

Social Assistance Performance in Central and Eastern Europe: A Pre-transfer Post-transfer Comparison

Abstract

The anti-poverty impact of national social assistance programs in eight Central and Eastern European countries is examined using data from the EU-SILC. Results indicate that social assistance programs achieve only limited poverty reduction while spending a significant amount of their resources on the non-poor. The more extensive and generous programs achieve higher effectiveness in reducing poverty. Efficiency on the other hand appears to be linked only to program size and not to benefit levels. Unlike Western Europe, no trade-off between effectiveness and efficiency could be detected.

Keywords: social assistance, redistribution, poverty, Central and Eastern Europe

1 Introduction

Social assistance schemes have often been termed the ultimate measure by which a welfare state should be judged (Kuivalainen, 2005a; Behrendt, 1999), due to acting as a last resort safeguard against material destitution. Recent trends in work casualization and recurring unemployment have weakened the capacity of traditional insurance programmes to provide income protection. In response, social assistance programmes have grown in importance (Ditch, 1999a). Yet, despite their potentially important part within national social policy, the way they function and the results they achieve are not well understood. More importantly, variation in program outcomes rather than program characteristics has been less well documentedⁱ. With some exceptions (Nelson, 2010; Van Mechelen and Marchal, 2013), this lack of evidence is even more salient for countries in Central and Eastern Europe. This paper aims at filling the gap by examining in a comparative perspective the effectiveness and efficiency of social assistance schemes in Central and Eastern Europeⁱⁱ. It also provides evidence on the link between program characteristics (size and generosity) and program outcomes. In examining program performance, special attention is paid to the issue of a trade-off between effectiveness and efficiency.

2 Social assistance and poverty: cross-national comparisons in Europe

Research on European social assistance programs has largely focused on analysing program characteristics, either from an expenditure point of view, or from an institutional perspective (Marx and Nelson, 2013; Lodemel and Schulte, 1992; Heikkilä and Keskitalo, 2001; Guibentif and Bouget, 1997; Behrendt, 2000; Eardley et al., 1996; Gough et al., 1997; Sainsbury and Morissens, 2002; Kuivalainen, 2005a). Recognizing the drawbacks of relying solely on expenditure data, a distinct approach has relied on model families to measure benefit levels, often including cash benefits other than social assistance payments (Van Mechelen and Marchal, 2013; Van Mechelen et al., 2011; Nelson, 2010; Nelson, 2007). Both approaches outlined above place the emphasis on program characteristics, especially benefit levels, implicitly assuming that more generous programs are more effective at poverty alleviation. Indeed, a number of studies have found that benefit generosity is an important factor influencing the impact of means-tested benefits on poverty (Notten and Gassman, 2008; Saraceno, 2002).

Beyond benefit generosity, comparisons between the UK and Nordic and Continental countries found that the extensive and strongly institutionalised British system outperformed other national social assistance programs, especially when reduction of severe poverty was concerned (Hölsch and Kraus, 2006; Behrendt, 1999; Behrendt, 2000).

Several studies have suggested that there may be a trade-off between generosity and extensiveness. In particular, larger social assistance benefits may be politically and financially not sustainable if access to the program is not restricted and caseloads are large (Kuivalainen, 2005b; de Neubourg et al., 2007; Ditch, 1999b; Hanesch, 1999). However, since both extensiveness and benefit generosity have been associated with better outcomes in terms of poverty reduction, it is not clear which program characteristic is more important or how the importance varies with the characteristics of the poor.

Studies on the effects of social assistance on poverty in Central and Eastern Europe are few and far betweenⁱⁱⁱ. Using data on the size of the program population and benefit levels, Milanovic (2000a) builds a three-way typology of social assistance programs but fails to find any consistent correlations between program type and either program effectiveness or efficiency. Other attempts to determine the effects of social assistance schemes on the region's poverty levels and intensity resulted in small impact estimates (Fox, 2003; Ringold et al., 2007; Milanovic, 2000b). However, these results pertain to programmes in operation during the 1990s and the (very) early 2000s.

In principle, there should be no conflict between the twin goals of social assistance programs of maximizing poverty reduction (effectiveness) and minimizing the amount of resources going to the non-poor (efficiency). All other things equal, increasing efficiency should result in more resources being available for poverty mitigation (Coady et al., 2004). However, in practice, a trade-off may emerge for two reasons. On the one hand, large means-tested transfers can create an incentive to claim even when not poor, especially when the tools used to measure need are imprecise and/or aspects being measured are subject to manipulation. Anticipating this, policy makers will want to either restrict access or lower benefits to make the program less appealing, both of which will reduce the impact on poverty. On the other hand, increasing efficiency by limiting transfers to the non-poor may erode their political support and make them vulnerable to cuts (Nelson, 2004; Korpi and Palme, 1998). In fact, a trade-off between effectiveness and efficiency of *income transfers generally* has been documented among developed countries although its strength appears to

be weaker in the case of poverty alleviation compared to inequality reduction (Mitchell, 1996).

In the specific case of means-tested benefits, it is often assumed that setting higher income thresholds and thus making available more generous benefits will, all else equal, make the program more effective but also less efficient (Sipos and Ringold, 2005; Ringold et al., 2007). However, program eligibility rules are often more complex than a simple income threshold, taking into account household composition, capacity to work, and/or accumulated assets. Local/ street level discretion often supplements formal rules and the administration of the program can be highly salient both for maximizing effectiveness and minimizing inefficiency. As such, a trade-off between effectiveness and efficiency should not be inferred a priori.

Building on the existing literature, this paper complements and expands previous findings in a number of ways. First, it provides evidence on the outcomes of social assistance programs in terms of poverty mitigation effectiveness and efficiency. Second, it probes for systematic associations between program features, namely size of the population served and benefit generosity and program outcomes. Third, it brings new evidence on the question of potential trade-offs between effectiveness and efficiency. Fourth, it is the first paper to focus exclusively on Central and East European countries, a region that has so far received relatively little attention. The rest of the paper proceeds as follows. Section 3 presents the methodology and data used in the calculations. Section 4 describes the two program characteristics that are of interest, namely program size and benefit generosity. Indicators of program effectiveness and efficiency are shown in sections 5 and 6. Section 7 examines the possibility of a trade-off between effectiveness and efficiency. Section 8 presents associations between program characteristics and outcomes while section 9 concludes.

3 Data and Methods

Previous work on social assistance/minimum income schemes has relied heavily on model families. While using model families avoids a series of problems such as issues with the cross-national comparability of minimum income packages or problems with reported incomes in surveys, it also presents a number of drawbacks (see for example Figari et al., 2013: for an expanded review of this issue). Most importantly for our purposes, model families cannot be used to assess the concrete outcomes of a social assistance program. That

task requires information on actual income distributions, as well as reviewing actual rather than intended/hypothetical payments.

In this paper, social assistance programs are evaluated based on a series of pre-transfer - post-transfer comparisons. This approach is relatively simple and straightforward and any poverty reduction thus detected can unambiguously be attributed to program participation. It also has the advantage that any poverty reduction outcomes can be computed relative to existing needs before the transfer. In total, three indicators relating to program effectiveness and two related to program efficiency have been computed. Here, effectiveness is referred to as the capacity of the program to mitigate poverty, as calculated *before* social assistance transfers. As such, in calculating effectiveness indicators, an implicit comparison is made between the (equivalised) income distribution before social assistance but after all other social payments (including public pensions, and unemployment, sickness, disability, family etc. benefits) and final equivalised disposable income (i.e. after social assistance payments). Thus, unlike expenditure based indicators where generosity and needs are conflated, our indicators explicitly take into account that countries with more extensive social insurance programs will likely have smaller client pools. Efficiency indicators relate to the ability of a program to direct resources towards poverty mitigation *only*, i.e. its ability to minimize the amount of resources that are not *directly* linked to poverty reduction. Obviously, in this case poverty is defined based on equivalised disposable income before social assistance (but after all other social payments). It should be noted that this approach relies on the assumption that social assistance acts as a „last resort” type of payment and that it essentially functions like a top-up after all the other elements of the welfare state have been exhausted.

Indicators are calculated using micro-data from the 2005-2011 cross-sectional waves of the European Union-Survey of Income and Living Conditions (EU-SILC), covering incomes from 2004 to 2010. Social assistance payments are calculated as the sum of social exclusion income and means-tested housing allowances^{iv}. Social exclusion income in SILC is largely a residual category that may contain benefits that are very different across different countries. In **principle**, this would pose a serious comparability problem. However, in the countries included in this study, social assistance mostly contains minimum guaranteed income payments, means-tested transfers related to housing, assistance disbursed by local authorities and irregular or one-off payments^v.

Housing allowances are added because housing related payments can make a large difference to the social assistance package (see Van Mechelen and Marchal, 2013).

Additionally, since housing allowances cannot always be separated from the overall social assistance benefit, inclusion of means-tested housing allowance is necessary for reasons of comparability.

With the exception of Slovenia which provides register data, the other countries use survey questions to collect information on incomes. Given receipt of means-tested benefits is often associated with stigma, information on this type of income is particularly susceptible to underreporting. Total net disposable income may also be underestimated owing to the large informal economy present in the region. Nevertheless, keeping these shortcomings in mind, the EU-SILC still constitutes the best data source for a comparative study of means-tested benefits in Central and Eastern Europe.

Poverty is defined as having a household equivalised^{vi} disposable income below 50%^{vii} of the median. In assessing the relationship between poverty characteristics and social assistance transfers, poverty is taken to be a household concept. Similarly, amounts of social assistance received are calculated at the household level. This is both because information at a more disaggregated level is unavailable in SILC and because resources are assumed to be equally shared among household members even if the transfer unit may be narrower than the household. As a sensitivity check, indicators have been computed both for the entire household population and restricted to single social assistance unit households. While some differences do exist, they are small and do not affect the substantive conclusions emerging from the main analysis (comparisons are available from the author).

Finally, an important caveat when using pre-transfer post-transfer comparisons is that this methodology cannot take into account any behavioural effects stemming from the existence of the programs themselves. In particular, an important assumption underlying the analysis is that the distribution of income in the absence of social assistance can be approximated reasonably accurately by summing up all income sources received by the household with the exception of social assistance. Clearly, if individuals adjust their behaviour in response to the existence of the program (for example, by working less, see Barnow et. al (2000), Blank (2009), or Ziliak (2009) for some examples) this assumption is violated. Nonetheless, pre-transfer post-transfer comparisons are still a straightforward and informative way to obtain prima facie evidence on program outcomes.

4 Social assistance in Central and East European Countries

Previous descriptive work on social assistance in Central and Eastern Europe has found that programs generally reached small shares of the population and have constituted only a tiny fraction in overall social expenditure (Fox, 2003; Ringold et al., 2007). In this section, we present information on the size of the recipient population as well as on average benefits paid out in the eight countries between 2004 and 2010.

To contextualize information about program characteristics, Figure 1 presents information on poverty rates and poverty gaps in the region. Cross-national differences are more clear-cut in the case of poverty rates where the Czech Republic, the Slovak Republic and Slovenia cluster together having poverty rates below 10% throughout the entire period, whereas poverty rates are higher in the remaining countries. If, instead, we focus on poverty gaps, cross-national differences are somewhat smaller^{viii} but the country rankings and the time trends are similar.

[INSERT Fig. 1 ABOUT HERE]

Figure 2 shows the share of the population receiving social assistance benefits, whereas the average level of benefits as a % of the poverty line is shown in Figure 3. The highest proportion of social assistance recipients is registered in Hungary and Slovenia (around 15%) and the lowest in Estonia (around 3%). Considerable variation exists across countries and to a lesser extent across years. With the exception of Hungary and Lithuania, there is a mild convergence trend, as receipt rates in countries with very low initial values increase somewhat between 2004 and 2010 whereas the opposite trend is observed in the countries with higher initial receipt rates.

[INSERT Fig 2 ABOUT HERE]

[INSERT Fig. 3 ABOUT HERE]

Average disbursed benefits (as a % of the poverty line) are much more stable over time. The Czech and Slovak Republics clearly have higher benefit levels compared to the other countries. Unlike studies based on West European social assistance schemes levels

(Obinger, 1999; Sainsbury and Morissens, 2002; Figari et al., 2013), we do not find a negative relationship between program size and generosity (as measured by benefit levels). In fact, the correlation between program size and benefit levels is low (-0.07) and statistically indistinguishable from zero.

It should be noted at this point that both average benefit levels as well as the share of population receiving will depend to some extent not only on the design of the social assistance programs but also on the characteristics of the population. For example, all else equal, more inequality of market and social security incomes in the lower half of the distribution will translate into a larger share of social assistance recipients as well as higher benefit amounts. Yet, it makes little sense to assess the institutional features of a social assistance program in the abstract, without reference to the population it is expected to serve. Since program performance (i.e. effectiveness and efficiency) is assessed relative to the characteristics of the population actually being served by the program, it makes sense to measure program features (i.e. extensiveness and generosity) relative to the same population characteristics.

In the following section, we examine the capacity of the social assistance programs to reduce poverty, i.e. program effectiveness.

5 Program effectiveness: how much is poverty reduced by social assistance?

Program effectiveness can be broken down into two dimensions, i.e. whether the program is able to reach the poor and whether it transfers enough resources to bring them above the poverty line. We analyse each in turn.

Figure 4 shows the share of the poor population^{ix} that receives any social assistance transfers, henceforth referred to as program coverage. Formally, if y_i is the total household equivalised income before social assistance payments, s_i is the equivalised social assistance payment received by the household, z is the poverty line and w_i is the individual weight, then program coverage can be defined as

$$I_1 = \frac{\sum_{i=1}^N w_i 1(s_i > 0 | y_i < z)}{\sum_{i=1}^N w_i 1(y_i < z)} \quad (1)$$

Relative to the Baltic countries, the Czech Republic, Slovenia and the Slovak Republic have higher shares of the poor population receiving benefits (between half and two

thirds versus 15-20%). However, coverage levels drop significantly after 2007 in the Czech and Slovak Republics. In Poland and the Baltic state, both indicators improve slightly whereas in Hungary they improve dramatically over the period. As a result, a clear convergence trend emerges.

A clear test of how successful social assistance schemes are in reaching their ultimate goal is their ability to bring the poor over the poverty line. Figure 5 gives information on the relative reduction of the headcount rate among the total population and among social assistance clients achieved through social assistance transfers. Keeping the same notation as in (1), the relative reduction in the headcount index due to social assistance can be written as

$$I_2 = \frac{\sum_{i=1}^N w_i 1(y_i < z) - \sum_{i=1}^N w_i 1((y_i + s_i) < z)}{\sum_{i=1}^N w_i 1(y_i < z)} \quad (2)$$

[INSERT Fig. 5 ABOUT HERE]

The ability of social assistance transfers to lift the poor over the poverty line is relatively low in all eight countries. In the beginning of the period there are large differences between the Czech Republic and to a lesser extent Slovenia and the Slovak Republic and the other countries. Yet, poverty reduction drops significantly in all three countries by 2010.

Given that coverage levels are very low in some countries, it is perhaps unsurprising that the relative reduction in the poverty headcount index is limited. However, the second half of Figure 5 shows that low coverage on its own cannot explain these results. In particular, poverty rate reductions measured among social assistance recipients only, while higher than in the case of the general population, are still well below 100%. This suggests that benefit payments play an important role in limiting the anti-poverty effectiveness of social assistance programs.

To investigate whether programs that are better able to reach the poor are also more likely to bring the poor they do reach above the poverty line, we examine the relationship between program coverage and the poverty rate reduction among social assistance recipients attributable to the program. Care must be taken when interpreting the second indicator as social assistance recipients are usually not a random sample of the population. All other things equal, a social assistance program will achieve better outcomes among the recipient population the less disadvantaged this subpopulation is. Thus, in calculating the correlation coefficient, we adjust for the poverty rate and the poverty gap of social assistance recipients

(before social assistance transfers) relative to those of the total population. We find that the partial correlation between coverage and the average reduction in the poverty rate of social assistance recipients is positive (0.65) and highly significant.

Very similar results are obtained if effectiveness is measured as the relative reduction in the poverty gap attributable to social assistance^x. The levels of reduction are somewhat higher, between 3% and 44% for the total population and between 28% and 72% for social assistance recipients. Yet, country rankings and time trends observed between 2004 and 2010 are very similar to the ones displayed by the headcount index. Again, we find that adjusting for the poverty of social assistance recipients relative to that of the general populations, there is a strong positive (0.81) and statistically significant correlation between coverage and the share of the poverty gap closed by social assistance transfers among the recipient population.

6 Program efficiency: what share of program resources are directed to the poor?

Social assistance schemes achieve their results at very different costs to the public budget. To assess how efficient the various systems are, we look at the extensiveness of inclusion errors, i.e. how many of the recipients are not income poor before receiving the benefit^{xi}. Keeping with the previous notation, the share of the non-poor among recipients is

$$I_4 = \frac{\sum_{i=1}^N w_i 1(y_i \geq z | s_i > 0)}{\sum_{i=1}^N w_i 1(s_i > 0)} \quad (3)$$

Figure 6 shows that inclusion errors are indeed common throughout all eight countries included in the study. The most efficient programs (Estonia in 2004 and the Czech Republic in 2011) still direct around a third of transfers to the non-poor.

[INSERT Fig. 6 ABOUT HERE]

To investigate the possibility of programs covering many non-poor but still directing the bulk of their resources to the poor, we compute the share of the total social assistance expenditure that goes towards filling the poverty gap^{xii}. Formally, the indicator is

$$I_5 = \frac{\sum_{i=1}^N w_i \min(s_i, z - y_i) \cdot 1(y_i < z)}{\sum_{i=1}^N w_i s_i} \quad (4)$$

Results indicate that social assistance programs ‘waste’ a significant share of their resources. In the most wasteful countries (Hungary and Latvia), well below half of the total social assistance transfers (and in some years as little as 17%) actually contributes towards reducing the poverty gap. Even in the most efficient countries (Czech Republic and Estonia) the share of well targeted spending is below 75%. Unsurprisingly, countries with high leakage in terms of clients served also have high leakage in terms of the amounts spent. The correlation between the share of the non-poor among recipients and the share of well targeted spending is large (-0.82) and highly significant.

7 Is there a trade-off between effectiveness and efficiency?

As discussed in Section 2, the literature sometimes presumes the existence of a trade-off between the effectiveness and the efficiency of income transfer programs. In the following, we assess empirically the existence of a trade-off in the case of social assistance programs in Central and Eastern Europe, using both cross-national and cross-temporal variation. Figure 7 plots the extent of exclusion errors (i.e. the share of the poor that do not receive any transfers) against the level of inclusion errors (i.e. the share of the program clients that are not poor before transfers). It is clear from the graph that there is no evidence of a systematic relationship between the two types of errors. While the actual correlation has the expected negative sign, its magnitude is very small (-0.09) and is statistically indistinguishable from zero.

[INSERT Fig. 7 ABOUT HERE]

The lack of an effectiveness-efficiency trade-off is also supported by total expenditure indicators. Comparing the total national poverty gap filled by social assistance transfers (an effectiveness indicator) with the share of the total social assistance payments that is well targeted (an efficiency indicator), we find that the two indicators are *positively* related (the correlation coefficient is 0.39 and statistically significant). Social assistance programs that succeed in filling a larger portion of the total national poverty gap are also the programs that limit most effectively disbursements to the non-poor. Thus, both sets of results are consistent and reject the hypothesis of a trade-off between program effectiveness and efficiency.

8 Social assistance outcomes and program characteristics

Social assistance programs in Central and Eastern Europe do not have a major impact on poverty. There is however considerable variation both across countries and across time in both efficiency and effectiveness indicators. This section examines whether variation in outcomes systematically matches differences in program characteristics, namely the size of the recipients population and average benefit levels.

[INSERT TABLE 1 AROUND HERE]

Table 1 presents correlation coefficients between the size of the social assistance programs (measured as the share of the population receiving benefits) and average benefit levels (as % of the poverty line) on the one hand and the effectiveness and efficiency indicators discussed in Sections 5 and 6 on the other hand. Because a large part of the variation both in program performance indicators as well as program characteristics comes from cross-national differences, both unadjusted correlations and correlations adjusted^{xiii} for country fixed effects are shown^{xiv}.

Both program characteristics (size and benefit generosity) are positively correlated with effectiveness measures, albeit the adjusted correlations are not significant in the case of benefit generosity. Thus, the initial hypotheses that programs that are more extensive and/or more generous are better able to mitigate poverty are confirmed.

In the case of efficiency indicators, only the share of the population receiving benefits confirms the expected pattern of a negative relationship. Programs serving a larger share of the population are both more likely to leak benefits to the non-poor and to spend less of their resources on actually filling the poverty gap. However, the relationship becomes much weaker (and in fact insignificant in the case of the second efficiency indicator) once time-invariant country characteristics are controlled for.

The expected negative relationship between program size/ benefit levels and program efficiency is confirmed only in part. A negative link between benefit levels and efficiency is not supported by the data. Unadjusted correlation coefficients between efficiency indicators and average benefit levels are actually *positive* while adjusted ones are close to zero. This suggests that it is possible for social assistance programs to be more generous without necessarily having to compromise on efficiency.

9 Conclusions

Previous studies of social assistance focused largely on program characteristics as opposed to program outcomes and with a few recent exceptions, have ignored countries in Central and Eastern Europe. This paper has sought to address these gaps by first documenting the effectiveness and efficiency of social assistance schemes in eight CEE countries across six years and second by examining the existence in the region of a trade-off between effectiveness and efficiency as predicted by the economic literature. Lastly, correlations between effectiveness and efficiency indicators and two program characteristics are discussed.

Results indicate that, variation in program performance notwithstanding, social assistance programs are rather ineffectual and inefficient in dealing with poverty in all eight CEE countries. The results mirror findings emerging from research on West European countries (de Neubourg et al., 2007; Nelson, 2004). The low poverty reduction achieved by social assistance schemes in CEE countries is probably unsurprising given the (very) low level of benefits (Van Mechelen and Marchal, 2013; Nelson, 2010) and small program expenditure (Frazier and Marlier, 2009) typical of this region. In addition to the overall lack of resources, the ability of social assistance programs to cut poverty is severely hampered by their inability to reach the poor. This is true of all eight countries included in this study, albeit to varying degrees. In addition, social assistance programs that are better able to reach the poor also have a higher impact on the poverty of those they do reach.

Generally, larger programs as well as programs with higher benefits are associated with increased effectiveness. This finding is consistent with studies based on West European programs that have found that either higher benefit levels such as those in the Nordic countries (Sainsbury and Morissens, 2002; Kuivalainen, 2005a) or the increased program reach in the UK (Behrendt, 2002) are associated with superior program outcomes. Efficiency is not associated with benefit generosity but does appear to be linked to program size. More extensive social assistance schemes appear to have difficulty both in keeping the poor out and in limiting spillover payments that do not contribute toward poverty reduction.

Lastly, unlike Western Europe (Hölsch and Kraus, 2006), there appears to be no trade-off between effectiveness and efficiency in the region. The lack of a trade-off is verified both by examining targeting performance and total expenditure patterns. These results suggest the efficiency of means testing may depend more on the implementation capacity rather than the level of benefits. In addition, access to the program may depend on a more

complex set of rules than the income test alone. Both aspects may explain why a clear negative relationship between average benefit levels and program efficiency fails to be detected.

Future research should focus on unbundling program characteristics and establishing which program features, aside from benefit levels and program size, are consistently associated with better program outcomes. In particular, little is known about how social assistance programs in Central and Eastern Europe are administered as opposed to their design. Currently, most exercises of this type rely on cross-national variation which is bound to be limiting. However, recent reforms in the area of means-tested benefits offer the opportunity of using not only cross-country but also cross-temporal variation.

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Table 1 Correlations between program characteristics and indicators of program effectiveness and efficiency

	% of poor receiving benefits	% reduction in the poverty rate-total population	% reduction in the poverty gap-total population	% of recipients poor before transfers	% of well targeted social assistance
Share of the population receiving social assistance benefits					
Unadjusted	0.60***	0.61***	0.55***	-0.67***	-0.57***
Adjusted for country fixed effects	0.72***	0.78***	0.74***	-0.27*	-0.12
Average benefit levels					
Unadjusted	0.40**	0.38**	0.45***	0.45***	0.47***
Adjusted for country fixed effects	0.16	0.32*	0.22	-0.03	-0.21

Note: *p<0.05 **p<0.01 *** p<0.001

Source: Own calculations based on the cross-sectional waves of EU-SILC 2005-2011

Figure 1: Poverty levels in CEE countries, 2004 -2010

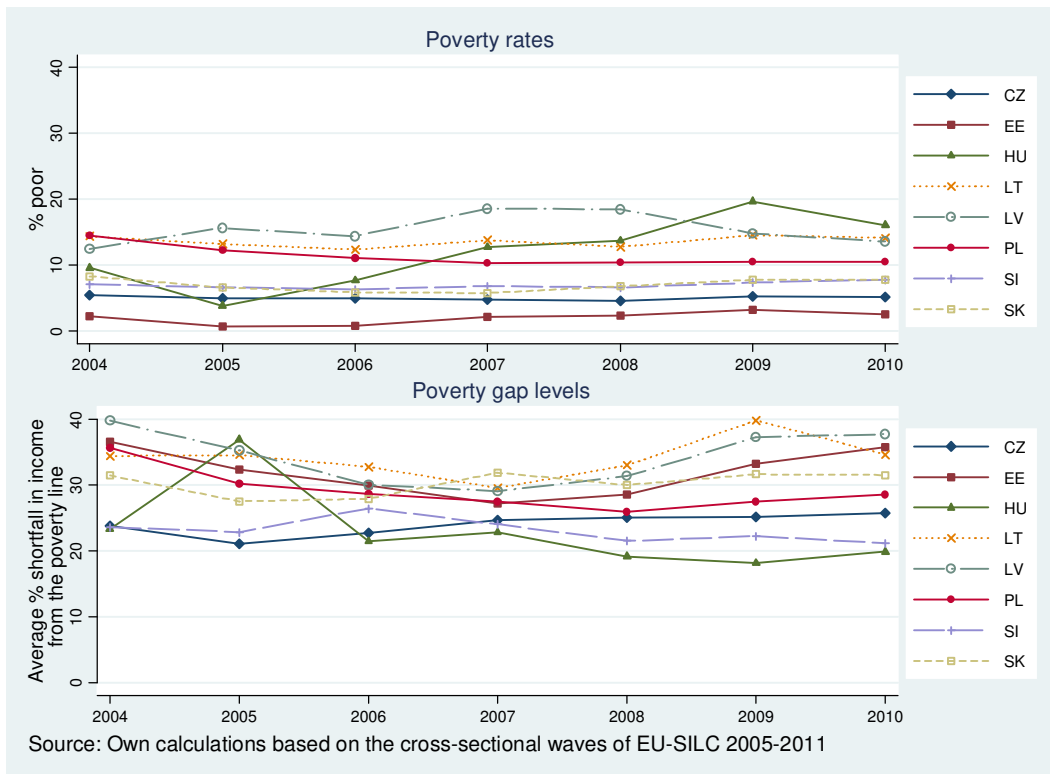


Figure 2: Share of the population receiving social assistance transfers

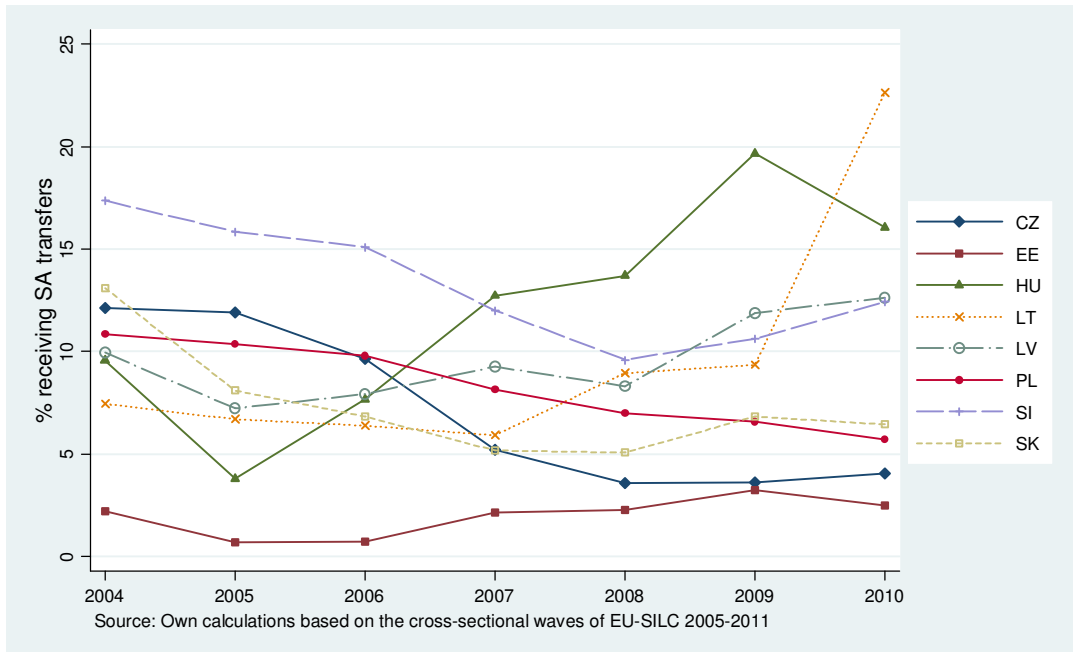


Figure 3: Average social assistance benefits paid as % of the poverty line

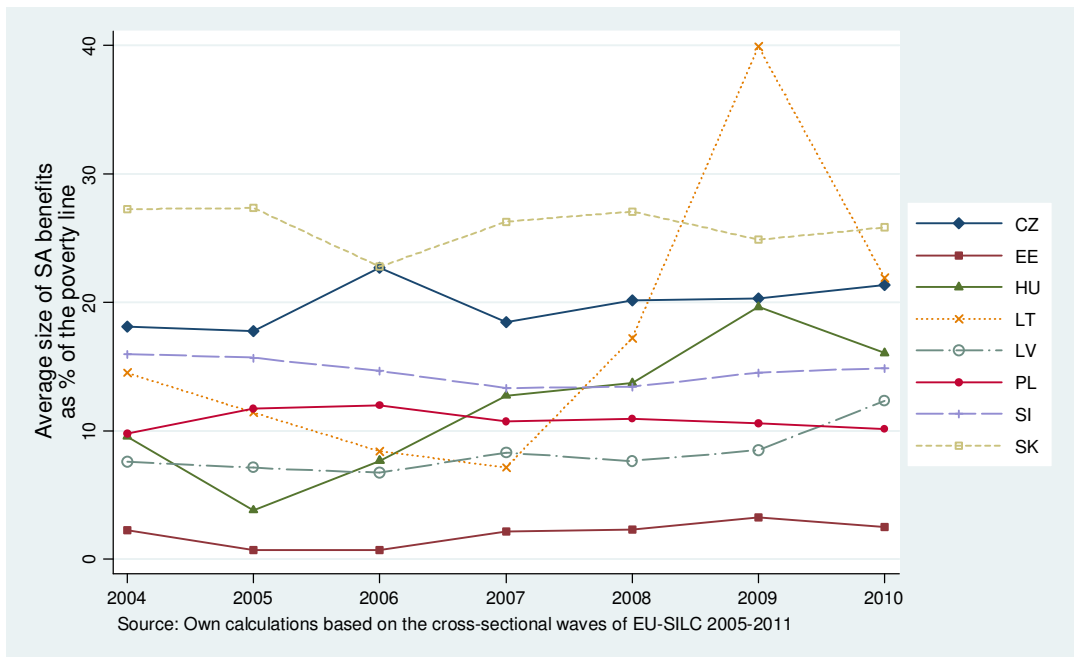


Figure 4: Percentage of the poor population receiving benefits (coverage)

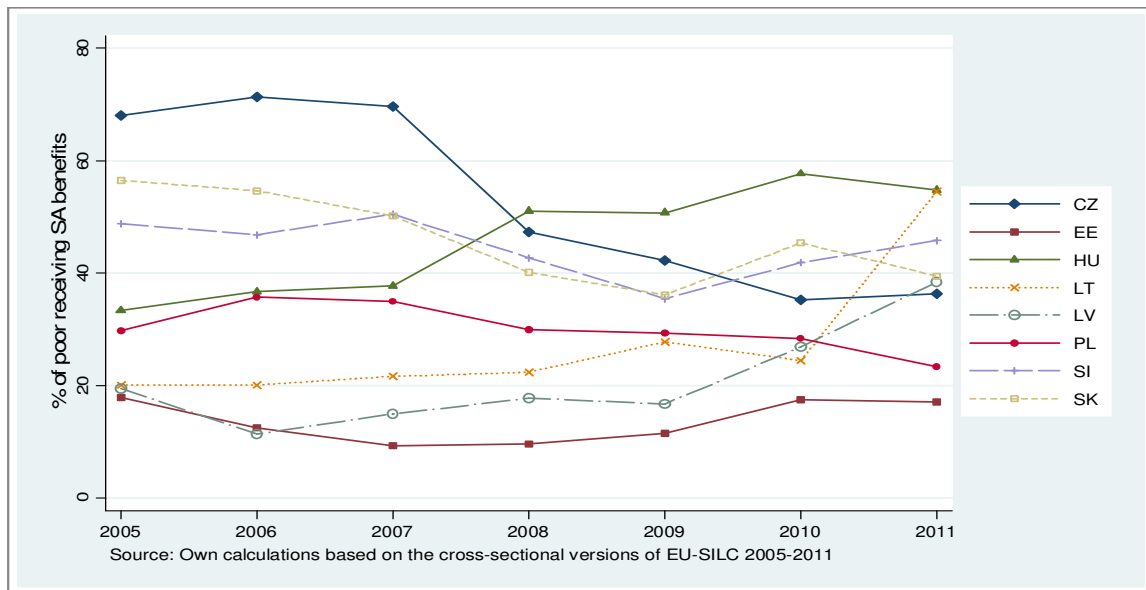


Figure 5: Average percent reduction in the poverty rate through social assistance-total population (top) and social assistance clients (bottom)

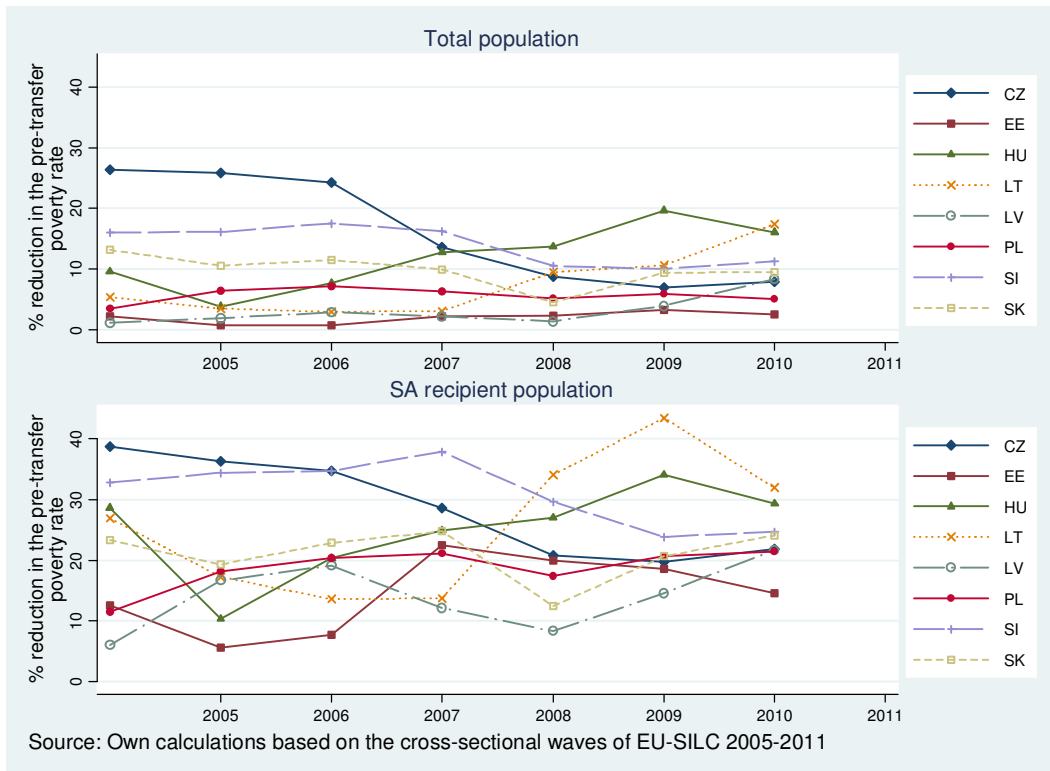


Figure 6: Percent recipients who are non-poor before social assistance transfers (leakage)

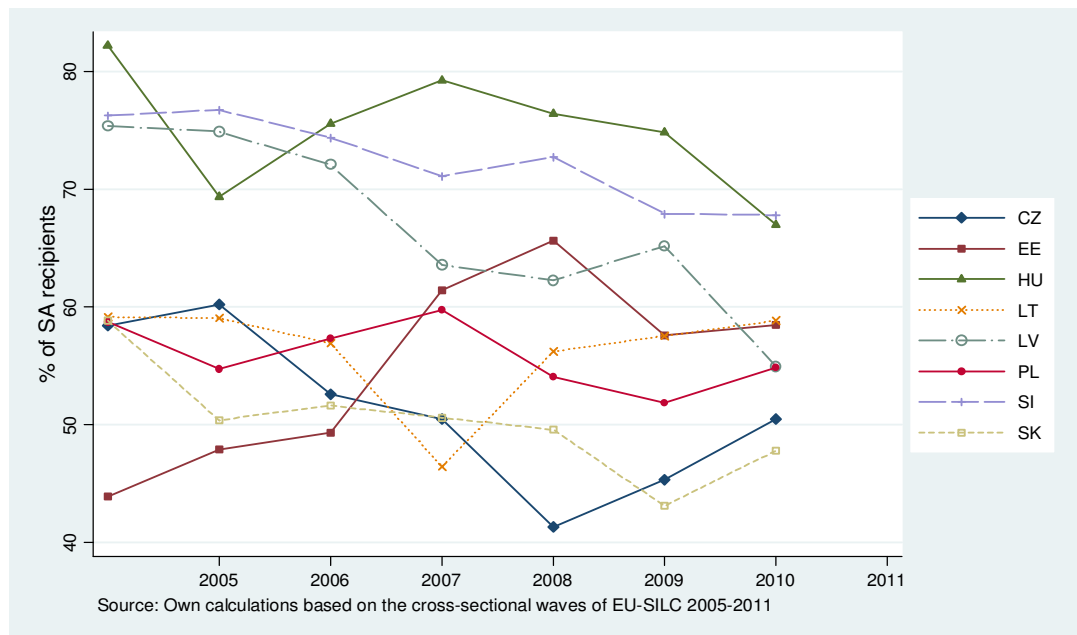
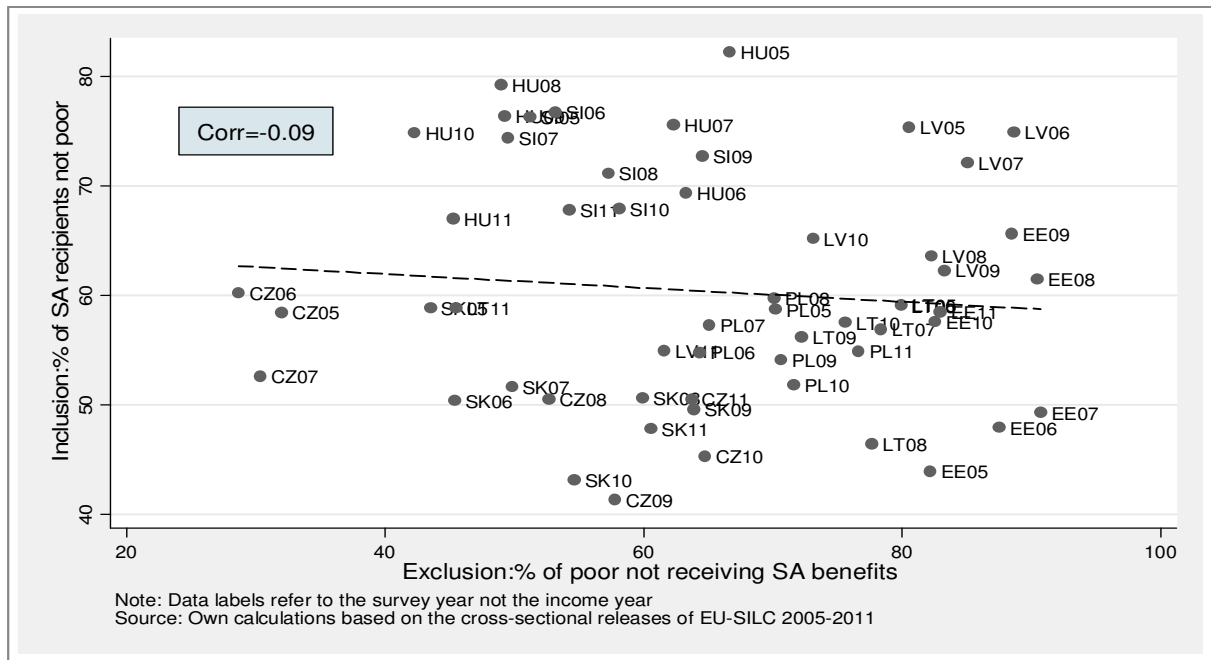


Figure 7: Exclusion vs. inclusion errors of social assistance programs in CEE



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ⁱ There is a large literature in the US and UK on reforms to social assistance programs which looks especially at employment but occasionally also at other well-being indicators such as income, health etc. See for example Frogner B, Moffitt R and Ribar DC. (2009) *Income, Employment, and Welfare Receipt after Welfare Reform: 1999-2005 from the Three-City Study*. <http://www.jhu.edu/threecitystudy>, Moffitt R. (2002) *Welfare Programs and Labor Supply*. Cambridge, Massachusetts: National Bureau of Economic Research, Ziliak JP. (2009) *Welfare Reform and Its Long-Term Consequences for America's Poor*. New York: Cambridge University Press, Blank RM. (2009) *What We Know, What We Don't Know, and What We Need to Know about Welfare Reform*. In: Ziliak JP (ed) *Welfare Reform and Its Long-Term Consequences for America's Poor*. New York: Cambridge University Press, 22-58.

However, what is missing from these studies is an attempt to generalize and draw persistent links between program characteristics and outcomes.

ⁱⁱ Eight CEE countries are analyzed: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia.

ⁱⁱⁱ There is a large literature on the effect of public transfers in general on poverty and inequality; however, the role of public transfers generally is outside the scope of this paper.

^{iv} Gross amounts are used when available; when this is missing, information from the net series is used based on the assumption that social assistance payments are usually non-taxable.

^v This information has been gathered as part of the EUROMOD project; see <https://www.iser.essex.ac.uk/euromod>.

^{vi} Using the modified OECD equivalence scale.

^{vii} To check the sensitivity of results, effectiveness and efficiency indicators have been calculated using a poverty threshold of 40% of median equivalised disposable income; results remain substantively the same.

^{viii} The coefficient of cross-national variation ranges between 30 and 46 (depending on year) in the case of poverty rates and between 10 and 21 in the case of poverty gaps.

^{ix} The share of the poor population receiving transfers is computed relative to those poor before social assistance payments.

^x Formally, the indicator can be written as
$$I_3 = \frac{\sum_{i=1}^N w_i(z-y_i).1(y_i < z) - \sum_{i=1}^N w_i(z-y_i-s_i).1((y_i+s_i) < z)}{\sum_{i=1}^N w_i(z-y_i).1(y_i < z)}$$

^{xi} It should be kept in mind that we are using annual incomes to compute poverty status; as incomes fluctuates throughout the year, it is possible that some individuals and households may be poor during some periods of the year; however, this cannot explain leakage rates in excess of 70% as at any given point in time, the majority of the poor are likely to be long-term.

^{xii} In fact, well targeted expenditure is considered to be only expenditure filling the poverty gap; thus non-targeted expenditure is composed of benefits paid out to the non-poor as well as benefits paid out to the poor that are in excess of bringing them above the poverty line; the indicator is similar to the one defined in Beckerman W. (1978) *The Impact of Income Maintenance Payments on Poverty in Britain, 1975*. *The Economic Journal* 89(354): 261-279.

^{xiii} These are standardized (i.e. beta) regression coefficients from a pooled time series that controls for country fixed effects.

^{xiv} Year fixed effects are generally not significant and so have not been included in the final specification as the number of observations is relatively small (56); including them does not change the main results.