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Combating poverty in the European Union

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Chapter 1 Combating Poverty in the European Union

*Koen Caminada and Kees Goudswaard*¹

1 Introduction

Poverty alleviation has been a European objective since the Treaty of Rome in 1957. In 2000, the European Council adopted the goal that besides economic growth, social cohesion should be strengthened in the EU (the Lisbon Agenda). Less poverty was considered to be crucial to reach greater social cohesion. Thus, the Lisbon Agenda has renewed the interest in poverty alleviation across Member States. In 2010, the Lisbon Agenda was followed by the Europe 2020 strategy. Again, an important part of this strategy is to promote social inclusion, in particular through the reduction of poverty. A specific target was set: by 2020, there should be at least 20 million fewer people in the EU who are at risk of poverty or social exclusion.

However, in 2019, still a sizable proportion of the EU population lives in poverty. In the EU people are said to be at risk of income poverty if their incomes are below 60% of the median disposable income of households in their country, after adjusting for household size (equivalence scales).² Based on this EU-agreed definition, the proportion of the population of

¹ Part of this chapter draws from the earlier work of the authors. In particular, K. Caminada & K. Goudswaard, 'Effectiveness of Poverty Reduction in the EU15. A Descriptive Analysis', *Poverty & Public Policy*, 1(2), 2019, pp. 1-51; K. Caminada & K. Goudswaard, 'How Well Is Social Expenditure Targeted to the Poor?', in: P. Saunders & R. Sainsbury (eds.), *Social Security, Poverty and Social Exclusion in Rich and Poorer Countries*, International Studies on Social Security, volume 16, Morsel, Belgium, Intersentia, 2010, pp. 97-112; K. Caminada, K. Goudswaard, C. Wang & J. Wang, 'Income Inequality and Fiscal Redistribution in 31 Countries After the Crisis', *Journal of Comparative Economic Studies*, 61, 2019, pp. 119-148; K. Caminada, K. Goudswaard, C. Wang & J. Wang, 'Has the Redistributive Effect of Social Transfers and Taxes Changed Over Time Across Countries?', *International Social Security Review*, 72(1), 2019, pp. 3-31; K. Caminada, J. Wang, K. Goudswaard & C. Wang, 'Relative Income Poverty Rates and Poverty Alleviation Via Tax/benefit Systems in 49 LIS-Countries', 1967-2016, *LIS Working Paper Series #761*, 2019.

² There are three common ways of setting the poverty line: an absolute standard, a relative standard and a subjective standard. The US poverty threshold is based on an absolute poverty standard, which remains fixed over time in real terms. The EU-agreed relative poverty line is set as a fixed percentage of the median income in each country, which may change over time if median income changes in real terms. The subjective poverty line is based on respondents' answers to questions regarding what they consider to be an adequate standard of living.

the EU that is at risk of poverty in 2017 is 16.9%. This means that around 85 million citizens are considered as being at risk of poverty; 20% are children and 15% are elderly. But poverty rates strongly vary across countries: from 9.1% in the Czech Republic to 23.6% in Romania.

Obviously, in the EU, but in many other countries as well, poverty reduction is an important issue. Because poverty is a multidimensional problem, a range of policy strategies may be chosen to tackle poverty, including improving educational outcomes, improving job opportunities, stimulating labour force participation and reducing inequalities in health outcomes.³ But income transfers seem to be a very important instrument. A vast literature claims that high social effort goes along with low poverty levels across countries. Several quantitative studies indicate that there is strong negative correlation between poverty levels and social expenditures across European countries over the last 25 years.⁴ For example, Smeeding claims in several papers that higher levels of government spending as in Scandinavia and Northern Europe and more careful targeting of government transfers on the poor produce lower poverty rates.⁵ Nolan & Marx state that there is a strong relationship at country level between the level of social spending and the incidence of poverty ... arguably one of the most robust findings in comparative poverty research.⁶

Some countries are more effective in poverty reduction than others. What can explain these variations in effectiveness? This chapter analyses the effectiveness of income transfer policies among EU welfare states in reducing poverty. The focus is on EU countries, but other Organisation for Economic Co-operation and Development (OECD) countries will be included in the analysis as well, in order to make a comparison of the performance of EU and non-EU countries. We compare poverty rates at the levels of market and disposable incomes, that is, before and after social transfers and income taxes, in order to analyse the effect of tax and transfer policies in reducing poverty, that is, to determine the target efficiency of social transfers and income taxes. We will perform several tests with data from Eurostat (European Community Household Panel survey [ECHP]/European Union Statistics on Income and Living Conditions

³ N. Kakwani & J. Silber (eds.), *The Many Dimensions of Poverty*, New York, Palgrave Macmillan, 2007; N. Kakwani & J. Silber (eds.), *Quantitative Approaches to Multidimensional Poverty Measurement*, New York, Palgrave Macmillan 2008.

⁴ C. Behrendt, 'Holes in the Safety Net? Social Security and the Alleviation of Poverty in a Comparative Perspective', in: R. Sigg & Chr. Behrendt (eds.) *Social Security in the Global Village*, International Social Security Series, vol. 8, New Brunswick/London, Transaction Publishers, 2002, pp. 333-358.

⁵ T.M. Smeeding, 'Public Policy, Economic Inequality, and Poverty: The United States in Comparative Perspective', *Social Science Quarterly*, 86 (supplement), 2005, pp. 974.

⁶ B. Nolan & I. Marx, 'Economic Inequality, Poverty, and Social Exclusion', in: W. Salverda, B. Nolan & T.M. Smeeding (eds.), *The Oxford Handbook of Economic Inequality*, New York, Oxford University Press, 2009, pp. 329, 330.

[EU-SILC]), and OECD and confront our results with earlier findings on cross-country poverty research. This analysis may provide relevant information for policy makers. Cross-country differences in the effectiveness of policy reduction can help Member States improve their performance at this point through policy learning. The EU can set common targets for poverty reduction, but it is the responsibility of the Member States to choose the instruments to reach the targets.

The chapter is organized as follows: In Section 2 we discuss the policies on poverty alleviation in the EU and the actual development of at risk of poverty rates. Section 3 reviews other studies on the relationship between income transfers and poverty. Next, we present the research design in Section 4. Section 5 shows the results of the analysis of anti-poverty effects of social transfers and income taxes and its relationship to welfare state effort. Finally, Section 6 contains the main conclusions.

2 EU Social Policies

2.1 The Lisbon Agenda

Member States of the EU are autonomous when it comes to the design and generosity of their social protection systems. Still, Member States have accepted a certain degree of commitment in terms of social protection. Social progress has been a common objective since the start of the European integration process in 1957. The founding fathers of the EU believed that economic integration would promote progress in social protection across participating countries, such that convergence of social protection systems follows more or less spontaneously. In the 1990s, both the European Council and the European Commission adopted a more active convergence strategy: they proclaimed the objective of a convergence of social policies of Member States and the development of common objectives of social policies.⁷ An important step was taken at the European Council in Lisbon 2000. The strategic goal was set that the EU was to become the most competitive and dynamic knowledge-based economy with sustainable economic growth and greater social cohesion before 2010. The economic and social agendas were thus explicitly coupled. To achieve these aims, the social model needed to be modernized. To ensure long-term sustainability of the social security systems in the light of the ageing process, participation rates should be increased.

⁷ K. Caminada, K.P. Goudswaard & O.P. van Vliet, 'Patterns of Welfare State Indicators in the EU: Is There Convergence?', *Journal of Common Market Studies*, 48(3), 2010, pp. 529-556.

The Treaty of Nice of 2001 took the social agenda further. It was agreed to advance social policy on the basis of the open method of coordination, first employed with respect to employment policies. In Nice, it was decided that Member States should implement action plans for combating poverty and social exclusion and to define common objectives on social indicators. The indicators, based on the Social Indicators report of Atkinson et al. (2002), encompass financial poverty, income inequality, long-term unemployment, regional variation in employment rates, life expectancy and poor health.⁸ Progress of social inclusion and poverty reduction was monitored considering the performance in each Member State on the basis of national indicators.

Some considered these common indicators and the National Action Plans for Social Inclusion as significant progress towards integration along the social dimension.⁹ Others question this so-called open method of coordination.¹⁰ At least, this new mode of governance and the Lisbon Agenda, in general, have renewed the debate on poverty reduction in EU Member States.

In 2006, the Member States adopted renewed National Action Plans for Social Inclusion under the new streamlined open method of coordination. A year later, the Commission gave special attention to the poverty among vulnerable groups, especially children.¹¹ In most Member States, children are at greater risk of poverty than the overall population. In some countries, more than 25% of the children are at risk of poverty. Child poverty may have a strong damaging effect on future life opportunities and also on the future capacity of these children to contribute to society.¹²

2.2 The Europe 2020 Strategy

In 2010, the European Council adopted the Europe 2020 strategy as follow-up of the Lisbon Agenda. This was a strategy for smart, sustainable and inclusive growth.¹³ Inclusive growth

⁸ T. Atkinson, 'Social Inclusion and the European Union', *Journal of Common Market Studies*, 40(4), 2002, pp. 625-643.

⁹ Atkinson, 2002, pp. 625-643.

¹⁰ S. Leibfried, 'Some Background Comments on the Extension of the Open Method of Co-ordination', *Belgisch Tijdschrift voor Sociale Zekerheid*, 44(3), 2002, pp. 473-479.

¹¹ European Commission, *Joint Report on Social Protection and Social Inclusion 2008. Social Inclusion, Pensions, Healthcare and Long Term Care*, Luxembourg, Office for Official Publications of the European Communities, 2008.

¹² European Commission, 2008, p. 6.

¹³ European Commission, *Europe 2020: A Strategy for Smart, Sustainable and Inclusive Growth. Communication*, Brussels, European Commission, 2010.

means empowering people through high levels of employment, fighting poverty, modernizing labour markets, training and social protection systems. Again, reducing poverty was an important element with a specific target: by 2020, there should be at least 20 million fewer people in the EU who are at risk of poverty or social exclusion. A broader poverty concept was introduced: the new poverty indicator combines the at risk of poverty rate, the severe material deprivation rate, and the proportion of people living in households with very low work intensity. Severely materially deprived persons have living conditions severely constrained by a lack of resources.¹⁴ People with very low work intensity are those aged 0-59 years living in households where the adults work 20% or less of their total work potential during the past year. In this chapter, we only focus on at risk of poverty rates (or income poverty).

Part of the Europe 2020 strategy was to transform the open method of coordination on social exclusion and social protection into a platform for cooperation, peer-review and exchange of good practices. Also, the European semester was introduced, an annual cycle of economic, budgetary and structural policy coordination. Since then, social policies are part of the coordination of fiscal and economic policies in the framework of the European semester. Member States agreed to implement economic and labour market reforms to support inclusive growth. Through guidance, the EU enables Member States to draw from other Member States' experiences. This policy learning can be important in the field of fighting income poverty, since some countries are more effective in poverty reduction than others as is shown in the next sections.

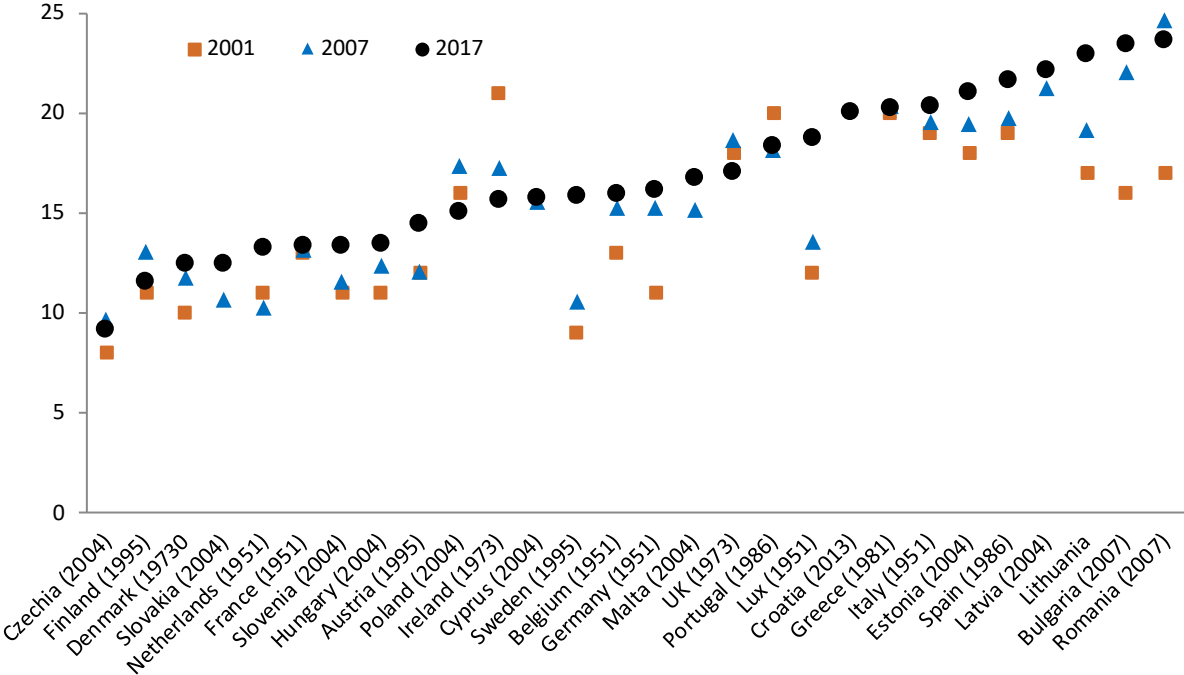
2.3 At Risk of Poverty Rates in the EU

This section illustrates the at risk of poverty rates for 28 Member States. Figure 1 shows time-series of annual disposable income poverty for the years 2001, 2007 and 2017. Countries are listed in order of their poverty rate from lowest to highest in 2017. The year of joining the EU is presented within brackets. Poverty rose in most countries since 2001. We have continuous time-series for 23 countries: in 19 Member States, the level of income poverty in 2017 is higher compared to that in 2001. On average, income poverty rose with 2.3 percentage points since 2001. Only two Member States experienced a decline in income poverty since 2001, that is the United Kingdom and Portugal. For the sub-period 2001-2007, data is only available for 23 countries. Poverty rose in 20 countries of the EU, on average with 1.1 percentage point to 15.8%

¹⁴ They experience at least 4 out of 9 following deprivations items: cannot afford (i) to pay rent or utility bills, (ii) keep home adequately warm, (iii) face unexpected expenses, (iv) eat meat, fish or a protein equivalent every second day, (v) a week holiday away from home, (vi) a car, (vii) a washing machine, (viii) a colour TV, or (ix) a telephone. See Eurostat, *People at Risk of Poverty or Social Exclusion*, Statistics Explained, 2019 (ec.europa.eu).

of the population in 2007. For the next decade 2007-2017, we have data for all countries except Croatia. Again, poverty rose in 20 countries of the EU, on average with 1.0 percentage point to 16.9% of the population. The increase in poverty rates since 2001 is disappointing, bearing in mind that combating poverty was an explicit EU objective, both as part of the Lisbon Agenda and the Europe 2020 strategy. It should be noted, however, that a large part of the increase in poverty rates might be explained by the Great Recession after 2008.

Figure 1 People at risk of poverty (% of total population)



Source: Eurostat EU-SILC (2019) and own calculations¹⁵

Table 1 shows a decomposition of poverty profiles by sex and age groups in 2017. In most countries, poverty among females is slightly higher than among males, with Denmark, Slovakia and Finland as exceptions. We look at two age groups that are traditionally seen as vulnerable groups: children (less than 18 years) and elderly (65 years and over). On average, across all countries, around 20% of all children fell below the 60% poverty threshold, which is a higher percentage than for the total population. Child poverty rates are especially low in Denmark, Finland and Czechia where fewer than 12% of all children are at risk of income poverty, suggesting that families with children are relatively well protected against poverty in these

¹⁵ Eurostat Data on At-risk-of-poverty rate before and after social transfers, via ec.europa.eu/eurostat/data/database (accessed July 2019, for 28 Member States).

countries.¹⁶ Child poverty is high and above 25% in Lithuania, Italy, Spain, Bulgaria and Romania. Income poverty among the elderly is on average 15.0%, which is lower than for the total population. However, cross-country differences are large, with relatively low rates for Slovakia, France, Denmark, Hungary, the Netherlands and Czechia (below 11%) and high rates in Lithuania, Latvia and Estonia (more than 33%).

To sum up, our analysis of poverty of vulnerable age groups identifies serious holes in the safety net of several countries. In some Member States, the safety net offers little assistance to vulnerable groups.¹⁷ On average, child poverty is quantitatively a larger problem than the poverty among the elderly. Especially single parents and their children generally have the highest poverty rates, whereas those in two-parent units, mixed units and the childless experience the least poverty.

¹⁶ O. Lelkes & E. Zólyomi, 'Poverty Across Europe: The Latest Evidence Using the EU-SILC Survey', *European Centre Policy Brief*, October 2008, p. 5.

¹⁷ D. Sainsbury & A. Morissens, 'European Anti-Poverty Policies in the 1990s: Toward a Common Safety Net', *LIS Working Paper Series*, No. 307, 2002.

Table 1 At risk of poverty rate: decomposition by sex and age, 2017

	Total population	Males	Females	Less than 18 years	From 18 to 64 years	65 years or over
Czechia	9.1	7.6	10.7	11.6	7.9	10.7
Finland	11.5	11.5	11.4	10.2	11.6	12.3
Denmark	12.4	13.0	11.7	10.0	14.3	8.8
Slovakia	12.4	12.4	12.3	19.9	11.5	6.9
Netherlands	13.2	13.2	13.3	14.4	13.8	10.0
France	13.3	12.9	13.6	19.1	12.9	7.8
Slovenia	13.3	12.0	14.5	12.8	12.6	16.4
Hungary	13.4	13.1	13.7	14.8	14.2	9.1
Austria	14.4	13.5	15.3	19.1	13.5	12.9
Poland	15.0	15.1	14.9	14.0	15.6	13.8
Ireland	15.6	14.7	16.5	17.0	15.3	14.8
Cyprus	15.7	14.6	16.8	16.5	14.2	21.6
Sweden	15.8	15.4	16.2	18.6	14.8	15.8
Belgium	15.9	14.9	16.9	18.6	15.0	16.0
Germany	16.1	15.0	17.1	15.2	16.0	17.0
Malta	16.7	16.1	17.3	21.2	13.2	24.9
United Kingdom	17.0	16.1	17.9	21.3	15.5	16.9
Portugal	18.3	17.8	18.7	20.7	18.1	17.0
Luxembourg	18.7	17.9	19.4	22.8	18.8	11.8
Croatia	20.0	18.9	20.9	21.4	16.9	28.6
Greece	20.2	20.2	20.2	24.5	21.7	12.4
Italy	20.3	19.4	21.1	26.4	20.3	15.6
Estonia	21.0	18.4	23.3	16.5	16.2	41.2
Spain	21.6	21.0	22.2	28.3	21.7	14.8
Latvia	22.1	19.1	24.6	18.4	17.5	39.9
Lithuania	22.9	21.4	24.2	25.7	18.8	33.4
Bulgaria	23.4	21.8	24.9	29.2	18.9	32.0
Romania	23.6	22.9	24.2	32.2	21.9	20.0
EU28	16.9	16.3	17.6	20.2	16.5	15.0

Source: Eurostat EU-SILC (2019)¹⁸

To some extent, income poverty has shifted over time from the age group 65 years and over to the age group 65-. In 16 of the 25 countries, poverty rose among people aged 65- in the period 2005-2017. For the 65+ group, the picture is the other way around: poverty declined in 14 of the 25 countries. In 17 of the 25 countries, poverty among people aged 65 years and over developed more favourably than among people aged 65-. As a result, the at risk of poverty rate among people aged 65 and over is since 2010 lower than the at risk of poverty rate among people aged 65- in the EU. This suggests that, during the crisis, the incomes of the elderly have been safeguarded and that younger cohorts have absorbed a good deal of the crisis.

¹⁸ Eurostat, July 2019.

3 The Effect of Social Transfers on Poverty: A Literature Survey

3.1 Direct Effects

Many studies analyse the impact of social transfers and income taxes on poverty outcomes. A first strand of research is – like our study – focused on measuring the direct effect of social transfers and income taxes on poverty outcomes, by comparing pre-tax/transfer poverty rates with post-tax/transfer poverty rates. An important study by the OECD concludes that cash benefits and household taxes significantly reduce poverty in all OECD countries,¹⁹ but there are large differences across countries. The percentage difference in poverty reduction ranges from 12% in Korea to almost 80% in Sweden, Czech Republic and Denmark. The average poverty-reducing effect is a little over 60%. Countries with higher market-income poverty are not necessarily those with higher disposable income poverty. Over time, the OECD finds that that market-income poverty has strongly increased from the mid-1980s to the mid-1990s in the 17 countries for which data are available. This increase was only partly offset by a slightly higher poverty-reducing effect of social transfers and taxes. From the mid-1990s to the mid-2000s, market-income poverty was more or less stable, but the poverty reduction achieved by the welfare state has dropped, resulting in higher disposable income poverty rates. Again, differences between countries are substantial.

Caminada et al analyse the effectiveness of social transfers and income taxes in alleviating poverty for 49 countries, using microdata from the Luxembourg Income Study.²⁰ On average, across 49 countries, 15% of the total population was lifted out of poverty via tax/benefit-systems around 2013. As far as specific social programmes are concerned, only three programmes account for the bulk of total poverty reduction: old-age/disability/survivor scheme (81%), social programmes for family and children (14%) and the unemployment scheme (9%). In addition, Caminada et al show trends of disaggregated anti-poverty effects by social programmes in a comparative way, using a sequential budget incidence analysis for a selected group of eight countries. The dominant pattern during the period 1985-2016 was not only that of increasing market-income poverty, but also increasing poverty alleviation. Thus, their conclusion is in contrast with the finding by the OECD that poverty reduction through income transfers has dropped over time.

Marx et al (2014) show that, across the EU, tax/transfer systems reduce the risk of poverty by 38% on average, but this impact varies from under 15% in Bulgaria to around 60%

¹⁹ OECD, *Growing Unequal? Income Distribution and Poverty in OECD Countries*, Paris, OECD, 2008.

²⁰ Caminada, Wang, Goudswaard & Wang, 2019.

in Denmark, Hungary and Sweden.²¹ Meyer and Wu examined in 2008 the anti-poverty effect of social transfers in the United States by linking administrative data to survey data. All social transfers together cut the poverty rate by around 50%. Social security accounts for most of the poverty reduction (33%), whereas means-tested programmes account for 16%. Causa & Hermansen show that, in most OECD countries, poor households (the bottom 20%) have lost the most from changes in redistribution over the last two decades.²² Exceptions are Greece, Ireland, Spain and Portugal. This is probably due to the strong increase in unemployment during the crisis in these countries, which implied more unemployment benefits and more redistribution. In Italy, however, rapidly rising unemployment did not go along with more redistribution towards the poor.

Much attention has also been paid to the poverty-reducing effects of social transfers and income taxes for different age groups. We restrict our review to a study by the OECD.²³ This study indicates that the poverty-reducing effect of social transfers and income taxes is the strongest for elderly people, because of the importance of (public) pensions. For people of working age, the effect is two-thirds of that for people of retirement age. For children, the poverty-reducing effect is the smallest: around 57% of the effect for people of retirement age. Especially for the working-age population, the poverty-reducing effect of social transfers and income taxes has decreased since the mid-1980s according to the OECD.

3.2 Multivariate Analyses

A second strand of comparative research analyses the relationship between poverty outcomes and a wide set of independent variables, including welfare state spending and several other economic and demographic variables. Brady performed a multivariate analysis of relative poverty in 18 Western countries over the period 1967-1997.²⁴ He concludes that social security transfers and public health spending significantly reduce poverty. The effects of these social programmes are much larger than economic and demographic sources of poverty. Kenworthy studied the effects of social welfare policies on poverty across 15 affluent countries over the

²¹ I. Marx, B. Nolan & J. Oliveira, 'The Welfare State and Anti-Poverty Policy in Rich Countries', *IZA Discussion Paper*, No. 8154, 2014.

²² O. Causa & M. Hermansen, 'Income Redistribution Through Taxes and Transfers Across OECD Countries', *OECD Economics Department Working Paper*, No. 1453, OECD Publishing, 2017.

²³ OECD, 2008.

²⁴ D. Brady, 'The Welfare State and Relative Poverty in Rich Western Democracies, 1967-1997', *Social Force*, 83(4), 2005, pp. 1329-1364.

period 1960-1991.²⁵ He finds that pre-tax/transfer poverty is the most important determinant of post-tax/transfer poverty. Yet, social transfers do have a statistically significant negative effect on poverty. Additional spending of 1% of gross domestic product (GDP) on social transfers reduces the absolute poverty rate by 0.75 percentage points. Moller et al use pooled time-series microdata from Luxembourg Income Study (LIS) for 14 countries over the period 1970-1997.²⁶ They conclude that socioeconomic factors including deindustrialization and unemployment largely determine pre-tax/transfer poverty. Poverty reduction is directly explained by welfare state generosity. The overall size of the welfare state and a strong reliance on child and family allowances are important determinants of poverty reduction. Caminada et al analyse the impact of social expenditure on poverty for the period 1985-2005, controlling for macroeconomic and demographic differences across countries.²⁷ They find quite a strong negative relationship between the level of social expenditure and poverty rates across countries, which confirms the results of earlier studies.

3.3 Targeting to the Poor

In a third strand of research, a distinction is made between programme size and the extent to which they are targeted towards low-income groups by means testing. Institutions like the EU and the World Bank have stressed the importance of the structure of social protection systems. Well-designed targeted programmes were supposed to be more effective in terms of poverty alleviation. In fact, since the 1980s, means-tested expenditure has risen sharply in affluent countries. However, several empirical studies have shown the limitations of targeting for poverty reduction. Korpi & Palme surprisingly found a negative relationship between targeting and poverty rates.²⁸ The more countries target benefits to low-income groups, the smaller their redistributive budgets. They argue that universal social policies have stronger support and therefore reduce poverty more effectively than targeted policies. Kenworthy, however, updated the analysis by Korpi & Palme and found that after 1995 the negative relationship between targeting and poverty is not so clear. In a recent study, Ferrarini et al analysed programme size

²⁵ L. Kenworthy, 'Do Social Welfare Policies Reduce Poverty? A Cross-National Assessment', *Social Forces*, 77(3), 1999, pp. 1119-1139.

²⁶ S. Moller, D. Bradley, E. Huber, F. Nielsen & J. Stephens, 'Determinants of Relative Poverty in Advanced Capitalist Democracies', *American Sociological Review*, 68(1), 2003, pp. 22-51.

²⁷ K. Caminada, K. Goudswaard & F. Koster, 'Social Income Transfers and Poverty: A Cross-Country Analysis for OECD Countries', *International Journal of Social Welfare*, 21(2), 2012, pp. 115-126.

²⁸ W. Korpi & J. Palme, 'The Paradox of Redistribution and Strategies of Equality: Welfare State Institutions, Inequality, and Poverty in the Western Countries', *American Sociological Review*, 63, 1998, pp. 661-687.

versus targeting using multilevel logistic regression based on LIS data for 40 countries.²⁹ Their results show that the size of transfer programmes is a more important factor than targeting in explaining cross-country differences in poverty. This conclusion holds for the whole population as well as for the elderly population.

4 Research Design

4.1 Measuring Poverty Reduction

This chapter assesses the relationship between welfare state effort and poverty alleviation. We analyse the reduction of poverty rates through social transfers and income taxes and its relationship to welfare state effort. Usually, the impact of social policy on income poverty is calculated in line with the work of Musgrave et al, that is statutory or budget incidence analysis.³⁰ A standard analysis of the anti-poverty effect of income transfers and income taxes is to compare pre-tax/transfer poverty and post-tax/transfer poverty. This poverty rate is defined as the share of persons with an equivalized disposable income below the risk of poverty threshold, which is set at 60% of the national median equivalized disposable income in each country. For this indicator, Eurostat data (ECHP/EU-SILC) are available for the period 1995-2017, but not for all Member States. To compare the anti-poverty effectiveness of income transfers and income taxes among countries, poverty rates will be decomposed into the level of market-generated poverty and poverty after taxes and transfers (cf. Kim, 2000). When calculating poverty rates for both market and disposable income, people are ranked by their disposable incomes, so that the re-ranking effect is eliminated. Table 2 presents the framework of accounting income poverty and redistribution through various income sources.

²⁹ T. Ferrarini, K. Nelson & J. Palme, 'Levels and Targeting of Social Benefits in Global Perspective: Combatting Poverty through Social Policy', *LIS Working Papers Series*, No. 647, 2015.

³⁰ R.A. Musgrave, K.E. Case & H.B. Leonard, 'The Distribution of Fiscal Burdens and Benefits', *Public Finance Quarterly*, 2(3), 1974, pp. 259-311.

Table 2 The relative income poverty and poverty reduction accounting framework

Income components	Income poverty and redistributive effect
Labour income + capital income + private transfers = Market income (= primary income)	Income poverty before social transfers and income taxes
+ Social security transfers = Gross income	-/- Redistributive effect of social transfers = Income poverty before taxes
-/- Income taxes and social security contributions = Disposable income	-/- Redistributive effect of income taxes = Income poverty after social transfers and income taxes

It should however be noted that the indicator of poverty risk before social transfers and income taxes must be interpreted with caution. This approach assumes unchanged household and labour market structures, thus disregarding any possible behavioural changes that the situation of absence of social transfers would involve. However, behavioural responses – especially effects on work effort – have been at the heart of the policy debates shaping the evolution of anti-poverty policy.³¹ Kim showed that both the generosity and efficiency of the tax/transfer system may influence the level of pre-tax/transfer poverty.³² So, this standard approach overestimates the anti-poverty effectiveness of generous and/or targeted welfare systems.

Moreover, the material presented in this chapter is only descriptive and does not explain poverty alleviation or poverty structure. Such an analysis should ideally be based on a theory, which would have to address several cross-national differences.³³ Such a comprehensive approach is far beyond the scope of this chapter.

An important choice in this kind of analysis is whether the total population should be covered or the working-age population only. Note that in the EU reports (2007, 2008 and 2009) retirement and survivor's pensions are usually counted as income before transfers and not as social transfers, because the prime role of old-age (and survivors') pensions is not to redistribute income across individuals but rather over the life cycle of individuals. However, we believe

³¹ S. Danziger, R. Haveman & R. Plotnick, 'How Income Transfer Programs Affect Work, Savings and Income Distribution: A Critical Assessment', *Journal of Economic Literature*, 19 (September), 1981, pp. 975-1028.

³² H. Kim, 'Anti-Poverty Effectiveness of Taxes and Income Transfers in Welfare States', *International Social Security Review*, 53(4), 2000, pp. 105-129.

³³ P. Gottschalk & T.M. Smeeding, 'Cross-National Comparisons of Earnings and Income Inequality', *Journal of Economic Literature*, 35(2), 1997, pp. 633-687; P. Gottschalk & T.M. Smeeding, 'Empirical Evidence on Income Inequality in Industrialized Countries', in: A.B. Atkinson & F. Bourguignon (eds.), *Handbook of Income Distribution*, Amsterdam, North-Holland, 2000, pp. 261-308.

that, in our analysis, the largest government transfer programme, public pensions, cannot be excluded. Public pension plans are generally seen as part of the safety net, generating large anti-poverty effects. Occupational and private pensions are not poverty-reducing programmes per se, although they too have a significant effect on poverty alleviation when pre-tax/transfer poverty and post-tax/transfer poverty are measured at one moment in time, particularly among the elderly.³⁴ However, for many countries the distinction between public and private pensions is somewhat artificial and difficult to make. This affects international comparisons of anti-poverty effects of social transfers and taxes. Overcoming this bias requires a choice: should pensions be earmarked as market income or as a transfer? We deal with this bias rather pragmatically and will do both. Data from Eurostat allow for such an approach.

4.2 Measuring Social Effort

The overall result of quantitative studies seems to be that there is strong negative correlation between poverty and social expenditures across European countries over the last 25 years; see among many others Cantillon, Esping-Andersen & Myles, Behrendt, Kenworthy and Caminada et al.³⁵ However, the indicators used in most studies – public expenditure on social benefits – may not be representative of the social security system at large. Indeed, there are several problems. Expenditure ratios are determined to some extent by unemployment rates and by the demographic structure in a country and thus do not fully reflect protection levels. Also, most analyses of social protection are focused on public arrangements only. But social effort is not restricted to the public domain; all kinds of private arrangements can be substitutes to public programmes.³⁶ Private social benefits may be important for our analysis. In so far as they contain an element of redistribution, they may also have an impact on poverty reduction across countries. For example, private but mandatory pensions (in the second pillar) may have an effect on poverty incidence among the elderly. However, the impact of private social benefits is likely to be smaller than the impact of public social transfers. Also, differences in the tax treatment of social benefits make international comparisons of social protection systems much

³⁴ J. Been, K. Caminada, K. Goudswaard & O. van Vliet, 'Public/Private Pension Mix, Income Inequality, and Poverty Among the Elderly in Europe: An Empirical Analysis Using New and Revised OECD Data', *Social Policy and Administration*, 51(7), 2017, pp. 1079-1100.

³⁵ B. Cantillon, 'The Paradox of the Social Investment State: Growth, Employment and Poverty in the Lisbon', *Journal of European Social Policy*, 21(5), 2011, pp. 432-449; G. Esping-Andersen & J. Myles, 'Economic Inequality and the Welfare State', in: W. Salverda, B. Nolan & T.M. Smeeding (eds.), *The Oxford Handbook of Economic Inequality*, New York, Oxford University Press, 2009, pp. 639-664; Behrendt, 2002; Kenworthy, 1999; Caminada, Goudswaard & Koster, 2012.

³⁶ K. Caminada & K. Goudswaard, 'Are Public and Private Social Expenditures Complementary?', *International Advances in Economic Research*, 11(2), 2005, pp. 175-189.

more difficult. The OECD has done a comprehensive study on social expenditure, in which they account for private social benefits and the impact of the tax system on social expenditure.³⁷ In this study, we use the most recent data from the OECD on these net public and private social expenditure.

One could argue, however, that some social expenditure categories do not have a direct effect on the difference between market incomes and disposable incomes. This is especially the case for health care expenditures, which form a large part of total social expenditure. It would be interesting to analyse the effectiveness of only the spending categories that can directly influence poverty reduction. Therefore, we performed a sensitivity analysis by relating the anti-poverty effects of social transfers and income taxes to social expenditure excluding health care. Unfortunately, it is not possible to disaggregate the net social spending indicator discussed earlier in specific expenditure categories. For this reason, we use the gross public expenditure indicator (excluding health) in this sensitivity analysis.

5 Anti-Poverty Effect of Social Transfers and Income Taxes

5.1 Poverty Before and After Social Transfers

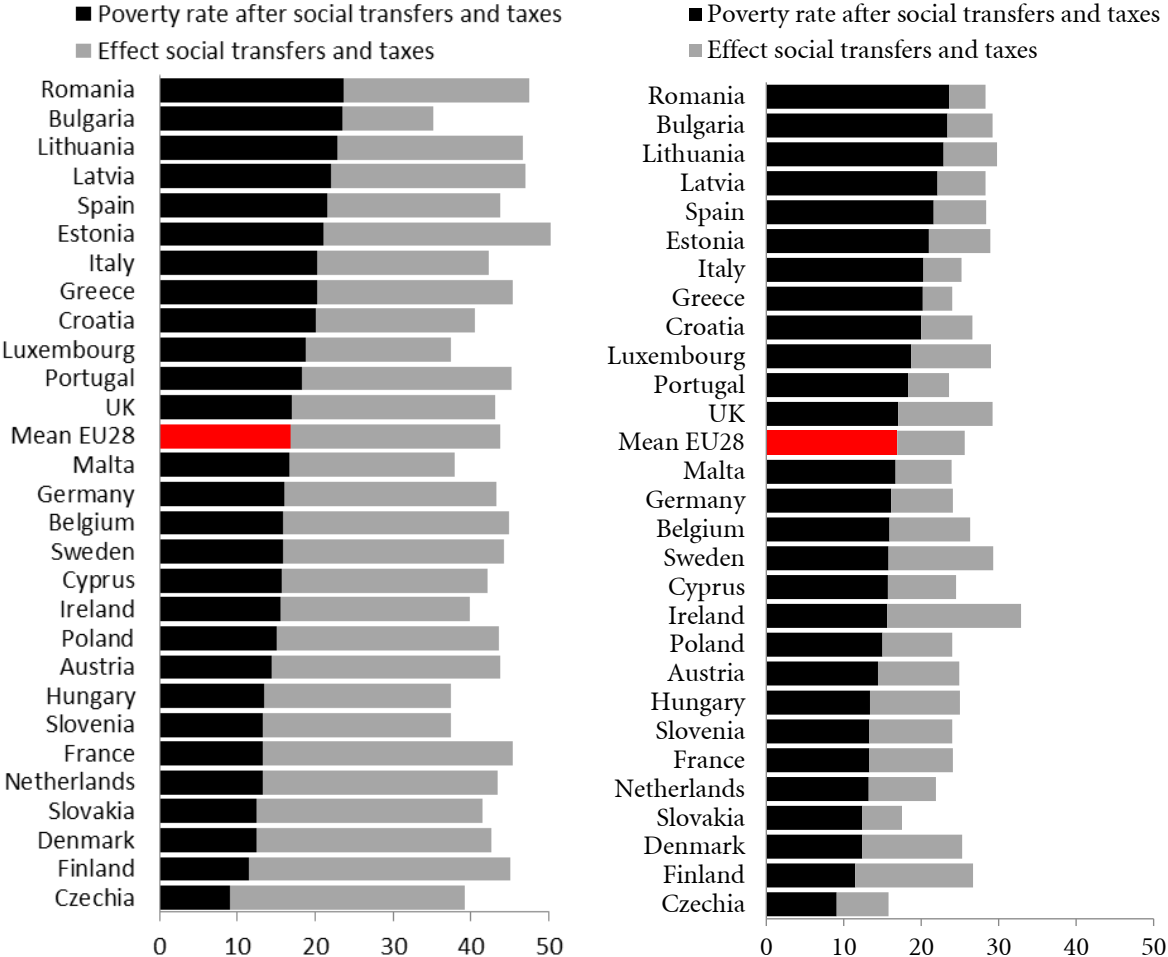
In every nation, benefits from governments, net of taxes, reduce relative income poverty. This is shown in Figure 2, panel (a) for the EU28. We compare the different at risk of poverty rates before and after social transfers and taxes. In each country, these rates are calculated with the same threshold, namely the nationally defined 60% threshold calculated on the basis of total household income. A comparison of the number of people on low incomes before and after social benefits illustrates one of the main purposes of such benefits: their ability to alleviate the risk of poverty and reduce the percentage of population (having to manage) with a low income. In 2017, the average at risk of poverty rate in EU28 countries was 44% before social transfers and 17% when calculated after all social transfers and taxes. So, social transfers were successful in lifting 27% of people with low income above the poverty line. Social benefits reduce the percentage of people at risk of poverty in all the countries, but to very disparate degrees. The reduction is smallest (less than 20%) in Luxembourg and Romania. The reduction is greatest in Finland, France, Denmark, the Netherlands and Czechia with reductions due to social transfers of 30% or more.

³⁷ W. Adema, 'Net Social Expenditure(2nd ed.)', *Labour Market and Social Policy - Occasional Papers*, No. 52, Paris, OECD, 2001; W. Adema, P. Fron & M. Ladaique, 'How Much Do OECD Countries Spend on Social Protection and How Redistributive Are Their Tax/benefit Systems?', *International Social Security Review*, 67(1), 2014, pp. 1-25.

As explained in Section 4.1, retirement and survivor’s pensions are usually counted as income before transfers and not as social transfers. Panel b in Figure 2 therefore shows the results of the same analysis, but with pensions excluded from transfers. This makes a lot of difference: both the poverty rates before transfers (the grey bars) and the anti-poverty effect of social transfers (and taxes) are much lower. Pensions are obviously very important in reducing poverty among the elderly. In another paper, we have shown that the poverty rate among elderly in EU28 countries falls from 84% to 18% through social transfers and income taxes when pensions are counted as transfers.³⁸

Figure 2 Anti-poverty effect of social transfers and income taxes EU28, total population, 2017

Panel (a) Pensions are included in social transfers Panel (b) Pensions are excluded from social transfers



Source: Eurostat ECHP/EU-SILC (2019) and own calculations.³⁹

³⁸ K. Caminada, J. Wang, K. Goudswaard & C. Wang, ‘Relative Income Poverty Rates and Poverty Alleviation Via Tax/benefit Systems in 49 LIS-Countries’, 1967-2016, LIS Working Paper Series #761, 2019.

³⁹ Eurostat, July 2019.

5.2 The Impact of Welfare State Effort in the EU28 Around 2015-2017

Next, we turn to the reduction of poverty rates through social transfers and income taxes and its relationship to welfare state effort. Table 3 presents the linkage between poverty reduction and social expenditure ratios for EU28 countries. This gives a picture of the targeting of social protection efforts across EU countries at one moment in time. Absolute anti-poverty effects (2017) are divided by net social spending ratios (2015) to see which country targets best per one point of GDP spent on social expenditure. This way we provide for an indicator of the effectiveness of poverty alleviation across countries around 2015-2017.

Our analysis highlights some cross-country differences of poverty alleviation in 22 countries of the EU (unfortunately we lose six countries due to data availability). When we rank countries according to their ‘effectiveness’ of combating poverty (column 7), each percentage point of net social expenditure alleviates poverty in Estonia, Latvia and Slovakia by 1.7-2.0 percentage points, while the lowest scores are found in Italy and Spain (0.9-1.0). In general, Western and Northern EU countries show lower than average effectiveness of combating poverty (with Ireland as an exception), while Middle European EU countries (new Member States) are more effective in alleviating poverty through social expenditures.

When pensions are excluded from transfers, the country ranking alters somewhat: best practices are found in Ireland, whereas Greece and Italy are found at the bottom of the list. The Nordic countries and the UK now show above average targeting effects. In France, Germany, Belgium and the Netherlands, the effectiveness of poverty reduction through social expenditures is also below average in case pensions are not treated as social transfers.

Table 3 Targeting effect of net social expenditure on poverty reduction EU22, around 2017

	Poverty rate total population (PL 60) before and after social transfers and income taxes, 2017			Effect social transfers and taxes		Net social expenditure % GDP ^c	Targeting effect	
	Before, pension included ^a	Before, pensions excluded ^b	After	(1) - (3)	(2) - (3)		(4) : (6)	(5) : (6)
	(1)	(2)	(3)	(4)	(5)		(7)	(8)
Austria	43.8	24.9	14.4	29.4	10.5	24.3	1.21	0.43
Belgium	44.8	26.3	15.9	28.9	10.4	26.7	1.08	0.39
Czechia	39.2	15.8	9.1	30.1	6.7	18.6	1.62	0.36
Denmark	42.6	25.3	12.4	30.2	12.9	25.4	1.19	0.51
Estonia	50.8	28.9	21.0	29.8	7.9	14.9	1.99	0.53
Finland	45.0	26.7	11.5	33.5	15.2	25.3	1.32	0.60
France	45.4	24.1	13.3	32.1	10.8	31.7	1.01	0.34
Germany	43.2	24.1	16.1	27.1	8.0	24.8	1.09	0.32
Greece	45.4	24.0	20.2	25.2	3.8	22.4	1.13	0.17
Hungary	37.5	25.0	13.4	24.1	11.6	18.1	1.33	0.64
Ireland	39.9	32.9	15.6	24.3	17.3	16.1	1.51	1.08
Italy	42.3	25.2	20.3	22.0	4.9	25.4	0.87	0.19
Latvia	47.0	28.3	22.1	24.9	6.2	13.7	1.81	0.45
Luxembourg	37.5	29.0	18.7	18.8	10.3	18.2	1.03	0.57
Netherlands	43.4	21.9	13.2	30.2	8.7	26.3	1.15	0.33
Poland	43.6	24.0	15.0	28.6	9.0	17.4	1.64	0.52
Portugal	45.2	23.6	18.3	26.9	5.3	23.0	1.17	0.23
Slovakia	41.5	17.5	12.4	29.1	5.1	17.4	1.67	0.29
Slovenia	37.4	24.0	13.3	24.1	10.7	20.6	1.17	0.52
Spain	43.7	28.4	21.6	22.1	6.8	22.9	0.97	0.30
Sweden	44.3	29.3	15.8	28.5	13.5	24.5	1.16	0.55
UK	43.1	29.2	17.0	26.1	12.2	24.5	1.07	0.50
Mean EU-22	43.0	25.4	15.9	27.1	9.4	21.9	1.24	0.43

^a Pensions are included in social transfers.

^b Pensions are excluded from social transfers.

^c Net social expenditure refers to 2015 except for the Netherlands (2013) and Poland (2013).

Mean EU-22: excluding Bulgaria, Croatia, Cyprus, Malta, Lithuania and Romania

Source: Eurostat: ECHP/EU-SILC (2019),⁴⁰ OECD SOCX (2019) and own calculations.

Within the group of EU22 countries, we do not find a significant relationship between (high) levels of net social expenditure and (high) anti-poverty effects of social transfers and income taxes around 2017. Evidently, social spending is not the only determinant of a country's poverty outcome.

⁴⁰ Eurostat, July 2019.

5.3 The Impact of Welfare State Effort in the Union Over Time

The figures on ‘effectiveness’ of combating poverty may be influenced by economic performance in specific years. For this reason, we employed a sensitivity analysis for the years 2001 and 2007 as well.⁴¹ Again absolute anti-poverty effects are divided by social spending ratios to see which country targets best per one point of GDP spent on social expenditure around 2001, 2007 and 2017. See Table 4.

Table 4 Targeting effect of net social expenditure on poverty reduction in the EU22, 2001, 2007 and 2017

	Targeting effect when pensions are <i>included</i> in social transfers				Targeting effect when pensions are <i>excluded</i> from social transfers			
	2001	2007	2017	Change 2001-2017	2001	2007	2017	Change 2001-2017
Austria	1.18	1.42	1.19	0.02	0.45	0.57	0.43	-0.02
Belgium	1.13	1.12	1.05	-0.08	0.45	0.53	0.39	-0.06
Czechia	1.66	1.73	1.40	-0.25	0.59	0.64	0.36	-0.23
Denmark	1.25	1.14	1.11	-0.14	0.91	0.70	0.51	-0.40
Finland	1.59	1.48	1.27	-0.32	0.99	0.84	0.60	-0.39
France	1.14	1.15	1.01	-0.12	0.48	0.47	0.34	-0.14
Germany	1.08	1.17	1.05	-0.03	0.39	0.40	0.32	-0.06
Ireland	1.04	1.35	1.68	0.64	0.63	0.94	1.08	0.45
Italy	1.11	1.07	0.99	-0.12	0.14	0.19	0.19	0.05
Luxembourg	1.47	1.55	1.56	0.08	0.58	0.60	0.57	-0.01
Netherlands	1.10	1.06	0.94	-0.16	0.50	0.44	0.33	-0.17
Portugal	0.80	1.02	1.17	0.37	0.19	0.29	0.23	0.04
Spain	1.08	1.02	1.02	-0.05	0.24	0.22	0.30	0.06
Sweden	1.08	1.40	1.16	0.08	0.35	0.77	0.55	0.20
United Kingdom	1.12	1.05	1.07	-0.06	0.47	0.50	0.50	0.03
Mean EU15	1.19	1.25	1.18	-0.01	0.49	0.54	0.45	-0.04

Source: Eurostat ECHP/EU-SILC (2019),⁴² OECD SOCX (2019) and own calculations

On average, the targeting effect of social spending did not change much during the period 2001-2017, although there is substantial country variation. Targeting improved in five countries and declined in seven EU countries. Especially, net social spending became more universally spread in Finland, Czechia and the Netherlands, whereas social spending became more targeted to the poor in Ireland and Portugal. As far as the targeting effect of welfare state effort within the EU

⁴¹ Note that there is a disruption in the time series of poverty indicators. Until 2001, data were provided by the European Community Household Panel survey (ECHP). Since 2005, all EU countries provide data from the new European Union Statistics on Income and Living Conditions (EU-SILC). Unfortunately, we lose another seven countries due to data availability.

⁴² Eurostat, July 2019.

is concerned, positions of our ranking are not steady over the business cycle. Moreover, note that country ranking depends on how pensions are treated.

5.4 Benchmarking with Other OECD Countries

Next, we also include 13 non-EU28 countries as a benchmark into our analysis. We use updated figures from another data source on poverty rates to compare non-EU countries with EU countries. The OECD Income Distribution Dataset (IDD) covers 23 Member States and 13 non-EU countries.⁴³ OECD IDD allows us to apply a 60% poverty line as well. In all OECD countries, income transfers and income taxes significantly reduce poverty. Figure 3 Panel (a) highlights differences across countries. These differences in the scale of redistribution partly reflect differences in the size and structure of social spending. OECD countries redistribute in a variety of ways – some through universal benefits, others with more targeted programmes, some mainly relying on transfers, others mainly granting tax rebates to low-income families (for instance the earned income tax credit (EITC) in the United States).

EU countries show an anti-poverty effect of 18.4 percentage points on average, whereas non-EU countries produce on average a substantially lower anti-poverty effect of 6.7 percentage points among their population. The relative poverty rate after taxes and social transfers is rather high in the United States (23.6%) compared to Europe (17.5%). The highest poverty rate is found for Israel.

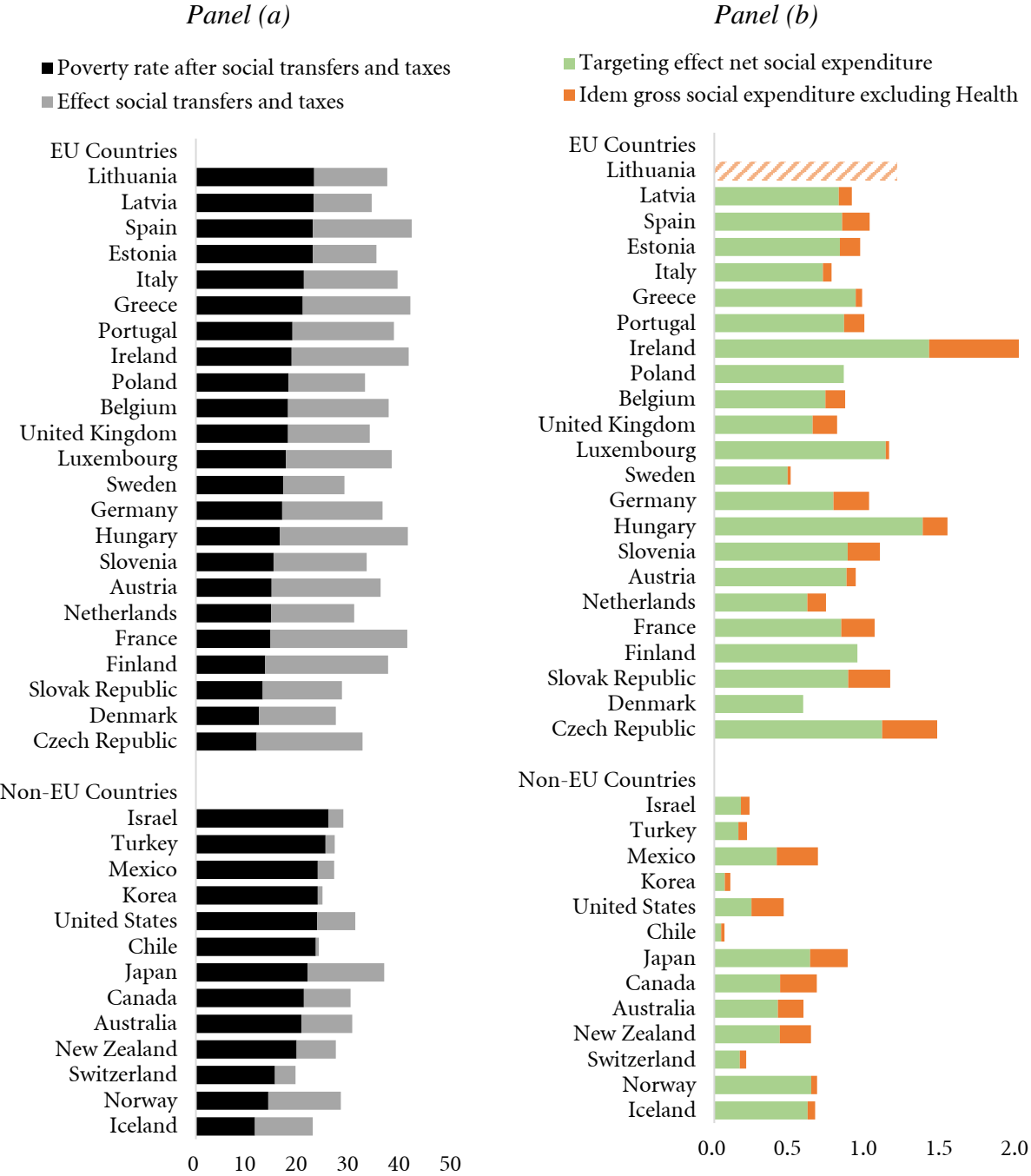
Again, we calculated the targeting effect of net social expenditure on poverty reduction. Each percentage point of net social expenditure alleviates poverty in the EU on average by 0.87 percentage points, whereas this figure is much lower for non-EU countries (0.36). European welfare states are better targeted towards the poor compared to non-EU welfare states. Outside the EU, each percentage point of total social expenditure alleviates poverty with 0.6 percentage points in Norway, Japan and Iceland, whereas the lowest scores are found in Korea and Chili (0.1). Also, the targeting effectiveness of the United States is low (0.25).

One could argue that cross-national comparison of social spending is rather sensitive with respect to expenditures related to health care programmes that do not directly affect the difference between market incomes and disposable incomes, especially when EU countries and non-EU countries such as the United States are compared. In Figure 3 Panel (b), we compared the targeting effects of net total social expenditure with the targeting effects of gross total expenditure excluding spending on health care (see Section 4.2). Indeed, excluding health

⁴³ OECD, Income Distribution Database, via stats.oecd.org/Index.aspx?DataSetCode=IDD (accessed July 2019, for 36 countries).

expenditures improves the targeting effect of (remaining) social spending on poverty reduction, but the cross-national ranking of the targeting scores in Figure 3 is left more or less unaltered. The lowest scores are still found for Korea and Chili, and the highest in Ireland, Hungary and Czech Republic. In the United States, the targeting effect of social spending increases considerably when health care is excluded (from 0.25 to 0.46).

Figure 3 Anti-poverty effect of social transfers and income taxes, and targeting effect of net social expenditure on poverty reduction in 36 countries, 2015



Poverty indicators refer to 2015 except for Hungary, Mexico, Australia and New Zealand (2014). Poverty rates before social transfers and taxes for all countries, but post taxes for Hungary, Turkey and Mexico. Net social expenditure refers to 2015 except for the Netherlands (2013) and Poland (2013). Data on net social expenditure for Lithuania is missing.

Source: OECD IDD (2019), OECD SOCX (2019) and own calculations.

6 Conclusion and Discussion

Poverty alleviation is an important objective of the EU. A wide variety of poverty rates are found within Europe. Remarkably, average at risk of poverty rates – the official EU social cohesion indicator – have risen since the adoption of the Lisbon Agenda in 2001. This suggests that EU initiatives regarding combating poverty are not very effective yet. Obviously, several policy strategies may be chosen to combat poverty. This chapter analyses the effect of social transfer policies on poverty alleviation for EU countries. We analysed the reduction of poverty rates through social transfers and income taxes (the difference between poverty rates calculated for market incomes and poverty rates calculated for disposable incomes) and its relationship to welfare state efforts. We find that poverty rates before social transfers and taxes increased more compared to poverty rates after social transfers and income taxes indicating that the share of people lifted out of poverty via social transfers has risen in the period 2001-2017. In most countries and on average, social expenditure as a share of GDP increased since 2001, with exceptions for Germany and Luxembourg. The targeting effect of social spending differs across countries, especially if we exclude pensions from social spending. Some countries are more effective in poverty reduction than other countries. Thus, policy learning may help to combat poverty. We do, however, not find a significant relationship between (high) levels of social expenditure and (high) anti-poverty effects of social transfers and taxes across Member States around 2017.

We also compared at risk of poverty rates and poverty alleviation in the EU with a selection of 13 non-EU OECD countries. At risk of poverty in non-EU countries is on average considerably higher and the share of people lifted out of poverty via social transfers in non-EU countries is much lower on average (6.7%) compared to the EU (18.4%). Social spending in non-EU countries is both lower and much less targeted towards the poor on average compared to within the EU. Each percentage point of social expenditure reduces poverty by 0.87 percentage points in the EU countries and by only 0.36 percentage points in non-EU countries. From this we can conclude that the priority that the EU has given to poverty alleviation is to some extent reflected in actual policies.

According to our results, the targeting of social transfers offers only a partial explanation for differences in poverty rates across countries and for the increase in poverty rates in most EU countries since 2001. Obviously, more factors should be taken into consideration.⁴⁴ Market-income inequality is an important source of cross-national variation in poverty. Also, specific

⁴⁴ OECD, 2008.

differences in both the social and the tax system should be taken into account in the assessment of the anti-poverty effect of welfare states. Moreover, international variations in poverty profiles are driven by variations in sociodemographic and socioeconomic structures, as these factors put different restraints on income transfer schemes. And obviously, besides social transfers, several other policy instruments may be used and are to alleviate poverty. For example, several countries put relatively more emphasis on improving job opportunities and stimulating labour force participation of lower-income groups or improving educational outcomes. Poverty remains a multidimensional problem.