* occurs when financial reasons prevent people from possessing goods and/or having access to certain activities. This finding considers that people also voluntarily forego consumption without it affecting their standard of living. While the concept of material deprivation refers directly to a restricted current standard of living, the concept of income poverty is limited to monetary resources, which addresses a supply situation only indirectly (Atkinson *et al.* 2002).

Our study focuses on the relationship between employment, income poverty and material deprivation. In particular, we investigate whether the level of material deprivation differs between poor[1] employed persons and poor unemployed persons. We hypothesize that individuals who are employed and poor face a lower level of material deprivation due to a less severe poverty experience, access to savings, shorter periods of poverty and the non-monetary benefits of employment. We argue that welfare state and labour market institutions affect the levels of material deprivation of employed and unemployed poor individuals differently. Figure 1 shows our general conceptual framework.

2.2. The relationships between employment status, income poverty and material deprivation

Income poverty and material deprivation

Figure 1 shows how micro- and macro-level factors are assumed to influence material deprivation. Financial resources, measured as disposable household income, are the main source to fulfil (basic) needs and to assure one's current living standard. In turn, *income poverty* represents a lack of financial resources, a state in which deprivation is more likely to occur (Figure 1, arrow a). Various studies have confirmed that a higher income in absolute terms substantially reduces material deprivation (e.g. Berthoud and Bryan 2011; Bárcena Martín *et al.* 2014; Whelan and Maître 2012; Nolan and Whelan 2011). In addition, a number of studies have found that the income poor or the lowest income percentiles are the most deprived (Israel and Spannagel 2018; Israel 2016; Notten and Guio 2016; Visser *et al.* 2014). However, cross-sectional studies have repeatedly shown that the correlation between income and material deprivation is lower in affluent welfare states with a higher average

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[1]In the following, we will speak of *poor* or *poverty* instead of *income poor* or *income poverty* for reasons of brevity.
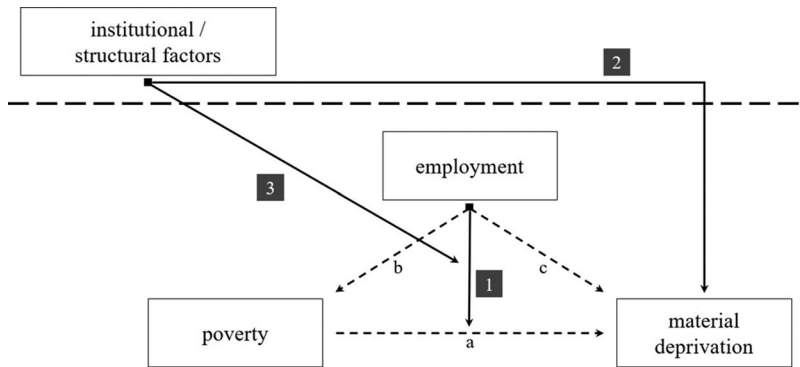
Figure 1. Hypothesized micro-, macro- and cross-level relationships.

standard of living (Whelan and Maître 2007; Whelan *et al.* 2001). Although the relationship is weaker, Layte *et al.* (2001) show that relative income poverty has a significant impact on material deprivation in affluent welfare states as well.

The impact of employment on income poverty and material deprivation

In Europe, employment is the main source of income (Figure 1, arrow b). A lack of employment strongly correlates with income poverty (e.g. De Graaf-Zijl and Nolan 2011; Gallie *et al.* 2003; Hauser *et al.* 2000) and, according to our previous assumptions, to higher material deprivation. Besides this unquestioned effect of employment on income levels, employment also has an independent direct effect on material deprivation (Figure 1, arrow c). This non-monetary direct effect results from the material and social benefits of work.

Material benefits of employment affecting the standard of living

Employment does not only provide monetary income but often offers additional material benefits, such as fringe benefits. Through their jobs, employees either more easily come into private possession of certain goods that ensure their standard of living or they can reduce the expenses necessary to maintain their standard of living by using company-owned goods (e.g. Farnsworth 2004; May and Brunsdon 2007). To commute to work, employees are sometimes granted subsidies for public transport tickets and for leased or company cars. This also increases private mobility opportunities, which can reduce deprivation. In some industries, it is also common for employers to offer cheap meals during work breaks.

Furthermore, certain workstations provide access to communication devices, such as telephones or computers, which makes the private possession of these devices less necessary.

Social benefits of employment affecting the standard of living

Employment also offers further possibilities to prevent economic hardship. One benefit is general social participation, which might differ compared to people without regular employment. According to Bourdieu's capital theory, social relations and networks can be regarded as social capital, which, under certain circumstances, can also be transformed into economic capital (Bourdieu 1986). A job determines the likelihood of accessing much broader social networks. Thus, employed persons benefit from a larger and more diverse network than unemployed persons (Paugam and Russell 2000). Similar to relatives or an immediate neighbourhood, a work environment provides opportunities to meet new friends who can help and give support in times of need (Böhnke 2008). Work-related social capital thus represents an additional safety net for employees to fall back on. For example, an individual's deprivation can be reduced by having work colleagues invite him or her to social activities (such as going to the movies) when he or she can't afford it or using their possessions (such as a car) when needed.

Several studies have established that unemployment increases material deprivation in general (e.g. Notten and Guio 2016; Israel 2016; Bárcena Martín *et al.* 2014; Nelson 2012; Whelan and Maître 2012). However, previous results regarding the role of the non-monetary benefits of employment are ambiguous. For instance, Halleröd *et al.* (2006) found in a cross-country comparison that in Great Britain, the higher degree of deprivation of unemployed individuals is fully explained by income – a result that does not provide support for the relevance of the non-monetary benefits of employment. In contrast, in northern Europe, those who are unemployed have shown a higher level of material deprivation than those who are employed, even when controlling for income.

2.3. The benefits of employment among the poor

So far, we have described various ways in which employment reduces material deprivation in general. Less is known about how employment might moderate the relationship between income poverty and material deprivation (Figure 1, arrow 1) – in other words, how the level of material deprivation differs between the employed and unemployed poor.

Additionally, if employment has a positive effect among the poor, how strongly does this effect differ in the non-poor population? As mentioned previously, differences between employed and unemployed persons are primarily expected to result from income differences and the further material and social benefits of employment. Because of the increase in in-work poverty, the question of whether employment has a positive impact on material deprivation when incomes do not lift a household above the poverty threshold has gained relevance. Empirical evidence on the differences between the employed and unemployed poor is scarce. As discussed above, although many studies have stressed the detrimental effect of unemployment, there is hardly any evidence available regarding deprivation among the working poor. Furthermore, studies on the working poor (e.g. Crettaz 2015) have analyzed this group exclusively and have not compared the employed and unemployed poor. This perspective allows for showing that the working poor face a higher level of material deprivation than the total working population but does not provide evidence of a potential relationship between employment and material deprivation. In the present study, we include the employed and unemployed poor and compare both groups to each other and the non-poor population. For the German case, Lohmann and Groh-Samberg (2018) found evidence of a higher level of material deprivation of non-working poor individuals compared to working poor individuals' net of monetary resources. First, there are monetary reasons as to why a job buffers deprivation among employed poor individuals compared to unemployed poor individuals. The former generally experience poverty of less severe intensity, and because they are also less likely to encounter persistent poverty spells, they are more likely to have savings they can use to maintain their living standard (e.g. Layte *et al.* 2001). From this, we derived our first hypothesis at the micro level: *Employed poor individuals experience a lower level of material deprivation than unemployed poor individuals (H1).*

Further material benefits, such as fringe benefits, should also play a role among the poor as in-work poverty is not only influenced by poorer working conditions but also by the household context. Regarding the social benefits of employment, previous studies have shown that both persistent poverty and unemployment reinforce social isolation (e.g. Böhnke and Link 2017; Gallie *et al.* 2003). The cumulative disadvantage of the unemployed resulting from more persistent poverty spells thus argues for the persistence of the deprivation gap. Along with our theoretical considerations, this led us to our second hypothesis at the micro

level: *Employed poor individuals experience a lower level of material deprivation than unemployed poor individuals, even when controlling for relative income position and savings (H2).* As mentioned above, we assume that employment is positively related to the standard of living of the poor and non-poor, regardless of monetary benefits. We focus on the employed poor because our assumption that the employed can rely on the non-monetary benefits of employment to prevent material deprivation is more questionable for the poor than for the non-poor.

2.4. Structural and institutional factors

As illustrated in Figure 1, institutional characteristics and structural factors shape the level of material deprivation across countries but also the impact of individual- and household-related factors. Before discussing potential cross-level relationships (Figure 1, arrow 3), we provide an overview of the relevant macro-level factors.

General economic conditions and the unemployment rate

At the macro level, we must take into account the impact of general economic conditions on material deprivation. Previous research on this relationship is extensive. For instance, it is widely confirmed that a higher gross domestic product (GDP) decreases the prevalence of material deprivation (e.g. Bárcena Martín *et al.* 2014; Visser *et al.* 2014; Nelson 2012; Whelan and Maître 2012), while higher unemployment rates have a negative impact on the overall level of material deprivation (Bárcena Martín *et al.* 2014; Nelson 2012). In general, a higher GDP reduces the effect of household and employment characteristics on material deprivation (Bárcena Martín *et al.* 2014; Whelan and Maître 2012). Moreover, Visser *et al.* (2014) compared the effect of increasing unemployment rates and GDP for different income groups and found evidence that the highest income quartile benefits from an increasing GDP to a greater extent than the lowest income quartile. Higher unemployment rates also had a more substantial impact on the lowest income quartile.

Welfare generosity and support for the unemployed

Regarding the general impact of welfare generosity and support for the unemployed on material deprivation, our theoretical framework follows that of Visser *et al.* (2014). In addition to one's social network and the labour market, welfare generosity provides additional safeties

to avoid economic hardship. In countries where this safety net is less developed, the likelihood of material deprivation is higher. Numerous studies have supported the assumption that general welfare generosity, measured through social protection expenditures, lowers material deprivation (e.g. Saltkjel and Malmberg-Heimonen 2017; Bárcena Martín *et al.* 2014; Nelson 2012; Whelan and Maître 2012; Kenworthy *et al.* 2011). Considering the main aims of welfare state policies – guaranteeing social security and redistributing income –, the poor population, in particular, should benefit from greater welfare generosity. For the poor, social protection benefits are more likely to be an important income source to prevent deprivation, while those who are better off can easily fall back on savings or social capital (Verbunt and Guio 2019; Visser *et al.* 2014). We focus on the impact of social protection benefits for the unemployed in preventing material deprivation. This targeted approach is in line with the research of Visser *et al.* (2014), who determined that the highest income quartile benefits from increasing general social expenditures to a greater extent than the lowest income quartile. These benefits affect the living standard of those who are poor and unemployed as well as those who are poor and employed. For the former, they represent the main income resource. Thus, when the benefits are higher, individuals are better able to maintain their current standard of living. Employed persons also benefit when they live with unemployed persons who receive benefits (Lohmann 2009). Notably, the level of social protection benefits sets an implicit minimum wage on the labour market. When the benefits are higher, the lowest wages of poor and employed individuals are higher, which results in more financial resources to prevent deprivation.

Only a few studies have focused on social protection benefits, particularly for the unemployed. For example, Dewilde (2008) found that high net replacement rates in unemployment lower deprivation. However, in contrast, Israel and Spannagel (2018) determined that unemployment benefits did not have an impact on material deprivation. Further, as regards cross-level analyses comparing the impact of contextual factors on the living standard of specific groups, past research has not specifically addressed unemployment benefits. Nelson (2012) discovered that unemployed individuals do have a lower risk of material deprivation and benefit more from higher rates of social assistance. Conversely, studies that have applied the more general concept of 'social expenditures' determined that employed persons benefit from higher expenditures to a greater extent than unemployed persons (Saltkjel and Malmberg-Heimonen 2017).

As described, unemployment benefits have a de-commodifying effect because they lower labour-market dependency, which directly affects the financial resources of the poor. However, these benefits also have an indirect de-commodifying effect. Higher welfare generosity provides a more secure perspective and reduces financial risks for the unemployed poor. People can rely on a welfare state when they experience a phase of economic uncertainty and can count on state support if needed. They are less likely to assume that they have to lower their living standard in times of uncertainty (Visser *et al.* 2014). This feeling of security is also valid for employed poor individuals as they can rely on higher replacement rates. Considering that jobs among the poor are widely characterized as precarious, de-commodification can serve as a strong factor to prevent the material deprivation of the employed poor. However, we expected the de-commodifying effect of unemployment benefits to be higher for the target group, that is, the unemployed poor: *Countries with generous welfare programmes and support for the unemployed show smaller differences in material deprivation between employed and unemployed poor individuals (H3.1).*

Active labour market policies

Labour market activation in the form of rehabilitation measures, training programs and employment incentives focuses on improving individuals' employability and aims to accelerate their labour market (re-)integration (Valkenburg 2007). However, the general success of activation policies – measured by the securement of a (new) job – differs across recipients. Short-term unemployed individuals benefit more from activation measures than long-term unemployed and low-educated individuals (Konle-Seidl and Eichhorst 2008). This finding is also crucial regarding the impact of active labour market policies (ALMPs) on material deprivation. If activation policies promote a selection between 'better-off' unemployed persons, who are benefitting by finding a job, and 'worse-off' persons, who are continuously staying unemployed, the deprivation gap between the employed and unemployed poor should increase as long-term unemployed individuals face very high levels of material deprivation. The previous assumptions refer to a possible selection within the group of the unemployed poor because of activation policies. However, there is also a possible selection within the group of the employed poor. The impact of activation policies is difficult to predict because it depends on the interplay between different activation strategies and the 'value' of jobs created through activation. If activation policies bring

the previously unemployed into jobs that come with material and social benefits that are unavailable to those who are unemployed, the living standard gap should further increase. On the contrary, there is also support for the assumption that the activation policies implemented in European welfare states in recent decades are more likely to focus on reducing unemployment at any cost rather than improving individuals' capacity to ensure quality employment (Gilbert 2005). If this is the case, increasing activation policy measures should decrease the living standard gap among the employed and unemployed poor. This complex interplay could be one reason why Nelson (2012) – whose study is thus far the only one to have focused on this issue – concluded that activation policies seem to have at least no direct effect on material deprivation.

We followed the argument of Gilbert (2005), who identified the focus of ALMPs on reducing unemployment at any cost. Thus, we assumed the following outcome: *Countries with higher expenditures on active labour market policies show smaller differences in material deprivation between employed and unemployed poor individuals (H3.2).*

Labour market regulations: eligibility criteria for unemployment benefits

In addition to efforts to financially protect unemployed persons via benefits and activation measures, states have established unemployment and labour market regulations. To develop our hypothesis regarding the impact of these regulations on the deprivation gap among the poor, we considered the theoretical framework of Giugni *et al.* (2009), who differentiated between the rights and obligations associated with being unemployed. Rights define who is eligible for benefits. They can be universal or selective; the *degree of selection* refers to whether the eligibility criteria are inclusive or exclusive. Obligations establish conditions for those who are eligible. The strength of obligations sets the requirements that unemployed individuals have to meet to remain eligible.

The configuration of unemployment regulations exerts constraints on both the employed and the unemployed (Giugni *et al.* 2009). If unemployment regulations are inclusive, then individuals' access to benefits is not restricted and those who are unemployed do not have to fulfil burdensome requirements to maintain eligibility. Furthermore, the unemployed and employed can rely on a stable safety net. Inclusive regulations have a de-commodifying effect for the employed. Conversely, if regulations are exclusive, with restrictive access and strict obligations,

the constraints on the employed and unemployed are very high. Exclusive regulations reduce the possibility of taking into account phases of unemployment as a reasonable option. To the best of our knowledge, previous studies have not analyzed the impact of different degrees of unemployment regulations on living standards.

Although strict unemployment regulations exert constraints on both employed and unemployed persons, we assume that the living standard of the unemployed is more directly affected. The violation of strict obligation rules immediately results in a reduction in benefits, with a resounding effect on the standard of living. Thus, we developed the following hypothesis: *Strict eligibility criteria for unemployed individuals increase the deprivation gap among the poor since the risk level is higher, especially for the unemployed poor (H3.3).*

3. Data and methods

3.1. Sample

We analyzed the level of material deprivation across countries in a multi-level perspective using the European Union Statistics on Income and Living Conditions (EU-SILC 2015).[2] We also referred to macro data on economic conditions and institutional characteristics from sources such as the OECD and Eurostat. Because of a lack of macro indicators, we had to exclude six countries (Romania, Bulgaria, Malta, Cyprus, Iceland and Switzerland) from our analysis. Compared to EU-28 and EFTA countries, on average, our sample (n = 25) was characterized by a slightly larger population and higher GDP. To check for potential biases stemming from these differences as well as for further robustness checks, we conducted additional analyses with a larger country sample (n = 28), which we report in sections 4 and 5. In total, our sample contained observations on 197,336 individuals aged 18–64 years. The size of the country samples ranged from 3,942 observations in Luxembourg to 14,661 in Italy.

3.2. Measures

We used the modified material deprivation indicator proposed by Guio *et al.* (2016), which combines into an unweighted additive index 13

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items that a household or its members cannot afford but would like to have: some new clothes, two pairs of shoes, some money for oneself, leisure activities, monthly drinks or meals, replacements for worn-out furniture, a meal with meat, chicken or fish (or vegetarian equivalents), the ability to face unexpected expenses, keeping the home adequately warm, a one-week annual holiday away from home, avoiding arrears, a computer or internet and a personal car.[3] This indicator is strongly reliable in every European country; overall, the countries' Cronbach's alpha is 0.85. A high degree of index reliability within countries is particularly important in cross-country studies.[4] Although this limits our ability to compare our results to that of previous studies (e.g. Bárcena Martín *et al.* 2014; Saltkjel and Malmberg-Heimonen 2017), we regard the use of a more robust indicator of material deprivation as one of the strengths of our study. Guided by our main research question, we differentiated between four groups (employed/not poor, employed/poor, not employed/not poor, not employed/poor) according to their employment and income poverty status to analyze the hypothesized moderating effect of employment on the relationship between income poverty and material deprivation. *Income poverty* is defined as the condition of having an equivalised disposable household income (using the modified OECD scale) below the at-risk-of-poverty threshold, which is set at 60% of the national median. Income data were collected annually and cover an income reference period of 12 months (usually the year before the survey). *Non-employment* includes the unemployed and persons actively looking for a job. Inactive individuals were excluded from the study. Self-employed persons were also excluded because of common problems with the measurement of their income (e.g. Pissarides and Weber 1989).[5]

Considering that current employment and poverty statuses provide only a snapshot of the factors that lead to material deprivation, we

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[3]Since 2017, the EU has been using both indicators for social policy reporting, while referring to the modified indicator as material and social deprivation. Social dimensions have been added, but each item is still an enforced lack due to financial reasons. Guio *et al.* (2016) referred to the index as material deprivation.

[4]According to Guio *et al.* (2016), another advantage of this high index reliability is that the inclusion of different weights does not provide additional information. Thus, an equal weighting approach is appropriate.

[5]This comes at the price of excluding a larger share of the working population in countries with higher shares of self-employment (in particular, Greece, Italy and Poland). It is difficult to determine how this affects the comparability of the results across countries and their generalizability. We would argue that non-monetary and social benefits are even more relevant in the case of self-employment, which would lend support to our hypotheses on the relationship between employment and material deprivation. However, as there are very different types of self-employment (e.g. solo-self-employed, small business owners, professionals, entrepreneurs), potential outcomes are very hard to predict. This would necessitate an analysis with a specific focus on the self-employed.

included additional indicators. One indicator of previous unemployment measures is whether a person was unemployed for at least one month during the year before the survey, which aims to capture the employment insecurity of the currently employed and recurrent unemployment. To control for the relative income position in order to capture income gaps within the poor or non-poor groups, we included a person's household income divided by the national median. Additionally, we used information on income from interests, dividends, profits from capital investment and rental of a property as a proxy for savings. Since 71% of the income poor in our sample have no savings or assets, we use a simple dichotomous variable (yes or no) for whether or not a person has savings. Including variables on the relative income position and savings, we can narrow down potential sources of the gap in material deprivation between the unemployed and employed poor. If the deprivation gap among the poor persists after controlling for income and savings, we interpret this as evidence that the non-monetary benefits of employment lower material deprivation.[6] Further, we included other individual- and household-level control variables: the number of household members with earnings, the level of education, marital status, sex, household size, age and age squared. Tables A1 and A2 in the Appendix provide further details on all micro- and macro-level variables.

Our selection of macro-level variables describes the economic conditions and different dimensions of a country's institutional framework. The GDP (at current prices and purchasing power parity) and the standardized unemployment rate served as indicators of economic conditions. A country's focus on activation policies was measured using active labour market expenditures (as a percentage of GDP) and an OECD indicator for the strictness of eligibility criteria (Langenbucher 2015). The OECD index included items such as demands regarding occupational mobility, the documentation of job searches and sanctions for refusals of job offers. While the former items provide an overall measure of activation efforts, the latter specifically captures policies and sanctions that aim for a quick re-entry of the unemployed into the labour market. To analyze the effect of labour market regulations, we also estimated models using the OECD's employment protection legislation (EPL) indicators on dismissals and temporary employment

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[6]We rely on the assumption that the income measure captures all types of monetary income. However, although EU-SILC's income concepts are comprehensive – e.g. earnings from employment are defined as gross employee cash or near-cash income –, we cannot rule out that non-standard income components are not fully captured.

(Table A4, Appendix). Since the implementation did not lead to robust estimates, we will not discuss these results here. When controlling for the unemployment rate, expenditures on social protection benefits for the unemployed reflect the level of income security in the case of unemployment (see Table A1 for details on data sources).

3.3. Method and analytic strategy

Our data have a two-level structure with individuals nested into countries. We estimated the macro-, micro- and cross-level effects. We were specifically interested in the interaction between institutional characteristics and the level of material deprivation of poor employed and unemployed individuals. To take into account the violation of the assumption of error independence across observations due to the hierarchical data structure, we estimated random intercept models (see, e.g. Snijders and Bosker 2012). We use restricted maximum likelihood estimators as they are more robust than maximum likelihood estimators in a multilevel setting with few clusters (Elff *et al.* 2021). The error term of a random-intercept model contains a unit-specific random component u_i, that captures country-specific unobserved characteristics. If the assumptions that u_i are independent and identically distributed hold, the random-intercept model will yield unbiased and efficient estimates. The random-intercept model provides separate estimates of country- and person-level variance. The intraclass correlation *rho* indicates that the country-level variance is a fraction of the total variance.[7]

Bryan and Jenkins considered random coefficient models the 'natural choice' (2016: 6) if researchers are interested in the effects of country-level variables and variance decomposition across levels. However, they also stressed that estimates are sensitive to the violation of assumptions. These are likely to occur when random coefficient models are applied to small country samples. We used a sample of 25 countries, which is considered the minimum to obtain sufficiently accurate estimates (ibid: 19). As an alternative Jenkins and Bryan (ibid: 6 and supplementary materials) refer to two-step models. In their discussion of these models they stress the potential for graphical analysis. We have estimated two-step models and used these to identify outliers at the country level that could bias the cross-level interaction results. Furthermore, we also perform random slope models to check whether our results are robust

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[7]$\rho = \tau_0^2/(\sigma^2 + \tau_0^2)$, while τ_0^2 is the residual variance of the country, and σ^2 is at the individual level.

when considering the variance in the slope (Heisig and Schaeffer 2019). In addition, we estimated additional models including random slopes for control variables that differ significantly across countries, as not considering these slopes can lead to biased results (Heisig *et al.* 2017). However, due to the risk of over-specification in random slope models (Matuschek *et al.* 2017) and mostly consistent results regarding the relevant cross-level interactions, we report in the following the results of the less complex random intercept models.[8] We discuss the results of the two step and random slope models in in section 4.4 in more detail.

To test our hypotheses, we estimated a total of 50 random intercept models. We estimated linear models assuming that the deprivation variable can be interpreted as a metric variable.[9] Regarding the cross-level hypotheses, we integrated the macro variables into the models both individually and under control of the GDP and unemployment rate. To reduce complexity, we present the results of the macro- and cross-level in figures rather than tables. We used coefficient plots to visualize the main effects (Figures 3 and 4) and scatterplots for the predicted values at the macro level (Figure 4). For replication of the results, we have made our Stata code available online (Wolf *et al.* 2022).

4. Results

4.1. Descriptive findings

Figure 2 shows the variation in the level of material deprivation across the countries in our sample. In Greece, across all groups, a total of 4.2 items out of 13 are missing. In Norway, 0.4 items are absent. Across all countries and groups, 1.9 items are not present. With an average range of 3.8 missing items and an even higher range (5.3) in the employed poor group, we find considerable variation in the level of material deprivation across Europe. As expected, the employed are less deprived than the unemployed. We find this result for the poor as well as for the non-poor. On average, the deprivation gap between the employed and unemployed is comparable (2.2 among the poor and 2.0 items among

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[8]The direction of the effect remains the same for all cross-level interactions and the strength varies only slightly for the majority of the coefficients. Most of the coefficients in the random slope models become insignificant at the 5% level (see Table A6). Excluding the outliers identified in the two-step models leads to significant effects for most of the coefficients in the random slope models (see Table 3). We discuss this in more detail in section 4.4.

[9]For robustness checks, we estimated additional logit models, which provide results that only marginally differed from the results of the OLS models. For ease of interpretation, we report the results of the latter models (see Tables A3 and A4, Appendix).
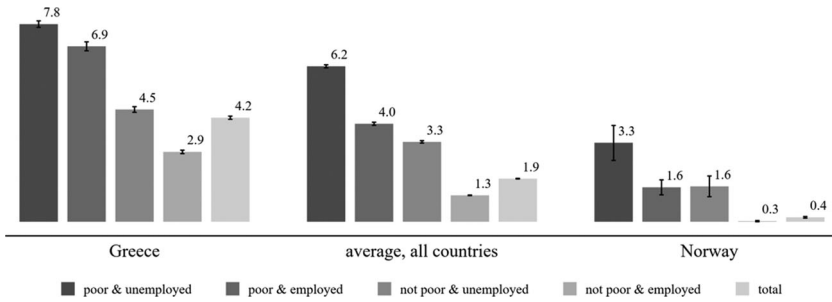
Figure 2. Level of material deprivation in countries with the highest deprivation (Greece: 4.2) and the lowest (Norway: 0.4) deprivation, as well as in the sample average.

the non-poor, respectively). However, as the example of Greece shows, in some countries, the gap is smaller for the poor. In absolute and relative terms, the unemployed poor are the most deprived, while employed poor and unemployed non-poor individuals exhibit a similar level of deprivation. Employed non-poor persons experience the lowest level of deprivation by far. The share of the subgroups also varies by country. While 91% of Norwegians are employed and not poor, only 58% of the population in Greece belongs to this most advantaged subgroup.

Regarding our macro-level variables, it is clear that in countries with lower unemployment rates, material deprivation is also lower. In countries where the GDP per capita and/or social protection benefits for the unemployed are higher, material deprivation seems to be lower as well. Overall, no clear general pattern concerning the relationship between material deprivation and other macro variables can be deduced from the descriptive statistics. For further descriptive statistics, see the Appendix (Tables A1 and A2)

4.2. At the micro level

Table 1 displays the results of estimated random-intercept multilevel linear regressions of material deprivation, taking poverty, employment status and additional household characteristics into account. Models at the micro level (M1–M4) include the relevant four subgroups – poor and unemployed as the reference group, poor and employed, non-poor and unemployed and non-poor and employed. Differences in material deprivation are crucial and conform with our first hypothesis. Regarding the four subgroups in M1, employed poor persons are less deprived than

Table 1. Random intercept multilevel linear regressions of material deprivation (0-13) on poverty and employment status and additional household characteristics.

	M1	M2	M3	M4
Poverty and employment status (ref: poor & unemployed):				
poor & employed	−1.85***	−1.75***	−1.38***	−1.34***
	[0.03]	[0.03]	[0.03]	[0.03]
not poor & unemployed	−2.90***	−2.22***	−2.18***	−2.03***
	[0.03]	[0.03]	[0.03]	[0.03]
not poor & employed	−4.44***	−3.45***	−3.00***	−2.74***
	[0.02]	[0.02]	[0.03]	[0.03]
relative income position (centred)		−0.43***	−0.42***	−0.31***
		[0.00]	[0.00]	[0.00]
savings available (1 = yes)		−1.01***	−1.01***	−0.90***
		[0.01]	[0.01]	[0.01]
unemployed last year (1 = yes)			0.54***	0.49***
			[0.02]	[0.02]
Other earning household members (ref: no earning hh. member):				
one				−0.27***
				[0.01]
two and more				−0.40***
				[0.02]
Education (ref: low education):				
medium education				−0.71***
				[0.01]
high education				−1.15***
				[0.01]
Marital status (ref: unmarried):				
married				−0.34***
				[0.01]
divorced/widowed				0.34***
				[0.02]
Sex (1 = male)				−0.06***
				[0.01]
Household size (centred)				0.40***
				[0.01]
Age (centred)				0.01**
				[0.00]
Age (sq.)				−0.00
				[0.00]
Constant	5.83***	5.45***	4.97***	5.96***
	[0.19]	[0.15]	[0.15]	[0.17]
var(τ_0^2)	0.88	0.57	0.56*	0.53*
	[0.25]	[0.16]	[0.16]	[0.15]
var(σ^2)	4.77***	4.30***	4.28***	4.08***
	[0.02]	[0.01]	[0.01]	[0.01]
Observations	197,333	197,333	197,333	197,333

Notes: Unstandardized coefficients, standard errors in brackets, 25 countries, EU-SILC 2015.
*$p < 0.05$,
**$p < 0.01$,
***$p < 0.001$

unemployed poor persons by almost two items (−1.85), unemployed non-poor persons are less deprived by almost three items (−2.90), and employed non-poor persons are less deprived by more than four items (−4.44). This ranking changes only slightly when controlling for financial resources (M2), employment status the year before (M3) and

further household characteristics (M4). The main result of the full micro-level model (M4) is that the deprivation gaps narrow but the ranking of the subgroups stays the same. Further results regarding the impact of individual and household characteristics are in line with previous research. As seen in the results of M2 and M3, most of the gap reduction is attributable to relative income position, savings and employment status the year before. However, these models also show that the differences in current financial resources between the employed and unemployed poor are only of minor relevance, as there is little change in the respective coefficients from M1 to M2. The impact of previous unemployment is more relevant (M2 vs. M3). Still, also controlling for current financial resources, previous unemployment and other factors (M4), the employed are less materially deprived than the unemployed. The deprivation gap among non-poor individuals is 0.7 items (−2.03 vs. −2.74); among the poor, it is approximately half an item larger (1.34). Thus, in line with H2, we conclude that the employed poor have a lower level of material deprivation than the unemployed poor, even when controlling for relative income position and savings. This result suggests that the non-monetary benefits of employment play a role in lowering material deprivation.

4.3. At the macro level

We argued that the relationship between poverty, employment and material deprivation varies according to economic and institutional factors. Table 2 shows the unexplained (residual) and explained variance (R^2) of our individual and household (both micro-level) variables and contextual (macro-level) variables. The intraclass correlation is 0.171, indicating that country differences can explain 17.1% of the variance in material deprivation. The individual and household variables we used substantially reduce the unexplained variance at the individual and country levels. Following Snijders and Bosker (2012), the micro model explains 38% of the variance at the micro level and 58% at the country level. A macro model that includes all of our macro variables explains 53% of the variance at the country level. All micro and macro variables together explain 40% of the variance at the individual level and 76% of the variance at the country level.[10]

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[10]In the appendix, Table A5 describes the variance at the macro level in more detail. The GDP and unemployment rate explain most of the variance at the macro level; eligibility criteria and social protection expenditures for the unemployed follow.

Table 2. Unexplained and explained variance of null-, micro-, macro- and full models on micro-level (Level 1) and macro-level (Level 2).

	Null model	Micro model	Macro model	Full model
Random effects parameters:				
Residual variance level 1	6.13	4.08	6.13	4.08
Residual variance level 2	1.27	0.53	0.59	0.30
Snijders/Bosker R^2:				
Micro level (Level 1)		0.38 (0.34)	0.09 (0.00)	0.40 (0.34)
Macro level (Level 2)		0.58	0.53	0.76

Notes: The micro model contains all micro variables; the macro model contains all macro variables. The full model contains all micro and macro variables. Bryk/Raudenbush R^2 (1992) is reported in brackets if it differs from Snijders/Bosker R^2 (1999/2012). 25 countries, EU-SILC 2015.

Regarding our hypotheses at the macro and cross levels, we focus on the results for the poor population. Figure 3 shows the unstandardized regression coefficients for social protection expenditures for the unemployed, ALMPs, eligibility criteria, GDP and unemployment rate. Positive coefficients can be read as an increase, while negative coefficients point to a decrease in material deprivation. We estimated models with and without controls for financial resources at the micro level (relative income position, savings) to show whether macro influences act through higher financial resources or other factors. The additional control variables at the macro level (GDP and unemployment rate) result in the estimation of seven models per variable. The results are presented in the order in which we introduced our hypotheses.

According to our results, higher expenditures on social protection for the unemployed do not decrease the level of material deprivation for all groups. The relevant macro coefficient is, as expected, negative – but insignificant.[11] However, with the cross-level interactions, we find evidence that higher expenditures lower the material deprivation of the poor, and in particular of the unemployed poor. Countries with generous welfare programmes and support for the unemployed show smaller differences in material deprivation between the employed and unemployed poor (H3.1). In other words, the deprivation gap among the poor lessens when those who are unemployed receive more support.

We observed a similar pattern for ALMPs. Specifically, higher expenditures on ALMPs do not significantly decrease material deprivation for all groups. However, for the unemployed poor in particular, higher ALMP expenditures result in lower levels of material deprivation, and

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[11]This effect proved significant when we included Bulgaria, Cyprus and Romania in our analysis (N = 28). As mentioned, we had to exclude these countries due to missing data on labour market regulations. This is also valid for the ALMP results.
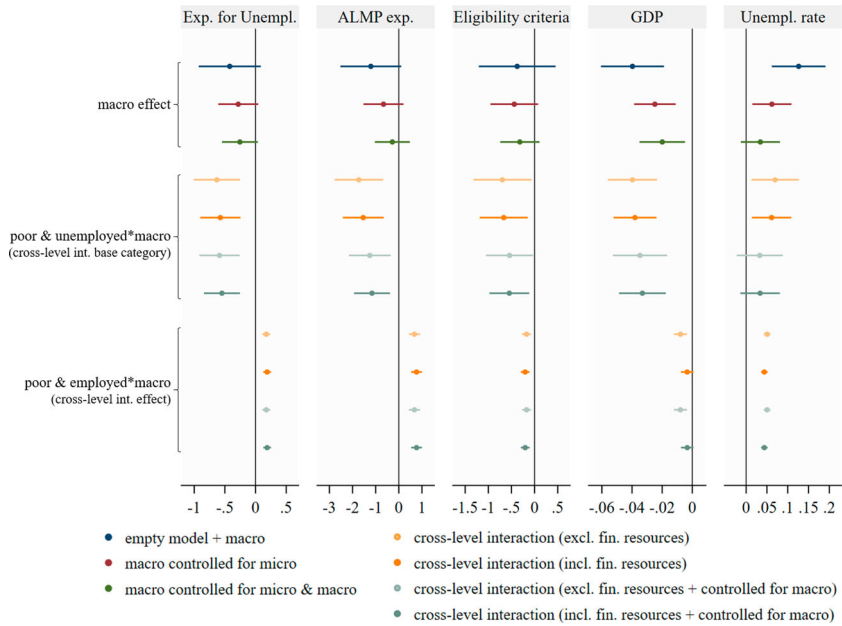
Figure 3. Random intercept multilevel linear regressions of material deprivation (0-13) on social protection expenditures for unemployed individuals, active labour market policy expenditures, eligibility criteria, GDP per capita and unemployment rate.
Note: Dots represent unstandardized coefficients, lines represent 95% confidence intervals and colours represent different models (25 countries, EU-SILC 2015).

the gap among the poor is reduced, as expected in H3.2. Furthermore, stricter eligibility criteria for unemployment benefits reduce the material deprivation of the poor in general and increase the deprivation gap because they benefit the employed poor. A gap increase among the poor was expected (H3.3). Nonetheless, a general reduction effect on material deprivation was not foreseen. Figure 3 also reveals that the varying impact on deprivation among the poor is not ascribable to financial resources, as there are no differences between the models excluding and including individual financial resources in the analysis.

In line with previous research, a higher GDP corresponds with a lower level of material deprivation. The main effect decreases when controlling for individual and household characteristics. The cross-level interaction between poverty and employment status and the GDP shows that employed poor persons benefit more from a higher GDP than unemployed poor persons, as the interaction effect of the employed poor is negative. However, the effect becomes insignificant when controlling for financial resources. Additionally, a higher unemployment rate

corresponds with a higher level of material deprivation in general. Yet by controlling for GDP, the effect becomes insignificant. In contrast to the results for the GDP, poor employed persons are more affected than poor unemployed individuals, as the interaction effect is positive. In other words, higher unemployment rates in particular influence the living standard of the employed poor and should reduce the deprivation gap among the poor population.

As a summary, Figure 4 illustrates the cross-level interactions between poverty and employment status and our macro variables via marginal effects for all four subgroups, i.e. the employed and unemployed poor as well as the employed and unemployed non-poor. The level of material deprivation (0–13) is shown on the vertical axis and the distribution of our macro variables at the country level appears on the horizontal axis.

The gap reduction among the poor associated with higher ALMP and social protections expenditures for the unemployed is clearly visible.
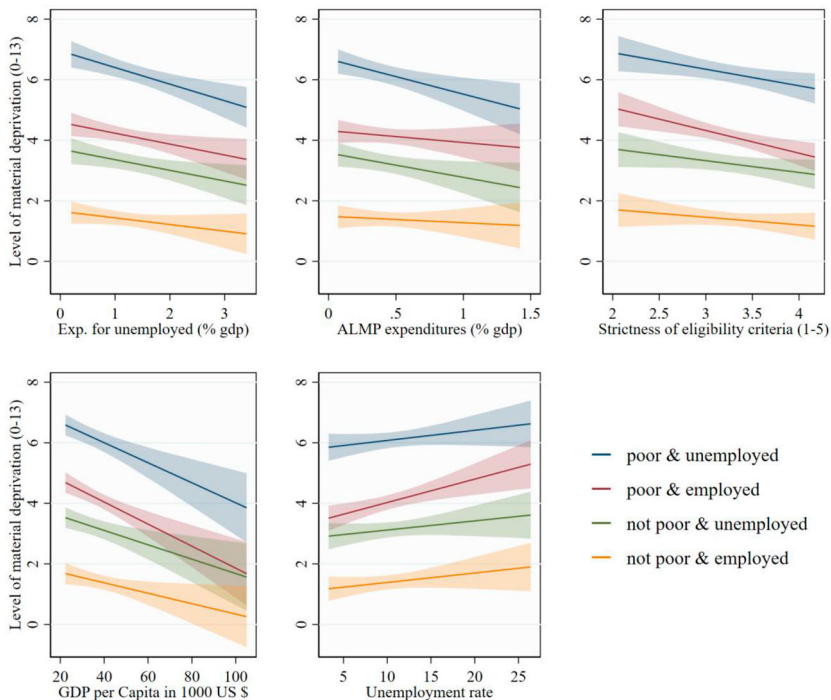

Figure 4. Random intercept multilevel linear regressions of material deprivation (0-13) on social protection expenditures for unemployed individuals, active labour market policy expenditures, strictness of eligibility criteria, GDP and unemployment rate (control variables included). Visualization of predicted values (25 countries, EU-SILC 2015).

While in a country with ALMP expenditures at the level of UK's (0.07% of GDP), the deprivation gap among the poor is 2.3 items, in a country with ALMP expenditures at the level of Denmark's (1.42% of GDP), it is of one fewer item (1.3 items). This gap reduction is visible not only in absolute terms but also in relative terms. Nevertheless, we see this pattern among non-poor individuals as well, especially regarding ALMPs. While all subgroups benefit from higher ALMP and welfare generosity toward the unemployed, the unemployed benefit more than the employed among the poor and the non-poor. Stricter eligibility criteria increase the deprivation gap among the poor while it remains similar among the non-poor.

Regarding the GDP, we see no gap reduction among the poor but a clear change when comparing the employed poor and the unemployed non-poor. In a country with a GDP at the level of Croatia's (around 22 thousand US $ per capita), the deprivation gap is almost 1.2 items. However, in a country with a GDP at the level of Luxembourg's (around 105 thousand US $ per capita), these groups (the employed poor and unemployed non-poor) are nearly on the same level of material deprivation (0.1 items). An almost similar pattern is observed with a lower unemployment rate. Yet, a lower unemployment rate increases the gap among the poor. For both the unemployed and employed poor, deprivation rates are lower in a country with low overall unemployment. However, poor individuals who are employed profit even more in terms of their living standard than the unemployed poor.

4.4. Robustness checks and limitations

Our analysis has strengths and limitations that should be considered when interpreting its results. First and foremost, we analyzed the intensity of material deprivation and whether or not persons are materially deprived. In addition to the simpler interpretation of the results, this is above all a decision related to content, since we wanted to focus on the gap in deprivation levels. However, to check the robustness of our results, we also performed the analyses with a dichotomous variable of material deprivation in the linear and logistic multilevel models. The results for the micro level are shown in Table A3, and the results for the macro- and cross-level interactions are presented in Table A4 (25 countries) in the Appendix. The threshold at which a person is considered deprived is five items or more. At the micro level, the results are very similar in terms of signs and significance. Only two control

variables (age and two or more household members) become insignificant when the models are calculated with the binary operationalization of material deprivation. The effects at the macro level are also very similar; this is the case as well for the cross-level interactions of the two linear models. In the logistic model, stronger deviations regarding cross-level interactions are present, although only two out of 28 cases (three in the control of financial resources) show a significant effect reversal.

Because of missing data on labour market regulation variables, we had to exclude Bulgaria, Cyprus and Romania from our analysis. We also conducted additional analyses with a larger country sample (N = 28) to check the robustness of our cross-level results for the other macro variables. All cross-level effects remain the same with a larger country sample for the macro variables of ALMP, social expenditures for the unemployed, GDP and unemployment rate. Our results regarding the labour market regulation variables must be treated with caution. First, regarding eligibility criteria, estimating the models with a larger country sample results partly in insignificant coefficients. Furthermore, eligibility criteria, as well as the EPL indicators, does not contribute to the variance explanation at the country level (see Table A5 in the Appendix).

As mentioned in section 3.3, we also performed extensive robustness checks by estimating additional two step and random slope models. First, we ran random slope models with slopes for poverty and employment status, the cross-level interaction effects are shown in Table A6 in the appendix. The effects are similar in strength to those of the random intercept models, and the signs of the effects all match. However, many effects become insignificant. Interpreting these results, we should keep in mind that the adding random slopes increases the number of parameters to be estimated. Hence, while leaving out random slopes may result in biased estimates, adding them may come at the risk of overspecification as the number of observations at the country level is limited. A conservative interpretation of the results seems advisable. Next, we estimated two step models, the results are presented in coefficient plus residuals plots in the appendix in Figures A1–A5 The graphical display of the results of the two-step models reveal that country outliers exist that could bias our models. We identified Belgium on expenditure for the unemployed (Fig. A1), Denmark on ALMP (Fig. A2), Hungary on eligibility criteria (Fig. A3), Luxembourg on GDP (Fig. A4) and Spain and Greece on unemployment rates (Fig.

A5). To assess potential bias we estimated a number of additional models. Table 3 contains a selection of these models and shows how excluding outliers and addition random slopes affects the robustness of our results.[12] Excluding the country outliers does not change the effects with respect to the random intercept models. However, in the random slope models, further cross-level interactions regarding expenditures for the unemployed, ALMP and GDP become significant in the expected direction. Most remain significant when additional slopes of control variables which differ significantly across countries (sex, married, age, age squared) are taken into account.

5. Discussion and conclusion

Our paper focused on the standard of living among the poor population across Europe. It is well known and reflected in our results that financial shortcomings cause material deprivation. However, our starting point was the question of whether employment makes a difference: Are the employed poor a privileged group in terms of living standards compared to the unemployed poor? We argued that the answer to this question varies according to the economic and institutional settings of European welfare states, especially considering social protection schemes, labour market activation strategies and eligibility criteria for the unemployed. In other words, we offered insight into how these institutional conditions shape the living-standard gap between the employed and unemployed poor. This is especially decisive for an evaluation of the consequences of weak social protection and labour market policy schemes and for policies geared towards employment as the most important dimension of integration without taking into account job quality and safety.

Our analysis thus produced some valuable insights. Our results reflect the well-known fact that income and employment are crucial to understanding material deprivation. However, as employed poor individuals suffer less from material deprivation than unemployed poor individuals even when controlling for relative income position and savings, we can conclude that employment must make a difference other than through the provision of money. Fringe benefits offer one explanation. Furthermore, with employment, several mechanisms of social benefits are

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[12]For reasons of brevity, we do not present the random slope models of the labour market regulation variables here. As mentioned, they do not contribute significantly to the variance explanation and the cross-level results of the random intercept models cannot be replicated with random slope models.

Table 3. Robustness check of the cross-level coefficients considering the results of the two step models. Comparison of the reported random intercept models and random slope models where outliers on the macro level are excluded.

	reported RI models	RI models, outliers excluded	Random slope models				
			slopes:pov. & empl. status	slopes: pov. & empl. status + sex	slopes: pov. & empl. status + married	slopes: pov. & empl. status + age	slopes: pov. & empl. status + age sq.
Soc. Prot. exp. for unempl. (% GDP)	−0.59***	−0.69***	−0.76*	−0.75*	−0.78*	−0.77*	−0.70[+]
ref: poor & unemployed # unempl. exp.	[0.17]	[0.19]	[0.37]	[0.37]	[0.38]	[0.37]	[0.40]
poor & employed # unempl. exp.	0.17***	0.21***	0.17	0.17	0.15	0.17	0.17
	[0.03]	[0.03]	[0.15]	[0.15]	[0.15]	[0.15]	[0.15]
not poor & unemployed # unempl. exp.	0.13***	0.24***	0.25[+]	0.25	0.24	0.24	0.24
	[0.03]	[0.03]	[0.15]	[0.15]	[0.15]	[0.15]	[0.15]
not poor & employed # unempl. exp.	0.24***	0.40***	0.46*	0.46*	0.43[+]	0.46*	0.46*
	[0.02]	[0.03]	[0.23]	[0.23]	[0.22]	[0.23]	[0.23]
Observations	197,333	192,097	192,097	192,097	192,097	192,097	192,097
Exp. on Active labour market policies	−1.25**	−1.13*	−1.34	−1.34	−1.36	−1.34	−1.33
ref: poor & unemployed # Exp. on ALMP	[0.46]	[0.50]	[0.98]	[0.97]	[1.02]	[0.98]	[1.05]
poor & employed # Exp. on ALMP	0.68***	1.07***	0.79*	0.79*	0.76[+]	0.82*	0.81*
	[0.12]	[0.13]	[0.39]	[0.39]	[0.39]	[0.39]	[0.40]
not poor & unemployed # Exp. on ALMP	0.35**	0.46***	0.85*	0.85*	0.82*	0.84*	0.83*
	[0.11]	[0.12]	[0.42]	[0.42]	[0.41]	[0.42]	[0.42]
not poor & employed # Exp. on ALMP	1.01***	1.15***	1.51*	1.51*	1.44*	1.50*	1.50*
	[0.10]	[0.10]	[0.65]	[0.65]	[0.62]	[0.64]	[0.65]
Observations	197,333	191,422	191,422	191,422	191,422	191,422	191,422

(*Continued*)

Table 3. Continued.

	reported RI models	RI models, outliers excluded	Random slope models				
			slopes:pov. & empl. status	slopes: pov. & empl. status + sex	slopes: pov. & empl. status + married	slopes: pov. & empl. status + age	slopes: pov. & empl. status + age sq.
GDP per capita ref: poor & unemployed # GDP	−0.03*** [0.01]	−0.06*** [0.01]	−0.07** [0.02]	−0.07** [0.02]	−0.08** [0.03]	−0.07** [0.02]	−0.07* [0.03]
poor & employed # GDP	−0.01*** [0.00]	−0.02*** [0.00]	−0.01 [0.01]	−0.01 [0.01]	−0.01 [0.01]	−0.01 [0.01]	−0.01 [0.01]
not poor & unemployed # GDP	0.01* [0.00]	0.02*** [0.00]	0.02* [0.01]	0.02+ [0.01]	0.02+ [0.01]	0.02+ [0.01]	0.02+ [0.01]
not poor & employed # GDP	0.01*** [0.00]	0.03*** [0.00]	0.04* [0.02]	0.04* [0.02]	0.03* [0.01]	0.04* [0.02]	0.04* [0.02]
Observations	197,333	193,391	193,391	193,391	193,391	193,391	193,391
Unemployment rate age class 20–64 ref: poor & unemployed # Unempl. rate	0.03 [0.03]	0.05 [0.04]	0.07 [0.09]	0.06 [0.09]	0.07 [0.10]	0.06 [0.09]	0.06 [0.10]
poor & employed # Unempl. rate	0.05*** [0.00]	0.09*** [0.01]	0.04 [0.03]	0.04 [0.03]	0.05 [0.03]	0.05 [0.03]	0.05 [0.03]
not poor & unemployed # Unempl. rate	−0.00 [0.00]	0.01 [0.01]	−0.03 [0.04]	−0.03 [0.04]	−0.03 [0.04]	−0.03 [0.04]	−0.03 [0.04]
not poor & employed # Unempl. rate	−0.00 [0.00]	−0.01 [0.01]	−0.06 [0.06]	−0.06 [0.06]	−0.05 [0.06]	−0.06 [0.06]	−0.06 [0.06]
Observations	197,333	173,943	173,943	173,943	173,943	173,943	173,943

Note: Excluded country outliers identified using two step models: Expenditures for unemployed: Belgium, Exp. on ALMP: Denmark, GDP: Luxembourg, Unemployment rate: Greece and Spain.
+$p < 0.1$,
*$p < 0.05$,
**$p < 0.01$,
***$p < 0.001$

present that may raise the standard of living. This could be related to increased opportunities for participation, a higher sense of integration as well as access to larger social networks that trigger living standard–enhancing effects. Moreover, and as if to underline these assumptions, although close, the statuses of poor but employed and not poor but unemployed make a difference in terms of living standards. Here, we suppose that household constellations and the related labour market participation of couples, for instance, might be crucial. Thus, future research should further explore this subject.

Our main focus was on the role of country contexts. In general, living in countries with a high GDP and extended social protection schemes with an intense labour market activation policy and less widespread unemployment corresponds with a higher standard of living. This is true for all of the groups we addressed in our analysis and repeats a well-known finding.

Regarding the poor, as expected in our hypotheses 3.1 and 3.2 expenditures on active labour market policies and on targeted social protection for the unemployed reduce the deprivation of the unemployed poor and narrow the gap between the different groups in poverty.[13] Therefore, employment as such is no longer as decisive for differences in the standard of living among the poor, particularly when welfare states focus on preventing unemployment and protecting the unemployed. Employed poor individuals profit the least from activation policies, which may lend credence to arguments against an activation policy that aims at labour market integration at all costs. However, future research could focus on ALMPs in more detail by differentiating between different activation policy measures. On the other hand, we can see that employed poor individuals tend to profit more from a higher GDP and a low general unemployment rate than unemployed poor individuals. Even in the face of relative income poverty, the high level of overall labour market participation and welfare reduces deprivation, especially for the employed poor. Our hypothesis on the impact of labour market regulations on the deprivation gap among the poor could not be confirmed. Our robustness checks have shown that these models with legislation-based macro indicators are significantly less robust than models with expenditure-based macro indicators.

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[13]We have to add that we find such a narrowing of the gap at the level of point estimates in all the models of our analysis. But as shown in Section 4.4 the respective coefficient on the group-specific influence of targeted social protection for the unemployed is not fully robust.

In summary, we can conclude that employment helps to raise the standard of living, even among the group that suffers from relative income poverty. Since it is not exclusively monetary mechanisms that are decisive, it is not surprising that a generally high level of welfare, expressed in a high GDP and low unemployment, underlines the value of employment per se. However, a policy that promotes integration into the labour market without taking into account the quality of jobs and working conditions devalues gainful employment in terms of maintaining a decent standard of living.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Atkinson, T., Cantillon, B., Marlier, E. and Nolan, B. (2002) *Social Indicators: The EU and Social Inclusion*, Oxford: Oxford Univ. Press.

Bárcena Martín, E., Lacomba, B., Moro-Egido, A. I. and Péréz-Moreno, S. (2014) 'country differences in material deprivation in Europe', *The Review of Income and Wealth: Journal of the International Association for Research in Income and Wealth* 60(4): 802–820.

Berthoud, R. and Bryan, M. (2011) 'Income, deprivation and poverty: a longitudinal analysis', *Journal of Social Policy* 40(1): 135–156.

Böhnke, P. (2008) 'Are the poor socially integrated? The link between poverty and social support in different welfare regimes', *Journal of European Social Policy* 18 (2): 133–150.

Böhnke, P. and Link, S. (2017) 'Poverty and the dynamics of social networks: An analysis of German panel data', *European Sociological Review* 33(4): 615–632.

Bourdieu, P. (1986) 'The forms of capital', in J. Richardson (ed.), *Handbook of Theory and Research for the Sociology of Education* 241–258, New York: Greenwood.

Bryan, M. L. and Jenkins, S. P. (2016) 'Multilevel modelling of country effects: A cautionary tale', *European Sociological Review* 32(1): 3–22.

Crettaz, E. (2015) 'Poverty and material deprivation among European workers in times of crisis', *International Journal of Social Welfare* 24(4): 312–323.

De Graaf-Zijl, M. and Nolan, B. (2011) 'Household joblessness and its impact on poverty and deprivation in Europe', *Journal of European Social Policy* 21(5): 413–431.

Dewilde, C. (2008) 'Individual and institutional determinants of multidimensional poverty: a European comparison', *Social Indicators Research* 86(2): 233–256.

Elff, M., Heisig, J., Schaeffer, M. and Shikano, S. (2021) 'Multilevel analysis with few clusters: improving likelihood-based methods to provide unbiased estimates and accurate Inference', *British Journal of Political Science* 51(1): 412–426.

Farnsworth, K. (2004) 'Welfare through work: An audit of occupational social provision at the turn of the new century', *Social Policy & Administration* 38(5): 437–455.

Figari, F. (2012) 'Cross-national differences in determinants of multiple deprivation in Europe', *Journal of Economic Inequality* 10(3): 397–418.

Gallie, D., Paugam, S. and Jacobs, S. (2003) 'Unemployment, poverty and social isolation: Is there a vicious circle of social exclusion?', *European Societies* 5(1): 1–32.

Gilbert, N. (2005) 'Protection to activation: the apotheosis of work', in P. Saunders (ed.), *Welfare to Work in Practice* 9–22, Aldershot, UK: Ashgate.

Giugni, M., Berclaz, M. and Fuglister, K. (2009) 'Welfare states, labour markets, and the political opportunities for collective action in the field of unemployment: A theoretical framework', in M. Giugni (ed.), *The Politics of Unemployment in Europe: Policy Responses and Collective Action* pp. 133–149, Farnham: Ashgate.

Guio, A.-C., Marlier, E., Gordon, D., Fahmy, E., Nandy, S. and Pomati, M. (2016) 'Improving the measurement of material deprivation at the European Union level', *Journal of European Social Policy* 26(3): 219–333.

Halleröd, B., Larsson, D., Gordon, D. and Ritakallio, V.-M. (2006) 'Relative deprivation: a comparative analysis of Britain, Finland and Sweden', *Journal of European Social Policy* 16(4): 328–345.

Hauser, R., Nolan, B., Morsdorf, C. and Strengmann-Kuhn, W. (2000) 'Unemployment and poverty: change over Time', in D. Gallie and S. Paugam (eds.), *Welfare Regimes and the Experience of Unemployment in Europe* pp. 25–46. Oxford: Oxford University Press.

Heisig, J. P. and Schaeffer, M. (2019) 'Why you should *always* include a random slope for the lower-level variable involved in a cross-level Interaction', *European Sociological Review* 35(2): 258–279.

Heisig, J. P., Schaeffer, M. and Giesecke, J. (2017) 'The costs of simplicity: Why multilevel models may benefit from accounting for cross-cluster differences in the effects of controls', *American Sociological Review* 82(4): 796–827.

Horemans, J., Marx, I. and Nolan, B. (2016) 'Hanging in, but only just: part-time employment and in-work poverty throughout the crisis', *IZA Journal of European Labor Studies* 5(5): 1–19.

Israel, S. (2016) 'More than cash: societal influences on the risk of material deprivation', *Social Indicators Research* 129(2): 619–637.

Israel, S. and Spannagel, D. (2018) 'Material deprivation in the EU: a multi-level analysis on the influence of decommodification and defamilisation policies', *Acta Sociologica* 19: 1–22.

Kenworthy, L., Epstein, J. and Duerr, D. (2011) 'Generous social policy reduces material deprivation', in L. Kenworthy (ed.), *Progress for the poor* pp. 33–39. Oxford: Oxford Univ. Press.

Konle-Seidl, R. and Eichhorst, W. (2008) 'Does activation work?', in W. Eichhorst, O. Kaufmann and R. Konle-Seidl (eds.), *Bringing the Jobless Into Work?* pp. 415–443. Berlin, Heidelberg: Springer.

Langenbucher, K. (2015) 'How demanding are eligibility criteria for unemployment benefits, quantitative indicators for OECD and EU countries', *OECD Social, Employment and Migration Working Papers, No. 166*, Paris: OECD Publishing.

Layte, R., Maître, B., Nolan, B. and Whelan, C. T. (2001) 'Persistent and consistent poverty in the 1994 and 1995 waves of the European Community Household Panel Survey', *The Review of Income and Wealth: Journal of the International Association for Research in Income and Wealth* 47(4): 427–449.

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., Groh-Samberg, O., et al. (2018) 'Erwerbsarbeit, Einkommensarmut und materielle Deprivation. Entwicklung der Trennlinien zwischen Erwerbstätigen und nicht-Erwerbstätigen', in M. Giesselmann (ed.), *Lebensbedingungen in Deutschland in der Längsschnittperspektive* pp. 233–249. Wiesbaden: Springer VS.

Lohmann, H. and Marx, I. (eds.). (2018). *Handbook on in-Work Poverty*, Cheltenham: Edward Elgar.

Mack, J. and Lansley, S. (1985) *Poor Britain*, London: Allen & Unwin.

Matuschek, H., Kliegl, R., Vasishth, S., Baayen, H. and Bates, D. (2017) 'Balancing type I error and power in linear mixed models', *Journal of Memory and Language* 94: 305–315.

May, M. and Brunsdon, E. (2007) 'Occupational Welfare', in M. Powell (ed.), *Understanding the Mixed Economy of Welfare* pp. 149–176, Bristol: Policy Press.

Nelson, K. (2012) 'Counteracting material deprivation: the role of social assistance in Europe', *Journal of European Social Policy* 22(2): 148–163.

Nolan, B. and Whelan, C. T. (2011) *Poverty and Deprivation in Europe*, Oxford: Oxford University Press.

Notten, G. and Guio, A. C. (2016) 'The impact of social transfers on income poverty and material deprivation', *ImPRovE Working Paper N°16/17*. Antwerp: Herman Deleeck Centre for Social Policy – University of Antwerp.

Paugam, S. and Russell, H. (2000) 'The effects of employment precarity and unemployment on social Isolation', in D. Gallie and S. Paugam (eds.), *Welfare Regimes and the Experience of Unemployment in Europe* pp. 243–264, Oxford: Oxford University Press.

Pissarides, C. A. and Weber, G. (1989) 'An expenditure-based estimate of Britain's black economy', *Journal of Public Economics* 39(1): 17–32.

Saltkjel, T. and Malmberg-Heimonen, I. (2017) 'Welfare generosity in Europe: a multi-level study of material deprivation and income poverty among disadvantaged groups', *Social Policy & Administration* 60(4): 1287–1310.

Snijders, T. A. B. and Bosker, R. J. (2012) *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*, 2nd ed., Los Angeles, Calif: Sage.

Townsend, P. (1979) *Poverty in the United Kingdom: A Survey of Household Resources and Standards of Living*, London: Lane.

Townsend, P. (1987) 'Deprivation', *Journal of Social Policy* 16(2): 125–146.

Valkenburg, B. (2007) 'individualisation of activation services: thrashing out an ambiguous concept', in R. Van Berkel and B. Valkenburg (eds.), *Making it Personal: Individualising Activation Services in the EU* pp. 25–44, Bristol: Policy Press.

Verbunt, P. and Guio, A. C. (2019) 'Explaining differences within and between countries in the risk of income poverty and severe material deprivation: comparing single and multilevel analyses', *Social Indicators Research* 144(2): 827–868.

Visser, M., Gesthuizen, M. and Scheepers, P. (2014) 'The impact of macro-economic circumstances and social protection expenditure on economic deprivation in 25 European countries, 2007–2011', *Social Indicators Research* 115(3): 1179–1203.

Whelan, C. T. and Maître, B. (2007) 'Income, deprivation and economic stress in the enlarged European Union', *Social Indicators Research* 83(2): 309–329.

Whelan, C. T. and Maître, B. (2008) 'Poverty, deprivation and economic vulnerability in the enlarged EU', in J. Alber, T. Fahey and C. Saraceno (eds.), *Handbook of Quality of Life in the Enlarged European Union* pp. 201–217, London: Routledge.

Whelan, C. T. and Maître, B. (2012) 'Understanding material deprivation: a comparative European analysis. Research', *Social Stratification and Mobility* 30(4): 489–503.

Whelan, C. T., Layte, R., Maître, B. and Nolan, B. (2001) 'Income, deprivation and economic strain', *European Sociological Review* 17(4): 357–372.

Wolf, F., Lohmann, H. and Böhnke, P. (2022) 'Replication materials to: The standard of living among the poor across Europe. Does employment make a difference?', *Open Science Framework*, doi:10.17605/OSF.IO/R76JM.