

Social Exclusion in Bosnia and Herzegovina and the Global Crisis

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SOCIAL EXCLUSION IN BOSNIA AND HERZEGOVINA AND THE GLOBAL CRISIS

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Executive summary

In Bosnia and Herzegovina living standards were improving before the onset of the financial crisis, fuelled by strong economic growth. The national poverty headcount fell from 17.7 percent in 2004 to 14 percent in 2007. The economy continued on the pre-crisis growth trend in 2008, registering a real GDP growth rate of 5.7 percent y-o-y, but the financial crisis led to a sharp contraction in 2009 (-3.1 percent y-o-y), and the recovery as elsewhere in the region, has been slow.

In order to investigate the impact of the financial crisis, and also to gain a more up-to-date profile of deprivation in BiH new data was collected in the fall of 2010. No HBS data exists since the 2007 round and the EHBS 2011 data will not be available until next year. Thus it is not possible to update the trends in consumption poverty since 2007. To understand the impact of the crisis, supplemental modules (LiTS-SM) were designed and administered to the sample of the Second Life in Transition (LITS 2) 2010 Survey to provide information on the impact of the crisis, including labour market dimensions, remittances and reliance on social assistance programs. The LiTS-SM also collected data on social inclusion, which offers the first opportunity to monitor social inclusion indicators similar to those applied to EU Member states.

The LiTS-SM data reveal that the financial crisis had -- and continues to have -- a strong negative impact. More than 60 percent of households in Bosnia and Herzegovina report being affected either a great deal or a fair amount by the crisis. Consistent with findings from most countries in Eastern Europe and Central Asia the impact of the crisis is felt more strongly in urban areas – less than 20 percent of urban households and less 30 percent of rural households report that the crisis had no impact on their welfare. In the bottom consumption quintile more than 70 percent of households report to have been affected a great deal or a fair amount. These are subjective measures, and thus do not provide a precise estimate of the change in poverty as a result of the crisis. However, from previous analysis, we know that 77 percent of the reduction in the poverty rate during the 2004-2007 period was accounted for by the growth in mean consumption, suggesting that the economic contraction of 2009, and the slow post-crisis recovery marks an important break in the pre-crisis trends.

Reductions in the flow of remittances and in wages are the main pathways of the crisis impact, followed by job losses. Reduced remittances flows are reported by more than 50 percent of households, and reduced wages by almost 40 percent of total. These are roughly evenly distributed across the welfare distribution. Job losses, particularly among household members other than the head of household, and reductions in work hours, on the other hand, are more prominent among lower income households.

Households resort to multiple coping strategies, and the impact of the crisis goes beyond reduced consumption of luxury goods. The most common mechanism of coping with the impact of the crisis appears to be reduced consumption of luxury goods (reported by 46 percent of households), or cutting TV / phone / internet service (18 percent). However, almost a quarter of households (29 percent in rural areas) report having had to reduce

consumption of staple foods such as milk, fruits, vegetables or bread, and 11 percent of households had to delay payment of utilities (3 percent had their utilities cut due to non-payment). Eight percent of households report having had to delay medical visits when sick, and 4 percent report having to stop buying necessary medicines – all rather drastic coping measures.

The survey also allows us to measure for the first time the share of the population at risk of poverty and social exclusion indicator adopted by EU Member States in the Europe 2020 strategy. This measure is composed by three separate indicators: the at-risk-of-poverty rate, severe material deprivation, and labour market exclusion. In addition, we are also able to look at some additional measures that are part of the social inclusion agenda, such as housing and long-term unemployment. As these indicators are available for all EU Member States, they can be used to provide broad comparisons of BiH vis-à-vis countries in the EU.

Almost one third of the population of BiH, or 1.5 million people are at-risk-of-poverty, an indicator that measures whether the household's income per equivalent adult is below 60 percent of the median income in the country. This population is concentrated in rural areas, similar to patterns in New European States and southern European countries, but unlike countries in northern Europe, where poverty risk is greater in urban areas. Like in EU countries, the risk of poverty is highest among children and for larger households, although men and women in BiH face a similar risk of poverty, whereas in the EU the risk is greater among women.

About 1.7 million people, or 37 percent of the population of BiH face severe material deprivation, defined as an inability to pay for at least 3 of the following 5 items: rent or utility bills; keep their house adequately warm; face unexpected expenses; eat meat, fish, or a protein equivalent every second day; or a week of holiday away from home once a year. Among the individual variables that capture material deprivation the most salient in BiH is the ability to afford unexpected expenses worth 386 KM (Euro 195) – more than 70 percent of households appear to be unable to afford an unexpected expense of this magnitude through their own resources. The dimensions of material deprivation are also correlated. Geographically, the picture of material deprivation appears to be broadly similar across urban and rural areas, and also across FBiH and RS entities.

Just over 1 million people, or 26 percent of the population of BiH, reside in low work intensity households, or households where the number of months worked by working-age household members over the past 12 months is less than 20 percent of the theoretically possible amount. The degree of exclusion from the labour market is higher than in the EU-27 as a whole, where only 9 percent of the population lives in low work intensity households. Even in countries like Bulgaria and Romania the share of population residing in low work intensity households was under 10 percent. Exclusion from the labour market is higher in rural areas, similar to new EU members, but unlike Western European countries, where it is densely populated areas that have a higher share of population residing in low work intensity households.

In 2010 roughly 2.7 million people, or 59 percent of BiH population were *at-risk-of-poverty or social exclusion (AROPE)*, the key aggregate social indicator of the *Europe 2020* strategy which combines the three indicators discussed above. In comparison more than 40 percent experienced a similar level of deprivation in Bulgaria and Romania, and 23 percent of the EU-27 population. There is considerable overlap between the three dimensions of exclusion, even when compared to New EU members.

Despite the overlap, the three dimensions of exclusion are indeed complementary in terms of the populations they identify. Only 16 percent of those who either were at risk of poverty, residing in a low work intensity household or had three or more material deprivations were deprived along all three of these dimensions simultaneously. Among those who were either at risk of poverty or materially deprived in 3 or more dimensions, only one third had both these characteristics. The inability to afford unexpected expenses, or to provide proper nutrition is highest among single-member households, which have the lowest risk-of-poverty rate.

Better education and labour market attachment are tightly linked and are both vital in mitigating both poverty risk, and material deprivation. Whether it be own education level, or that of the household head, low education levels are associated with a higher risk of poverty and greater material deprivation. Education and labour market participation are also tightly connected – 81 percent of those with no education did not work over the past year, compared to only 21 percent of those with a bachelor’s degree or higher. Labour market participation is higher among men – 63 percent of men in the 25-60 age group worked during the past 12 months, compared to 37 percent of women, and participation rates for both men and women increase with education. Notably, among those with a bachelor’s degree or higher the differences in labour market participation between men and women vanish. Low work intensity is associated with greater poverty risk and material deprivation. These patterns are not unique to BiH and can also be observed in the European Union.

Finally, the indicators of social exclusion were contrasted with a consumption-based measure of poverty. In all three dimensions of social exclusion roughly 65-70 percent of the population identified by those indicators were outside of the bottom consumption quintile. Just over half of the population in the bottom quintile were at risk of poverty, and a similar share was deprived in at least 3 material deprivation dimensions. However, the EU’s leading indicator that aims to capture the population at-risk-of-poverty or social exclusion captures relatively well the type of deprivation identified by our consumption-based measure – over 80 percent of those in the lowest quintile of the household expenditures distribution were identified by this union indicator.

Three main messages emerge from this exploration of this new way of measuring the risk of poverty and social inclusion in BiH. First is adopting a multidimensional approach a different type of survey is needed, one that provides a lot of additional information that can contribute to our understanding of the social conditions in the country. It would be important however to continue monitoring the indicators that have been monitored so far, in order to maintain continuity and avoid confusing the public. The solution currently adopted by BiH

with additions of modules to the HBS appears to be an ideal solution for this purpose. Second, these new measures, by capturing different dimensions of deprivations than the measures previously utilized, will also lead to different estimates of poverty incidence and different identification of who the most deprived groups are. It will be important to have an appropriate communication campaign around the release of the new findings once they become available. Finally, as shown in this note, adopting this new approach opens up the possibility of comparing BiH with other countries who are now EU MS or that have started collecting SILC like indicators. It also opens up the possibility of learning from the policy debates happening around the social agenda in the rest of Europe. Given the current emphasis on labour markets and the integration of the labour market and social policies this is likely to be one of main areas of such learning for BiH.

1. Introduction

Bosnia, like most of the countries in South Eastern Europe was severely affected by the crisis. In 2009 the economy contracted by 3.1 percent (an almost 9 percentage point drop in the GDP growth rate compared to 2008), and unemployed increased in 2009. The economy is estimated to have returned to modest growth (0.8 percent) in 2010 and is expected to have been robust in 2011.

The last nationally representative household survey (the Household Budget Survey, HBS) was conducted in 2007 so that no comprehensive assessment of how households in the country have been affected by the crisis has yet been possible. This note aims at starting to fill this gap by presenting the results of a small but nationally representative survey conducted in the last quarter of 2010 (the LITS-SM survey, see below). This survey cannot provide us with updated poverty estimates that are comparable to the poverty trends presented in the previous World Bank Poverty Update (World Bank 2009). Such an update will have to await the release of the data of the Extended HBS (EHBS 2011) fielded by the Statistical Agency (BHAS) in 2011.

An important aspect of the LITS-SM survey is that it includes the social inclusion module developed for the EHBS 2011 following the recommendations of the Expert Group on “Measuring poverty and social exclusion in pre-accession and European neighbourhood countries”, issued in 2009.² This note can therefore present for the first time estimates of the indicators of social inclusion that all European Union Member States are bound to monitor to report on their progress towards the EU 2020 social inclusion target. These indicators, defined in Section 4 of this note, include the share of population at-risk-of-poverty, the share of population living in low work intensity households, and the share of population materially deprived. Each of these is interesting per se, although the EU target is one which combines information from each so that any household deprived in any of these dimensions could be considered poor or socially excluded. The initial findings in this note can therefore give a flavour of the type of information that the EHBS will allow BHAS to report on in the future. It is very important that BiH has adopted a practical solution that will allow us to start monitoring progress on these indicators while ensuring continuity with the HBS series and the measurement of monetary poverty based on a consumption indicator as it has been done over the past decade.

The note is structured as follows: section 2 provides a brief discussion of the data; section 3 presents the LITS-SM findings on the impact of the crisis, while section 4 presents the new profile of social inclusion indicators. How risk of poverty, material deprivation and low work intensity are inter-related, as well as how they are related to a consumption-based poverty measure is explored in Section 5. Two other dimensions of social inclusion, housing and

² In order for pre-accession countries to develop the statistical capacity needed to implement the EU-SILC survey, which is part of the statistical *acquis* countries have to adopt during the accession process, the panel recommended that they adopt a structure of rotating modules to be added to the core of their Household Budget Surveys or other surveys with which they regularly monitor poverty. The Expert Group included representatives from Eurostat, INE Spain, ISTAT Italy (in 2007/2008), the World Bank and DFID.

long-term unemployment, are examined in Section 6. Section 7 provides some concluding considerations.

2. Data description

This note uses data collected in the last quarter of 2010 by the LITS-SM survey. The survey was conducted as a follow-up interview of the sample that had been interviewed for the BiH 2010 wave of the Life in Transition Survey (LITS) – a cross-country effort covering almost 39,000 households in 34 countries (including all transition economies and several Western European countries) to assess public attitudes, well-being and the impacts of economic and political change in the region based on a nationally representative sample in each of the countries.³

The sample of the LiTS 2010 survey in BiH included 1,087 households. The supplemental modules, fielded two months after the original LiTS survey were able to capture 842 households. While attrition is not random,⁴ the differences between either the LiTS or the LiTS follow-up sample from the BiH population Census distribution do not appear to be systematic.^{5,6} As the result, the sample used in this paper is treated as self-weighting.⁷

The supplemental modules were designed to provide information on the impact of the crisis (including labour market dimensions, remittances and reliance on social assistance programs) and social exclusion indicators.⁸ The module on social exclusion is based on the EHBS social exclusion module, which in turn was designed to capture the main variables collected by the EU SILC survey to measure social inclusion. In addition the module includes some of the migration and remittances variables collected in other modules of the EHBS. Combining information from the LITS and the additional modules, the LITS-SM includes information on income, expenditures, social inclusion and labour market activities.

³ The LITS was collected jointly by the European Bank for Reconstruction and Development and the World Bank

⁴ A larger share of attrited households come from RS, and a smaller share are from North FBiH and especially from Sarajevo. The attrited households also report lower levels of per capita consumption than the overall LiTS sample, and similarly a lower incidence of HH assets such as a car or a computer. However, differences between the original LiTS sample of 1,087 households and the LiTS-SM sample of 842 households in terms of the geographic distribution or household characteristics are not statistically significant with the exception of mean household expenditures (see Annex).

⁵ The differences are not systematic in the sense that there is no household-level variable that explains the difference between the population pyramid based on the LiTS-SM sample and the population pyramid given by Census (see Annex A1.3.). If such a variable existed, it could have been used to reweigh the sample accordingly. Given that no such variable could be found, the LiTS-SM sample of households is regarded here as a self-weighting sample of all households in the country. The LiTS sample is a self-weighting sample of households by design.

⁶ The estimates of the population by age groups are from the US Census Bureau international database (<http://www.census.gov/ipc/www/idb/informationGateway.php>)

⁷ Note that in the LiTS survey the households were sampled consistent with a self-weighting sample. The weights were then applied in order to back out the distribution of the adult (18+) population of BiH. Since we are more interested in population estimates of household characteristics and not with the opinion questions of the LiTS survey, re-weighting would not necessarily be appropriate.

⁸ A special module on health was also collected to provide information on a separate research project.

The expenditure-based measure of welfare is derived from the consumption module in the LiTS survey, where households report monthly household expenditures for the following three categories: (i) food, beverages and tobacco; (ii) utilities (electricity, gas, water, heating, fixed line telephone); and (iii) transportation (public transportation and car fuel); and also expenditures over the past 12 months for the following expenditure categories: (iv) education (including tuition, books, kindergarten expenses); (v) health (including medicines and health insurance); (vi) clothing and footwear; (vii) durable goods. The consumption aggregate used in this paper is based on the total household expenditures on all of the above categories, expressed in per capita terms. This consumption indicator is not comparable with the consumption indicator collected by the BHAS through the HBS surveys, as such it cannot be used to update either the national poverty estimates or those regularly published by the World Bank (World Bank 2009). Analysis using the previous round of the LITS (2006) which used a similar consumption indicator and compares it to the consumption estimates from traditional HBS and LSMS surveys, shows that this type of summary indicator offers reliable orderings of households (Zaidi et al. 2009).

3. Impact of the financial crisis⁹

According to the LiTS 2010 survey almost 70 percent of households in Bosnia and Herzegovina were affected either a great deal or a fair amount by the crisis (Table 1). The impact of the crisis appears to have been felt much more strongly in urban areas compared to rural areas: 40 percent of households in urban areas report to have been affected a great deal, compared to 29 percent of rural households. This is consistent with findings from elsewhere in the region, with the exception of Serbia where the crisis had a stronger initial impact in rural areas. Only 18 percent of urban Bosnian households and 28 percent of rural households report that the financial crisis had no impact at all on their welfare.

Table 1: Has the economic crisis affected you? (% of total)

	Urban	Rural	FBiH	RS	Overall
A great deal	40.4	29.3	40.2	26.0	35.3
A fair amount	28.0	29.9	30.9	25.0	28.9
Just a little	13.1	13.0	8.9	20.9	13.1
Not at all	18.4	27.8	20.0	28.1	22.8
Total	100	100	100	100	100

Note: Authors' estimates based on LiTS 2010 data.

This picture is consistent with respondents' household heads general assessment of their household's ability to make ends meet. About 35 percent of household report difficulty or great difficulty in making ends meet, with another 37 percent experiencing some difficulty, with the remaining population (under 30 percent) declaring that they experienced no difficulties making ends meet in 2010. The share of urban households experiencing great difficulties making ends meet was twice as large as in rural areas. (Table 2).

⁹ This section relies mostly on the crisis section of the LiTS questionnaire, though additional details are derived from the material deprivation questions collected in the LiTS-SM.

Table 2: How does your household manage to make ends meet?, by urban / rural (% of total)

	Urban	Rural	Overall
With great difficulty	15.6	7.7	11.9
With difficulty	22.2	23.7	22.9
With some difficulty	31.6	42.6	36.7
Fairly easily	23.1	18.9	21.1
Easily	6.2	6.1	6.2
Very easily	1.3	1.0	1.2
Total	100	100	100

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Across entities, the more urban FBiH was affected more strongly, according to subjective perceptions of respondents – 71 percent of households in FBiH were affected either strongly or a fair amount, compared to 51 percent in RS. However, the differences are not due entirely to the higher share of urban population in FBiH. If we restrict our attention to urban areas only, 76 percent of households in this group in FBiH report being affected a great deal or a fair amount, compared to 53 percent in RS, and for rural areas the corresponding shares are 65 percent for FBiH and 49 percent for RS.

The impact of the crisis was felt across the entire welfare spectrum, though the impact on the poorest groups was more marked (Table 3). Among households in the bottom consumption quintile 71 percent of households were affected a great deal or a fair amount, and only for the 4th quintile the total share of respondents in this category is below 60 percent. The share of households not at all affected by the crisis was lowest in the bottom two consumption quintiles.

Table 3: Impact of the crisis by consumption quintile (% of total)

Quintile	1 st	2 nd	3 rd	4 th	5 th	Overall
A great deal	41.2	36.2	34.6	31.9	35.0	35.3
A fair amount	29.8	29.8	32.7	23.9	29.1	28.9
Just a little	8.8	14.9	9.3	17.6	13.1	13.1
Not at all	20.2	19.2	23.5	26.6	22.8	22.8
Total	100	100	100	100	100	100

Note: Authors' estimates based on LiTS 2010 data.

Households declaring pensions as their main income source, rather than others, particularly salaried or wage employment, report a stronger impact of the crisis even though roughly the same share of households that rely on pensions report no impact of the crisis at all (table 4).¹⁰

¹⁰ As we have no information on the main income source before the crisis this association could reflect either a greater ex-ante vulnerability of those without an attachment to the labour market, or the sorting effect of the crisis in affecting employed individuals with some workers losing their jobs and others continuing in employment. Evidence from table 4 on the pathways of impact seems to be in line with the first interpretation.

Table 4: Impact of the crisis by main livelihood source (% of total)

	Salary/ wages	Income from self employment	Pensions	Total
A great deal	30.7	34.1	42.0	35.3
A fair amount	31.0	28.6	25.9	28.9
Just a little	16.6	11.9	9.5	13.1
Not at all	21.7	25.4	22.6	22.8
Total	100.0	100.0	100.0	100.0

Note: Authors' estimates based on LiTS 2010 data. Income from self-employment also includes sales of farm products. The pensions category also includes 7 households relying primarily on state benefits. Help from friends category is not reported due to small sample size.

The reduced flow of remittances and the labor market channels are the most important channels through which the crisis is affecting households – more than half of the households report reductions in remittances, and 49 percent of households report either job losses or reductions/delays in wages. Moreover, wage reductions appear to be a more important channel than outright job losses or family business closures. Differentiating between households with different livelihood sources, reductions in wages were more prominent for households that rely on wages or salaries, but much less so for other groups. Reductions in remittances are by far the most common pathway for all household groups other than those relying on wages and salaries. Pathways such as having to take additional work, increase work hours, or taking a job by non-working household members are much less common, reported by less than 5 percent of households.

Table 5: Pathways from crisis impact, by main livelihood source (%)

	Salary / wages	Income from self- employment	Pensions	Overall
HH head lost a job	8.0	26.6	6.4	11.1
Other HH member lost a job	14.2	16.0	14.9	14.5
Wages delayed / suspended	12.4	8.5	8.5	10.3
Wages reduced	52.5	20.2	26.6	38.9
Reduced flow of remittances	41.0	53.2	65.4	50.9

Note: Authors' estimates based on LiTS 2010 data. Only pathways affecting more than 10 percent of households reported.

These pathways of crisis impact, while broadly similar across urban and rural areas, differed across the welfare distribution (Table 6). For instance, job losses, both of the household head and of other household members, as well as reductions in work hours and business closures appear to be more prominent at the bottom of the welfare distribution, while reductions in remittances and reductions in wages were more prominent at the top of the distribution.

Table 6: Pathways from crisis impact (%)

	Urban	Rural	Bottom quintile	3rd quintile	Top quintile	Overall
HH head lost a job	9.5	13.1	19.8	12.1	8.7	11.1
Other HH member lost a job	14.4	14.5	18.7	13.7	8.2	14.5
Wages delayed / suspended	13.4	6.4	11.0	8.9	9.3	10.3
Wages reduced	37.3	41.0	33.0	37.1	41.0	38.9
Reduced flow of remittances	53.1	48.1	50.5	41.9	61.2	50.9

Note: Authors' estimates based on LiTS 2010 data. Only pathways affecting more than 10 percent of households reported.

3.1. Coping mechanisms

In order to cope with the crisis households cut consumption of luxury goods, media and communication (Table 7).¹¹ The impact of the crisis, however, went well beyond this. Almost a quarter of households (29 percent in rural areas) reported having had to reduce consumption of staple foods such as milk, fruits, vegetables or bread, and 11 percent of households had to delay payment of utilities (some even had their utilities cut due to non-payment). Furthermore, in FBiH 9 percent of households report having had to delay medical visits when sick, and 5 percent report having to stop buying necessary medicines.¹²

Table 7: Coping mechanisms (%)

	Urban	Rural	FBiH	RS	Overall
Reduced consumption of staple foods	18.2	28.8	25.5	18.8	23.2
Reduced consumption of luxury goods	47.3	44.6	46.7	44.9	46.1
Reduced consumption of alcoholic drinks	13.8	13.3	10.7	18.8	13.5
Reduced use of own car	13.3	17.1	14.9	15.4	15.1
Reduced vacations	18.7	19.1	16.9	22.6	18.9
Reduced tobacco smoking	13.3	12.0	12.5	13.0	12.7
Delayed payments on utilities	10.0	11.7	11.8	8.9	10.8
Cut TV / phone / internet service	14.0	23.0	16.9	20.5	18.2

Note: Authors' estimates based on LiTS 2010 data. Only coping strategies invoked by at least 10 percent of households reported.

The most notable difference in coping mechanisms across the welfare distribution is the much higher reliance on reduced consumption of staple goods among poor households – the incidence of this coping mechanism is more than double that of households in the top consumption quintile (Table 8). Worse off households also appear to be more reliant on reducing consumption of luxury goods, although here the differences are not as notable. The coping mechanisms among better-off households, on the other hand, primarily include reduced vacations.

¹¹ The estimates in this section are based on the questions whether in the previous two years (end of 2008- end of 2010), anyone in the household had to take any measures as the result of a decline in income or other economic difficulty. Cutting consumption of luxury goods was the most common coping mechanism, reported by 46 percent of households. Almost one fifth of households had to cut their TV / phone / internet service.

¹² The crisis also appears to have had some potentially more positive effects such as reduced consumption of alcohol (particularly in RS) and of tobacco.

Table 8: Coping mechanisms by consumption quintile (%)

	1 st quintile	2 nd quintile	3 rd quintile	4 th quintile	5 th quintile
Reduced consumption of staple foods	29.8	27.0	30.9	21.3	13.9
Reduced consumption of luxury goods	55.3	48.9	45.1	45.2	41.4
Reduced consumption of alcoholic drinks	10.5	14.2	17.3	15.4	10.5
Reduced use of own car	7.9	17.7	17.3	16.5	14.3
Reduced vacations	14.9	12.8	17.3	21.8	23.2
Reduced tobacco smoking	13.2	14.9	11.7	14.4	10.5
Postponed / skipped visits to the doctor after falling ill	12.3	7.1	8.6	9.6	5.1
Delayed payments on utilities	8.8	12.1	10.5	10.1	11.8
Cut TV / phone / internet service	19.3	20.6	23.5	18.6	12.2

Note: Authors' estimates based on LiTS 2010 data. Only coping strategies employed by more than 10 percent of household in any consumption quintile are reported.

3.2. Support mechanisms: formal and informal

In addition to altering consumption patterns, households can also resort to formal institutions and informal networks in order to cushion the impact of adverse shocks on their consumption levels. According to the data from the crisis module, more than a quarter of households report having tried to borrow money from a friend, some other person or an institution over the past two years. The incidence of borrowing attempts is higher among households that report having been greatly affected by the crisis (35 percent) or fairly affected (28 percent) as compared to those who were affected just a little (18 percent) or not at all (15 percent). There are minimal differences between rural and urban areas, but FBiH, having been affected more strongly by the crisis, also has a higher share of households reporting having tried to borrow (30 percent, compared to 19 percent in RS). Remarkably, most of households who tried borrowing succeeded in their attempts (88 percent of total), although those in the bottom quintile were more credit constrained – 17 percent of households in the bottom quintile who tried borrowing did not succeed, compared to 12 percent overall.

Small sample size does not allow us to evaluate the contribution of formal social safety nets – less than 2 percent of households report receipt of permanent social assistance, less than 1 percent report temporary social assistance or cash benefits for the unemployed.¹³

For the households that receive remittances (7 percent¹⁴ of total), they appear to be effective in cushioning the worst effects of the crisis - in this group of households a smaller share report reduced consumption of staple goods as one of the coping mechanisms (15 percent compared to 25 percent in households that do not report any remittances). Thus, there is some

¹³ Note that other sources have underscored that since 2006 the social assistance budget in BiH has been dominated by non-means tested benefits (particularly veteran benefits) while the coverage of the poor provided by non-insurance assistance programs is low, and their poverty-reduction impact is quite limited (for details, see World Bank, 2009).

¹⁴ In households that report receipt of remittances during the past year, their value is roughly 28 percent of the household's budget. Note that the share of households reporting receipt of remittances is quite low compared to the share of households reporting reduced flows of remittances due to crisis. While this may partly be due to households stopping receiving remittances altogether, the difference is still rather large. It is not possible with the data at hand to speculate on the causes of this discrepancy.

evidence of the insurance effect of remittances, as noted in a number of studies in the remittances literature.¹⁵

4. Social exclusion in BiH

LITS-SM offers the first opportunity to monitor social inclusion indicators in the country according to indicators similar to those adopted by EU Member states and collected by the EU SILC survey. A proper in-depth look at these issues will be possible when the EHBS data 2011, currently being processed, will be released. This note offers, however, a first opportunity to acknowledge the progress made by BiH in the transition towards the statistical requirements of accession towards the EU and explore the types of information that will be possible to monitor in the future.

This section provides a broad profile of the three key social inclusion indicators – the population *at-risk-of-poverty*, *material deprivation*, and residing in *low work intensity households* – both singularly taken and aggregated as in the EU2020 *at risk of poverty or exclusion* (AROPE) indicator. Section 7 examines dwelling and environment characteristics which are also part of the indicators of the Social Inclusion strand of the Open Method of Coordination in the EU.

4.1. At-risk-of-poverty profile

In the European Union the at-risk-of-poverty indicator is defined as having an income level that is below 60 percent of the median income in the country, expressed in equivalent adult units based on the OECD scales.¹⁶ This measure is different from the official poverty rate reported by the BHAS¹⁷ and from the poverty rates calculated by the World Bank (World Bank 2009).¹⁸

Definition: Risk-of-poverty is defined here in the space of incomes, in line with the EU definitions. Incomes are based on a special income module (designed for the EHBS) and administered as part of the LiTS-SM. The at-risk-of-poverty population indicator is defined as having an income level that is below 60 percent of the median income in BiH, expressed in equivalent adult units based on the OECD scales.

This note only describes a profile of poverty risk in 2010, and is not able to update the poverty trends from the most recent 2007 estimate – a comparable poverty estimate will have to wait until next year, when EHBS data becomes available.

¹⁵ Clarke and Wallsten, 2004; Mishra, 2005; Yang and Choi, 2007; Yang, 2008; Frankel, 2009; Mohapatra et al., 2009.

¹⁶ According to the OECD scale the first adult household member gets a weight of 1, all subsequent adults a weight of 0.5 and all children under the age of 14 a weight of 0.3.

¹⁷ The national poverty measure reported by the BiH Agency for Statistics is based on a relative poverty threshold set at 60 percent of median consumption per equivalent adult (based on HBS data). The latest national estimate of poverty headcount, based on this measure, was 18.2 percent according the HBS 2007 data

¹⁸ The World Bank computes poverty as is the 2001 LSMS-based poverty line set at KM 205 per capita per month in 2007 prices.

According to 2010 data from LiTS-SM, the *at-risk-of-poverty population* is comprised roughly of 1.5 million people, or 32 percent of the overall population of BiH. Eurostat estimates that in 2010 the at-risk-of-poverty ratio was 21 percent in Bulgaria, Croatia and Romania, and 16 percent overall for the EU-27 group of countries.

Table 9: Age profile of the at-risk-of-poverty population (%)

	At risk of poverty population	Overall population	Risk of poverty by age group
0-17	21.7	17.7	40.1
18-24	11.3	11.3	32.8
25-34	12.9	17.6	23.9
35-44	15.7	13.8	37.2
45-54	17.0	16.1	34.6
55-64	10.9	12.4	28.9
65+	10.5	11.1	31.2
Total	100	100	32.8

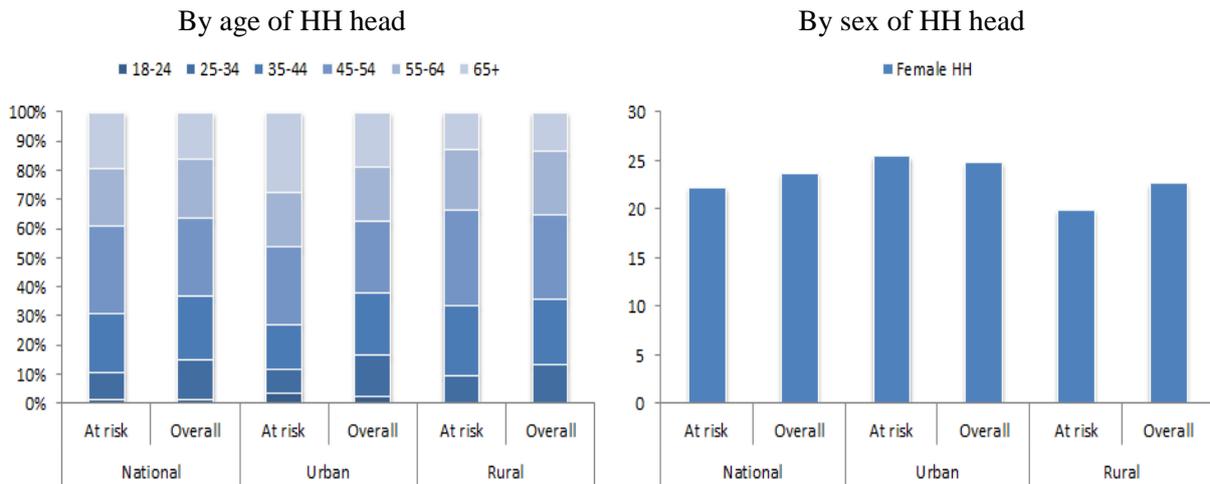
Note: Authors' calculations based on LiTS 2010 and supplemental module data

In BiH the at-risk-of-poverty population is concentrated in rural areas, which accounts for 58 percent of the total, compared to total share of the rural population (51 percent). The higher risk of poverty in rural areas is consistent with patterns in new EU members, as well as in Southern European states (Portugal, Spain, Greece or Italy) where the risk of poverty is also higher in rural areas (European Commission, 2011).¹⁹ In terms of its regional distribution, the at-risk-of-poverty population is equally distributed between RS and FBiH.

Disaggregated by the sex of the household head, female-headed households are less represented in the at-risk-of-poverty group compared to their overall population share in rural areas, whereas in urban areas the distribution is even across male and female headed households. In terms of the age group of the head of household, in urban areas the at-risk-of-poverty population is concentrated in households where the household head is in the 65+ age group – 27 percent of the at-risk-of-poverty group come from such households compared to their share of 19 percent of overall population (Figure 1). In rural areas a higher than average share of those at risk of poverty are in households where the households head falls into the 45-54 age group (33 percent of the at-risk-of-poverty population compared to the overall share of 29 percent of population in that group).

¹⁹ In contrast, in northern European countries, the at-risk-of-poverty rate tends to be lower in rural areas.

Figure 1: At risk of poverty profile by age and sex of HH head (%)



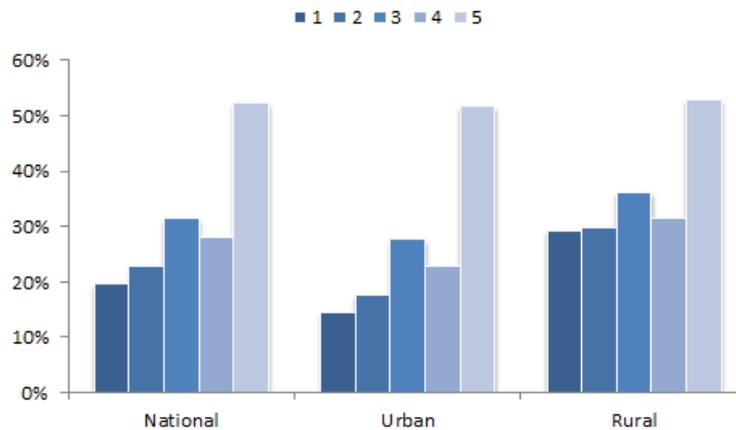
Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

The overall age distribution of the adult population suggests a somewhat higher risk of poverty for those in the 35-44 age group, although this is primarily a rural phenomenon. The risk of poverty is also considerably higher for children (ages 0-17) both in urban and rural areas. The lowest poverty risk is recorded in the 25-34 age group. The situation is broadly similar in the EU, where the risk of poverty is considerably higher among children, whereas the at-risk-of-poverty rate among the elderly is in line with the average risk for the country.²⁰ The group 18-24 year old which tends to be at higher poverty risk in EU Member States does not appear to be more affected than others in BiH.

Those residing in large households (5 household members or more) are at a much higher risk of poverty in both urban and rural areas. For smaller households, in rural areas the risk-of-poverty is similar for households of 1, 2 or 4 members, and somewhat higher for 3-member households. In urban areas the risk-of-poverty is smallest in single-member households, increases slightly for 2-member households, and then much more markedly for 3-member households. Larger household size is similarly associated with higher risk of poverty in the European Union.

²⁰ Although in a number of EU countries poverty risk is higher for the 65+ age group (e.g. Bulgaria, Denmark, UK).

Figure 2: Risk-of-poverty by household size (%)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

As is commonly the case, the risk of poverty is strongly associated with education. While overall 31 percent of the population reside in households where the household head has primary education or less, in the at-risk-of-poverty group this share 49 percent. Similarly, while 44 percent of the population overall comes from households where the household head has completed upper secondary education or above, only 28 percent do so in the at-risk-of-poverty group. The overall risk of poverty is highest for those residing in households where the head of household has primary education (54 percent) and lowest for those in household where the head has a bachelor's degree (11 percent).

Table 10: Welfare distribution by education level of household head, 2010 (%)

	At risk of poverty	Overall
No education / degree	11.6	8.5
Primary	37.1	22.3
Lower secondary	23.1	25.1
(Upper) secondary	22.4	30.3
Post-secondary non-technical	3.1	5.6
Bachelor's degree or higher	2.8	8.2
Total	100	100

Note: Authors' calculations based on LiTS 2010 and supplemental module data

This association is mirrored by the distribution of own education levels and welfare. Among those in the 25+ age group 31 percent reported having primary education or less in 2010, but these individuals account for 45 percent of the population in the at-risk-of-poverty group. As in the case of the education of household head, individuals with low education levels (primary or lower) face a much higher than average poverty risk, and the reverse is true for those with post-secondary education.

Table 11: Education and risk of poverty (%)

	At risk of poverty	Overall	Incidence of poverty risk
No education / degree	14.9	10.3	44.4
Primary	29.6	20.8	43.6
Lower secondary	24.2	24.9	29.9
(Upper) secondary	25.0	30.8	24.9
Post-secondary non-technical	2.8	4.6	18.4
Bachelor's degree or higher	3.6	8.5	12.9
Total	100	100	30.7

Note: Authors' calculations based on LiTS 2010 and supplemental module data

Another strong predictor of poverty risk is employment status. In the at-risk-of-poverty group 70 percent of those in the age group 25-60 did not work during the past 12 months, compared to 51 percent overall. Based on the employment status of the household head, 40 percent of the adult population resided in households where the household head did not work during the past year, but in the at-risk-of-poverty group the corresponding share was 60 percent.

Table 12: Employment status and education levels, 25-60 age group (%)

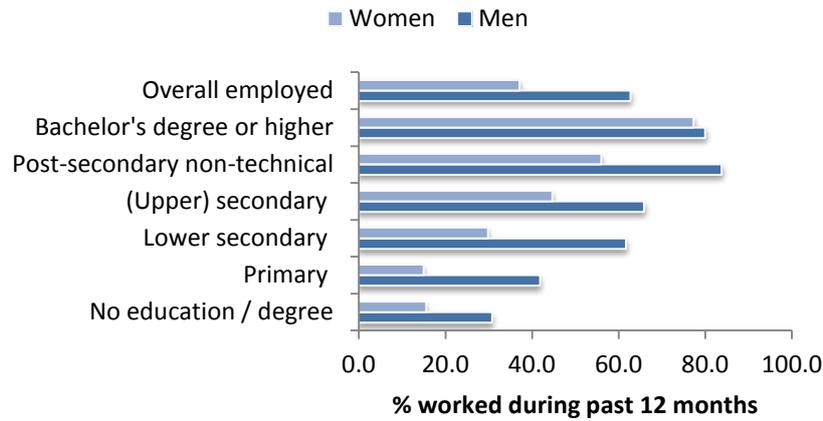
	Worked for income	Did not work for income	Worked for income	Did not work for income	Overall
	Row percentages		Column percentages		
No education / degree	19.0	81.0	1.8	7.2	4.5
Primary	25.2	74.8	9.1	26.0	17.7
Lower secondary	47.0	53.0	26.2	28.5	27.3
(Upper) secondary	54.9	45.1	39.6	31.4	35.4
Post-secondary non-technical	72.6	27.4	7.2	2.6	4.9
Bachelor's degree or higher	78.5	21.5	16.3	4.3	10.2
Total	49.1	50.9	100	100	100

Note: Authors' calculations based on LiTS 2010 and supplemental module data

These two dimensions – education and labour market status – are themselves strongly related. In the 25-60 age group 34 percent of those who did not work over the past 12 months had primary education or less, compared to only 11 percent of those who worked. Looking at it another way, 81 percent of those with no education did not work over the past year, compared to only 21 percent of those with a bachelor's degree or higher.

Labour market participation differed considerably between men and women – 63 percent of men and 37 percent of women in the 25-60 age group reported having worked during the past 12 months. Participation rates increase for higher levels of education, and among those with a bachelor's degree or higher the differences in labour market participation between men and women vanish.

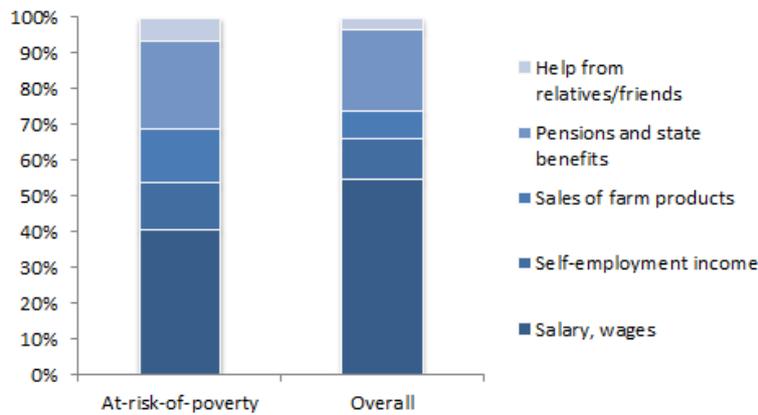
Figure 3: Worked during last year by education level and sex (%)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

In terms of the main livelihood source, wages are much less prevalent and reliance on sales of farming products more prevalent in the at-risk-of-poverty group as compared with the general population. On the other hand, the prevalence of self-employment income and of pensions²¹ is roughly similar in these two groups.

Figure 4: Risk of poverty by main income source (% of total)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Estimates from a multivariate profile of risk-of-poverty (see Table A1.4 in Annex) confirm higher poverty risk for those residing in households where the head has a low level of education. The higher risk of poverty associated with low educational attainment is still present when the main livelihood source of the household is accounted for. In individual level regressions (not reported) having no education is associated with a higher risk of poverty, controlling for the education of the head of household.

²¹ The pensions and state benefits income category is composed mostly of pensions, as only 7 households in the LiTS-SM data report state benefits as their main income source

The risk of poverty is also positively associated with the absence of the household head in the labour market, even controlling for education and the main livelihood source in the household. Individual level regression estimates confirm the strong negative correlation between employment of the household head and lower poverty risk, even if one's own employment status is accounted for. One's own unemployment is similarly associated with a higher risk of poverty, holding the employment status of the head of household constant.

The risk of poverty is higher for households where the main source of livelihood is self-employment income (relative to wages) and especially for households relying on sales of farming products. While the presence of remittances in the household is negatively associated with poverty risk, when help from family and friends is the main income source, the conditional poverty risk is higher than for households relying on wage income.

Characteristics such as the age and sex of the household head, as well as the size of the household do not appear to be significant predictors of poverty risk conditional on other characteristics, whereas a higher share of adult women and of the elderly appears to be associated with a lower risk of poverty. Individual level regression estimates confirm that poverty risk decreases with age, and is lower among women, conditional on other personal and household characteristics.

Note, finally, that while unconditionally risk of poverty is higher in rural areas, this appears to be driven by the underlying characteristics of the urban / rural populations. Once characteristics such as education, labour market participation and household composition are held constant, rural areas are no longer associated with a higher probability of poverty risk at conventional confidence levels.

4.2. Material deprivation

In the European Union the material deprivation indicator is based on a list of 9 variables²² (data for which is collected in the EU SILC survey) recording whether people can afford the following: (i) pay their rent or utility bills; (ii) keep their house adequately warm; (iii) face unexpected expenses; (iv) eat meat, fish, or a protein equivalent every second day; (v) a week of holiday away from home once a year; (vi) a car; (vii) a washing machine; (viii) a colour TV; (ix) a telephone. The main focus is on the material deprivation rate, defined as the inability to pay for at least four of the above-mentioned 9 items. This indicator aims to capture the extent to which individuals might be unable to achieve the living conditions considered typical in the European Union due to lack of financial resources.

The information collected in the LITS-SM focuses on a slightly different set of variables, identified during the design phase of the EHBS as better responding to the reality in BiH, therefore making this indicator only broadly comparable with those collected in EU Member States.²³ In particular, we do not have data on the affordability (as separate from possession) of cars, washing machines, TVs or telephones (variables vi-ix in the list above). Variables i-v

²² Atkinson and Marlier (2010).

²³ The variables collected in the LITS-SM match the variables collected by the EHBS.

are the same as in EU-SILC, the unexpected expenses being defined at the level of 60 percent of median consumption per adult equivalent in 2007.

Definition: In order to keep a focus on the enforced lack of a given item, the material deprivation indicator is defined here as the inability to pay for at least 3 of the following 5 items: (i) pay their rent or utility bills; (ii) keep their house adequately warm; (iii) face unexpected expenses; (iv) eat meat, fish, or a protein equivalent every second day; (v) a week of holiday away from home once a year.

The above definition differs from the EU definition and is based on data availability. Note that while the EU definition focuses only on the aggregate indicator of material deprivation, as this is the first time that detailed material deprivation indicators are available for BiH we also look at them individually trying to understand what they add to our understanding of exclusion in the country.

4.2.1. An aside: the individual variable capturing material deprivation

Variables capturing material deprivation when individually taken can be highly controversial, and indeed they are not intended to be in themselves alone poverty measures. It is the accumulation of a number of these material deprivations that is likely to make the living conditions that a household can afford so different from a society's norm as to make that household stand out and be marginalized.²⁴ Since the beginning of this type of research (Townsend 1979), however, the selection of indicators, and their perceived ad hoc nature, has generated a huge amount of debate. Criticisms included the impression that the variables were focused on one particular lifestyle or that they included a number of items which would be "nice to have" but whose enforced absence did not necessarily capture deprivation.

To address these concerns, at the European level the choice of items collected by the SILC (of which those collected in BiH are a sub-set) has been validated by a Eurobarometer survey in 2007, which verified that almost all items included were considered necessities by at least 50 percent of the population. More recently, in 2009, a long Material Deprivation module was run with the SILC to explore a variety of new indicators that can be used to refine the current list of necessities, and possibly finding ways of adapting it to national circumstances. The process of analyzing those data at the EU level is ongoing, and will feed into a revision of the EU2020 at risk of poverty and exclusion target planned for 2014 (EC 2011).

As this is the first time that this type of indicators, and particularly the indicators that are going to be collected by the EHBS, are analyzed for BiH it is worth looking at them more closely, to understand what they capture and possibly start a reflection on whether in the future they might be further adapted to capture the essential features of living in BiH.

²⁴ This concept which has developed in a sociological intellectual tradition that is very different from the welfarist framework typically used by economists has a clear resonance with how deprived groups often describe their situation and their interactions with others. As an example among the many that qualitative analysis can provide, consider the response of a Roma woman when asked about her children schooling "Our children are insulted at school because they have nothing to wear and they have no textbooks." (IPSOS 2009)

Of the five variables collected in the LiTS-SM that capture the inability to afford necessities (i.e. the inability to pay rent or utility bills; to keep the house adequately warm; to face unexpected expenses; to eat meat, fish, or a protein equivalent every second day; to take a week of holiday away from home once a year), the most salient one is the inability to afford unexpected expenses worth 386 KM (Euro 195)²⁵ – more than 70 percent of households appear to be unable to afford an unexpected expense of this magnitude through their own resources. Two thirds of households appear to be unable to afford a week’s annual holiday away from home. The distribution of these indicators appears to be broadly similar across urban and rural areas, and also across FBiH and RS entities (Table 13). An econometric analysis of the profile of households deprived in each of the indicators discussed is presented in Annex Table A.1.5 and the notes attached

Table 13: Share of households unable to afford (%), by urban / rural:

	Urban	Rural	FBiH	RS	Overall
Pay rent or utility bills	16	21	19	18	18
Keep house adequately warm	26	25	26	25	25
Unexpected expenses of KM 386	74	68	72	68	71
A meal of meat, fish or vegetable protein	28	27	29	25	27
Holiday away from home	60	73	64	71	66

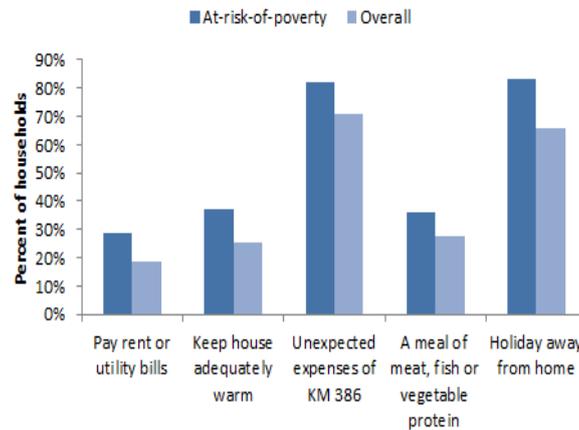
Note: Authors’ estimates based on data from LiTS supplemental modules, 2010.

As expected these deprivations are correlated. For instance, in households that could not afford proper nutrition 98 percent also could not afford unexpected expenses (compared to 61 percent among those who could afford proper nutrition). Among households that could not afford to pay rent or pay utility bills 37 percent could not afford to keep the house adequately warm, whereas among households that had no issues with rent / utility bills payments 23 percent could not afford to keep the house adequately warm.

But are these indicators capturing real necessities? This is not a question that we can answer directly with reference to how the inhabitants of BiH define necessities, as it has been done for EU Member States. Comparing the incidence of these indicators across quintiles or for households at risk of poverty or not is not very telling. While on the one hand it confirms that these deprivations are higher among those at the bottom, (Figure 5) it also shows that the incidence of these deprivations is relatively high also for the non poor. For example 82 percent of those at risk of poverty could not afford to meet unexpected expenses with own resources, and 83 percent could not afford a vacation away from home compared with 71 percent and 66 percent, respectively, for the non poor. It is hard to interpret the relatively high rates of deprivation reported by richer groups as it is not possible to disentangle the impact of the crisis (by which richer groups are also hurting and therefore report higher levels of material deprivation than they would otherwise) from problems with the choice of indicators (by which those would be extravagant indicators capturing items which are far from being necessary for social inclusion).

²⁵ This amount is specific to BiH.

Figure 5: Material deprivation variables and risk-of-poverty



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

The data provide however other pointers that the material deprivation variables collected in BiH broadly represent necessities. We would expect that if something is a necessity, for example, those who report to have no problems making ends meet should be able to afford it. As Table 15 shows this is indeed the case. Future research might however investigate whether a lower threshold might have to be adopted for the unexpected expenses indicators, as many as 15 percent of the heads of households who felt their families had no problems making ends meet reported that they could not mobilize that amount. One holiday away from home, which is likely to generate more concerns as a variable capturing deprivation, appears however to be something that the households in BiH who can make ends meet can generally afford and therefore less of a concern.

Table 14: Material deprivation and ability to make ends meet (%)

	Pay rent or utility bills	Keep house adequately warm	Unexpected expenses of KM 386	A meal of meat, fish or vegetable protein	Holiday away from home
With great difficulty	45	47	97	68	96
With difficulty	28	33	94	53	91
With some difficulty	14	24	74	15	72
Fairly easily	7	16	46	7	32
Easily	5	3	15	0	5
Total	18	25	71	27	66

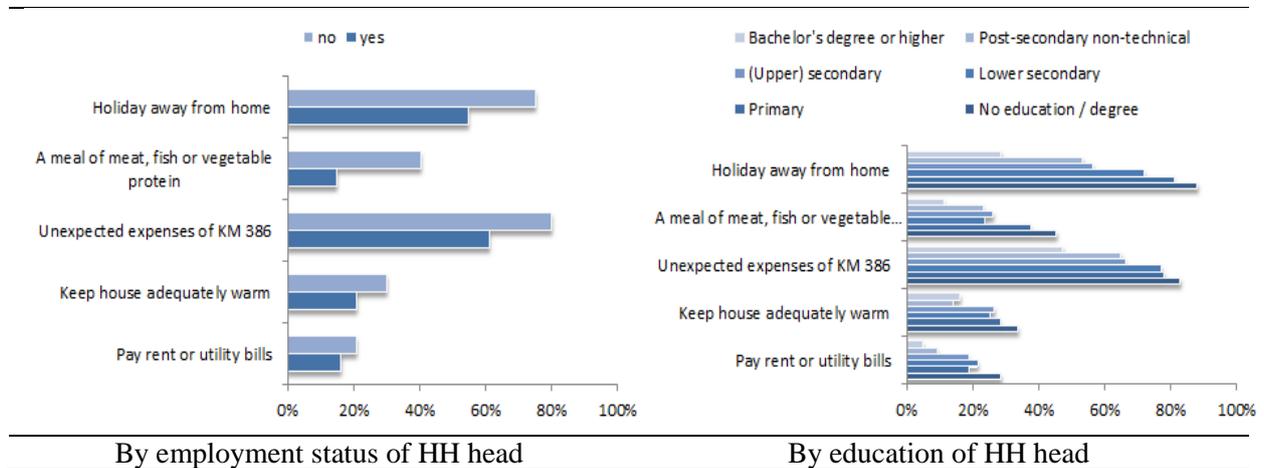
Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Further confirmation of the association between these variables and the household standard of living is offered by their distribution across categories of households as identified by the head educational status and employment status, two variables that are associated with higher incomes and expenditure levels.²⁶ As Figure 6 shows the inability to afford these different

²⁶ Note that we do not check directly consumption levels as in our survey consumption is a measured very summarily and because, to the extent that consumption is closer to households longer term welfare standard it is hard to disentangle the effects of the crisis (which would affect the affordability these items

items exhibits a reassuring pattern across categories, though even households that we would expect to be better off cannot necessarily afford the one week holiday and can mobilize the 386 KM.

Figure 6: Material deprivation rates by level of education and employment status of HH head (%)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

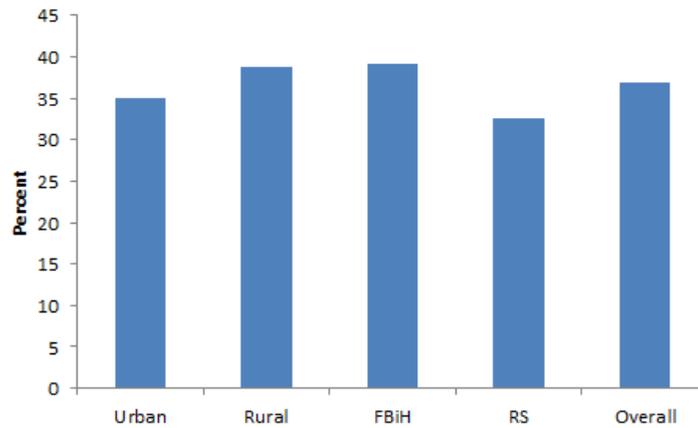
Overall therefore, while there seems to be scope to explore more extensively and validate further the variables included in our survey and in the EHBS to measure material deprivation they seem to be broadly in line with the intention for which they were included.

4.2.2. Material deprivation profile

Overall, the material deprivation rate based on deprivation in three out of five areas is 37 percent in BiH – equivalent to roughly 1,7 million people. This MD rate, while measured slightly differently, is similar to the ones observed in new EU members (40 percent in Bulgaria, 32 percent in Romania, 22 percent in Latvia), while at the level of EU-27 only 8 percent of the population face exclusion on the MD dimension (European Commission 2011).

The materially deprived population is somewhat more evenly distributed across urban and rural areas than the at-risk-of-poverty population – rural areas accounted for 53 percent of the materially deprived (51 percent of population resides in rural areas). Across entities, the MD rate is somewhat lower in RS than in FBiH – RS accounted for 29 percent of the materially deprived population, even though it accounts for 33 percent of the overall BiH population (Figure 7).

Figure 7: Geographic profile of material deprivation (3+) in BiH



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Recall that poverty risk in BiH was found to be higher among children, and among those in the 35-44 age group. The age profile of material deprivation differs from that of poverty risk. The material deprivation rate is higher than average for those in the 55-64 age group, and especially for the 65+ population, but not among children. In the 35-44 age group the MD rate is also somewhat below average. The higher MD rate among the elderly is observed both in rural and urban areas, whereas the lower level of material deprivation in the 35-44 age group is primarily associated with urban areas of BiH.

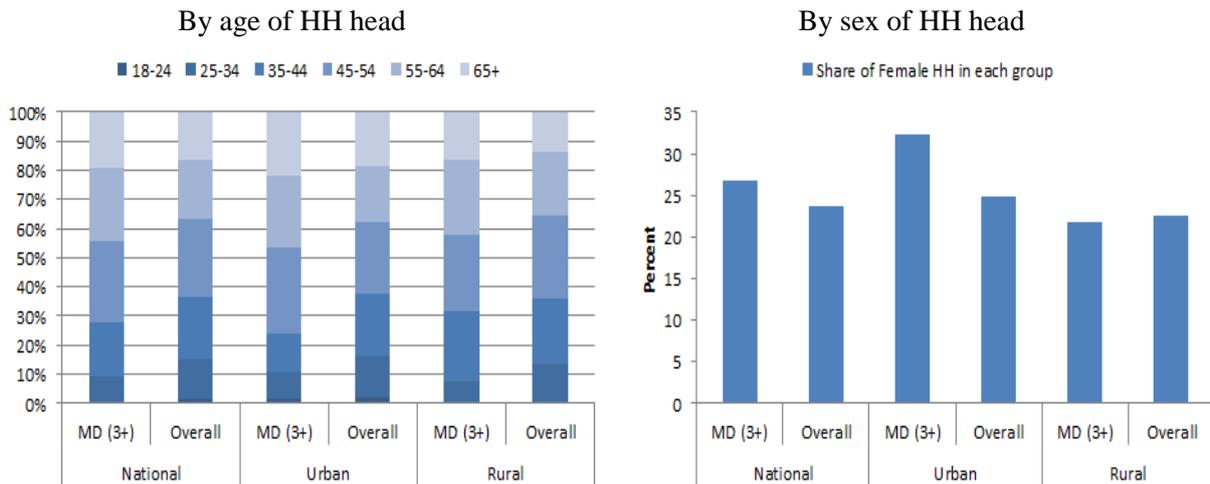
Table 15: Age profile of the materially deprived population (%)

	MD population	Overall population	MD rate
0-17	17.9	17.7	37.3
18-24	10.5	11.3	34.3
25-34	14.0	17.6	29.4
35-44	12.3	13.8	32.9
45-54	16.3	16.1	37.4
55-64	13.9	12.4	41.5
65+	15.0	11.1	49.8
Total	100	100	36.9

Note: Authors' calculations based on LiTS 2010 and supplemental module data

The higher material deprivation associated with the elderly population is confirmed by the MD profile based on the age of the head of the household – a higher share of the MD population resides in households where the HH head is in the 55+ age group. Female headed households are overrepresented in the materially deprived population, a pattern driven by the higher MD of female headed households in urban areas. This is in contrast with the profile of the at-risk-of-poverty population (Figure 1) where female headed households had below average poverty risk.

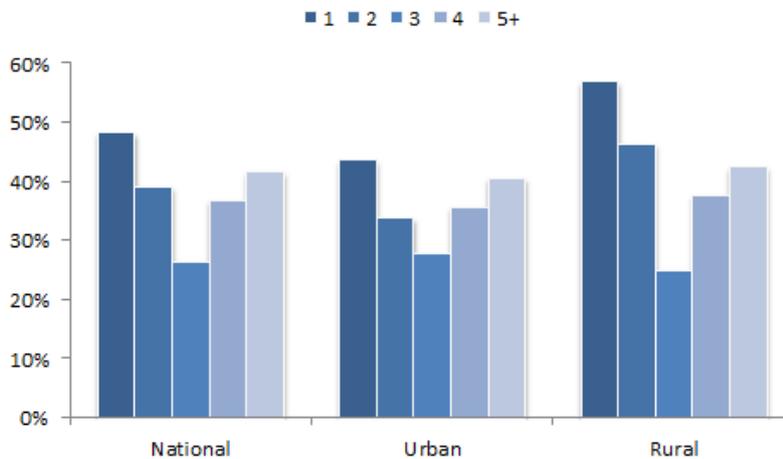
Figure 8: Material deprivation poverty profile by age and sex of HH head (%)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

An interesting difference between the profile of the households which are in material deprivation as opposed to those classified as at risk of poverty is that, while on average the risk of poverty is higher for larger households (5+) this is not the case with those that are materially deprived. In fact, the material deprivation rate is highest for single member households in both rural and urban areas, whereas households composed of 3 members appear to be deprived the least.

Figure 9: Material deprivation rate by household size



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Also in the case of material deprivation, as it was the case with the risk of poverty, labour market attachments and educational level of the head of the households are important correlates. In households where the HH head worked during the past 12 months the material deprivation rate was 27 percent, whereas it was 50 percent in household where the head did not work during the past year. Likewise, the material deprivation rate exceeded 50 percent in households where the head had no formal education, and only 8 percent of the population in households where the head had tertiary education were similarly deprived.

Looking across main income sources, households who rely on salaries / wages and or income from self-employment as their main livelihood source, as compared to households that rely on proceeds from the sale of farmed products, from pensions, or from help of relatives or friends have much lower incidence of material deprivation.²⁷

Table 16: Material deprivation by category of main household income (%)

	MD population	Overall population	MD rate
Salary, wages	45.2	54.9	30.4
Self-employment income	10.1	11.3	33.0
Sales of farm products	8.1	7.5	39.7
Pensions and state benefits	32.2	22.7	52.3
Help from relatives/friends	4.5	3.6	45.9
Total	100	100	36.9

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

4.3. Low work intensity households

The third component of EU's *at-risk-of-poverty or social exclusion* (AROPE) indicator is living in a household with very low work intensity. The work intensity of a household is the ratio of the total number of months that all working-age household members have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period, and the low intensity threshold is set at 20 percent.

Definition: Low work intensity household is defined here as one where the number of months worked by working-age household members over the past 12 months is less than 20 percent of the theoretically possible amount.

We follow the EU's definition, subject to data limitations. The LiTS-SM only records whether someone was employed (and similarly if someone was a student) over the past 12 months or not. This implies, for instance, that a person of working age is assigned a theoretical work load of 12 months over the past year, and an actual work load of 12 months if that person reported being employed and 0 months if that person was not employed. Likewise, an individual in the 18-24 age group who did not work but was a student over the past 12 months is assigned a theoretical and actual work loads of zero months. Following Eurostat, households composed entirely of individuals in the 60+ age group, students, or combinations of these groups are excluded from the calculations of the low work intensity rate.

Roughly a quarter of households fall into the low work intensity category in 2010.²⁸ These households are home to about 1.2 million people or 26 percent of the BiH population. This is higher than in the EU-27 as a whole, where only 9 percent of the population lives in low work intensity households. Even in countries like Bulgaria and Romania the share of

²⁷ Only 7 households in our sample report benefits from the state as their main livelihood source.

²⁸ The ratio is 30 percent if households composed entirely of the elderly and/or students are excluded.

population residing in low work intensity households was under 10 percent (15 percent in Croatia).

This group is somewhat skewed toward rural areas, which account for 52 percent of total (relative to 45 percent in households that are not excluded from the labour market), and toward FBiH (70 percent of total relative to 64 percent in other households). The higher prevalence of labour market exclusion in rural areas is similar to the patterns in New European states, whereas in the EU-15 it is densely populated areas that have a higher share of population residing in low work intensity households.

Not surprisingly, the risk of poverty is positively associated with low work intensity. For instance, 55 percent of the population residing in low work intensity households were at-risk-of-poverty, compared to only 25 percent in households that were not excluded from the labour market. More than 40 percent of the population in the at-risk-of-poverty group were residing in low work intensity households, whereas in households that were above the risk-of-poverty threshold this ratio was only 17 percent. Similar patterns are observed in the EU. For the group of EU-27 countries the at-risk-of-poverty rate exceeded 50 percent in low work intensity households, and the risk of poverty decreases considerably once work intensity exceeds 50 percent. However, the evidence from the EU suggests that work intensity has to be quite high (above 60 percent) or even very high (above 80 percent) in order to reduce significantly the risk of poverty (European Commission 2011).

Low work intensity households are similarly associated with more acute material deprivation. The material deprivation rate in low work intensity households was 57 percent compared to 30 percent in households with medium work intensity or higher. Likewise, 40 percent of the population residing in materially deprived households were, additionally, in low work intensity households, whereas this was the case only for 18 percent of the population not suffering from material deprivation.

5. The relationship between poverty risk, material deprivation, and low work intensity

The relations between risk-of-poverty, material deprivation and labour market exclusion can be seen in Table 17 and Figure 10. Overall, 2.7 million people, or 59 percent of BiH population reside in households that are either at-risk-of-poverty, excluded from the labour market, or report at least 3 material deprivations; just under 440,000 people (or 9.5 percent of the population) suffer from exclusion in all three areas. Among those at risk of poverty 43 percent also come from low work intensity households, while the in the latter group 55 percent are also at-risk-of-poverty. More than half of the population in the at-risk-of-poverty group also report 3 or more material deprivations.

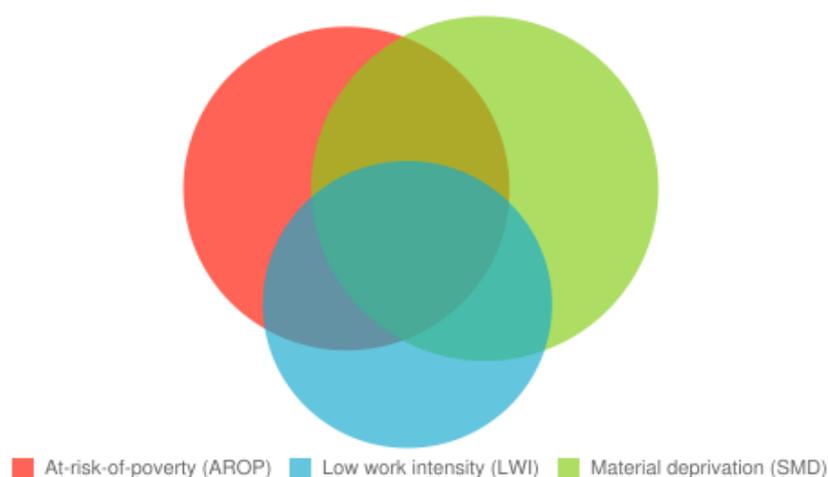
Table 17: How do various dimensions of social inclusion relate? (individuals)

Category	Population	% of BiH population
(1) Residing in low work intensity HH	1,189,468	25.7
(2) At-risk-of-poverty	1,514,576	32.8
(3) At least 3 material deprivations (out of 5)	1,705,358	36.9
Intersection of (1) and (2)	650,216	14.1
Intersection of (1) and (3)	673,578	14.6
Intersection of (2) and (3)	813,744	17.6
Intersection of (1), (2), and (3)	439,967	9.5
Union of (1), (2), and (3)	2,711,831	58.7

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Figure 10: Overlapping domains of poverty, material deprivation and low work intensity

Risk of poverty, material deprivation and low work intensity in BiH

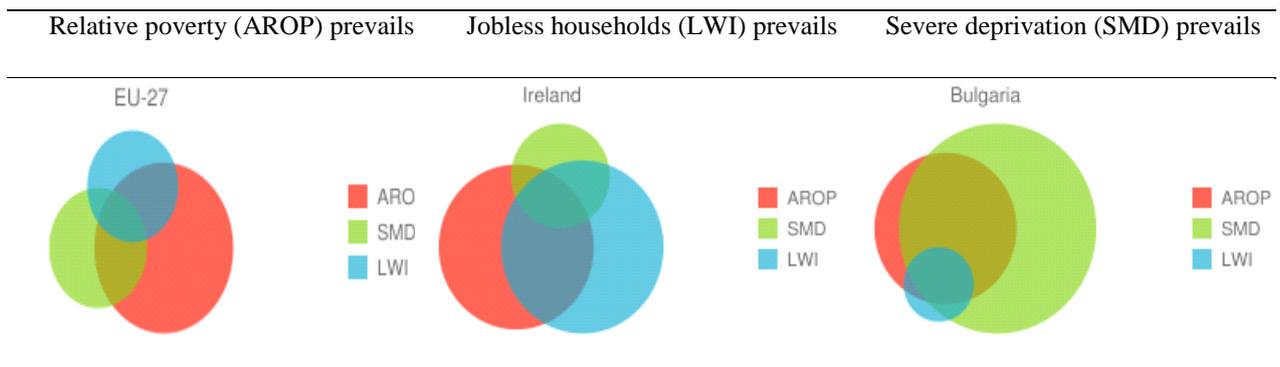


Note: Authors' estimates based on data from LiTS supplemental modules, 2010. Size of bubbles and their overall corresponds to the relative size of the three categories.

Two things stand out in Figure 10, particularly when comparing it to the pattern for EU Member States and for selected countries (Figure 11).

First the incidence of the three deprivations is relatively similar with the largest deprivation – material deprivation – only 11 percentage points higher than the smallest – low work intensity households. This is quite different from the examples of EU member states presented in Figure 11, where one can clearly see one of the 3 components of the measure clearly dominating. Note that the prevalence of MD is also less extensive than in the case of Bulgaria, one of the new MS with which BiH could have more in common given their relatively low income levels. The smaller number of items included in the Material Deprivation indicator in BiH might have contributed to this finding.

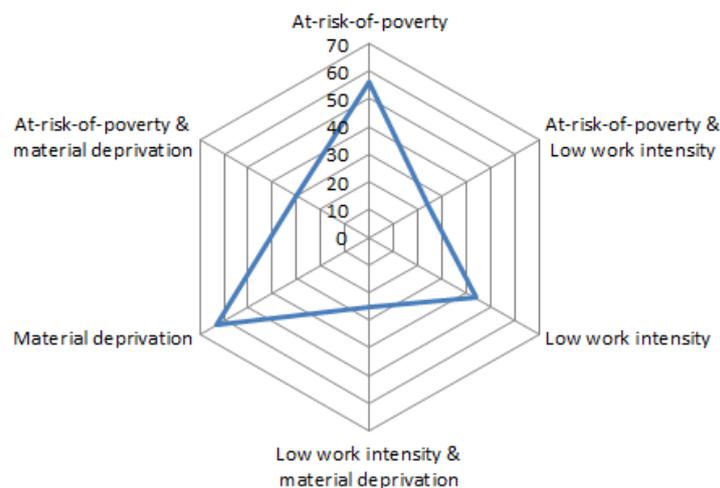
Figure 11: The EU 2020 target and the heterogeneity of poverty and exclusion in Member States



Source: EU-SILC 2010 as presented in Maquet (2012)

Secondly, there is clear overlap between the three areas of social exclusion (Figure 10),²⁹ even if a relatively small share is deprived across the three dimensions (16 percent of those who either were at risk of poverty, residing in a low work intensity household or had three or more deprivations, only 9.5 percent of the total population). Note also that as discussed when analyzing the profiles of the different indicators which are part of AROPE, there are important links between these different deprivations. Labour market participation, in particular, is an important correlate of both the risk of poverty and material deprivation. Emphasizing the importance of the labour markets for the social agenda is one of the major policy contributions of the EU approach to measuring poverty and exclusion (Maquet 2012) and this indeed seems to apply also for BiH.

Figure 12: Overlap between risk-of-poverty, material deprivation and low work intensity (% of the union of three categories)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

²⁹ This is also confirmed by a principal components analysis of the three domains (risk of poverty, low work intensity and the material deprivation indicator that identifies households with at least 3 deprivations out of five). According to the PCA estimates only the first principal component has an eigenvalue exceeding 1 (the commonly used *Kaiser criterion*, according to which an additional principle component is retained when it extracts at least as much variance as the equivalent of one original variable) and this principal component explains close to 50 percent of the variation in the three social exclusion domains.

Another tool to explore these differences is the spider chart presented in Figure 12 which describes the incidence of different deprivations (risk-of-poverty, material deprivation and low work intensity) and their overlap as a share of the union of these three categories (the EU *risk-of-poverty or social exclusion*). Annex 1.6 reproduces the latest charts for different groups of EU countries (EC 2011) for comparison purposes. Again, the profile of the risk of poverty and social exclusion in BiH stands out as the overlaps between the three dimensions in BiH are considerably higher than for the EU States. Moreover, the at-risk-of-poverty-and-social-exclusion population is more evenly distributed across the three dimensions of deprivation, unlike in Bulgaria or Romania, where material deprivation dominates, or Western European countries like Luxembourg or Sweden, where risk-of-poverty dominates.

Are there notable differences in the main characteristics of the populations found at the intersections of the different domains of social inclusion? Estimates in Table 18 reveal that low work intensity HH with at least 3 deprivations are less likely to be rural and are more heavily concentrated in FBiH. They also have a better education profile and are more reliant on pensions, as their main livelihood source and less reliant on income from self-employment.

Table 18: Profiles of populations at the intersections of exclusion domains (% of total)

	At-risk of poverty & 3+ deprivations	At risk of poverty & low work intensity HH	Low work intensity HH & 3+ deprivations	At risk of poverty & low work intensity HH & 3+ depr.	Overall
<i>Type of settlement</i>					
Urban	41.6	41.0	48.3	45.6	49.4
Rural	58.4	59.0	51.7	54.4	50.6
<i>Entity/district</i>					
FBiH	73.1	69.8	77.5	76.5	67.0
RS	26.9	30.2	22.5	23.5	33.0
<i>Age cohort</i>					
0-17	22.8	22.8	20.2	23.9	17.5
18-24	10.6	8.1	9.0	8.4	11.3
25-34	13.2	15.9	12.7	13.7	17.7
35-44	15.9	17.7	17.1	20.4	13.9
45-54	15.9	15.9	16.2	14.6	16.1
55-64	10.8	12.6	17.3	11.5	12.4
65+	10.8	7.2	7.5	7.5	11.1
<i>Sex</i>					
Male	48.6	49.4	48.8	48.7	48.1
Female	51.4	50.6	51.2	51.3	51.9
<i>Education</i>					
No degree / no education	13.6	11.5	10.5	9.0	9.1
Primary education	31.5	35.1	33.7	33.9	22.4
Lower secondary education	24.5	21.0	21.1	22.0	23.5
(Upper) secondary education	27.3	28.6	30.5	31.6	33.4
Post-secondary non tertiary education	1.5	1.9	1.8	1.7	3.9
Bachelor's degree or more	1.5	1.9	2.5	1.7	7.7
<i>Main income source in HH</i>					
Salary or wages in cash or in kind	43.5	33.5	36.4	39.8	55.0
Income from self-employment	10.1	10.8	5.5	7.1	11.2
Sales or bartering of farm products	13.7	16.2	11.8	16.4	7.5

Pensions	23.3	28.1	37.3	26.1	21.8
Benefits from the state	3.1	5.7	4.3	5.8	0.9
Help from relatives or friends	6.3	5.7	4.6	4.9	3.5
Total	100.0	100.0	100.0	100.0	100.0

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Relative to overall population of BiH, the population at the intersection of all three domains of exclusion (risk-of-poverty, material deprivation and low work intensity) is more heavily concentrated in rural areas and in FBiH and is more skewed toward the bottom of the educational attainment distribution. It is also much more reliant on farm income and on benefits from the state, and, respectively, much less reliant on wage income or income from self-employment.

6. The relation between the at risk of poverty and exclusion indicator and a consumption-based poverty measure

The consumption module included in the LiTS survey does not provide sufficient detail to provide poverty trends consistent with the 2007 poverty estimates³⁰. To explore the relation between the new indicator of risk of poverty and social inclusion and the consumption based poverty measures calculated so far for BiH, we defined a consumption-based poverty measure which identify as poor the bottom quintile of the LiTS consumption aggregate. While this cut-off is arbitrary, the size of the population below this threshold is broadly consistent with the 2007 poverty estimate from BHAS, and also with the at-risk-of-poverty measures for Eastern European member states of the European Union.³¹

Table 19 reports the distribution of the at-risk-of-poverty group and of other indicators of social exclusion by consumption quintile. It also includes the quintile distribution of the union and intersection measures described above.

Table 19: At-risk-of-poverty by consumption quintile

Consumption quintile	At-risk-of-poverty	Material deprivation	Low work intensity	Union (Poverty, MD, or LWI)	Intersection (Poverty risk, MD & LWI)
1	34.8	29.8	32.1	27.9	42.9
2	18.4	25.3	22.9	22.7	21.2
3	19.8	20.1	14.7	19.9	18.6
4	13.5	13.8	16.4	16.4	7.5
5	13.5	11.0	13.9	13.2	9.7
Total	100	100	100	100	100
Share of bottom quintile in:	57.0	54.9	41.3	81.7	42.9

³⁰ As the survey included only a summary consumption module it cannot be used to measure precisely how much a household spends, but rather to order households in terms of their spending relative to each other.

³¹ According to 2008 EU-SILC data the at-risk-of-poverty rate was 20 percent in Estonia and Lithuania, 21 percent in Bulgaria, 23 percent in Romania, and 26 percent in Latvia. (Eurostat, 2010)

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Of those in the at-risk-of-poverty group only 35 percent were also in the bottom consumption quintile. This is partly due to the fact that the consumption threshold is set at 20 percent of the population, whereas 32 percent of the population fall into the at-risk-of-poverty group (in other words the poverty line is set too low to capture all those at risk of poverty). Nevertheless, even if we look at the bottom two consumption quintiles, they still only account for just over half of the at-risk-of-poverty group. Similarly, 43 percent of the population in the bottom consumption quintile in BiH are not at-risk-of-poverty by the EU definition. In spite of the discrepancy between the bottom quintile group and the at-risk-of-poverty group, a similar share of both groups (just over 50 percent) is also deprived in at least three dimensions of material deprivation, and a similar share (just over 40 percent) comes from low labour intensity households.

Table 20: Social exclusion (AROPE) and consumption poverty profiles (%)

	AROPE	Bottom quintile	Overall
<i>Type of settlement</i>			
Urban	45.4	36.7	49.4
Rural	54.6	63.3	50.6
<i>Entity/district</i>			
FBiH	67.0	62.0	67.0
RS	33.0	38.0	33.0
<i>Age cohort</i>			
0-17	18.6	20.7	17.5
18-24	10.4	13.1	11.3
25-34	14.2	11.6	17.7
35-44	13.2	14.3	13.9
45-54	16.9	14.8	16.1
55-64	13.9	12.7	12.4
65+	12.7	12.9	11.1
<i>Sex</i>			
Male	47.8	49.8	48.1
Female	52.2	50.2	51.9
<i>Education</i>			
No degree / no education	12.2	15.6	9.1
Primary education	27.9	30.2	22.4
Lower secondary education	24.8	29.2	23.5
(Upper) secondary education	28.5	20.7	33.4
Post-secondary non tertiary education	3.1	2.7	3.9
Bachelor's degree or more	3.5	1.6	7.7
<i>Employment status over past 12 months</i>			
Employed	22.7	23.3	35.6
Not employed	77.3	76.7	64.4
<i>Main income source in HH</i>			
Salary or wages in cash or in kind	43.1	43.9	55.0
Income from self-employment	11.2	7.4	11.2
Sales or bartering of farm products	10.7	13.5	7.5
Pensions	28.9	30.2	21.8
Benefits from the state	1.6	1.3	0.9
Help from relatives or friends	4.5	3.8	3.5
Total	100.0	100.0	100.0

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

The estimates are broadly similar for other social exclusion indicators. Only 30 percent of the population with material deprivation in at least 3 out of five dimensions (or of the population residing in low work intensity households) is located in the bottom consumption quintile, and the bottom two consumption quintiles capture just over half of each of these two groups.

More than two thirds of the group identified as poor by AROPE are found outside of the bottom consumption quintile. However, 82 percent of the population in the bottom consumption quintile is identified by the union indicator, such that it captures rather well the types of deprivation that can be captured by a consumption-based indicator of poverty.

Comparing the profiles of deprivation based on consumption with the one based on the EU's main (union) indicator shows that the consumption poverty measure is more prevalent in rural areas and in the RS compared to the risk of poverty or exclusion indicator. There are no notable differences between the two definitions in terms of the distribution of the respective groups by sex, age, or employment status. At the same time, the group identified by the bottom consumption quintile has a worse education profile – only 25 percent have upper secondary education or higher, compared to 35 percent based on the union indicator.

7. Other social inclusion dimensions: housing and long-term unemployment

7.1. Affordability of housing and environmental factors

The ability to afford decent housing is an important social inclusion dimension, indeed a basic need of every individual. Section 4.2 highlighted the fact that 25 percent of households (37 percent in the at-risk-of-poverty group) are unable to adequately heat their dwellings, and that this inability is strongly associated with the household's ability to make ends meet. This section reports on several other dimensions of housing affordability and quality in BiH.

More than one fifth of households report housing costs to be a heavy burden, and a further 53 percent of households state that housing costs are somewhat of a burden, such that only 26 percent of households have no difficulties meeting the costs of housing. A similar share of households in RS and FBiH report that housing costs are not a burden, however, among those who do find it difficult to afford housing, a higher share of households in FBiH report housing costs to be a heavy burden, which is similar to the situation in urban areas and consistent with the more urbanised character of FBiH.

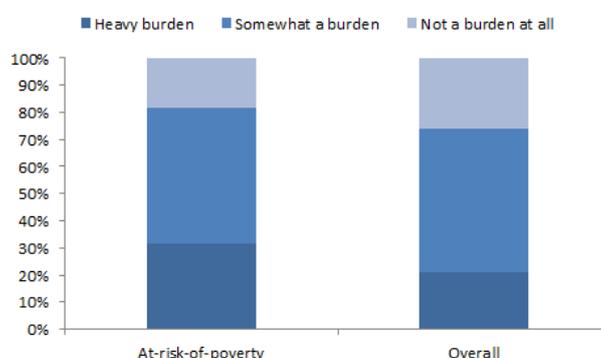
Table 21: Are your housing costs a burden?, by urban / rural (% of total)

	Urban	Rural	FBiH	RS	Overall
Heavy burden	23.1	18.4	23.6	15.8	20.9
Somewhat a burden	47.3	59.7	49.5	59.9	53.1
Not a burden at all	29.6	21.9	26.9	24.3	26.0
Total	100	100	100	100	100

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

The problem of housing affordability is particularly acute among the at-risk-of-poverty group – 32 percent of households in this group reported that housing costs are a heavy burden, and only 18 percent of households viewed housing costs as not being burdensome at all. Among households not at-risk-of-poverty the corresponding shares were 21 percent and 26 percent.

Figure 13: Are your housing costs a burden?, by poverty status (% of total)



Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

Other problems with decent housing, such as the incidence of leaking roofs, damp walls / floors, rot in windows / doors, or problems with light sufficiency appear to be more prevalent in rural areas, and also in FBiH, even though it has a higher share of urban population. Environmental problems, like neighbourhood pollution and noise are more evenly distributed. Crime is more prevalent in urban areas, which is what one would expect.

Those in the at-risk-of-poverty group are more likely to report various problems with their dwelling, similarly to earlier results vis-à-vis the ability to keep the house adequately warm. At the same time, it is not the case that they are also disproportionately affected by poor environmental conditions in their neighbourhoods of residence, in fact the reported incidence of neighbourhood pollution is lower in the at-risk-of-poverty group.

Table 22: Housing and neighbourhood characteristics (%)

	Urban	Rural	FBiH	RS	At risk of poverty	Overall
Leaking roof	6.4	12.0	11.8	3.8	17.5	9.0
Damp walls / floor	11.6	22.7	18.4	13.7	25.8	16.7
Rot in windows / doors	13.8	15.8	18.0	8.6	20.4	14.7
Dwelling is too dark	11.1	14.0	16.5	4.8	14.6	12.5
Neighbourhood noise	7.3	8.4	7.1	9.2	8.7	7.8
Neighbourhood pollution	8.2	9.7	9.5	7.9	7.5	8.9
Neighbourhood crime	6.4	3.6	5.1	5.1	6.3	5.1

Note: Authors' estimates based on data from LiTS supplemental modules, 2010.

7.2. Long-term unemployment

One of the most notable impacts of the recent financial crisis has been manifested in the sharp increase in unemployment in the Western Balkans and across Europe more broadly. In the

EU 27 the unemployment rate increased from 6.7 percent in March 2008 to 9.6 percent in March 2010, and remained steady at that level throughout the rest of 2010 in spite of the resumption of economic growth in 2010. More worryingly, the share of the long-term unemployed increased to 40 percent by mid-2010 from 32 percent a year earlier.³²

It is not possible with the available data to formally replicate the EU measure of long-term unemployment, or to compute an accurate estimate of the unemployment rate (because of sample size). Instead, this section provides a profile of those who report not to have worked during the past 12 months, who may or may not be actively looking for a job, which includes the long-term unemployed, but also the discouraged workers.

Table 23: Characteristics of the working / non-working respondents not enrolled in education, age 25-60 (% of total)

	Worked last year	Didn't work last year	Overall
<i>Type of settlement</i>			
Urban	53.6	45.6	49.6
Rural	46.4	54.4	50.4
<i>Entity</i>			
FBiH	60.6	73.0	66.9
RS	39.4	27.0	33.1
<i>Age cohort</i>			
25-30	34.1	26.8	30.4
31-40	26.7	23.0	24.8
41-50	28.3	31.0	29.7
51-60	10.9	19.1	15.0
<i>Sex</i>			
Male	60.1	34.0	47.0
Female	39.9	66.0	53.0
<i>Education</i>			
No degree / no education	1.7	7.7	4.7
Primary education	9.4	25.8	17.7
Lower secondary education	27.0	30.2	28.6
(Upper) secondary education	39.6	30.2	34.9
Post-secondary non tertiary education	6.8	2.8	4.8
Bachelor's degree or more	15.6	3.3	9.4
<i>Poverty risk</i>			
Not at-risk-of-poverty	81.0	57.2	69.0
At-risk-of-poverty	19.0	42.8	31.0
Total	100	100	100

Note: Authors' estimates based on data from LiTS and LiTS supplemental modules, 2010.

According to data collected at the end of 2010, 51 percent of the population in the 25-60 age group reported that they did not work during the past 12 months. Among these respondents 5 percent were enrolled as a student or apprentice in formal education during the past 12 months, and if these individuals are excluded, the share of population not employed during the past 12 months remains practically the same. Among those who did not work during the past 12 months 43 percent of women and 65 percent of men report to have worked in the past.

³² Eurostat (http://ec.europa.eu/employment_social/eie/chap1-2-2-page-5_en.html)

In terms of their core characteristics, those who did not work during the past 12 months are more likely to originate in rural areas relative to those who did work, and a higher share of them comes from FBiH. They are also much more likely to be women (two thirds of the group, compared to only 40 percent of those who worked).

Education is an important dimension in which the working population in the 25-60 age group differs from the non-working population. Only 11 percent of those who worked last year had primary education or less, compared to 35 percent of the non-working population (8 percent of which was accounted for solely by those with no formal education). Likewise, those with post-secondary education or above account for almost a quarter of those who worked and only 6 percent of those who did not (Table 23). Finally, a much higher share of those who did not work during the past year are at-risk-of-poverty (43 percent) compared to those who did (19 percent).

More than a third of those who did not work during the past 12 months report looking for a job or a better job, and this share is higher (42 percent) among those who had worked before, although even among those who never worked prior to the past year (inclusively) 31 percent were looking for a job.

The unemployed who were looking for a job tend to be younger than the unemployed who were not looking for a job (Table 24), a higher share of them are men, and they also tend to have a higher level of education. A larger share of the unemployed looking for a job came from the at-risk-of-poverty group, compared to the unemployed who were not looking for a job (50 percent vs. 37 percent).

The perceived prospects of finding a job, however, are rather remote. Among the unemployed in the 25-60 age group who were actively looking for a job, 57 percent thought that the chances of finding a job during the next three months were very bad, and a further 28 percent deemed their chances of finding a job to be fairly bad. Only 3 percent perceived chances of finding a job in the near future to be fairly good. This mirrors the earlier findings from Serbia vis-a-vis the difficulties of entering the labour market – according to the Serbian LFS panel 85 percent of those unemployed in October 2008 were still unemployed in October of 2009, and 89 percent of those unemployed who had stopped actively looking for a job (discouraged workers) were still discouraged a year later.³³

Table 24: Characteristics of the non-working by job search status, age 25-60, not enrolled in school and did not work over the past 12 months (% of total)

	Looking for a job	Not looking for a job	Overall (did not work last year)
<i>Type of settlement</i>			
Urban	50.2	43.3	45.6
Rural	49.8	56.7	54.4
<i>Entity</i>			
FBiH	71.1	73.3	73.0

³³ World Bank (2011).

RS	28.9	26.7	27.0
<i>Age cohort</i>			
25-30	43.6	16.3	26.8
31-40	26.2	20.4	23.0
41-50	21.3	37.5	31.0
51-60	8.9	25.9	19.1
<i>Sex</i>			
Male	43.1	26.7	34.0
Female	56.9	73.3	66.0
<i>Education</i>			
No degree / no education	2.2	11.6	7.7
Primary education	13.8	32.0	25.8
Lower secondary education	35.1	26.7	30.2
(Upper) secondary education	41.3	24.2	30.2
Post-secondary non tertiary education	2.2	3.3	2.8
Bachelor's degree or more	5.3	2.2	3.3
<i>Poverty risk</i>			
Not at-risk-of-poverty	49.8	62.8	57.2
At-risk-of-poverty	50.2	37.2	42.8
Total	100	100	100

Note: Authors' estimates based on data from LiTS and LiTS supplemental modules, 2010.

8. Concluding remarks

The purpose of this note was two-fold: to start documenting the household impact of the financial crisis in BiH, and to present for the first time estimates of the indicators of social inclusion that all European Union Member States are bound to monitor to report on their progress towards the *Europe 2020* social inclusion targets. This second objective is valuable as it gives a flavour of the type of information that the EHBS will allow BHAS to report on in the future. As part of this exercise, the note also aimed to contrast the results of more standard poverty analysis with the insights offered by this new approach.

The analysis suggests that the financial crisis had -- and continues to have -- a strong negative impact on households. More than 60 percent of households in Bosnia and Herzegovina report to have been affected either a great deal or a fair amount (more than 70 percent in the bottom consumption quintile). Reductions in wages and particularly reductions in the flow of remittances are the main pathways of the crisis impact, followed by job losses. Reduced remittances flows are reported by more than 50 percent of households, and reduced wages by almost 40 percent of total, with job losses and reductions in work hours more prominent among lower income households.

Households were found to resort to multiple coping strategies, and the impact of the crisis goes beyond reduced consumption of luxury goods. Almost a quarter of households had to reduce consumption of staple foods such as milk, fruits, vegetables or bread, 11 percent of households had to delay payment of utilities, 8 percent of households had to delay medical visits when sick, – all rather radical coping strategies.

On a different note, the analysis of the social inclusion indicators has allowed us to start learning what this new approach can bring to our understanding of social conditions in BiH. Without repeating the specific findings, some general considerations are in order on what can be learnt from this exercise.

First, this approach is explicitly multidimensional and as such surveys that aim to measure being at risk of poverty and social exclusion need to include a new and larger set of variables than those traditionally monitored in a Household Budget Survey. BiH has chosen to integrate these new variables in the existing HBS and therefore allow both continuity and innovation in measurement. As this note demonstrates such an approach allows the gathering of some extremely useful variables (such as those related to housing, long term unemployment, and also the material deprivation indicators) which provide a much richer texture to the description of living conditions in the country.

Second, this approach, and particularly the focus on the aggregate of the three different indicators we discussed in section 4 of this note, will bring a new set of estimates of deprivation and possibly also a different distribution of those deprived across geographical areas and possibly also entities. It will be important to keep monitoring the measures that have been used so far and to communicate clearly what the new numbers might capture not to confuse the public. Note for example that in our findings a consumption based measure would find that poverty is more concentrated in rural areas, in the RS and among the worst educated than the risk of poverty and social exclusion measure would.

Finally, the adoption of this approach allows the possibility of benchmarking the BiH experience with other countries which are EU Member States (and with candidate and potential candidate countries that are starting to collect SILC data). This opens up the door for mutual learning both on measurement and analytical issues and on policy. On the measurement side, as at the European level there is an ongoing effort to redesign the SILC survey it will be important to continue testing and refining the indicators currently included in the EHBS, keeping them in line with the new SILC and possibly addressing some of the concerns that we have started exploring in this note. On the policy side: EU Member States for example use these data to look at the effectiveness of their social protection system and identify how it could be strengthened (this is something that our limited sample size did not allow us to do). Similarly, based on this analysis, the central role of the functioning of labour markets, and a new emphasis the activation agenda has become much more prominent in Europe. These are all examples and experiences from which BiH will be able to learn in the future to improve the design and the effectiveness of its own policies.

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Annexes:

Table A1.1: Geographic distribution of original LiTS and supplemental modules samples (% of total)

	Attrited HH	Re-sample	Original Sample
Cazin FBIH	8.6	5.1	5.9
East RS	22.9	13.7	15.7
Hercegovina	6.1	11.1	9.9
North FBIH	18.0	26.1	24.3
Sarajevo	2.5	15.0	12.1
West FBIH	8.2	8.1	8.1
West RS	33.9	21.0	23.9
Total	100	100	100

Source: LiTS 2010 data. None of the differences between the re-sample and the original LiTS sample are statistically significant at the 5% level.

Table A1.2: Selected characteristics of original LiTS and supplemental modules samples

	Attrited HH	Re-sample	Original Sample
HH size	2.82	2.82	2.82
Urban	0.56	0.53	0.54
Annual per-capita consumption	7,290	8,386	8,139
Car	0.32	0.44	0.41
Computer	0.47	0.59	0.56
Mobile	0.17	0.25	0.23
Phone	0.24	0.26	0.26
TV	0.04	0.04	0.04

Source: LiTS 2010 data. None of the differences between the re-sample and the original LiTS sample with the exception of HH consumption are statistically significant at the 5% level.

Figure A1.3: Correspondence between age-gender distributions in BiH Census, LiTS survey and the LiTS follow-up survey

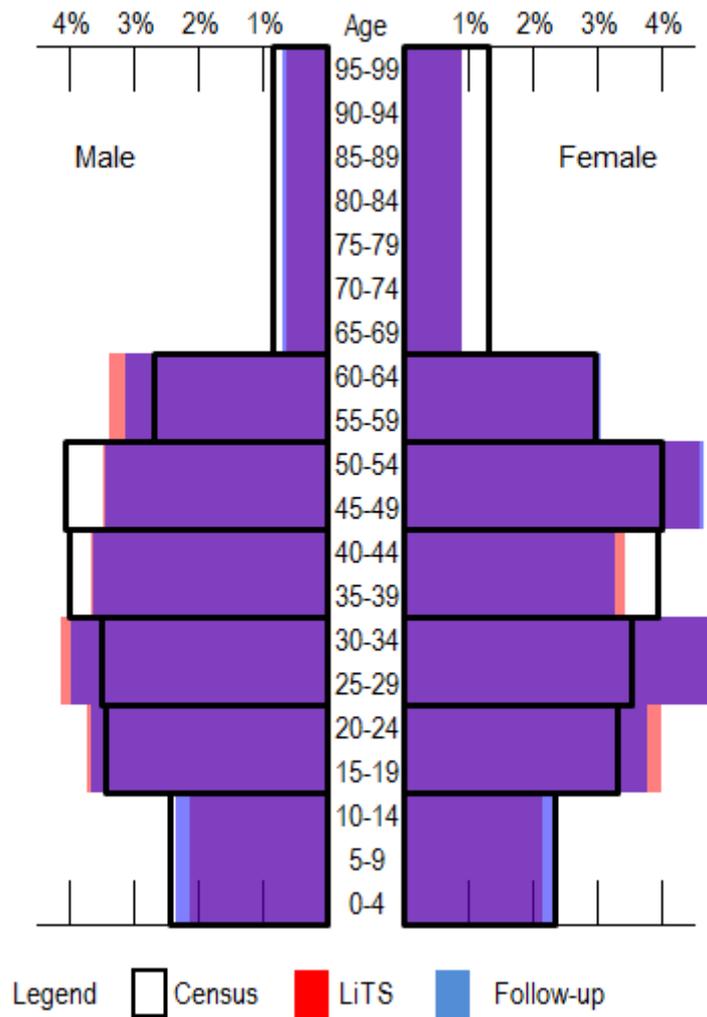


Table A1.4: Multivariate profile of at-risk-of-poverty (Household)

	At risk of poverty (1/0)	At risk of poverty (1/0)
Age	0.001 (0.002)	0.001 (0.002)
Female HH head	-0.028 (0.041)	-0.041 (0.040)
HH size	0.024 (0.018)	0.020 (0.017)
<i>HH composition</i>		
Children share	0.028 (0.130)	0.067 (0.127)
Youth share	-0.045 (0.092)	-0.048 (0.087)
Adult female share	-0.247** (0.110)	-0.177* (0.102)
Elderly share	-0.284*** (0.098)	-0.196** (0.093)
Not worked last year (HH head)	0.148*** (0.042)	0.157*** (0.036)
<i>Education of HH head</i>		
No education	0.162** (0.074)	0.111* (0.062)
Primary education	0.223*** (0.060)	0.193*** (0.052)
Lower secondary education	0.015 (0.034)	0.015 (0.033)
Post-secondary / university	-0.057 (0.041)	-0.042 (0.045)
Rural	0.057 (0.046)	0.053 (0.041)
Republika Srpska	0.046 (0.049)	0.014 (0.045)
Remittances in HH (1/0)	-0.132** (0.057)	-0.138** (0.059)
<i>Main income source in HH</i>		
Income from self-employment		0.104** (0.047)
Sales of farm products		0.338*** (0.074)
Pensions		-0.022 (0.038)
Help from relatives / friends		0.253*** (0.080)
Pseudo R2	0.121	0.158
Obs	808	808

Notes: Average marginal effects for probit regression reported. Estimates account for sampling weights. Robust standard errors in parentheses, clustered at PSU level in parentheses. Omitted categories: HH composition – share of adult males; education – upper secondary; work status – worked last year; area – urban; entity – FBiH. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Source: LiTS 2010 and supplemental survey data.

Table A1.5: Material deprivations profile

	Rent- utilities	Keeping the house warm	Unexpected expenses	Proper nutrition	Holiday away from home
Age	0.003* (0.002)	0.000 (0.002)	-0.004** (0.002)	0.002 (0.002)	0.000 (0.002)
FHH	0.077 (0.047)	0.047 (0.047)	-0.011 (0.044)	0.035 (0.040)	0.051 (0.049)
HH size	0.002 (0.014)	0.001 (0.018)	-0.010 (0.021)	-0.043** (0.020)	0.067*** (0.019)
<i>Household composition</i>					
Children share	-0.019 (0.107)	0.035 (0.134)	0.045 (0.130)	0.166 (0.136)	-0.293* (0.156)
Youth share	-0.152 (0.097)	-0.005 (0.101)	0.105 (0.100)	0.134 (0.106)	-0.061 (0.104)
Adult female share	-0.138 (0.090)	0.007 (0.088)	-0.032 (0.081)	0.008 (0.077)	0.031 (0.095)
Elderly share	-0.122** (0.059)	0.000 (0.098)	0.182* (0.103)	0.052 (0.086)	0.122 (0.107)
Not worked last year (HH head)	-0.003 (0.040)	0.072* (0.043)	0.098** (0.045)	0.173*** (0.043)	0.077 (0.048)
<i>Education of HH head</i>					
No education	0.006 (0.073)	0.080 (0.083)	0.139* (0.079)	0.055 (0.083)	0.175** (0.085)
Primary	-0.055 (0.043)	-0.001 (0.046)	0.087* (0.052)	0.034 (0.054)	0.132** (0.060)
Lower secondary	0.018 (0.034)	0.000 (0.051)	0.126*** (0.049)	-0.021 (0.050)	0.106* (0.055)
Post-secondary / university	-0.133*** (0.031)	-0.114*** (0.036)	-0.119** (0.058)	-0.096* (0.052)	-0.163*** (0.043)
Rural	0.040 (0.041)	-0.019 (0.067)	-0.094 (0.058)	-0.014 (0.059)	0.050 (0.056)
Republika Srpska	-0.017 (0.045)	0.050 (0.083)	-0.017 (0.055)	0.019 (0.068)	0.101 (0.062)
Any remittances in HH (1/0)	-0.075 (0.058)	-0.257*** (0.069)	-0.063 (0.054)	-0.147** (0.060)	-0.007 (0.076)
<i>Main livelihood source of HH</i>					
Income from self-employment	-0.051 (0.045)	0.048 (0.068)	-0.118* (0.071)	0.040 (0.060)	0.072 (0.056)
Sales of farm products	0.099 (0.081)	-0.193*** (0.061)	0.030 (0.078)	0.019 (0.067)	0.066 (0.069)
Pensions	-0.009 (0.047)	-0.026 (0.057)	0.104** (0.047)	0.025 (0.046)	0.082 (0.064)
Help from relatives / friends	0.144* (0.085)	0.002 (0.082)	0.121 (0.090)	0.049 (0.085)	0.058 (0.077)
Pseudo R2	0.063	0.047	0.091	0.104	0.135
Obs	808	808	808	808	808

Notes: Average marginal effects for probit regression reported. Estimates account for sampling weights. Robust standard errors in parentheses, clustered at PSU level in parentheses. Omitted categories: HH composition – share of adult males; education – primary; work status – worked last year; area – urban; entity – FbiH. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Source: LiTS 2010 and supplemental survey data.

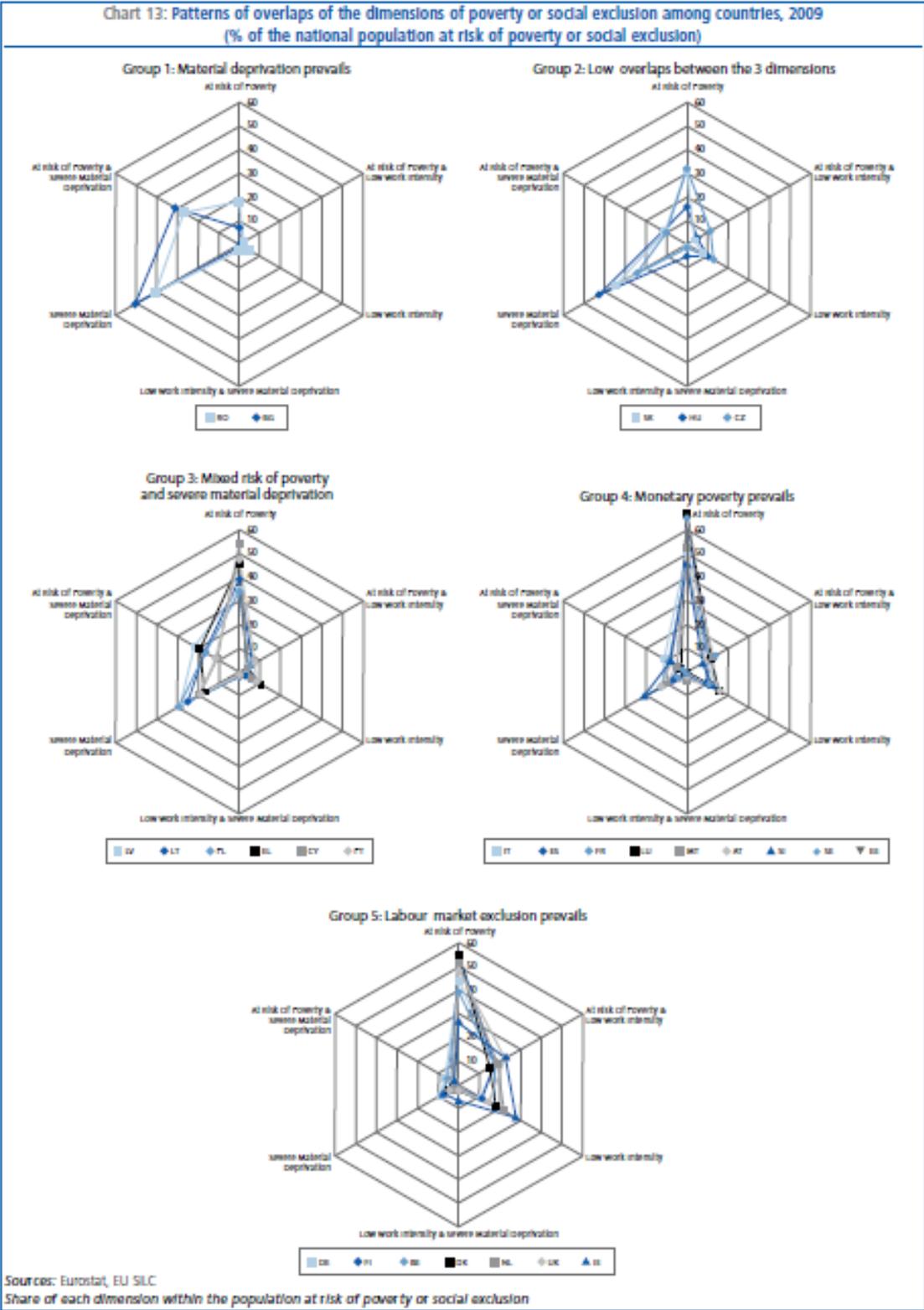
Across all deprivations, whether the household head has post-secondary education or higher relative to the baseline of secondary education, conditional on other household characteristics, has a strong positive association³⁴ with affordability across all dimensions of material deprivation. Low levels of education of the household head are associated in particular with lower ability of affording unexpected expenses or a holiday away from home. Individual-level regressions (not reported) confirm that individuals with low levels of education or those who did not work over the past 12 months are more likely to reside in households that have difficulties meeting unexpected expenses, or affording a holiday away from home.

³⁴ Note that the dependent variable in each case is 1 if the household is unable to afford, and zero otherwise, such that a negative coefficient implies a lower probability of not being able to afford something.

Households with remittances are more likely to be able to afford to keep the house warm or to afford proper nutrition, whereas their association with being able to afford unexpected expenses, affordability of rent / utilities, or a holiday away from home is, while still negative, insignificant. If the household head had not worked during the past 12 months, this is negatively associated with the household's ability to afford proper nutrition, keep the house adequately warm, or to cope with unexpected expenses.

Other variables are generally insignificant. Larger households have fewer difficulties providing proper nutrition, suggesting economies of scale within the household, but they are less likely to be able to afford a family vacation away from home. Households that rely on pensions as main income source in the household, conditional on the share of elderly in the household, are less likely to be able to afford unexpected expenses with their own resources, again highlighting their vulnerability.

Annex 1.6: Overlap between poverty risk, material deprivation, and low work intensity in the European Union



Source: European Commission (2011), Chart 3, page. 118.



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