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Pathways from social stratification to material deprivation

A pan-European analysis of the influence of social services, transfers and trust on living conditions

Sabine Israel

DFG Research Unit *Horizontal Europeanization*
Fakultät I • Carl-von-Ossietzky-Universität Oldenburg • 26111 Oldenburg • Germany

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Abstract: This paper sheds light on the national influences which channel the risk of material deprivation within the European Union by using a multilevel model for 2011 EU SILC data. The aim of this paper is to explain why persons with low financial resources are particularly at risk of a lack of essential goods and services when living in a country with high social stratification. Three main mechanisms are identified that link high stratification to material deprivation: the payment of low social transfers, the restricted provision of social services and low social informal support as a result of lower social trust. The analysis shows that all factors are to a certain degree significant in explaining the cross-country variation in Europe. However, the main pathway between stratification and deprivation seems to be the lower provision of in-kind benefits in countries where the poor are marginalised. Higher levels of social services, meaning in-kind benefits in areas such as housing, healthcare or transport, could therefore substantially improve the living conditions of the income poor and reduce social exclusion within a political context of 'demanding' social activation policies.

Keywords: material deprivation, social stratification, social services, social transfers, social trust, EU SILC

Contact:
Sabine Israel
Carl von Ossietzky University of Oldenburg
26111 Oldenburg, Germany
E-Mail: sabine.israel@uni-oldenburg.de

Table of Contents

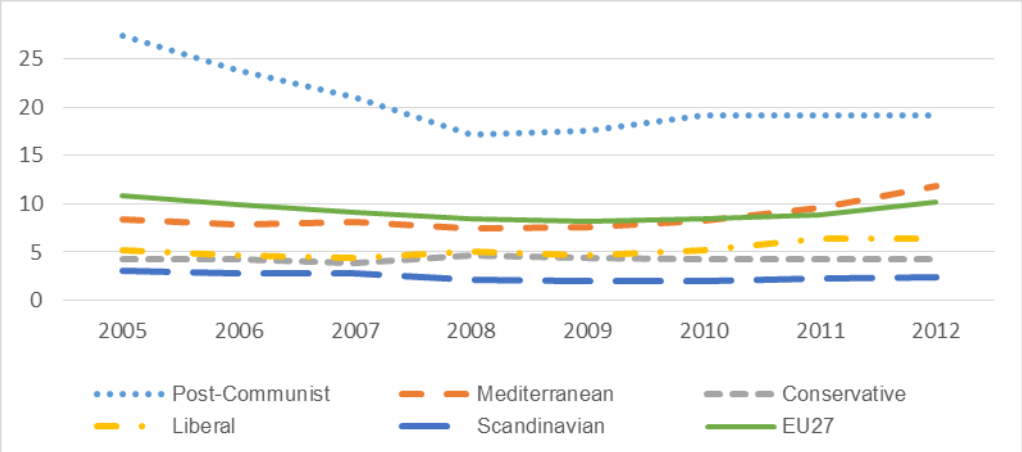
1 Introduction

Most studies on material deprivation focus on the European Union, which has included this multidimensional poverty measure into its social policy repertoire since 2001. Material deprivation is commonly defined as the inability of a household to afford goods and services that are common in its societal background or perceived as being 'necessities' (Fusco et al. 2010). It is an essential EU tool for measuring social exclusion, which is the process of excluding persons from an acceptable minimum way of life (European Council 1985). The particular relevance of material deprivation stems from its characteristic as an outcome measure, placing specific emphasis on a household's achieved living conditions. Its implementation in the EU SILC dataset, which departs from the original concept by defining a common list of necessary goods for the diverse EU28, enables an initial comparison of the standard of living across Europe. While this methodological approach entails certain problems, it has the advantage of not taking the national container as its reference point, thus avoiding the methodological nationalism common to relative income poverty measures.

The degree to which households are lacking in material goods and services differs to a high degree in Europe contingent on the welfare state context. Post-Communist countries still have the highest amount of materially deprived households as a percentage of their overall population. Despite a sharp decrease in the incidence from 27.4% in 2005 to 19.2% in 2012, the number of households exposed is still twice as high as the EU27 average (see Table 1). Fahey (2007) concluded that the high between-country differences in the incidence of material deprivation within the EU are "empirically meaningful […] in that they reflect the low living standards and strong sense of deprivation experienced by large parts of the population" (Fahey 2007, p. 35). Studies on deprivation revealed that a household's standard of living is not solely determined by the availability of current monetary resources (Nolan and Whelan 2010). Material deprivation can also occur when the income of a household is above the national poverty line, just as households below the national poverty line are not necessarily deprived. This mismatch between income poverty and material deprivation has brought about an important debate regarding the individual factors which may be at the source of this difference (Nolan and Whelan 2011; Nolan and Whelan 2010; Fusco, Guio and Marlier 2010; Layte et al. 2001) and the measurement of material deprivation (Guio, Fusco & Marlier, 2009; Marlier, Cantillon, Nolan et al. 2009).

While the status of being income poor depends solely on the relative position of a household's net income including public transfers, an array of factors determine the status of being deprived or not. Layte, Whelan, Maître and Nolan (2001) give indications of important context factors that may explain the cross-national differences in deprivation. For them, the higher incidence of material deprivation in the Central and Eastern European Member States stems not only from the differences in national income "but from the extent to which potential disadvantage associated with factors such as class position are given free rein" (p. 107). In a similar vein, Visser, Gesthuizen, & Scheepers (2013) confirm on the basis of the European Social Survey that the generosity of a welfare state has a high influence on the way material deprivation covaries with low income. Layte et al. (2001) also assert that imbalances between a household's resources and its obligations and needs are crucially determined by social policies that regulate the redistribution of income within society.

Fig. 1 Mean incidence of material deprivation (in % of the population) in the EU27



Material deprivation in this graph is defined by the 4+ threshold, thus a person lacking four items out of nine or more is considered deprived. The representation via welfare states shows an initial approximation of the effect that contextual factors can have on the incidence of material deprivation. Bulgaria and Romania are included in the graph from 2005 onwards

It is not only transfer payments which assume an important role though; public services and support via informal networks can likewise have a high impact on material deprivation. A qualitative analysis by Kotecha et al. (2013) gives a good example of the extent to which minor differences in personal surroundings can function as push or pull-factors. Their results reveal that informal help with the maintenance of a dwelling as well as the ability to use local transport free of charge are key determinants of material deprivation for the British pensioners who took part in their study. Material deprivation is therefore highly sensitive to

contextual factors with reference to the social and economic structure of a society. Even more than with the case of income poverty, the degree of social stratification within a country predefines the opportunity structure of individuals to achieve certain standards of living, thus setting out the risk of deprivation (Calvert and Nolan 2012, Whelan and Maître 2012).

This paper adds to previous research by assessing the ways in which the impact factors found in qualitative studies such as social services and informal networks help to explain the national variation of incidences of material deprivation in European countries in addition to the rate of public transfers. Through this approach, we moreover intend to shed light upon the mechanisms which lead societies characterised by a high degree of social stratification to be exposed to higher risks of material deprivation. The analysis will be carried out within the framework of a multilevel model of EU SILC 2011 data, as this will enable the analysis of cross-country variance. This paper will proceed as follows: First, the concept of material deprivation will be analysed from a theoretical and empirical view. Next, the theoretically founded pathways from social stratification to material deprivation will be explained and subsequently tested in multi-level models. The conclusion will sum up the findings of the paper.

2 Understanding material deprivation

Material deprivation is one of the approaches to multi-dimensional poverty which were incorporated in recent decades to extend the purely monetary understanding of poverty. The concept of material derivation was first developed by Townsend (1987), for whom it referred to a lack of “the material standards of diet, clothing, housing, household facilities, working, environmental and locational conditions and facilities which are orderly available in their society”. But most importantly, it also refers to those people who “do not participate in or have access to the forms of employment, occupation education, recreation and family or social activities and relationships which are commonly experienced or accepted” (Townsend 1987, p. 140). Deprivation is thus regarded as a declination from the socially accepted way of living within a certain region. The term “social acceptability”, which features highly in the account of poverty as described by Townsend, emphasises the relativity of the concept. It therefore differs from earlier accounts of poverty, which try to define absolute standards, e.g. a severe deprivation of basic social needs (Rowntree 1901). Material deprivation is part

of the group of direct or outcome approaches to poverty, as it is based on the observed satisfaction of needs (Fusco et al. 2010). While for relative national poverty thresholds the incidence of poverty does not vary across Europe to a high degree (see e.g. Guio and Maquet 2007; Layte, Whelan, Maître and Nolan 2001; Fusco, Guio, Marlier 2010), material deprivation reveals the existence of huge gaps in the living standard of EU countries.

Hence, one of the advantages of outcome approaches is that they "can bring out what it means to be poor" (Nolan & Whelan 2010, p. 307). They can reveal the effect of long-term accumulation and depletion of monetary resources, e.g. as a result of long-term unemployment or in presence of special needs (Till and Eiffe 2010; Guio and Maquet 2007; Fusco, Guio and Marlier 2010). Moreover, the concept of material deprivation can show the impact that non-monetary services and goods can have on a household's living condition. These sources of non-monetary income include values from self-produced goods, non-cash employee or services provided by the state (e.g. childcare, health care, subsidised rent), which are not sufficiently included in monetary poverty calculations (Fusco et al. 2010). Thus, based on an analysis of material deprivation, divergent effects of governmental services and social support can be revealed.

2.1 Conceptualising material deprivation

As the EU's key indicator for social exclusion, material deprivation is supposed to identify those individuals whose material, cultural and social resources are insufficient to allow them to participate fully in their society (European Commission 2004, p.10). The conceptualisation of the EU, which is incorporated in the EU SILC questionnaire and data and is at the core of this paper, however, neglects this relativity in practice. The EU's definition of material deprivation includes nine basic items. According to the broader understanding of deprivation, more than three out of these nine items have to be missing in order to be declared 'deprived'. Under the stricter version, the threshold raises to four and more. The following household goods or capacities are included: 1) the capacity to face unexpected expenses, 2) the capacity to have a one-week annual holiday away from home, 3) the capacity to afford a meal with meat, chicken and fish every second day, 4) the ability to keep the house adequately warm, 5) whether the household has arrears on mortgage, rent, utility bills, hire purchase instalments or loans; whether the household has 6) a washing machine, 7) a colour TV, 8) a telephone, 9) a car. Material deprivation is understood as the "enforced absence" of

certain goods which the household would like to possess but cannot afford due to lack of resources (see e.g. Layte et al. 2001, p.106). Differences of availability or preferences of certain goods are held to be excluded from the definition of the deprived[1]. Measures of material deprivation mainly focus on the goods and services that can be afforded by every person in possession of a certain level of money. Some measures, such as the ability to pay for rent, utility bills, hire purchase instalments or loans or to face unexpected expenses, will be linked to personal needs to a higher extent. For all items it is the case that "possessing" them does not necessarily imply "owning" them, and for the payment of rent, being able to afford a healthy meal and being able to keep the house warm, the borrowing of financial resources does not undermine the status of being non-deprived in this respect (McKnight 2013, pp.5-6). Nevertheless, most of the items included in the index are goods unrelated to factors other than income (be it own income or income from informal networks). The operationalisation of social exclusion by material deprivation excludes many variables which are highly valuable for a person to participate in society. Contact with friends and neighbours, support in emergencies by family and friends as well as the ability to participate in cultural activities are far more likely to affect the social inclusion of a person (Böhnke 2008). Moreover, information on health, education, employment status and living conditions is neglected, although these areas have often been identified as the central dimensions of living standard research (Voges et al. 2003). Further theoretical problems concern the presumption that the same set of standard goods is assumed to be necessary in order to be an accepted part of society (or societal sub-groups[2]) in each European country. Given the diverging living standards across Europe, goods and services do not hold the same social importance throughout all EU countries[3].

[1] It can be argued that the assumption of an "enforced absence" is flawed. Preferences still play a role, as a person spending a high part of his or her income on certain types of goods can still be lacking those goods deemed necessary for participating in society (Bärlosius & Ludwig-Mayerhofer, 2001). The "non-monetary absence" is subject to a large income gradient that can be explained based on the presence of adaptive preferences (McKnight, 2013), meaning that households with a low income will often have decreased aspirations.

[2] In addition to differential perceptions across Member States, it can also be questioned to what extent all groups of individuals within a country have the same social perception. Differences could exist e.g. due to generation, location or family composition (Till & Eiffe, 2010). The elasticity of demand for consumer goods especially can thus be very high.

[3] Guio, Fusco & Marlier (2009) as well as Dickes, Fusco and Marlier (2010) show a high level of congruence between the 27 national patterns of social perceptions. Nonetheless, it can be noted that annual holidays are only perceived as absolute necessities by more than half of the population in 12 Member States. Also, not all of the households amenities are perceived in all EU countries to constitute social needs (e.g. colour

3 Material deprivation, social reforms and social stratification

This paper focuses on the pathways from higher social stratification to higher risks of material deprivation. Social stratification, referring to the social classification of individuals based on their access to scarce resources and specific kinds of capital, constitutes the independent variable of choice as it highlights the processual nature of the formation of social positions. Contrary to social inequality, which can be regarded as an outcome of social stratification, it places the emphasis on the political choices through which welfare states structure society. As Esping-Andersen puts it, "The welfare state is not just a mechanism that intervenes in, and possibly corrects, the structure of inequality. It is an active force in the ordering of social relations." (2006 [1990], p.164).

The influence of social stratification on material deprivation has become important because recent political choices both prior to and during the course of the unemployment, growth and debt crisis have lowered the level of political support to at-risk groups within many European countries. Bonoli and Natali (2011) speak of different social realities which have emerged for the varying societal groups within the framework of the nation-states in the late 1990s and early 2000s by welfare state reforms across Europe. In the light of social investment and "demanding" activation policies[4], these reforms exposed citizens to new forms of inequalities by fragmenting social protection and weakening traditional income protection measures (Bonoli and Natali 2011, Cantillon 2011). The slow divergence of income positions has been accelerated by the austerity policies (Shaumbourg 2011; Eurofound 2012). In 2011, there were three European countries in which the lowest net income decile earned 2.5 times less than the middle income decile (Bulgaria, Romania and Spain). In Poland, Portugal, Estonia, Italia, Greece, Lithuania and Latvia the difference is also quite high, with the lowest income decile earning less than half of the middle income decile (see Figure 2). This increased gap between different income classes, which is characteristic of high social stratification, can be traced back to reduced public spending and wage reductions especially for the lowest income groups (Eurofound 2012). With the cuts in governmental expenditures and services (highly visible in the health care sector), the real economy of the countries exposed to the debt crisis contracted. This vicious circle initiated by the wrongful estimation of fiscal multi-

TV only in 19 countries, phone in 14 countries, car in 16 countries) (see Guio, Fusco & Marlier, 2009).

[4] A distinction must be made between "demanding" activation policies, imposing conditionalities and sanctions on the income-support of the unemployed, and "enabling" activation policies, which complement the former by assisting problematic groups with their job search process (Eichhorst et al. 2008)

pliers of government expenditure likewise led to sinking wages and higher levels of unemployment (Blanchard and Leigh 2013). Stratification is increasing in these countries and at the same time the amount of households exposed to material deprivation rises, in the Mediterranean countries by 4% on average from 2008 to 2012. The liberal countries also showed an increase in this type of poverty since the crisis, which is however still relatively minor.

3.1 The impact of social stratification on deprivation

Only very recently did some authors start to analyse the effect of the country context and economic circumstances on material deprivation by means of multilevel analysis (Nelson 2012; Whelan and Maître 2012; Visser, Gesthuizen and Scheepers 2013). So far, regimes of welfare states have been included and distinguished quite frequently (e.g. Nolan and Whelan 2011; Muffels and Fourage 2003), but only a small amount of studies have tried to reveal to what extent the factors behind these welfare state differences influence and moderate the incidence of material deprivation. The structural outcomes of social stratification across European societies and their impact on living standards formed a focus of the Gini project's publications, most notably by Whelan & Maître (2012) and Calvert & Nolan (2012). On an aggregate level, Calvert and Nolan (2012) show a significant positive association of income inequalities and material deprivation. In particular, they revealed that "the impact of inequality on deprivation decreases as median income increases" (p.21). Therefore, the interaction between a low income level and high inequalities are a breeding ground for material deprivation. However, they do not provide any explanation for this sort of interaction. Whelan & Maître (2012b) did not find a significant impact of income inequality, conceptualised by the Gini index in a multilevel analysis, when controlling for Gross National Disposable Income per Head (GNDH). Nevertheless, they report an indirect impact of social stratification by arguing that the lower the average level of disposable income in a country, the more likely material deprivation will be a consequence of an unfortunate socio-economic position. This will be the case as social stratification is more pronounced in countries with a lower GNDH. This paper first analyses the extent to which social stratification, measured through the decile ratio at the lower part of the income distribution (D5/D1), influences deprivation. The decile ratio reflects social stratification. Countries with a high D5/D1 ratio feature higher stratification, in that the net incomes of persons with low qualifications will be extremely removed from the incomes common in this country. It is to be expected that through this

mechanism, material deprivation is brought into existence in particular when low income persists for a longer period of time and no form of consumption smoothing is provided by the state. Therefore, following ***H1****: Countries characterised by a high degree of social stratification will be likely to have higher incidences of material deprivation, even when individual factors such as activation resources*[5] *and health are controlled for.*

3.2 Pathways from social stratification to material deprivation

Insights into the link between social stratification and material deprivation might be gained from the qualitative study by Kotecha et al. (2013), who studied the mismatch between income poverty and deprivation among pensioners in Great Britain. Pulling factors, which help persons with low income to not become deprived, are especially social networks, such as family and friends in the local community who support them on a daily or irregular basis. In addition to informal support, government support like financial assistance and access to services such as free transport were identified by the respondents as important for increasing their quality of life. Accordingly, reduced provision of cash benefits and non-monetary public services to vulnerable households in countries with liberal welfare-state systems as well as reduced social trust might provide possible explanations for the link between stratification and deprivation.

Both services and informal networks are societal circumstances which influence material deprivation in particular, while having little effect on household income. Therefore, the influence of cash benefits and benefits in kind is to be analysed separately, as both might constitute separate pathways from stratification to material deprivation. As Daly and Lewis (2000) argued, taking the in-kind dimensions of the European welfare states in addition to cash benefits into account could spark a more encompassing discussion of welfare state variation. The benefit structure is an important characteristic of welfare states, as it constitutes the link between affordability and public support (Palier 2003). For this reason, the distinction of Kautto (2002) will be applied in this article by analysing firstly the transfer effort, meaning the investment in cash benefits as a percentage of GDP, and secondly the service ef-

[5] Activation resources – a term often used in the discussion of material deprivation – refer to the capacity of a household to take up employment and thus include themselves actively again within society, expressed through a person's educational and skills level.

fort through benefits in kind as a percentage of GDP. Thirdly, the effect of social networks on deprivation will be established.

Transfer effort: Countries which feature high inequalities often do so by political choice. High inequalities in the net income after tax deductions arise when a country is marked by a low redistribution towards vulnerable groups. The Corporatist countries Italy, France, Belgium and Austria show the highest decommodification effort through cash benefits expenditures above 20% of their GDP. In contrast, the Post-communist countries which incorporated a liberal regime, namely the Baltic states (Latvia, Lithuania and Estonia), are characterised by a very weak social safety net and spending on cash benefits at around 11%. The Mediterranean countries used the lowering of wage payments and the reduction of unemployment payments and provisions to pensioners in order to stimulate their real economy during the years of the crisis, which likewise made their intensity of material deprivation increase (Eurofound 2012). A high importance of social assistance in cash was already asserted by Nelson (2012). He used a multilevel analysis to explore the effect of social assistance on the cross-country incidence of material deprivation and discovered a highly significant relationship between these two factors. Bearing in mind the primordial importance of income supplements for lowering material deprivation and the low support of non-work or contribution-related benefit payments in Liberal countries, ***H2*** expects that: *Low transfer efforts in countries with high social stratification explain the effect of income inequality on material deprivation.*

Service effort: In countries where social service provisions are low, households will need to spend a much higher share of their income in order to achieve the same standard of living as households in countries with a high service effort. (UN Economic Commission for Europe 2011, p.43). Services or in-kind benefits (as opposed to cash benefits) can be provided either as direct goods or services to households or by means of reimbursement (Kautto 2002). They are particularly high in the Nordic countries Sweden and Denmark, reaching close to 14% of GDP. Germany, the UK, France, Finland and the Netherlands still spend more than 10% of their GDP on in-kind benefits. A clear separation by welfare state regime is not possible with respect to the way in which benefits are spent. Means-testing acts as a clearer divider between regimes, but within the scope of this study we do not aim to distinguish between universal benefits and those directed only at specific groups. National income does not seem

to be decisive for service spending, as Luxembourg with close to 7% of spending is lagging behind Hungary, Greece and Spain (8-10% of spending). Benefits in kind to households like rent payments or reimbursements will be a cause for lower deprivation rates, as those provisions enable households at the lower end of the income distribution to more easily meet unexpected finances and material needs. Social transfers in kind generally include services and goods covering education, health care, transport or provisions aimed at social inclusion. The importance of in-kind benefits for households varies largely across EU Member States. In total, 1/3 of social inclusion benefits are paid in kind and another third is means-tested, therefore specifically targeting the poorest parts of the population (Ward 2009). Subsidised old-age support and childcare facilities are able to offer a higher purchasing power to households with high income restrictions, preventing them from falling into material deprivation. In short, there are great differences in public welfare provisions, including services and payments of certain commodities (e.g. rent) throughout Europe, which can be responsible for differences in the degree of material deprivation. Lower social service provisions in countries with high stratification, where support for in-kind benefits exist only for fragmented groups, can constitute the link between social stratification and deprivation. Therefore, ***H3*** according follows that: *Low social services in countries with high social stratification explain the effect of income inequality on material deprivation.*

Social trust: In addition to the factors linked to financial capital, social capital can also be a link between income inequality and material deprivation. With the exception of Cyprus, social trust in the European Union is categorised by the population as medium (between 5 and 6). Again, the Baltic States are at the lower end of the distribution together with the Czech Republic, Hungary, Greece and Portugal, while the high-income countries Finland, Denmark and Sweden are characterised by high social trust levels. Bulgaria and Romania are part of the groups of countries with high trust levels above 6. According to Wilkinson and Pickett (2009), a stronger emphasis on social stratification characterised by higher income inequalities within countries will increase the struggle for material resources and therefore lower the degree of social cohesion[6] (Wilkinson 2004, p. 10). A reduction of public trust, reduced information sharing and low availability of inter- and intra-household exchange is li-

[6] Social cohesion, defined as "features of social organisation such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam 2000, p. 20) shapes as a societal resource multiple aspects of an individual's life by fostering societal support and coping mechanism, social norms and collective structures (Putnam 2004, p. 671).

kely in societies with high inequalities. Van Oorschot et al. (2005) confirm the picture that higher inequalities can lead to lower social support towards the poor as a consequence of reduced social cohesion. They find that "in less equal countries people especially tend to have lower interpersonal trust […], but more actively participate in voluntary organizations and are more family-oriented" (p. 20). Uslaner (2002) also confirms that levels of trust rise and fall with the level of economic conditions, and that when economic inequalities are high, trust is low. Especially in these countries, where friends, colleagues or other networks are most often identified as important networks in times of emergencies, a decrease in social cohesion, e.g. in times of crisis, will lead to reduced access to information and help. However, informal networks are important to the extent that the possession of goods and services and the payment of arrears do not need to come from own resources but can also be from loans and other capital sources (with the exception of facing unexpected expenses). Hence, ***H4*** states that: *Low social trust levels in countries with high income inequalities explain the effect of social stratification on material deprivation.*

The societal groups which will be most dependent on governmental services and social support will be the most vulnerable groups who are often not able to work or lack qualification. It is especially the retirees and the unemployed who are completely dependent on services from the state or intra- or inter-household transfers of financial and non-financial goods. In the case of the lower educated and households taking care of a person with bad health, the income will often not be sufficient in order to meet the (increased) material needs.

4 Data, methods and limitations

The analysis of the material deprivation dimensions will be carried out using EU SILC, the official statistics on income and living conditions compiled by the European Union. EU SILC provides detailed information on all EU28 Member States plus the EFTA countries Norway, Iceland and Switzerland. While EU SILC enables a comparison of social groups across the EU, the comparability of results has sometimes been questioned (Iacovou, Kaminska and Levy 2012). The criticism refers to the different sampling of the population and the varying survey methods used. Given that EU SILC is output-harmonised and grants national data institutes a high freedom in collecting the required information, the comparability of results suffers accordingly. Nonetheless, it provides us with a unique dataset for cross-European analysis.

The operationalisation of material deprivation follows the EU guidelines. The article applies the original 3+ threshold definition of material deprivation[7], which is the measure included in the EU-2020 targets[8]. No weighting is applied to the individual items of the analysis, thus a similar importance of all material deprivation variables throughout the EU is assumed. This decision was taken because the aim of this article is to analyse the differences in groups of households vulnerable to material deprivation between countries. Social stratification will be measured through the spread in post-governmental income. Even though income is just one resource for achieving a classification of a society, education and occupation being important other resources, in this article the decile ratio (D5/D1) of net incomes will be used because it reveals most about the lowest part of the income distribution curve. It is also highly linked to the marginalisation of vulnerable social groups, which is measured through material deprivation. Information on the social benefits in cash and kind have been retrieved from Eurostat in % of GDP. Health benefits are included in the social services, as households with an individual in bad health constitute a group which is particularly vulnerable to material deprivation. It can be noted, however, that in order to more explicitly specify the importance of specific in-kind benefits to households, their inclusion in the EU SILC dataset has to be improved. So far only self-produced goods and the presence of a company car have been included in the questionnaire. However, this only covers a small part of all publicly and employer-provided services and goods with substantially beneficial effects for the poorest households. The social trust variables were retrieved from the European Quality of Life Survey (EQLS) 2012 version. This was operationalised through the question “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people”, applying a scale of 1 low trust to 10 high trust. As with many sensitive questions, differences in results may arise due to the different linguistic connotations involved in the various language versions.

The multilevel-analysis will be carried out at the household level, comprising 588385 cases. The multilevel models utilised here are useful for hierarchical data, i.e. for situations in which different units of observation are nested within each other; in this case the household

[7] The EU material deprivation measure constructed on the basis of EU SILC for 2010 differs from the Eurostat statistics in the case of four countries. Germany, the UK, Sweden and Norway exhibit an around 1% lower mean for material deprivation.

8 Guio (2012) proposed a revision of the measure towards a 4+ threshold, which is now also more common in the official Eurostat publication. The difference between the rankings and analysis using either three or four item cut-off points are minor as the measure proves to be very robust.

level is nested within the state level. The benefit to be drawn from multilevel models is that they take account of the correlated error-terms present in clustered data (due to the correlation of observations, violating the i.i.d. assumption) by allowing intercepts and slopes of household-level data to vary across the regional and state parameters (Cameron and Trivedi 2010). Without this specification, the standard errors of the higher-level parameter effects, in this case the effects of the country level, would be biased downward. In turn, this would increase the chance of falsely rejecting the original hypothesis that there is no association between the dependent variables and the independent variables on this level. The model will be constructed with the Stata-command for binary outcome analysis xtmelogit and display marginal effects which can be compared across models (Mood 2008).

4.1 Results on the individual level

The RIO-model (M_0) shows that a proportion of 23.9% of the variance of the material deprivation status (see Figure 3) can be traced back to differences between countries. Nearly a quarter of the deprivation risk can therefore be explained through country-specific context factors and is not attributable to household characteristics. In M1, individual level variables are added based on the existing standards of material deprivation literature (see e.g. Nolan and Whelan 2011; Muffels and Fouarge 2004; Fusco, Guio and Marlier 2010). All individual level variables included are highly significant and able to explain 13% of the model.

Earlier studies described the individual resource side to be the most influential on the material deprivation status (Muffels and Fourage 2004). The socio-economic status of a household, measured by means of educational attainment, occupational status and income, is used to provide information about these available activation resources of a household. In addition, the households needs determined by factors such as household composition and health need to be controlled, as well as the absence of resources through exposure to long-term unemployment. Health is a variable that has been added due to its pronounced importance in earlier studies. Till and Eiffe (2010), for example, describe the change in health status as the “most striking result”, as a deterioration or improvement in health lowers or increases the material deprivation to a highly visible extent.

Our analysis (M_1) shows that being unemployed and having an individual with bad health in the household increases the likelihood of material deprivation to the highest degree. An unemployed person has a 14% higher risk of being materially deprived than a person in work. Education and skill level are also good determinants of the risk of material deprivation on the individual level. Furthermore, the household composition is also important for the occurrence of material deprivation. In particular households with a high number of dependent children and those in which the relation between in work persons and dependents is especially unfortunate (e.g. single parents) feature a higher vulnerability due to increased needs.

4.2 Results on the macro level

In M_2, the first context factor, the D5/D1 ratio for the measurement of social stratification is added. Social stratification is positively associated with material deprivation, as expected in our first hypothesis. The higher the social stratification and thus the more marginalised the lowest income quintile, the stronger the prevalence of material deprivation. This relationship is significant at the 1% significance level. However, the interesting question which is the focus of this paper is to identify the reasons for which households with low income are more vulnerable to material deprivation in countries with high social stratification. What are the social and political characteristics of countries that give a free reign to stratificatory tendencies? In order to understand the pathways which lead from social stratification to material deprivation, in models M_3 to M_5 one characteristic as identified above is always added in addition to the decile ratio. In this way, it will be possible to reveal which of these pathways takes up most of the explanatory value from the D5/D1 value and thus proves most valuable.

Category	*Variable*	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Migration status	Migrant		0.075**	0.077**	0.076**	0.073**	0.077**	0.073**	0.076**
			(8.55)	(11.85)	(13.75)	(12.15)	(12.92)	(11.98)	(14.47)
Household type	Single parent		0.107**	0.109**	0.107**	0.104**	0.110**	0.104**	0.108**
(Ref: 2 adults, 0-2children)			(8.45)	(11.59)	(13.12)	(11.87)	(12.59)	(11.71)	(14.01)
	HH with 3+ children		0.08**	0.082**	0.081**	0.079**	0.083**	0.079**	0.081**
			(5.94)	(6.79)	(7.05)	(6.84)	(6.97)	(7.52)	(7.18)
Health status	Bad health		0.168**	0.17**	0.168**	0.163**	0.171**	0.164**	0.168**
(Ref.: v. good health)			(9.37)	(13.58)	(15.82)	(13.89)	(15.14)	(13.56)	(17.52)
Income poverty	>60% of gross median earnings		-0.144**	-0.148	-0.145**	-0.141**	-0.149**	-0.141**	-0.146**
			(-9.50)	(-14.93)	(-18.75)	(-15.53)	(-17.29)	(-15.19)	(-21.67)
Education status	Isced 0-2		0.099**	0.104**	0.102**	0.099**	0.105**	0.098**	0.103**
*(*Ref. university education)			(8.17)	(12.15)	(14.59)	(12.93)	(13.57)	(12.46)	(16.45)
	Isced 3-4		0.069**	0.074**	0.073**	0.07**	0.074**	0.07**	0.073**
			(7.77)	(11.46)	(13.75)	(12.32)	(12.74)	(11.8)	(15.48)
Activity status	Unemployed		0.141**	0.136**	0.132**	0.130**	0.136**	0.13**	0.13**
(Ref.: at work)			(11.43)	(13.89)	(15.28)	(13.66)	(15.11)	(13.93)	(16.02)
	Domestic tasks		-0.011+	-0.011+	-0.011+	-0.011+	-0.011+	-0.011+	-0.011+
			(-1.89)	(-1.92)	(-1.94)	(-1.91)	(-1.94)	(-1.92)	(-1.91)
	Student		0.075**	0.073**	0.071**	0.070**	0.074**	0.07**	0.707**
			(7.54)	(8.52)	(8.92)	(8.48)	(8.85)	(8.52)	(9.11)
	Retired		-0.062**	-0.063**	-0.062**	-0.060**	-0.064**	-0.06**	-0.062**
			(-8.55)	(-12.31)	(-14.45)	(-12.64)	(-13.73)	(-12.55)	(-15.81)
Occupational status (Ref.: professionals)	Lower pro-fessional		0.038**	0.041**	0.041**	0.039**	0.042**	0.039**	0.416**
			(4.17)	(4.53)	(4.65)	(4.59)	(4.61)	(4.57)	(4.72)
	Semi- + Unskilled		0.106**	0.112**	0.111**	0.107**	0.113**	0.106**	0.112**
			(7.24)	(9.45)	(10.47)	(9.82)	(10.07)	(9.64)	(11.06)
Long-term un-employed	Unemployed for >12 mth		0.082**	0.084**	0.082**	0.08**	0.084**	0.08**	0.083**
			(6.96)	(8.42)	(8.96)	(8.53)	(-8.79)	(8.48)	(9.23)
Social stratification	D5/D1 ratio			0.086**	0.053**	0.069**	0.082**		
				(4.20)	(2.83)	(3.75)	(4.45)		
Service effort	Benefits in kind				-0.063**			-0.06**	-0.047*
					(-3.69)			(-2.15)	(-2.20)
Transfer effort	Benefits in cash					-0.045*		-0.026	0.012
						(-2.67)		(-1.13)	(0.61)
Social trust	Trust in people						-0.047**	-0.015	-0.018
							(-2.78)	(-0.71)	(-1.14)
National affluence	Gr. median income								-0.08**
									(-4.66)
N		99883	99883	99883	99883	99883	99883	99883	99883
chi2			11292	11302	11315	11309	11310	11307	11334
var_u1		1,035	1,23	0,723	0,484	0,587	0,565	0,603	0.319
var_sum		4,325	4,52	4,022	3,774	3,876	3,855	3,893	3.609
rho1		0,239	0,272	0,182	0,128	0,151	0,147	0,155	0.088
Bic		90403	76338	76336	76336	76341	76340	76354	76347
LI		-45200	-38048	-38041	-38035	-38038	-38037	-38038	-38030

Table 1: Multilevel logistic regressions for material deprivation (binary) on the household level.
+p/z < 0.1; *p/z < 0.05; **p/z < 0.001. Controlled for but not displayed: single person households.

In the first model, the service effort is analysed in addition to the decile ratio. The explanatory power of in-kind benefits is supported by the fact that it is able to reduce the unexplained variance at the country level by 10 percentage points to 0,128. The marginal effect is moreover higher than that of the decile ratio. This confirms our hypothesis H3 that societies with a high degree of social stratification feature higher degrees of material deprivation because their benefit in-kind expenses which substantially increase the consumption power of a household are lower. In the next model, the cash benefits are added and show a significant effect at the 5% significance level. However, the coefficient is much lower than that of the service dimension and also lower than that of the decile ratio. H2 seems to be still confirmed: the different transfer effort seems to partly explain the different deprivation levels arising from stratification. Thirdly, the social trust variable is added with which the influence of social networks and informal support is to be established. While social trust is significant, it does not seem able to explain the variation arising from stratification, since the coefficient of D5/D1 does not decrease by an interpretable degree. H4 therefore has to be rejected. Nevertheless, we can observe that all three variables, namely the amount of cash benefits, benefits in kind and social trust, are significantly linked with material deprivation and lower its extent. When all variables are added into the same model, only the social services stay significant. The deprivation-reducing effect of social services benefits therefore seems to be of high relevance. In our last model M_7, it is moreover shown that the variance of in-kind benefits is not just an artefact linked to higher national income. When a country's median income is controlled for, in-kind benefits are still significant at the 5% significance level.

A society characterised by high social stratification therefore seems to be increasing the risk of material deprivation in particular through the absence of social services. This connection is to be remembered especially during these times of the current financial crisis in which the service effort of governments is suffering and access conditions to services have changed. A good example can be given by the health services, since health is a decisive impact factor on deprivation and a sector exposed to tremendous change in the Mediterranean countries. With the introduction of co-payments for health check-ups in multiple European countries during the course of the crisis and the change of qualification for services from being a citizen to being employed (e.g. as happened in Spain) (McKee, Karanikolos et al. 2012), household resources are being put under even greater strain. In sum, it can be argued that social services form a prerequisite at a time when general income-support is being reduced and

becoming ever more fragmented and restricted by conditionalities. If the intention is not increase material deprivation within the framework of welfare state restructuring, countries have to place a greater focus on social services. This can be included in their policy profile as a form of enabling' activation policies. However, for in-kind benefits to function in a fashion that will truly reduce marginalisation of the poorest parts of the society, it should not be forgotten that a certain quality of services has to be provided. For example, not any kind of subsidised housing will be able to reduce social exclusion. The location and quality of housing (apart from leaking roofs and rot) are important in order to avoid stigmatising the tenants.

5 Conclusion

This paper set out to show through which specific ways the social stratification of a society impacts on the living conditions of individuals. Living conditions as measured through the EU's material deprivation index are highly income- and resource-related and therefore social services and cash benefits provided by the state play a substantial role in explaining cross-country differences in the incidence of material deprivation. However, some of the goods included in the index do not necessarily have to be possessed, since access through family and friends can relieve a household from being classified as 'deprived'. As the provision of in-kind and cash benefits as a percentage of a country's GDP is markedly lower in highly stratified countries and social networks also suffer in countries in which the poor are marginalised, it was analysed which of these pathways shows the highest effect in explaining the post-governmental income spread on material deprivation. The results show that when included separately, in-cash and in-kind benefits as well as social trust all explain parts of the cross-country variance in the degree of material deprivation. In-kind benefits provide the highest explanatory value for social stratification. Moreover, the expenditures on in-kind benefits as a % of GDP stays significant when national income is included as a control variable. This fact illustrates the importance of free access to childcare or health services and the provision of subsidised living space for poor households. Governments that provide in-kind benefits to their citizens, whether means-tested or universal, increase their citizens' consumption power to a substantial degree and lower their risk of social exclusion. Within the framework of welfare state restructuring through activation policies and reduced income-maintenance, social services can form a vital support strategy for households with low work intensity as a form of 'enabling' activation.

References

Bärlosius, E. & Ludwig-Mayerhofer (2001). Armut in der Gesellschaft. In Bärlosius, E. & Ludwig-Mayerhofer (Eds.) *Armut in der Gesellschaft*. Opladen, Leske + Budrich Verlag.

Beckfield, J. (2006). European Integration and Income Inequality. *American Sociological Review, 71*; 964 – 985.

Blanchard, O. & Leigh, D. (2013). Growth Forecast Errors and Fiscal Multipliers. IMF Working Paper WP/13/1. Washington D.C.: International Monetary Fund.

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.

Bonoli, G. & Natali, D. (2011). The politics of the new welfare states in Western Europe. EUI Working Papers, RSCAS 2011/17.

Calvert, E. & Nolan, B. (2012). Material Deprivation in Europe. AIAS, Gini discussion Papers 68.

Cameron, A.C. & Trivedi, P.K. (2010). *Microeconometrics using Stata.* College Station: Stata Press.

Cantillon, B. (2011). The paradox of the social investment state: growth, employment and poverty in the Lisbon era. *Journal of European Social Policy, 21* (5), 432-449.

Daly, M. & Lewis, J. (2000). The Concept of Social Care and the Analysis of Contemporary Welfare States, *British Journal of Sociology 51*(2), 281-198.

Dickes, P., Fusco, Al. & Marlier, E. (2009) Structure of National Perceptions of social needs across EU countries *Social Indicators research, 95*, 143-167.

Eichhorst, W. & Konle-Seidl, R. (2008). Contingent convergence: A comparative analysis of activation policies. IZA Discussion Paper, 3905/2008. Bonn: IZA.

Esping-Andersen, G. (2006 [1990]). Three Worlds of Welfare Capitalism. (pp.160-174) In: Pierson & Castels (Eds.) *The Welfare State Reader.* Cambridge: Polity Press.

Eurofound (2012). *Experiencing the economic crisis in the EU: Changes in living standards, deprivation and trust*. Dublin: Eurofound.

European Commission (2004). *Joint Report on social inclusion 2004.* Luxembourg, Office for Official Publications of the European Communities. Accessed on 26.11.2012 via http://ec.europa.eu/employment_social/spsi/docs/social_inclusion/final_joint_inclusion_report_2003_en.pdf

Fahey, T. (2007). The case for an EU-wide measure of poverty. *European Sociological Review, 23 (1)*, 35-47.

Fusco, A., Guio, A-C. Marlier, E. (2010). Characterising the income poor and the materially deprived in European countries. (p.134-153). In Atkinson, H. & Marlier, E. (Eds.) *Income and living conditions in Europe*. Luxembourg: Eurostat Statistical Books.

Guio, A.-C. & Engsted Maquet, I. (2007). Material deprivation and poor housing. In: Eurostat (Eds.) Comparative EU Statistics on income and living conditions: Issues and challenges. *EU Methodologies and working papers*. Luxembourg: Publications Office of the European Union.

Guio, A-C, Fusco, A. & Marlier, E. (2009). A European Union Approach to Material Deprivation Deprivation using EU-SILC and Eurobarometer data. *IRISS Working Paper Series, 19*. CEPS/INSTEAD, Differdange, Luxembourg.

Iacovou, M., Kaminska, O & Levy, H. (2012). Using EU-SILC data for cross-national analysis: strengths, problems and recommendations. Essex: Institute for Social and Economic Research, Essex University.

Kautto, M. (2002). Investing in services in West European welfare states. *Journal of European Social Policy, 12*, 53-65.

Kotecha, M., Arthur, S. & Coutinho, S. (2013). *Understanding the relationship between pensioner poverty and material deprivation.* Research Report No 827. Sheffield: Department for Work and Pensions

Layte, R., B. Whelan, et al. (2001). Explaining Levels of Deprivation in the European Union. *Acta Sociologica, 44(2),* 105-122.

Marlier, E. & Cantillon, B, & Nolan, B. & Van den Bosch, K. & Van Rie, T. (2009). *Developing and learning from measures of social inclusion in the European Union*. Revised version of the paper prepared for the Joint OECD/ University of Maryland International Conference on Measuring Poverty, Income Inequality, and Social Exclusion – Lessons from Europe (Paris, 16-17 March 2009).

McKee, M., Karanikolos, P., Belcher, P. & Stcukler, D. (2012). Austerity: a failed experiment on the people of Europe. *Clinical Medicine, 12*(4), 346-350.

McKnight, A. (2013). Measurirng material deprivation over the economic crisis: Does a re-evaluation of 'need' affect measures of material deprivation? GINI Policy Paper 4. London: Centre for Analysis of Social Exclusion, London School of Economics.

Mood, C. (2008). Logistic regression: Why we cannot do what we think we can do and what we can do about it. European Sociological Review 2010, *26*(1), 67-82.

Muffels, R. & Fourage, D. (2004). The Role of European Welfare States in explaining resources deprivation. *Social Indicators Research, 68*, 299-330.

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

Nolan, B. and C. Whelan (2010). Using Non-Monetary Deprivation Indicators to Analyze Poverty and Social Exclusion: Lessons from Europe? *Journal of Policy Analysis and Management, 29*(2), 305-325.

Nolan, B. and C. Whelan (2010). *Poverty and Deprivation in Europe*. Oxford: Oxford University Press.

Palier, B. (2006 [2003]). Beyond Retrenchment: Four problems in current welfare state research and one suggestion on how to overcome them. (pp.358-374) In: Pierson & Castels (Eds.) *The Welfare State Reader.* Cambridge: Polity Press.

Putnam, R. (2000) *Bowling Alone: the Collapse and Revival of American Community.* New York: Simon and Schuster.

Putnam, R. (2004) Commentary: 'Health by association': some comments. *International Journal of Epidemiology, 33*, 667-671.

Rowntree, B.S. (1901). *Poverty: a study of town life*. London: Longman.

Till, M. & Eiffe, F. (2010). Progress of living conditions – a dynamic model of material deprivation for a European society. (pp. 242 – 263) In: Atkinson, H. & Marlier, E. (Eds.) *Income and living conditions in Europe*. Luxembourg: Eurostat Statistical Books.

Townsend, P. (1987). Deprivation. *Journal of Social Policy, 16,* 125-146.

UN Economic Commission for Europe (2011). Canberra Group Handbook on Household Income Statistics. Second Edition. New York and Geneva: United Nations.

Uslaner, E. (2002). *The Moral Foundations of Trust*. Cambridge: Cambridge University Press.

Van Oorschot, W. & Arts, W. (2005). The social capital of European Welfare States. *Journal of European Social Policy,* 15, .5.

Visser, M., Gesthuizen, M. & Scheepers, P. (2013). The impact of macro-economic circumstances and social protection expenditure on economic deprivation in 25 European Countries, 2007-2011. *Social Indicators Research,* 115, 1179-1203.

Ward, T. (2009). The impact of income in kind on income distribution and the risk of poverty. Research note no.6. Luxembourg: European Commission. Retrieved on May 25, 2014 from http://ec.europa.eu/social/BlobServlet?docId=4835&langId=en

Whelan, C., R. Layte, et al. (2002). Multiple deprivation and persistent poverty in the European Union. *Journal of European Social Policy, 12*(2), 91-105.

Whelan, C., R. Layte, et al. (2004). Understanding the Mismatch between Poverty and Deprivation. *European Sociological Review, 20*(4), 287-302.

Whelan, C.R. & Maitre, B. (2009). Europeanization of inequality and European reference groups. *Journal of European Social Policy, 19*, 117 – 129.

Whelan, C.R. & Maitre, B. (2012a). Material deprivation, economic stress and reference groups in Europe. An Analysis of EU-SILC 2009. *GINI Discussion Paper 36*. Amsterdam: AIAS.

Whelan, C.R. & Maitre, B. (2012b). Understanding Material deprivation in Europe: A Multilevel Analysis. *UCD Geary Institute Discussion Paper Series*, 2012/05. Dublin: University College Dublin.

Wilkinson, R. (2006). The impact of inequality. *Social Research, 73* (2), 711-732.

Wilkinson, R. & Pickett, K. (2009). *The Spirit Level. Why Equality is better for everyone.* London: Penguin Books.