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The local structure of the welfare state: Uneven effects of social spending on poverty within countries

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Abstract
Research has shown that there is a strong negative relationship between social spending and poverty levels. Among urban inequality researchers it is often assumed that, compared with the USA, the welfare state has mitigated social differences explaining lower levels of urban inequality in most European countries. However, research on the role of the welfare state is often conducted on the national level, and is thus unable to draw conclusions on the effects of social spending and redistribution on a lower level, failing to take the within-country variation into account. This study connects welfare state research to urban inequality research by investigating the effects of social spending on poverty in urban and non-urban areas. We have conducted a cross-national multilevel logistic regression analysis using Eurostat and European Social Survey data of 2008. Our findings suggest that the effects of social spending are unequally distributed within countries.

Keywords
poverty, redistribution, social spending, urban inequality

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Introduction

In today's Western countries, socioeconomic risks are unequally distributed along lines that tend to follow socioeconomic cleavages (Korpi and Palme, 1998). A series of empirical studies show that low-educated, low-income groups have a higher risk of long-term poverty, social exclusion, health-related problems and are likely to be concentrated in disadvantaged places of residence (for an overview on neighbourhood effects see Ellen and Turner, 1997). To reduce the risk of poverty, national governments have implemented a set of social policies that

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support the poor. To a certain extent, this is accomplished by transferring incomes directly to low-income groups, but it can also be achieved through more indirect means, such as policies providing income security for the unemployed. In both cases, financial resources are redistributed from high-educated, high-income groups to low-educated, low-income groups through the tax system (Lindbeck, 2006; Swank, 1998).

Obviously, governments aim at reducing poverty by taking such measures. To investigate whether governments truly manage to get citizens out of poverty, a bulk of sociological, economic and political research has been conducted over the past decades examining the relationship between social spending and poverty. A large share of these studies shows that social expenditures and poverty levels are indeed negatively related (cf. Behrendt, 2002; Caminada et al., 2012; Kenworthy, 1999; Nolan and Marx, 2009; Smeeding, 2006). These findings are commonly referred to when it is argued that welfare states can combat poverty. Nevertheless, this does not mean that the relationship between public policy and poverty is uncontested. While some argue that social spending helps to reduce poverty and that it stabilizes and expands consumer demand, increases investment in education and creates a stronger labour market (Esping-Andersen, 1990; Kenworthy, 1995, 1999), others have been sceptical, arguing that too little money that is being transferred actually reaches the poor (Crook, 1997; Lee, 1987; Tullock, 1983) and that social welfare programmes can have 'perverse effects' (Hirschman, 1991) by creating a so-called 'poverty trap' (Butler and Kondratas, 1987; Lee, 1987; Murray, 1984), the creation of welfare-dependent citizens (Edlund, 2006; Kumlin, 2007) and by hindering or even reducing economic growth (Arrow, 1979; Friedman and Friedman, 1979; Lindbeck, 1995; Murray, 1984; Tullock, 1997).

These criticisms show that the relationship between public spending and poverty may not be as clear cut and simple as sometimes suggested. This suggestion is in line with the conclusions drawn by a number of studies. For example, if some countries are more effective in reducing poverty than others (see Caminada and Goudswaard, 2009), this may imply that the precise relationships between social spending, income inequality, labour markets and economic growth are yet to be understood. There are many endogenous forces behind the growing income inequality in Western countries, such as growing inequality in market income, demographic developments and changes in household size and composition (Caminada and Goudswaard, 2001). These endogenous factors develop differently over countries and the distribution of income is influenced by a wide variety of forces. The exact effects of social policies on the income distribution are thus hard to pinpoint and may have different effects in different contexts.

The following can be concluded about the current state of affairs regarding research into the relationship between social policy and poverty. First, the relationship may be indirect rather than direct, as sometimes suggested. This argues for the inclusion of different kinds of intermediate factors. The second possible implication is that the effects depend on the social context, meaning that what works in one country does not have to be effective in another (Dallinger, 2010). Hence, moderation effects should be investigated. The third implication is that a combination of these two issues is at work, which means that both intermediate and contextual effects should be taken into account.

With regard to the latter issue, the question is whether these effects occur on the national, the regional or the individual level. To date, research on the effectiveness of social policies and (re)distributive outcomes has mainly focused on national income and/or poverty levels. Existing research hardly

focuses on regional differences in the effects of welfare state programmes, with a few exceptions. For example, Fainstein (2001) argues that national policies mitigate the effects of international economic and demographic factors that shape the socioeconomic opportunities of a region in ways that strongly affect the life chances of urban residents (for example, generous housing subsidies in the Netherlands). Besides that, there is a general consensus among urban inequality researchers that the welfare state has mitigated socioeconomic differences in cities (Friedrichs, 2002; Musterd, 2005; Musterd and Ostendorf, 1998; Ostendorf et al., 2001; Pinkster and Völker, 2009; Wacquant, 2008). Nevertheless, the direct effect of social spending on within-country variation in poverty or income levels has not been tested empirically so far, which makes claims about the role of the welfare state on a lower level of aggregation rather speculative and not based on solid empirical research. All in all, this raises the question whether the positive relationship between social spending and poverty alleviation at the national level affects all citizens no matter the place of residence. The fact that, over the past few decades, urban inequality researchers and policy makers have focused on the negative effects of socioeconomic spatial segregation is a clear reference to the idea that there is socioeconomic inequality between cities, suburbs and other non-urban areas. From this perspective, it seems rather naive to assume that redistribution and (access to) social support is equally distributed *within* countries.

The present study aims at extending the existing welfare state and urban inequality literature, both theoretically and empirically. We first connect welfare state research to urban inequality research by combining two levels of analysis – the country level and the local level. Assuming that there are regional differences in the effects of welfare state programmes, this study investigates the effects of social spending on poverty in urban and non-urban areas in 21 European countries. We conduct a multilevel logistic regression analysis using Round 4 of the European Social Survey (ESS, 2008) and national-level data from Eurostat (Eurostat, 2008).

The impact of social policy on the distribution of poverty within countries

Welfare state research investigating the relationship between social spending and poverty has focused solely on the *national* level. Though the lack of empirical research including lower levels of aggregation constitutes a gap in knowledge about the effects of social spending, it is justifiable. As Caminada and Goudswaard (2001) argue, there exists a trade-off between the quality and availability of data in this field of empirical research. Different data sets not only rely on data from different countries and across different time-periods; they are also based on different conceptual definitions (income versus consumption), measurements (gross versus net income), units of observation (individuals versus households) and coverage (national versus subnational) (Caminada and Goudswaard, 2001). These inconsistencies between data sets make the comparability of levels and/or trends of income inequality across countries nearly impossible. Only recently, more consistent data sets, such as the Luxembourg Income Study (LIS), have become available, which has led to an improvement in the possibilities for conducting adequate cross-national, time-series analysis (Caminada and Goudswaard, 2001; Kenworthy, 1999). Hence, research is just beginning to be able to properly investigate cross-national effects of social spending over time. In light of this data availability it is hardly surprising that research on lower-level welfare state effects has not been conducted yet.

Nevertheless, different types of research that are conducted on a lower level suggest that there are regional differences in the effects of social spending *within* countries. For example, in researching global income inequality, Firebaugh (2003) and Firebaugh and Goesling (2004) note that national-level improvements such as economic growth or increasing national mean income levels will decrease global income inequality, while at the same time increase inequality within a country (see Milanovic, 2003). Similarly, in researching regional income inequality and European Union convergence processes, Paas and Schlitte (2006) have found significant regional disparities. Although between-country inequality appears to have decreased over the period 1995–2002; within-country inequality has actually increased. The authors found a core–periphery structure with relatively high income levels in central European areas, and relatively low income levels in peripheral regions (Paas and Schlitte, 2006). Though this says nothing about the *effects* of within-country variation, their findings do show that there are regional income differences, also within countries.

While welfare state researchers interested in poverty tend to focus on the national level, the idea that income inequality varies within countries is well established in urban inequality research. Research in this area has specifically focused on the question why cities tend to be more unequal than rural areas. The contrast between the rich and the poor is particularly striking in cities because of the density (Glaeser et al., 2009): while cities are hybrids of knowledge-intensive industries and centres of information technology, they are also characterised by persistent urban poverty (Friedmann, 1986; Wacquant, 2008).

Sassen's (1991, 2001) *social polarisation hypothesis* states that cities experience an increase in the demand for professional high-skilled labour and low-skilled, low-paid service jobs, resulting in a polarisation of high- and low-income groups. This development has been questioned by Hamnett (1994, 1996, 2002) who has investigated the polarisation hypothesis in several European cities, concluding that, instead of a process of *social polarisation*, we can witness a process of growing *income polarisation or inequality* accompanied by a professionalisation of the occupational structure in large cities. Next to a shrinking middle, large cities experience an over-representation of high-income, high-educated and low-income, low-educated groups. According to Hamnett (1996), this can be explained by increasing professionalisation: cities experience an increase in the proportion of professionals and managers. Reductions in (the need for) low-skilled workers leads to an 'outsider surplus' (Buck, 1997) creating high unemployment levels (Hamnett, 2002).

These processes of income polarisation and the mismatch between demand and supply of jobs can lead to the development of 'socioeconomic ghettos' (Brueckner and Zenou, 2003; Wilson, 1987). Moreover, low-skilled, low-educated individuals tend to be concentrated (and stuck) in inner-city neighbourhoods and are unable to find employment, first because of the mismatch between their educational background and the demand of labour and second because of geographical limitations since the businesses offering employment to low-skilled people have disappeared or moved to the (international) periphery (cf. Gobillon et al., 2007; Kain, 1968, 2004; Wilson, 1987). At the same time, high- and middle-income groups have a tendency to leave (disadvantaged) metropolitan areas to settle in suburbs, smaller cities or rural areas, a process known as 'counter-urbanisation' (Champion, 1989) or 'white flight' (Damerell, 1968; Duncan and Duncan, 1957; Wilson, 1987; Wolf, 1963). Settling in suburban and rural areas is often not a possibility for low-income households, because of the limited availability of low-cost and social

housing in these areas, leading to increased polarisation between poor inner-city areas and relatively affluent suburban and rural areas (Jivraj, 2012).

Structural economic changes in society, such as deindustrialisation and labour market polarisation, combined with increasing residential mobility of the middle and higher classes has led to the concentration of poverty in inner-city areas (cf. Hamnett, 1994, 1996, 2002; Wilson, 1987). However, the spatial concentration of poverty merely reflects socioeconomic inequality in society (van Eijk, 2010). This means that poverty, as the result of the uneven distribution of money and services, leads to social segregation. The social distance between the rich and the poor often becomes a spatial phenomenon, meaning that segregation is then socio-spatial (van Eijk, 2010). The fact that we can observe spatial segregation within different welfare states thus suggests that there is an uneven distribution of money and services, leading us to question the redistributive outcomes of social policies.

The question of redistribution and income inequality

The question concerning the unequal impact of the welfare state on poverty is a question about redistribution within countries. Most research on redistribution focuses on the total impact of social spending on average poverty levels. This study expands on existing research by addressing the question how the welfare state relates to socio-spatial stratification.

Social spending may reduce poverty rates on the national level, while it increases inequality within a country (cf. Firebaugh, 2003; Firebaugh and Goesling, 2004; Milanovic, 2003; Paas and Schlitte, 2006). Many studies focused on the question whether social policies should be targeted or universal, i.e. should the welfare state organise social support specifically for the poor alone or should all citizens benefit from social policies (e.g. Barry, 1990; Korpi and Palme, 1998; LeGrand, 1982; Tullock, 1983)? Korpi and Palme (1998) argue that while targeted welfare state programmes constitute the most effective strategy for reducing poverty and inequality; universal programmes yield more public support for the welfare state, and ensure the future of the welfare state thus resulting in greater redistribution. Welfare state programmes targeted towards the poor create a zero-sum conflict and constitute no incentive for the support of high- and middle-income groups. An institutional model aimed at maintaining a certain standard of living benefiting most households directly in some way, however, generates the broadest base of support (Korpi and Palme, 1998). Their empirical study shows that universal programmes and earnings-related benefits can reduce poverty and inequality more effectively than targeted or flat-rate programmes, mainly because of the size of the redistributive budget.

Korpi and Palme (1998) implicitly argue that targeted programmes are more effective in actually reaching the poor, while universal programmes tend to mainly benefit the middle and higher classes: an argument supported by several researchers (Goodin and LeGrand, 1987; LeGrand, 1982; Tullock, 1983). While it might be true that universal programmes generate more support and thus create a larger redistributive budget leading to lower national poverty and inequality rates, this does not say anything about redistributive outcomes *within* welfare states.

The argument advanced in the present paper is that redistributive outcomes *within* countries are unequal and that these unequal outcomes are reflected in the spatial structure. We assume that large cities are characterised by both high-income and low-income groups; while suburban areas, small towns and country villages are inhabited by fairly homogeneous high- and middle-income

groups. In line with existing research, we hypothesise that social spending indeed reduces national poverty levels, while, at the same time, the effects of social spending are unequally distributed within countries. Our main premise is that middle and higher income groups are the principal beneficiaries of universal welfare programmes (and thus high social spending) and that these groups tend to settle in suburban, rural areas. Lower income groups are either stuck in inner-city areas because of a lack of socioeconomic mobility, or move to inner-city areas hoping to find work. We thus hypothesise that (1) high social spending reduces poverty levels, while at the same time (2a) high social spending has no effect on poverty levels in city areas and (2b) a negative effect on poverty levels in non-urban rural areas.

Data, measurement and method

Data

This research uses 2008 data from the European Social Survey round 4 (ESS, 2008) and the Eurostat ESSPROS data base (Eurostat, 2008). The ESS is a biennial multi-country survey and contains individual-level data on divergent social topics. Round 4 of the European Social Survey contains variables on welfare attitudes and regional stratification, enabling statistical inference at the regional level (ESS, 2008). The Eurostat ESSPROSS survey is an annual survey on social protection. The 2008-module contains data on cross-country net social spending and thereby allows for international comparisons of administrative national level data on social protection (Eurostat, 2008). Because there is little cross-national income data available on a regional level, we combine this country-level data with the individual-level data from the ESS Round 4 to investigate the individual effects of social spending. The total data set investigated here contains data on 32,182 individual responses in 21 European countries. These countries include Belgium, Switzerland, Czech Republic, Germany, Denmark, Estonia, Greece, Spain, Finland, France, Hungary, Ireland, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia and the United Kingdom.

Measures

Dependent variable: Poverty. Table 1 provides an overview of the variables used in the analyses. The dependent variable of this study, (self-reported) *total household's net income*, is measured in national categories based on deciles of the actual household income range in a given country, using the median income as the reference point (ten deciles are constructed with the median at the top of the fifth decile) (ESS, 2008). Percentile points are one way to look at relative income levels and are suitable for cross-national comparisons because they are less sensitive to inter-country differences (Gottschalk and Smeeding, 1997). Social spending effects on household net income levels hardly tell us anything about income inequality or poverty reduction. Therefore, we choose to focus on the first three income deciles, which constitute about 60% of the median, the official EU-indicator for social cohesion. Defined as the at-risk-poverty rate after social transfers, this indicator measures the share of the population with an equivalised disposable income below the risk-of-poverty threshold (60% of the national median equivalised disposable income) (Caminada et al., 2012; Eurostat, 2012).

Researchers disagree on the measurement of poverty and different measures have been highlighted, all with their own merits and shortcomings (for an overview see Haveman, 2008). However, the issue of data availability in cross-national research restricts the possibility of using one single poverty measure (Caminada et al., 2012). Though it has been argued that relative poverty measures may

Table 1. Summary of the data set.

Variable	Min	Max	Mean	S.D.	Source
Individual level					
Poverty	0	1	0.290 (29%)	0.454	ESS
Big city	0	1	0.061 (6%)	0.239	ESS
Suburb	0	1	0.308 (31%)	0.462	ESS
Town/small city	0	1	0.297 (30%)	0.457	ESS
Farm/country village	0	1	0.334 (33%)	0.472	ESS
Age	15	99	48.035	18.437	ESS
Gender[a]	0	1	0.539 (54%)	0.498	ESS
Household size	1	15	2.696	1.389	ESS
Partner[b]	0	1	0.405 (41%)	0.491	ESS
Educational level[c]	1	5	3.059	1.332	ESS
National level					
Social spending	12.702 (Latvia)	31.007 (France)	22.796	5.424	Eurostat ESSPROS

Notes:
[a]0 = male, 1 = female.
[b]0 = living with a partner, 1 = not living with a partner.
[c]1 = ISCED 0–1, 5 = ISCED 5–6
Source: ESS Round 4 and Eurostat ESSPROS (2008).

hide indirect, dynamic effects of social policies (Kenworthy, 2004); for the reasons mentioned above, this study nevertheless focuses on subjective relative disposable income levels. The use of this measure can be justified, because (a) what ultimately matters to people is their disposable income after tax transfers (Kenworthy, 1999) and (b) absolute income levels make cross-national comparisons in welfare state expenditures difficult because often not all government-provided services are included in the data available (such as healthcare, education and childcare) (Kenworthy, 1999). Our unit of analysis is the household because there are substantial differences in household income levels across the major OECD countries (Gottschalk and Smeeding, 1997). Moreover, household income levels are important for this study because they take into account the demographic composition which tends to be different in city areas and rural areas.

Urbanity. To account for different types of urbanity, we use categorical data on self-reported living areas. The ESS contains a question on descriptive living areas (Which phrase on this card best describes the area where you live?). The following answers can be distinguished: 'a big city', 'the suburbs or outskirts of a big city', 'a town or a small city', 'a country village', 'a farm or home in the countryside'. Interaction variables are created to investigate the different effects of social spending. To avoid problems with multicollinearity between the explanatory interaction variables, the categories 'country village' and 'a farm or home in the countryside' are combined (as a small number of observations in a category can often cause imprecise estimations). The square root of the variance inflation factors (VIF) indicates that little of the variance of the estimated coefficients is being inflated by multicollinearity (Fox, 1991). The small number of the square root of the variance inflation factor for the interaction variables (VIF < 2) suggests that the model does not suffer from multicollinearity.

Welfare state: Social spending. To assess the impact of the *welfare state*, the Eurostat

indicator for net total social spending as a percentage of GDP is added to the ESS data base. It has been argued that using social spending ratios to measure social effort can be problematic in comparisons across countries since definitions of social security and/or social risks may differ across countries (Caminada and Goudswaard, 2008). Moreover, social benefits may be provided by either public institutions or market institutions (which in turn may be regulated by the government) (Caminada and Goudswaard, 2001). These differences are often not captured by national statistics (Esping-Andersen and Myles, 2009). Nevertheless, because of the lack of (consistent) comparable data on social spending across countries, social spending ratios as percentage of GDP are the most useful overall measure and the most widely used (Kenworthy, 1999). The Eurostat indicator for net social spending encompasses all types of transfers by social protection schemes to households and individuals in the form of cash or goods and services (Eurostat, 2008), which controls for the impact of cross-national differences in tax systems (Caminada and Goudswaard, 2008).

Control variables. The aim of this study is to assess regional differences in the effects of social spending on poverty. This relationship might be influenced by different demographic and economic factors. Variations in regional poverty levels may be driven by demographic differences: young people may choose to live in city areas, while older people and people with large families decide to live in smaller cities or more rural areas. To take (regional) differences in demographic composition into account, we control for *household size, gender* (1 = female), *age* and *living with a partner or not*. Variations in regional poverty levels can also be explained by social mobility and socioeconomic differences, we therefore also control for *educational level* (using the ISCED score) (UNESCO, 1997).

Method

Multilevel logistic regression analyses are used to estimate regional differences in the relationship between social spending and poverty. Logistic regression models are commonly used when the dependent variable is binary taking the value 0 or 1. In this study, we focus on the probability of belonging to (one of) the lowest income categories. Because of the possible combination of contextual and individual factors explaining poverty, we have chosen to use a multilevel model with individuals nested within countries. To investigate the robustness of the model, we have also conducted a regression model controlling for country-level variance by means of country fixed effects by including $N-1$ dummy variables (results are available upon request) (see Mohring, 2012). Because both models yield similar results, we report the results of the multilevel model.

Since our dependent variable is based on individual self-reported household income levels, the analyses are conducted at the individual level, without explicitly controlling for national-level variables. Cross-level interaction variables were created to investigate regional differences in the relationship between social spending and poverty.

Four models are estimated. Starting with an empty model (Model 0) to calculate the -2 log likelihood serves as a baseline against which the other models are compared. The next model includes the individual-level control variables (Model 1). The next two models that are calculated include the variables testing our hypotheses. Model 2 includes the social spending variable related to our first hypothesis about the direct effect of welfare state spending. The final model (Model 3) includes both the control variables and the interactions between welfare state spending and urbanity to test hypotheses 2a and 2b. Comparing the deviance (the difference between the -2 log likelihood of the two models using full information maximum

likelihood) allows us to comment on changes in the fit of the model. A predicted probability plot is created to illustrate the predicted probabilities of poverty for the values of social spending (as a deviation from the mean) for each type of urbanity.

Results

Descriptive results

Table 2 provides an overview of the mean scores for household's total net income according to country and urbanity. In general, the mean household's total net income appears to be the lowest in city areas in almost all countries. Income levels appear to be highest in country villages or farms, followed by suburbs and towns or small cities, offering support to the idea that high-income groups leave city areas and settle in more rural areas (cf. Champion, 1989; Damerell, 1968; Duncan and Duncan, 1957; Wilson, 1987; Wolf, 1963). Besides the fact that income levels are relatively high in the more developed welfare states, most countries seem to be characterised by a similar core–periphery pattern (Paas and Schlitte, 2006): lower income levels in city areas and higher income levels in more rural areas.

The differences between the regions are significant, the means of the different localities differ significantly from the reference group (country villages/farms). Part of the variation in income levels appears to be related to urbanity: big cities ($F = 93.80$, $p < 0.001$), suburbs ($F = 134.48$, $p < 0.001$), towns/small cities ($F = 55.53$, $p < 0.001$). However, differences within countries appear to be the most important source of income level variation ($F = 197.61$, $p < 0.001$).

Regression results

The results of the multilevel logistic regression analysis are presented in Table 3. The empty model shows that country differences explain 9.5% of the variation in poverty (ICC: 0.095). Adding the individual-level control variables improves the fit of the model (Deviance = 7728.850; $p < 0.001$), suggesting that most of the variance in poverty is explained by individual-level control variables within countries. This model (Model 1) shows that poverty is higher among women, singles and low-educated groups. These findings are in line with previous research on poverty (cf. Christopher et al., 2002; Pressman, 2000; Wright, 1995). Model 1 shows that, compared with country villages and farms, *in general* poverty levels are higher in big cities ($B = 0.299$, $p < 0.001$); and in suburbs ($B = 0.301$, $p < 0.001$). Poverty levels are also slightly higher in towns and small cities ($B = 0.169$, $p < 0.001$). Ceteris paribus, this finding suggests that the different types of urbanity significantly affect the probability of household poverty. In other words, the analyses show that there are local differences in the probability of poverty: compared with country villages and farms (reference category) there is a higher probability of poverty in suburbs, followed by big cities.

Models 2 and 3 test our hypotheses. Model 2 investigates the effect of social spending on poverty. Adding the variable that measures social spending slightly improves the model fit (Deviance = 5.064, $p < 0.05$). The negative coefficient indicates that social spending negatively affects poverty ($B = -0.063$, $p < 0.05$), offering support to our first hypothesis: social spending is related to lower levels of household poverty. Model 3 includes the interaction variables for the different types of urbanity. Adding these variables improves the model fit (Deviance = 108.098; $p < 0.001$). In this model, national levels of social spending are no longer significantly associated with household levels of poverty. However, when we control for interactions with urbanity, we

Table 2. Mean household's net income according to country and urbanity. Standard deviation in parentheses.

	Big city	Suburbs	Town/small city	Country village/farm
Belgium	7.56 (2.54)	7.67 (2.23)	7.33 (2.33)	7.10 (2.61)
Switzerland	3.85 (2.28)	5.39 (2.50)	5.18 (2.70)	5.18 (2.72)
Czech Republic	1.50 (0.71)	3.52 (1.55)	3.29 (1.39)	3.54 (1.76)
Germany	4.56 (1.90)	4.58 (2.44)	4.48 (2.57)	4.69 (2.57)
Denmark	5.90 (2.81)	6.12 (2.59)	5.80 (2.74)	6.00 (2.89)
Estonia	5.65 (2.21)	5.91 (2.78)	5.91 (2.63)	6.20 (2.78)
Greece	6.00 (2.65)	4.72 (2.46)	5.41 (2.44)	5.98 (2.23)
Spain	3.92 (2.02)	4.41 (2.35)	5.32 (2.64)	5.06 (2.46)
Finland	5.61 (2.61)	5.82 (2.62)	5.91 (2.76)	6.12 (2.90)
France	5.09 (2.75)	5.93 (2.81)	5.57 (2.83)	6.11 (2.90)
Hungary	4.92 (2.93)	4.77 (2.31)	5.44 (2.48)	5.69 (2.42)
Ireland	4.41 (2.33)	4.53 (2.49)	4.45 (2.43)	4.99 (2.76)
Latvia	3.95 (2.03)	4.00 (2.18)	4.43 (2.39)	5.12 (2.54)
Netherlands	5.57 (2.74)	6.33 (2.65)	6.06 (2.75)	5.87 (2.80)
Norway	6.24 (2.40)	6.62 (2.47)	6.36 (2.54)	6.81 (2.59)
Poland	5.00 (2.94)	5.54 (2.74)	6.15 (2.72)	6.82 (2.74)
Portugal	2.54 (1.56)	3.80 (1.89)	4.30 (1.90)	4.75 (1.82)
Romania	2.40 (3.13)	4.32 (3.11)	5.98 (3.15)	6.84 (3.06)
Sweden	6.82 (2.41)	6.94 (2.38)	6.87 (2.54)	7.10 (2.47)
Slovenia	4.15 (2.72)	4.80 (2.87)	5.40 (2.90)	5.48 (2.87)
UK	5.97 (3.00)	5.63 (2.95)	5.34 (2.96)	5.03 (3.08)

Source: ESS Round 4

find that social spending reduces poverty in different contexts. This model shows that there are significant differences in the effect of social spending on poverty in different types of urbanity. Compared with the reference group (people living on farms or in country villages), social spending negatively affects poverty in big cities ($B = -0.040$; $p < 0.05$), in suburbs ($B = -0.072$, $p < 0.001$), and in towns or small cities ($B = -0.021$, $p < 0.05$).

The graph plots the predicted probabilities of poverty for the values of social spending for each type of urbanity on poverty while keeping the control variables under ceteris paribus. In general, the graph illustrates that below-average social spending leads to increasing large local differences in the probability of poverty. Average and above-average social spending reduce the probability of poverty in all types of urbanity, however, local differences in the probability of poverty remain. Although social spending seems to have an equalising effect in the sense that differences in the probability of poverty in different types of urbanity become smaller; there are significant local differences.

These findings suggest that social spending decreases both the probability of poverty and local differences in the probability of poverty. Nevertheless, it also shows that social spending is more effective in reducing poverty in suburbs than in big cities, towns and farms. These findings offer support to both our hypotheses.

Discussion and conclusion

The present study extends previous studies on how the welfare state affects poverty by connecting it to urban inequality research.

Table 3. Results of the logistic multilevel regression analyses of poverty.

	Model 1			Model 2			Model 3		
	B	SE	OR	B	SE	OR	B	SE	OR
Social spending				−0.063*	0.026	0.939	−0.033	0.027	0.967
Social spending*big city							−0.040*	0.012	0.961
Social spending*suburb							−0.072**	0.007	0.931
Social spending*town/small city							−0.021*	0.007	0.979
Locality (reference farm/country village)									
Big city	0.299**	0.063	1.348	0.299**	0.063	1.349	0.317**	0.064	1.374
Suburb	0.301**	0.039	1.350	0.301**	0.039	1.350	0.335**	0.039	1.398
Town/small city	0.169**	0.037	1.184	0.169**	0.037	1.185	0.182**	0.037	1.199
Age	0.010**	0.001	1.010	0.010**	0.001	1.010	0.010**	0.001	1.010
Female	0.413**	0.029	1.511	0.413**	0.029	1.511	0.416**	0.030	1.516
Household size	−0.400**	0.015	0.670	−0.401**	0.015	0.670	−0.403**	0.015	0.668
Educational level (reference ISCED 0–1)									
ISCED 2	−0.729**	0.052	0.483	−0.729**	0.052	0.482	−0.738**	0.052	0.478
ISCED 3	−1.138**	0.051	0.321	−1.138**	0.051	0.320	−1.140**	0.051	0.320
ISCED 4	−1.625**	0.106	0.197	−1.627**	0.106	0.197	−1.619**	0.106	0.198
ISCED 5-6	−2.168**	0.056	0.114	−2.168**	0.056	0.114	−2.176**	0.056	0.113
Partner									
No partner	1.179**	0.033	3.250	1.178**	0.033	3.248	1,176**	0.033	3.241
Constant	−0.309	0.184	0.734	−0.262	0.170	0.769	−0.279	0.170	0.757
Country-level variance	0.501	0.157		0.393	0.123		0.390	0.122	
−2 log likelihood	29,433.718			29,428.654			29,320.556		
Deviance	7728.850**			5.064*			108.098**		
Wald Chi^2	5311.18**			5313.50**			5352.22**		
ICC	0.132			0.107			0.106		

Notes:
N = 32,182 individuals in 21 countries.
Empty model: Constant = −0.973 (0.129); Country-level variance = 0.346; −2 log likelihood = 37,162.568; ICC = 0.095.
Source: ESS Round 4 and Eurostat ESSPROS (2008).

Our main argument is structured around the assumption that social spending might reduce national poverty levels, but at the same time, has uneven effects within countries, reflected in a specific spatial pattern: high- and low-income groups in city areas and middle and high-income groups in suburbs and other non-urban areas. For decades, urban inequality researchers have focused on the question of why cities tend to be more unequal than rural areas. It is often argued that welfare state programmes have mitigated social differences in countries. Following van Eijk (2010), we view spatial inequality as the reflection of socioeconomic inequality in society, in the sense that spatial, or urban, inequality as the product of the uneven distribution of money, goods and services. When the spatial then itself becomes a category, strengthening socioeconomic inequality, it functions as an intermediating variable. In other words: when there is inequality between cities and suburban areas because of (a) transformations of the labour market and economic restructuring and (b) residential mobility; living in a city can then reinforce this inequality because of, for example, the uneven distribution effects of social spending.

Our analyses show that, compared with country villages and farms, living in a big city or in a suburb *in general* increases the probability of household poverty. With all the control variables under ceteris paribus, this finding suggests that the different types of urbanity significantly affect the probability of household poverty. In other words, there seem to be local differences in the probability of poverty: compared with country villages and farms (reference category) there is a higher probability of poverty in suburbs, followed by big cities. The higher probability of household poverty in suburbs contradicts existing theories that claim that more affluent groups tend to settle in suburban areas. It is important to note that the variable measuring urbanity is self-reported. It is possible that respondents are not able to differentiate between big cities and suburban areas in big cities, or the distinction between (American-like) suburbs and big cities is not as obvious as sometimes suggested. Moreover, the process whereby more affluent groups tend to settle in more rural and suburban areas may differ between countries. Descriptive statistics show that, for example, both big cities and suburbs in Portugal and Romania are relatively poor compared with the more rural areas. Nevertheless, combined with the higher probability of household poverty in big cities, this finding offers support to the idea that low-skilled, low-educated groups are concentrated in city areas.

Our findings offer support to our hypotheses: national levels of social spending are significantly associated with household poverty levels, however, when controlling for interactions with different types of urbanity our findings suggest that social spending reduces household poverty in different contexts. The interaction variables show that social spending reduces the probability of poverty in all types of urbanity. While local differences in the probability of poverty exist, above-average social spending decreases these differences. However, with average national social spending we still see significant local differences in the probability of poverty: suburbs appear to be the ones benefiting most from social spending (see Figure 1). In above-average social spending countries, big cities appear to benefit the least from social spending, because the probability of household poverty is larger compared with any other type of locality.

It is important to emphasise that national social spending decreases the probability of household poverty in all types of urbanity. Thus, national social spending indeed reduces local poverty levels: no matter where you live, social spending will reduce the

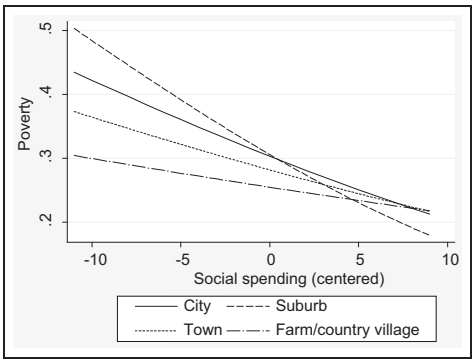

Figure 1. Predicted probabilities for the interaction effect of social spending in different types of urbanity.
Source: ESS Round 4 and Eurostat ESSPROS (2008).

probability of poverty. In other words, without social spending the probability of poverty and local differences in the probability of poverty are far greater. In high social spending welfare states, such as Sweden, Denmark and the Netherlands, local probabilities in poverty are fairly little, and it is fair to say that the higher the social spending, the smaller the local differences. However, with average social spending there remain substantial differences in the probability of poverty between the different urban and non-urban areas.

Interestingly enough, in below-average social spending countries it is the suburbs where there is a higher probability of household poverty, followed by the big cities. This finding suggests that the American-like suburbs where the higher classes are supposed to settle appear to be a feature of generous welfare states. Around average social spending there appears to be a cut point: social spending substantially decreases the probability of poverty in suburbs, while the probability of poverty in big cities remains slightly higher. This finding sheds new light on theories about patterns of residential mobility. The process whereby middle and upper income groups move out of city areas and settle in suburban and other non-urban areas, seems to differ substantially between welfare states. This raises the question how welfare states influence residential mobility and spatial structures, which relates to processes of redistribution. Are the better-off moving out of big cities where poverty levels are higher, or are the poor attracted to big cities because of generous welfare or social housing programs and access to services (cf. Blank, 1988; Borjas, 1999)?

The findings here do not allow us to draw conclusions about detrimental effects of social spending such as a poverty trap or welfare dependence. However, these findings do raise questions about redistribution, and suggest that social welfare might not always reach the poor who are stuck in inner-city areas. This interpretation is however speculative and brings us to the limitations to this study, which need to be addressed in further research. First and foremost, this study is based on cross-sectional data, meaning that we focus on income levels and are not able to investigate trends. Our focus is limited to the year 2008, which fails to take the dynamic effects of economic and demographic factors into account. However, the fact that there is very limited city-level data available poses a major challenge in these types of research. More data collection that allows for the simultaneous study of between- and within-country effects is necessary.

This study focused on the question whether social spending has a different effect on poverty in different types of urbanity. Research on the welfare state has demonstrated that social spending reduces national poverty levels. While it is true that social spending reduces poverty, this research has shown that the effects of social spending differ within and between welfare states. We have found both significant local differences in poverty levels, as significant local differences in the effects of social spending. These findings raise questions about processes of

redistribution and residential mobility. Future research should investigate how national social spending affects different (socioeconomic) groups and how this influences patterns of residential mobility, arguably following a holistic approach taking the within- and between-country variation into account.

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