POVERTY DYNAMICS DURING THE ECONOMIC CRISIS IN HUNGARY

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1. Introduction

In Hungary, the financial and economic crisis (and its aftermath) upset the stagnating or slightly improving poverty trends of the late 1990s and early 2000s. Both inequality and relative income poverty rates[1] increased during the period from 2007 to 2012/13 (from 12.6 per cent to 17 per cent between 2007 and 2012, based on TÁRKI data, and from 12.3 per cent to 15 per cent between 2007 and 2013, according to the Hungarian Central Statistical Office – HCSO). Moreover, the increase in the severe material deprivation rate[2] (which is strongly correlated with real income) was especially dramatic (TÁRKI: from 34 per cent to 37 per cent between 2009 and 2012; HCSO: from 18 per cent to 28 per cent between 2007 and 2013). Then both indicators decreased significantly after the crisis: the former from 15 per cent to 13.4 per cent, and the latter from 28 per cent to 16 per cent, according to the HCSO (HCSO, 2017; Szivós and Tóth, 2012). Aside from the crisis, social policy interventions that shifted with the political wind also affected poverty trends (Gábos and Tóth, 2017).

Analysis of the cross-sectional TÁRKI Household Monitor surveys indicates that some of the tendencies visible in the post-transition period increased during the financial and economic crisis (2009–12); thus social segregation and the intergenerational transmission of poverty have been on the rise

[1] Relative income poverty refers to the share of persons with an equivalized disposable income below the risk-of-poverty threshold, which is set at 60 per cent of the national median equivalized disposable income. This is the definition of the at-risk-of-poverty rate. We refer to the same concept and use relative income poverty and income poverty interchangeably.

[2] Someone is severely materially deprived if he cannot afford at least four of the following nine items: 1. to pay the rent, mortgage or utility bills; 2. to keep the home adequately warm; 3. to face unexpected expenses; 4. to eat meat or proteins regularly; 5. to go on holiday; 6. a television set; 7. a washing machine; 8. a car; 9. a telephone. Material deprivation is defined as the inability to afford at least three items from this list.

(Gábos et al., 2012). The drop in the severe material deprivation rate between 2012 and 2014 was mostly thanks to groups at low risk of poverty leaving deprivation status (Gábos et al., 2015: 57). Our aim is to check whether or not these conclusions based on cross-sectional survey data are also supported by panel data.

First, we look at how data from the longitudinal survey can supplement the snapshots of cross-sectional data. For example, it is important for social policy making to see whether most of the people living in poverty in a given year are persistently or only temporarily poor, and to identify which social groups are more likely to enter or exit poverty. In Hungary, 13.8 per cent of the population were income poor in 2011 and 64 per cent were persistently income poor.[3] Both values are around the EU average. Similarly, the proportion of people who exited poverty during 2008–12 was close to the EU aver-age: approximately 35 per cent of the people at risk of poverty in the preceding year. Meanwhile, the share of people entering poverty was 5.5 per cent on average during this period – below the EU average (Vaalavuo, 2015). How-ever, basing its conclusions on earlier data (from 2006–09), the European Commission has categorized Hungary as a country with a high risk of entering poverty and a low risk of exiting it, and with a relatively high persistent at-risk-of-poverty rate (EC, 2013).

We analyse the longitudinal database of the European Union Statistics on Income and Living Conditions (EU-SILC), coordinated by Eurostat. First, we briefly describe the database and our methodology (section 2); then we show the trends of persistent poverty and persistent severe material deprivation in the EU (section 3). In section 4, we turn to Hungary and compare the socio-demographic characteristics of those groups that entered poverty and severe material deprivation between 2009 and 2012 with those groups that exited poverty and deprivation between 2011 and 2014. We also report multivariate statistics on the correlation between these socio-demographic characteristics and the measures of poverty (section 5). Finally, in section 6, we summarize our findings.

2. Data and methodology – introducing the longitudinal database of EU-SILC

We analyse the longitudinal database of EU-SILC. While the main aim of EU-SILC is to provide timely and comparable cross-sectional microdata on income and living conditions, it also has a four-year rotating panel component.

[3] Currently income poor and also income poor in at least two of the preceding three years.

The sample for any one year includes four subsamples (or replications) that are representative of the population. Each subsample stays in the survey for four years, but each year the subsample that has already been followed for four years is dropped and a new one is added. While the sample size of the longitudinal database is smaller than that of the cross-sectional one and covers only four years, it still gives an opportunity to follow individual-level changes over time. It is important to have some idea about the dynamics and persistence of poverty (not just its yearly prevalence), in order to assess how individuals' income and labour-market status change over the years, and how long spells of poverty last.

The panel sample may be biased by attrition, as individuals may drop out from one year to the next. Eurostat corrects for attrition through weighting; still, however, the yearly poverty indicators estimated on the basis of the panel sample are lower than those based on cross-sections. This implies that vulnerable respondents are more likely to drop out of the panel sample (Vaalavuo, 2015).

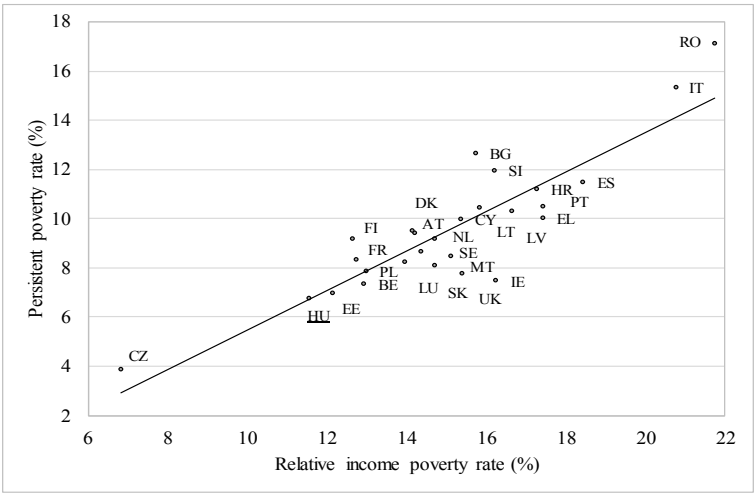
One of the main purposes of the longitudinal EU-SILC is to provide information on the duration of poverty and social exclusion. We analyse cross-sectional and longitudinal indicators of relative income poverty and severe material deprivation, such as the persistent poverty rate and the persistent material deprivation rate. The former is defined as the share of people who currently live in poverty and who were also below the relative income poverty threshold in two of the previous three years. Persistent material deprivation is defined similarly. These indicators show us the share of people who are not only temporarily poor or materially deprived, but who have been so for a longer period of 3–4 years. The distinction is important, because the difference in the living conditions of the two groups – the temporarily and the persistently poor – may be substantial. Likely negative impacts of persistent poverty include worse physical and mental health, weaker performance in education, lower future income, etc. (Duncan and Brooks-Gunn, 1997; Vaalavuo, 2015).

We analyse the longitudinal EU-SILC databases for 2013 and 2015 (whose income reference periods are 2009–12 and 2011–14, respectively). The former period covers some years of the economic crisis; the latter includes the years of recovery. Both longitudinal and cross-sectional indicators are calculated on a four-year panel, where respondents are included in all four consecutive years. We report the reference year of the indicators; thus, we refer to data collected in 2013 as '2012 data'. In the following sections, we show some descriptive statistics; then we turn to a multivariate analysis.

3. Persistent poverty and persistent material deprivation in Hungary and the EU

There is a linear relationship between cross-sectional (yearly) relative income poverty and persistent poverty (Jenkins and Van Kerm, 2013): in EU countries where poverty is low/high in a given year, persistent poverty is also likely to be low/high. As we mentioned in the introduction, both indicators are low in Hungary in international terms: the poverty rate was 11.5 per cent in 2012 and the persistent poverty rate was 6.7 per cent during 2009–12 (*Figure 1*). In Europe, the values are lowest in the Czech Republic (approximately 7 per cent and 4 per cent) and highest in Romania (approx. 22 per cent and 17 per cent).

Figure 1 *Relative income poverty rate and persistent poverty rate, 2012*



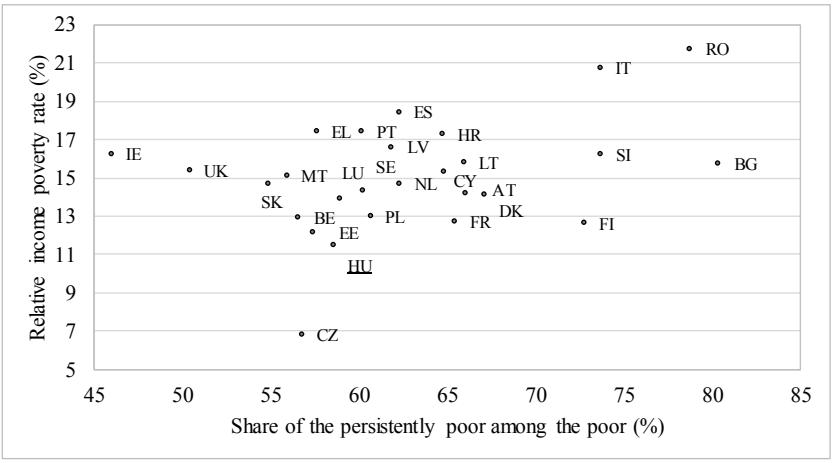
Country codes: AT – Austria, BE – Belgium, BG – Bulgaria, CY – Cyprus, CZ – Czech Republic, DK – Denmark, EE – Estonia, EL – Greece, ES – Spain, FI – Finland, FR – France, HR – Croatia, HU – Hungary, IE – Ireland, IT – Italy, LV – Latvia, LT – Lithuania, LU – Luxembourg, MT – Malta, NL –Netherlands, PL – Poland, PT – Portugal, RO – Romania, SI – Slovenia, SK – Slovakia, SE – Sweden, UK – United Kingdom.

Source: authors' estimates from the EU-SILC longitudinal database 2013.

Figure 2 shows the share of the persistently poor (i.e. poor in at least two of the preceding three years) among those at risk of poverty in 2012. The underlying dynamics of similar cross-sectional values vary greatly. For example, the poverty rate was 16 per cent in 2012 in both Ireland and Bulgaria, but the

share of the persistently poor was 46 per cent in the former and 80 per cent in the latter. Given that the share of people at risk of poverty in at least one of the four years is similar in both countries (29 per cent and 28 per cent) (see *Figure 3*), we conclude that people are more likely to exit poverty in Ireland, whereas in Bulgaria the majority of poor people tend to be persistently poor. Fluctuation was also high in the United Kingdom, where around one third of the population dipped below the poverty line at least once in four years, but where the persistent poverty rate was only 8 per cent in 2012 (*Figure 3*).

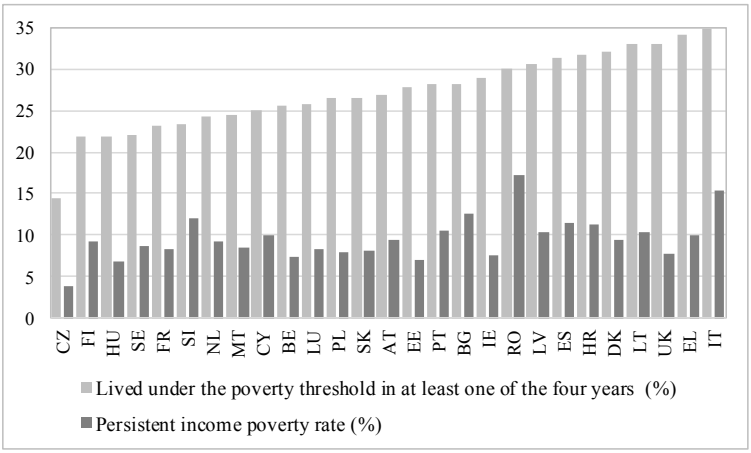
Figure 2 *Relative income poverty rate and the share of the persistently poor among the poor, 2012*



Note: country codes are shown under *Figure 1*.
Source: authors' estimates from the longitudinal EU-SILC 2013.

Income poverty is relatively low in Hungary: only around one fifth of the population lived below the poverty line in at least one year during the period 2009–12; this indicator was lower only in the Czech Republic and Finland. The persistent poverty rate was also low in Hungary (58 per cent) in European terms.

Figure 3 *Persistent income poverty rate and the share of the population living below the poverty threshold in at least one of the four years, 2012*

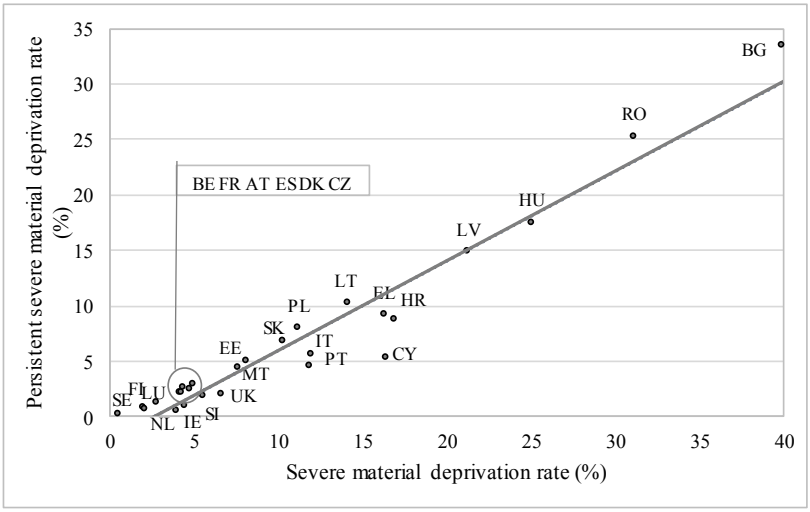


Note: country codes are shown under *Figure 1*.
Source: authors' estimates from the longitudinal EU-SILC 2013.

Once it comes to absolute and consumption-based measures of living standards, such as material deprivation, Hungary is at the bottom of the European ranking (see Gábos et al., 2016 for more details about the indicator). Material deprivation has a closer relationship with the economic output of the country and the average standards of living (i.e. GDP per capita), and accordingly it varies more than the poverty rate across countries. In 2012, the severe material deprivation rate was below 1 per cent in Sweden but al-most 40 per cent in Bulgaria (*Figure 4*). The spread was smaller in 2014, after the crisis: rates ranged from 2 per cent to 33 per cent. In Hungary, severe material deprivation is distinctly high: it was 25 per cent in 2012 and 19 per cent in 2014;[4] only Romania and Bulgaria had higher values.

[4] Based on TÁRKI Household Monitor data, the material deprivation rate was even higher in Hungary in this period: almost 29 per cent in 2014 and 22 per cent in 2015.

Figure 4 *Severe material deprivation rate and persistent severe material deprivation rate, 2012*



Note: country codes are shown under *Figure 1*.
Source: authors' estimates from the longitudinal EU-SILC 2013.

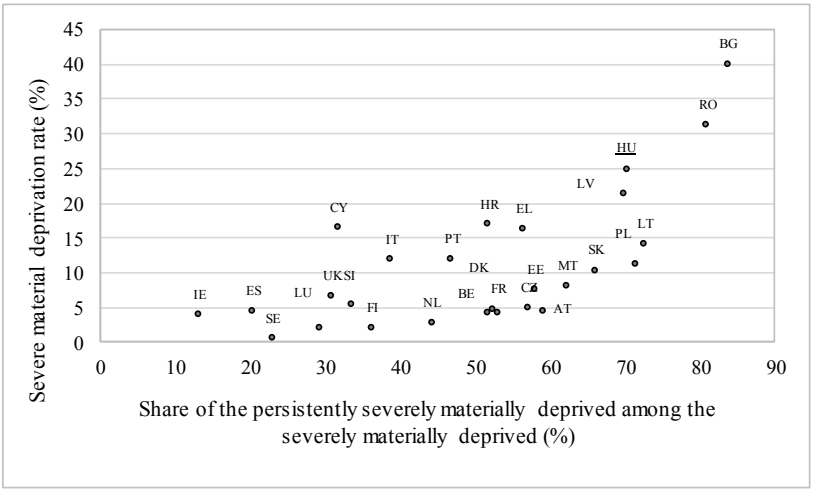
Like the relation between indicators of income poverty, the relationship between cross-sectional and persistent severe material deprivation is linear (*Figure 4*). In most European countries, less than a tenth of the population was severely materially deprived and less than 5 per cent lived persistently in severe material deprivation. These rates were strikingly high in four countries: severe material deprivation was above 20 per cent and persistent deprivation was above 15 per cent in Bulgaria, Romania, Hungary and Latvia.

In 2012, between 13 per cent and 84 per cent of the severely materially deprived were persistently deprived in the EU Member States (*Figure 5*). The value was lowest in Ireland and highest in Bulgaria. In Hungary, 70 per cent of the severely materially deprived population in 2012 were persistently deprived, and so the majority are 'permanent' members of the group. In contrast, the fluctuation is high in Cyprus, where severe material deprivation was above 15 per cent, but only a third of that number was persistently deprived.

If we compare severe and persistently severe material deprivation rates in 2012 and 2014, we can see that in 2014 cross-sectional deprivation figures were lower, while persistent deprivation rates were higher than two years ear-

lier. This implies that a higher share of the population was temporarily deprived during the crisis; later, during the period 2011–14, while the severe material deprivation rate was lower, the majority were persistently deprived, with less likelihood of exiting material deprivation.

Figure 5 *Severe material deprivation rate and the share of the persistently severely materially deprived among the severely materially deprived, 2012*

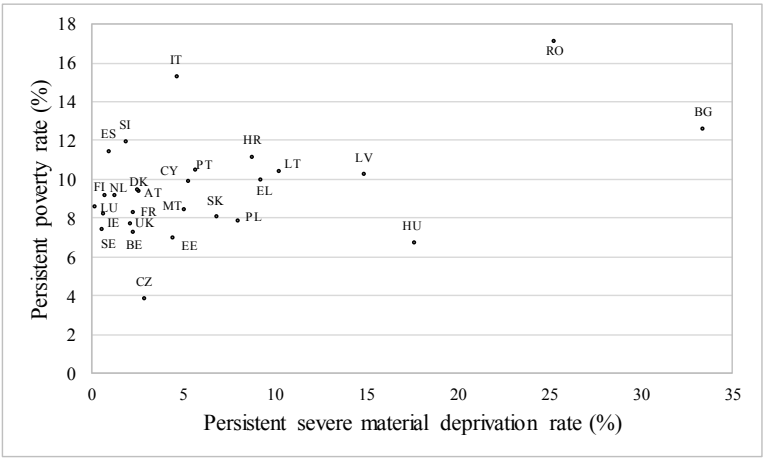


Note: country codes are shown under *Figure 1*.
Source: authors' estimates from the longitudinal EU-SILC 2013.

Further, we look at the relationship between persistent income poverty and persistent severe material deprivation in 2012 and 2014 (*Figures 6* and *7*). If we compare the two figures, we can observe that persistent material deprivation and its variance decreased, with countries moving to the left on the horizontal axis. By contrast, the variance in persistent income poverty increased from 2012 to 2014: in many countries the persistent poverty rates increased, but in others they decreased.

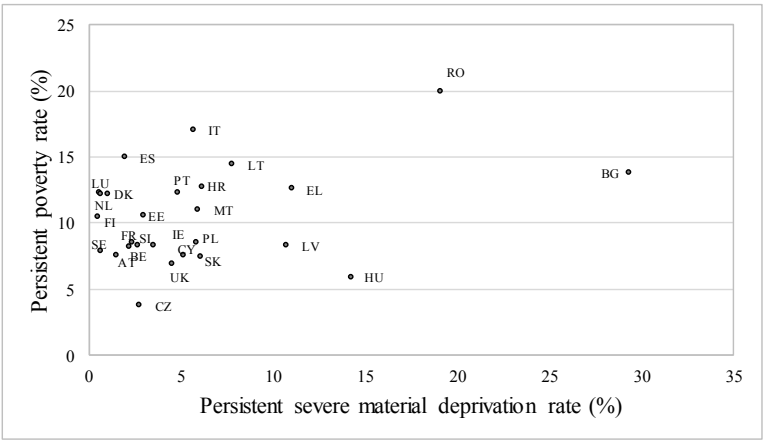
While the crisis affected a large share of the population, income inequality increased until 2014, in parallel with the economic recovery. In Hungary, persistent material deprivation dropped from 17.5 per cent to 14 per cent, and persistent income poverty also decreased slightly – from 6.7 per cent to 6 per cent. So, inequality at the lower end of the income distribution did not change substantially, but living standards improved.

Figure 6 *Persistent severe material deprivation and persistent poverty,2012*



Note: country codes are shown under *Figure 1*.
Source: authors' estimates from the longitudinal EU-SILC 2013.

Figure 7 *Persistent severe material deprivation and persistent poverty, 2014*



Note: country codes are shown under *Figure 1*.
Source: authors' estimates from the longitudinal EU-SILC 2015.

4. Poverty, material deprivation and the crisis – social characteristics of the groups entering and exiting

In this section we compare those who entered poverty or became materially deprived during the economic crisis and those who left poverty during the recovery. From now on, we focus on Hungary and look at two groups: people who were not poor in 2009 but were poor in 2012 (entering group), and people who lived in poverty in 2011, but were no longer poor in 2014 (exiting group). We describe the two groups on the basis of their educational attainment, degree of urbanization, and the number of children in the household. We assess the groups that entered and left both income poverty and severe material deprivation.

4.1 The dynamics of income poverty in Hungary

The share of the population entering poverty between 2009 and 2012 and the share of those exiting it from 2011 to 2014 are similar. The group entering poverty during the crisis was more vulnerable and prone to poverty risk based on its socio-economic characteristics (educational attainment, employment status, number of children in the household, and the degree of urbanization in 2012) than the group that later managed to exit poverty between 2011 and 2014.

Based on the EU-SILC longitudinal data, 12 per cent of the Hungarian population in 2009, and 13 per cent in 2012, had income below 60 per cent of median equivalized household income. Four fifths of the population were not poor in either year; and 7 per cent were poor in both years (*Table 1*). The share of those entering and exiting poverty during 2009 and 2012 was similar: 6 per cent and 5 per cent, respectively.

Table 1 *Dynamics of income poverty during 2009–12*

	Not poor in 2012	Poor in 2012	Total	
	%		*N*	%
Not poor in 2009	81	6	3882	88
Poor in 2009	5	7	540	12
Total	87	13	4422	100

Source: authors' estimates from the longitudinal EU-SILC 2013.

Overall, the income poverty rate decreased from 13 per cent to 12 per cent between 2011 and 2014 (*Table 2*). The dynamics during the recovery period

of 2011–14 are similar to those observed during the crisis period. More than four fifths of the population were not affected by poverty in either 2011 or 2014; 7 per cent were poor in both years; and 5 per cent entered poverty, while 7 per cent left it.

Table 2 *Dynamics of income poverty during 2011–14*

		Not poor in 2014	Poor in 2014	Total
Not poor in 2011	number	2836	170	3006
	%	*82*	*5*	*87*
Poor in 2011	number	234	233	467
	%	*7*	*7*	*13*
Total	number	3070	403	3473
	%	*88*	*12*	*100*

Source: authors' estimates from the longitudinal EU-SILC 2015.

We should keep in mind that the estimates of the cross-sectional and the longitudinal database may differ, and that our measures do not capture the yearly poverty dynamics between the start and the endpoint of the crisis and the recovery periods (2009 and 2011; 2011 and 2014, respectively).

Some 46 per cent of the group entering poverty had attained only primary education; 50 per cent had gone to secondary school; and only 4 per cent had a diploma (*Table 3*). By contrast, 10 per cent of the exiting group had been through higher education, while only about a third of them had had only primary education.

While employment status is more likely to change than education status over such a short period, it is still instructive to compare the labour-market status of the entering and exiting groups.[5] Less than a third of those who entered poverty were employed, while the proportion was over 50 per cent in the exiting group. Similarly, a fifth were unemployed in the entering group, but only 8 per cent in the exiting group. Half of those entering poverty and two fifths of those leaving it were inactive.

The share of people without children was higher in the exiting group (56 per cent) than among those people entering poverty (35 per cent). The opposite is the case for people with more than one child – i.e. a larger share of them

[5] According to the HCSO, the employment rate increased from 48.8 per cent in 2009 to 50.1 per cent in 2012 and increased between 2011 and 2014 from 49.1 per cent to 54.1 per cent. Meanwhile, the unemployment rate increased from 10 per cent to 11 per cent between 2009 and 2012 and decreased from 11 per cent to 7.7 per cent between 2011 and 2014.

entered poverty than left it. The share of people with one child was similar in both groups (16 per cent and 18 per cent).

Table 3 *Socio-economic characteristics of people entering income poverty between 2009 and 2012 and people exiting poverty between 2011 and 2014, in Hungary (per cent)*

	Entering (2009–12)	Exiting (2011–14)
Education		
Primary	45.7	36.5
Secondary	50.4	53.3
Higher education	4.0	10.2
Total	100.0	100.0
Employment status		
Employed	31.7	50.6
Unemployed	19.1	8.0
Inactive	49.3	41.4
Total	100.0	100.0
Number of children		
0	34.7	55.8
1	16.4	17.5
2	28.9	15.8
3+	16.6	10.9
Total	100.0	100.0
Degree of urbanization		
Densely populated area	15.0	21.5
Intermediate area	19.0	15.2
Thinly populated area	66.0	63.3
Total	100.0	100.0

Source: authors' estimates from the longitudinal EU-SILC 2013 and 2015.

Finally, we examined the degree of urbanization[6] in the two groups. Two thirds of those who entered poverty lived in a sparsely populated area, while only 15 per cent lived in the capital. The share of people living in Budapest was much higher (22 per cent) among those leaving poverty.

[6] The categories of the degree of urbanization based on EU-SILC roughly correspond to the following types of settlements in Hungary: capital ('densely populated area'), towns ('intermediate area'), villages ('sparsely populated area').

4.2 The dynamics of severe material deprivation in Hungary

In Hungary, severe material deprivation is not only more widespread than income poverty, but is also more dynamic, with more movement between the deprived and the non-deprived groups. As with people entering income poverty, so those people entering severe material deprivation also tend to be socio-economically more vulnerable (albeit less so).

The dynamics of severe material deprivation during the crisis in Hungary were as follows: 24 per cent lived in severe material deprivation in 2009 and 29 per cent in 2012; two thirds of the population were not materially deprived in either 2009 or 2012; but close to a fifth experienced material deprivation in both years (*Table 4*). The share of people entering severe material deprivation (11 per cent) was almost twice as large as the share exiting deprivation (6 per cent) between 2009 and 2012.

Table 4 *Dynamics of severe material deprivation during 2009–12*

		Not deprived in 2012	Deprived in 2012	Total
Not deprived in 2009	number	2877	503	3380
	%	*65*	*11*	*76*
Deprived in 2009	number	257	785	1042
	%	*6*	*18*	*24*
Total	number	3134	1288	4422
	%	*71*	*29*	*100*

Source: authors' estimates from the longitudinal EU-SILC 2015.

The severe material deprivation rate decreased from 27 per cent to 20 per cent between 2011 and 2014. Again, around two thirds of the population were not deprived in either year; 14 per cent lived in deprivation in both years; the proportion of people entering deprivation was 6 per cent; while more than twice that figure –13 per cent – succeeded in exiting it (*Table 5*).

If we compare the entering and exiting groups, again we see that those entering deprivation are more vulnerable; however, there are some interesting differences compared to our previous observations (*Table 6*).

Table 5 *Dynamics of severe material deprivation in the 2014 total population, 2011–14*

		Not deprived in 2014	Deprived in 2014	Total
Not deprived in 2011	number	2306	212	2518
	%	*66*	*6*	*73*
Deprived in 2011	number	457	498	955
	%	*13*	*14*	*27*
Total	number	2763	710	3473
	%	*80*	*20*	*100*

Source: authors' estimates from the longitudinal EU-SILC 2015.

The main underlying reason for the differences is that the share of those severely materially deprived is higher than the proportion of income poor; thus the former group tends to be more heterogeneous and contains relatively few people at high risk of poverty. In other words, material deprivation affects less vulnerable people as well, while income poverty is more concentrated on the vulnerable. Only a third of those people entering severe material deprivation between 2009 and 2012 had only primary education, whereas the share was 46 per cent among those entering income poverty; the figures were approximately 28 per cent and 37 per cent in the case of groups exiting from deprivation and income poverty, respectively. Also, in the case of in-come poverty, around two thirds of both the entering and the exiting groups lived in villages, while only around half of the people both entering and leaving severe material deprivation lived in sparsely populated areas.

Likewise, we observe that people entering and people leaving severe material deprivation are more alike (in terms of their socio-economic characteristics) than are people entering and people exiting income poverty. The differences in educational attainment between the entry and exit groups are smaller in the case of material deprivation than in the case of income poverty. These asymmetries are even more pronounced when we look at employment status and number of children. Between the groups entering and exiting in-come poverty, there is a 20 percentage point difference in terms of the share of the employed and a 10 percentage point difference in terms of the share of the unemployed; by contrast, in the case of severe material deprivation the gap is only 4 and 5 percentage points, respectively. Meanwhile, we find that the share of people without children is almost the same in the group entering severe material deprivation between 2009 and 2012 as it is in the group exiting

deprivation between 2011 and 2014, whereas there is a 21 percentage point difference in the figures for income poverty.

Table 6 *Socio-economic characteristics of people entering severe material deprivation between 2009 and 2012 and people exiting deprivation between 2011 and 2014 in Hungary (per cent)*

	Entering (2009–12)	Exiting (2011–14)
Education		
Primary	33.8	27.5
Secondary	55.9	58.6
Higher education	10.3	14.0
Total	100.0	100.0
Employment status		
Employed	41.7	45.7
Unemployed	12.2	6.9
Inactive	46.1	47.4
Total	100.0	100.0
Number of children		
0	52.3	51.7
1	24.8	18.5
2	14.7	14.1
3+	8.1	15.8
Total	100.0	100.0
Degree of urbanization		
Densely populated area	27.5	24.4
Intermediate area	15.2	25.1
Thinly populated area	57.3	50.5
Total	100.0	100.0

Source: authors' estimates from the longitudinal EU-SILC 2013 and 2015.

It is interesting that the share of the generally more vulnerable people with children who entered severe material deprivation during the crisis is no higher than the share of those who exited deprivation during the recovery. Moreover, the share of people raising three or more children was higher in the exit group than in the entry group (16 per cent vs. 8 per cent).

5. Multivariate analysis

Now we turn to a multivariate analysis to assess the role of the socio-economic characteristics in explaining severe material deprivation and in-come poverty during the two periods under analysis: 2009–12 (the years of the crisis) and

2011–14 (recovery). We estimated panel probit regressions on the two samples (2009–12 and 2011–14), where the dependent variables – severe material deprivation and income poverty – are dichotomous (0 if the person is not poor/deprived and 1 otherwise).

The explanatory variables are our usual socio-economic characteristics: educational attainment, employment status, number of children and degree of urbanization (see the categories in *Table 3* and *Table 6*). We summarize our results by showing average marginal effects in *Table 7*.

The results suggest that people living in severe material deprivation form a larger and more heterogeneous group than the income poor – especially during the crisis, when it was not just the otherwise more vulnerable people who were affected. In the recovery period, the group of materially deprived are already more homogeneous in terms of their socio-economic characteristics. This implies that our conclusion based on the cross-sectional data also holds true on the basis of the panel data: it seems that it was mostly people with higher socio-economic status (in other words, the lower-middle and the middle class) who were able to exit material deprivation, having experienced temporary deprivation during the crisis (mostly due to a fall in real incomes and to indebtedness).

In both periods, education and employment are the strongest factors explaining both severe material deprivation and income poverty. The number of children is related to poverty and deprivation only if there are three or more children (which is positively correlated with poverty and deprivation). Degree of urbanization matters, but the magnitudes are small. Apart from these common general tendencies, we see some differences between the two indicators of social exclusion. For instance, the difference between the coefficients in the two time periods is more pronounced in the case of severe material deprivation; for example, education 'made a bigger difference' during the years of recovery.

During the crisis, someone with secondary education had a 10 per cent lower chance on average of being deprived (all other things being equal) than someone with only primary education, whereas after the crisis the estimated figure was 26 per cent lower. Someone with higher education was an estimated 16 per cent less likely than someone with only primary education to be deprived during 2009–12, and 31 per cent less likely during 2011–14. It is interesting that there was less likelihood of someone with three or more children being materially deprived during the crisis than in the years of recovery (all other things being equal), whereas that same person was more likely to be income poor during the period of crisis.

Table 7 *Probability of severe material deprivation and income poverty at the individual level, in Hungary during 2009–12 and 2011–14*

	(1)	(2)	(3)	(4)
	severe material deprivation		income poverty	
	2009–12	2011–14	2009–12	2011–14
Education (reference category: primary)				
Secondary	–0.10***	–0.26***	–0.04***	–0.06***
	(0.02)	(0.03)	(0.01)	(0.01)
Higher education	–0.16***	–0.31***	–0.07***	–0.08***
	(0.02)	(0.03)	(0.01)	(0.01)
Employment status (reference category: employed)				
Unemployed	0.12***	0.12***	0.10***	0.10***
	(0.02)	(0.02)	(0.01)	(0.02)
Inactive	–0.003	0.002	0.022***	0.007*
	(0.009)	(0.010)	(0.004)	(0.004)
Degree of urbanization (reference category: densely populated)				
Intermediate	0.04***	–0.02	0.03***	0.01***
	(0.02)	(0.01)	(0.01)	(0.00)
Thinly populated area	0.03***	–0.04***	0.05***	0.03***
	(0.01)	(0.01)	(0.00)	(0.01)
Number of children (reference category: 0)				
1	–0.01	0.01	0.01*	0.00
	(0.01)	(0.01)	(0.01)	(0.01)
2	–0.01	0.01	0.03***	0.02*
	(0.01)	(0.02)	(0.01)	(0.01)
3+	0.10***	0.22***	0.14***	0.09***
	(0.03)	(0.04)	(0.02)	(0.02)
Age control	yes	yes	yes	yes
Number of observations	15 039	12 102	15 039	12 102

[a] Panel probit regression, coefficients are estimates of the average marginal effects.

Note: clustered robust standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: authors' estimates from the longitudinal EU-SILC 2013 and 2015.

6. Conclusion

Social segmentation was bolstered in Hungary during the economic crisis (2009–12), and the socio-economic profile of the poor and socially excluded became more homogeneous. The decline in the severe material deprivation rate between 2012 and 2014 was mostly due to the exit of the less vulnerable groups that were only temporarily deprived. In this chapter we have assessed

the dynamics of poverty based on longitudinal data and have reassessed the implications of the cross-sectional data.

Cross-sectional and persistent income poverty is low in Hungary in European terms; however, the severe material deprivation rate – both cross-sectional and persistent – is strikingly high. In 2012, 70 per cent of the severely materially deprived were persistently deprived; and the figure increased to 74 per cent in 2014 (in parallel with the decrease in the overall severe material deprivation rate between 2012 and 2014).

Not only is the share of the population living in severe material deprivation higher than the proportion who are income poor, but the dynamics of deprivation is also stronger than the dynamics of income poverty: movement between the deprived and non-deprived groups is more frequent than it is between the poor and non-poor groups. People entering and exiting severe material deprivation tend to be less vulnerable in terms of their socio-economic characteristics (and more alike) than the groups of people entering and exiting income poverty.

Multivariate analysis seems to confirm our hypothesis based on cross-sectional data: as the economy slowly recovered, it was mostly the lower-middle class and the middle class that managed to exit income poverty and severe material deprivation; thus they were socially excluded only temporarily.

REFERENCES

Duncan, G.J. and J. Brooks-Gunn (1997). *Consequences of Poverty*. Russell Sage Foundation: New York.

European Commission (EC) (2013). Employment and social developments in Europe 2012. http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7315

Gábos, András and István György Tóth (2017). Recession, recovery, and regime change: Effects on child poverty. In: B. Cantillon, Y. Chzhen, S. Handa and B. Nolan (eds), *Children of Austerity: Impact of the great recession on child poverty in rich countries*. Oxford University Press: Oxford.

Gábos, András, Péter Szivós and Annamária Tátrai (2012). Szegénység és társadalmi kirekesztettség Magyarországon, 2000–2012 [Poverty and social exclusion in Hungary, 2000–2012]. In: P. Szivós and I.Gy. Tóth (eds), *Egyenlőtlenség és polarizálódás a magyar társadalomban* [*Inequality and Polarization in Hungarian Society*]. TÁRKI Monitor reports. TÁRKI: Budapest. http://mek.oszk.hu/13400/13451/13451.pdf

Gábos, András, Péter Szivós and Annamária Tátrai (2015). Jövedelmi szegénység és társadalmi kirekesztettség jellemzői Magyarországon [Income poverty and social exclusion in Hungary]. In: Péter Szivós and István György Tóth (eds), *Jól nézünk ki (…?!): Háztartások helyzete a válság után* [*Do we look great (…?!): The situation of households after the crisis*]. TÁRKI Monitor reports. TÁRKI: Budapest. http://old.tarki.hu/hu/research/hm/monitor2014_teljes.pdf

Gábos, András, Annamária Tátrai, Anna B. Kiss and Péter Szivós (2016). Anyagi depriváció Magyarországon, 2009–2015 [Material deprivation in Hungary, 2009–2015]. In: Tamás Kolosi and István György Tóth (eds), *Társadalmi Riport 2016* [*Social Report 2016*]. TÁRKI: Budapest. http://old.tarki.hu/hu/publications/SR/2016/07gabos.pdf

Hungarian Central Statistical Office (HCSO) (2017). *Háztartások jövedelme és életszínvonala, 2016* [*Household Income and Living Standards, 2016*]. KSH: Budapest. https://www.ksh.hu/docs/hun/xftp/idoszaki/hazteletszinv/hazteletszinv16.pdf

Jenkins, S.P. and P. Van Kerm (2013). The relationship between EU indicators of persistent and current poverty. *CASE Working Paper*, No. 169. http://sticerd.lse.ac.uk/dps/case/cp/CASEpaper169.pdf

Szivós, Péter and István György Tóth (eds) (2012). *Egyenlőtlenség és polarizálódás a magyar társadalomban* [*Inequality and Polarization in Hungarian Society*]. TÁRKI Monitor reports. TÁRKI: Budapest. http://mek.oszk.hu/13400/13451/13451.pdf

Vaalavuo, M. (2015). Poverty dynamics in Europe. From what to why. *Working Paper* 03/2015. Publications Office of the European Union: Luxembourg. http://ec.europa.eu/social/main.jsp?catId=113&langId=hu