



# Pensioners' Incomes in Croatia\*

IVICA URBAN Institute of Public Finance

*The value of the monthly consumer basket for a two-pensioner family, calculated by the Independent Croatian Unions (ICU) amounts to 3,600 kuna, so the average pension of about 2,100 kuna covers less than 60% of this basket. Does this mean that the average pensioner family lives in poverty? According to calculations of the Croatian Pensioners' Union, no fewer than 80% of Croatian pensioners are poor.*

*However, in order to get an accurate picture of the situation, it is important to consider the overall income distribution of pensioner households. The analysis should take into account the total household income, number of people sharing the household with a pensioner and their economic status. The results of such analysis, based on the Household Budget Survey (HBS) of the Croatian Bureau of Statistics (CBS), indicate the following:*

- Pensioners can be classified into four groups according to household type: 27% of pensioners are singles, 28% of them live in couples, 32% in households in which there is a working adult, and 13% of them live in households with a non-working adult.*
- The main source of pensioner household income is pensions, but other sources are also present, such as money and in-kind transfers from other people, value of production for own use, social benefits and market income.*
- For each pensioner household from the CBS sample the new indicator – the actual rate of coverage – is obtained as a*

*ratio of total income of a pensioner household and the adjusted value of the consumer basket, the latter being derived from the ICU basket. For a pensioner couple it amounts to about 3,600 kuna, and to around 2,400 kuna for a single pensioner.*

- For 6% of all pensioners the actual rate of coverage is lower than 60%. For the next 22% of pensioners the rate is between 60% and 100%; for 33% of pensioners the rate lies between 100% and 150%, etc.*
- From these data we can calculate different poverty rates of pensioners: 6% if the poverty line is equal to 60% of the adjusted consumer basket, 28% if the poverty line equals 100% of the adjusted consumer basket, 61% if the poverty line takes 150% of the adjusted consumer basket, etc. Therefore, the higher the poverty line, the higher the poverty rate will be. However, whatever rate is chosen, we must be aware that not all the poor are equally poor - some are poorer than others because they have lower incomes.*
- On average, in a worse position are single pensioners and pensioners supporting dependants in their households, while pensioner couples and those who live in households with working members are relatively better-off.*
- Low income and living standards are not characteristic of the pensioner household alone. The share of people with low incomes is actually the highest for households in which the adult members are neither working nor in receipt of a pension.*

\* This Newsletter emerged under the project "Analysis of the pension system" (Analiza mirovinskog sustava), jointly managed by the Institute of Public Finance and business magazine Banka. Presentations and additional materials can be found at: <http://www.bankamagazine.hr/Projekti/Analizamirovinskogsustava.aspx>.

• *The structure of the ICU basket is compared with the actual data on consumption of pensioners, taken from HBS. An average pensioner couple spends much less on housing, clothing, culture and recreation than prescribed by the basket. On the other hand, the ICU basket seems to underestimate expenditures on transportation and health. Furthermore, some relatively large outlays, like those for broadcasting fees and phone bills, are not included in the ICU basket.*

## I. INTRODUCTION

The value of the monthly consumer basket and the coverage of this basket by the average wage and pension published by the Independent Croatian Unions (NHS) in its monthly publication “Consumer Basket” (Potrošačka košarica), are popular indicators of living standards in Croatia.<sup>1</sup>

In July 2011, the NHS monthly consumer basket for a family of four was 6,720 kuna, and the coverage of the basket by the average wage was 80.7%. The monthly consumer basket for two pensioners amounted to 3,637 kuna, but the coverage of this basket by the average pension was only 59.3%. These results might be just a sign of the low living standards of the majority population in Croatia, those who live off wages and pensions. A coverage of the basket by income significantly lower than 100% indicates that families are not able to meet their basic needs, i.e., that they live in poverty.

However, the problem of the coverage-of-basket indicators is that they can show the position only of a hypothetical family. Thus, the coverage of the basket by the average pension considers only a family with two members of the third age, which receives an average pension. To get a more representative indicator of living standards of pensioners, it is necessary to take into account differences in the amounts of total family income and the number of earning and spending members of the family. Such an analysis is conducted by the Croatian Bureau of Statistics (CBS), which calculates the indicators of income inequality and poverty, using their Household Budget Survey (HBS).

The relative poverty rate for the entire population was 17.4% in 2008 and 18% in 2009. The poverty rate for pensioners was 23.4% in 2008 and 24.3% in 2009. The poor all live in households with incomes below the “poverty line” which on a monthly basis for a household with two

adults was 3,039 kuna in 2008. and 3,338 kuna in 2009.<sup>2</sup> Using a different methodology and a higher poverty line of 3,234 kuna per pensioner, the Croatian Pensioners’ Union (CPU) has calculated the poverty rate of pensioners as high as 80%.<sup>3</sup>

In line with the methodology of the CBS and using the same data source, HBS, analyzing income and expenditure of Croatian pensioners in 2008 compares the results with those published by CBS, ICU and CPU.

## 2. GROUPS OF HOUSEHOLDS

The HBS sample contains data for 3,108 households representing the whole population in Croatia. Pensioners are present in as many as 58% of households. These households can be divided into four groups:

- A. One-member households – single pensioners.
- B. Multi-member only-pensioner households: in 96% of them there are two pensioners (pensioner couples), while in the remaining 4% there are three pensioners.
- C. Multi-member households where pensioners are living with at least one employed or self-employed member. In 81% of households in this group there is one pensioner, in 17% there are two pensioners, and in 2% there are three pensioners.
- D. Multi-member households where pensioners live only with dependants, i.e., there are no employed or self-employed adult members.<sup>4</sup> In 89% of such households there is one pensioner, while in 11% live two pensioners.

For a comparison with pensioner households, two further groups have been formed:

- E. Households with dependants, in which there are no pensioners, employees and self-employed persons.
- F. All other households, namely those in which there are no pensioners, but in contrast to group E, at least one member is employed or self-employed.

<sup>2</sup> See DZS, 2009, Priopćenje Nr. 14.1.2. [[http://www.dzs.hr/Hrv/publication/2009/14-1-2\\_1h2009.htm](http://www.dzs.hr/Hrv/publication/2009/14-1-2_1h2009.htm)] i DZS, 2010, Priopćenje Nr. 14.1.2. [[http://www.dzs.hr/Hrv\\_Eng/publication/2010/14-01-02\\_01\\_2010.htm](http://www.dzs.hr/Hrv_Eng/publication/2010/14-01-02_01_2010.htm)]. The 2008 poverty lines converted into monthly amounts were: 2,026 kuna for a single person, 3,039 kuna for a household of two adults and 4,254 kuna for a four person household with two adults and two children. In 2009 thresholds were 10% higher. The income includes in-kind income.

<sup>3</sup> See Glas Istre, 29 October 2010, “Predsjednik SUH-a upozorava: Siromašno 80% penzionera” (President of CPU warns: 80% of pensioners are poor) [<http://www.glasistre.hr/hrvatska/vijest/278169>].

<sup>4</sup> “Dependants” are unemployed, housewives and unable to work. “Children” are pre-school and school children, and students.

<sup>1</sup> Available on the website of the Independent Croatian Unions [<http://www.nhs.hr/gospodarstvo/kosarica/>]. The Federation of Independent Croatian Unions (Savez samostalnih sindikata Hrvatske) published its own consumption basket until April 2010, but because there are no new editions, we will not analyze it here [[http://www.sssh.hr/index.php?option=com\\_content&task=view&id=28&Itemid=42](http://www.sssh.hr/index.php?option=com_content&task=view&id=28&Itemid=42)].

**Table 1***Groups of households, economic status of household members (2008)*

Group	Pensioners			Employed	Self-employed	Children	Adult dependants	Total
	domestic pensions	pensions from abroad	all					
A	297	18	315	0	0	0	0	315
B	315	21	336	0	0	0	0	336
C	359	16	375	387	77	213	100	1,152
D	144	13	158	0	0	47	145	349
E	0	0	0	0	0	45	95	140
F	0	0	0	881	227	615	211	1,934
Total:	1,114	68	1,183	1,268	304	920	550	4,225

Source: author's calculations based on HBS

Aggregating by the weights we can get a sketchy picture of the number of people represented by the HBS sample. In Table 1 we see that there were around 1.18 million pensioners, of whom 68,000 were receiving pensions from abroad. Most pensioners – about 375,000 of them – live in households with employed and self-employed members (group C). Around 336,000 pensioners live in households where there are two or three pensioners, without other members (group B), and there are 315,000 single-pensioner households (group A). Around 157,000 pensioners live in households together with dependants (group D). Note again that these are not the actual numbers, only totals based on the sample weights.

### 3. HOUSEHOLD INCOME

Net household income<sup>5</sup> is divided by the number of members of the household, to obtain the monthly net income

<sup>5</sup> HBS reports net incomes on an annual basis, but for convenience purposes we divide them by 12 to get the amounts on a monthly basis.

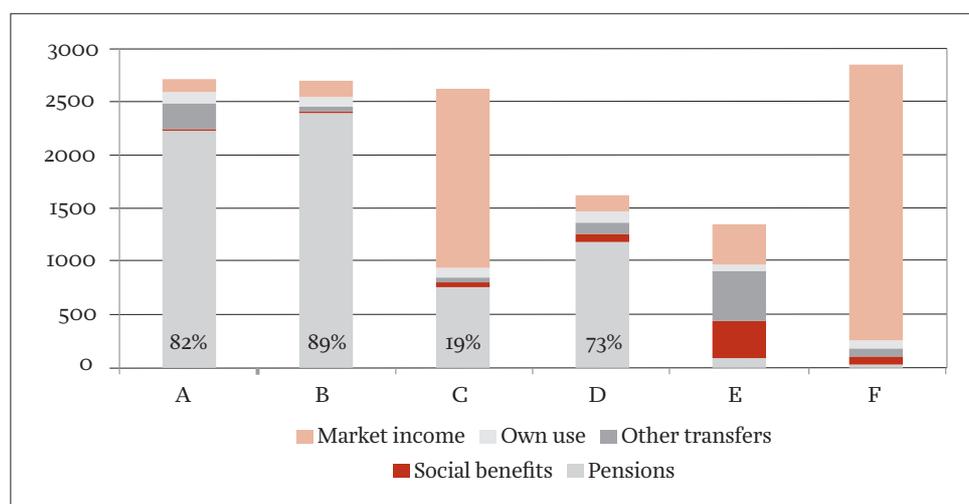
per household member (MIM). Figure 1 shows its level and structure. Groups A, B and C have approximately the same average MIM – more than 2,500 kuna. Average MIM for groups D and E is significantly lower – only between 1,400 and 1,600 kuna. Group F has a slightly higher average MIM than groups A, B and C.

The percentages in the bottom of the columns in Figure 1 are the shares of pensions in total net income of each group. For group A, pensions represent 82% of total in-

Net household income is obtained by summing the post-tax incomes of its members from different sources. The “market income” includes wages, income from self-employment and occasional work, from wages and capital income (interest and dividends). “Own use” is the value that members of households produce for their own consumption, relating primarily to agricultural goods. “Other transfers” include gifts from persons outside the household, such as relatives and friends. “Social benefits” include diverse forms of social insurance income: permanent assistance, child allowances, unemployment benefits, maternity and sickness supplements, etc. “Pensions” are divided into age, family and disability, but also into domestic and foreign.

**Figure 1**

*Average monthly net income per household member (in kuna) and structure by income sources*



Source: author's calculations based on HBS

come, while another significant item is other transfers. For group B, almost 90% of income comes from pensions. In group C the situation is, of course, different, because in these households there are employed and self-employed, so pensions make up only 19% of total income. The bulk of household income in group D also comes from pensions whose share is 73%. The largest portion of group E income is from other transfers, and then from social benefits, with a significant share of market income. Naturally, in group F market income is dominant.

Figure 2 shows the distribution of MIM by groups of households. As has already been set forth in the previous chart, the lowest average income pertains to group D. About 20% of people in this group have MIM less than 1,000 kuna, and overall 75% of them have MIM below 2,000 kuna. However, group E is even worse, because as much as 46% of people in these households have MIM lower than 1,000 kuna. In group F there is also a significant number of people with relatively low incomes – 32% of people have MIM that is below 2,000 kuna, this percentage being higher than for groups A and B.

#### 4. PENSIONERS CONSUMER BASKET AND ITS COVERAGE BY AVERAGE PENSION

Each month ICU issues the publication “Consumer Basket” which analyzes the standard of living of employees and pensioners in Croatia. An integral part of the analysis consists of estimates of consumer baskets and indicators of the coverage of the basket by income obtained for

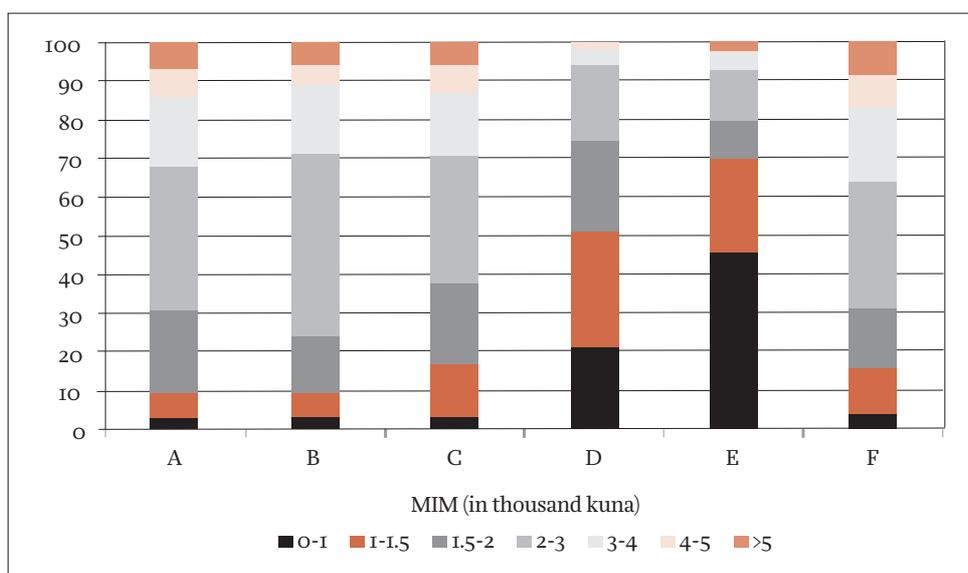
several types of families. In each issue of “Consumer Basket” we find the value of what is popularly called the “union consumer basket” for:

- I. A four-member family, consisting of two adults and two children: one adult works and earns an average wage
- II. A three-member family, consisting of two adults with one child: one adult works and earns an average wage
- III. Multi-family, which consists of two people in the third age, one of whom receives an average pension.

Consumer Basket represents the total outlays that are, according to the authors, needed to achieve the minimum standard of living in six different groups of consumption: food, hygiene, clothing, housing, transportation and culture. For families I and II, the consumer basket is calculated in 10 Croatian cities, and family III only for Zagreb.<sup>6</sup> Setting the ratio of the average wage and the consumer basket for family types I and II the indicators of “coverage of basket by average wage” are obtained. For family III, the

6 For family types I and II the average basket for the whole Croatia is calculated as the *simple* average of baskets for nine Croatian cities (alternatively for ten cities, where the city of Slavonski Brod is additionally included). However, in the calculation of the national consumption basket certain *weights* should be taken into account, for example, the number of inhabitants. Also, in the calculation of wage coverage of basket for individual cities it would be desirable to take the average wages in *these* cities, rather than the average for Croatia.

**Figure 2**  
Distribution of monthly net income per household member, % of household members



Source: author's calculations based on HBS

ratio between the average pension and the pensioners' consumption basket is calculated, to obtain the "coverage of basket by average pension".

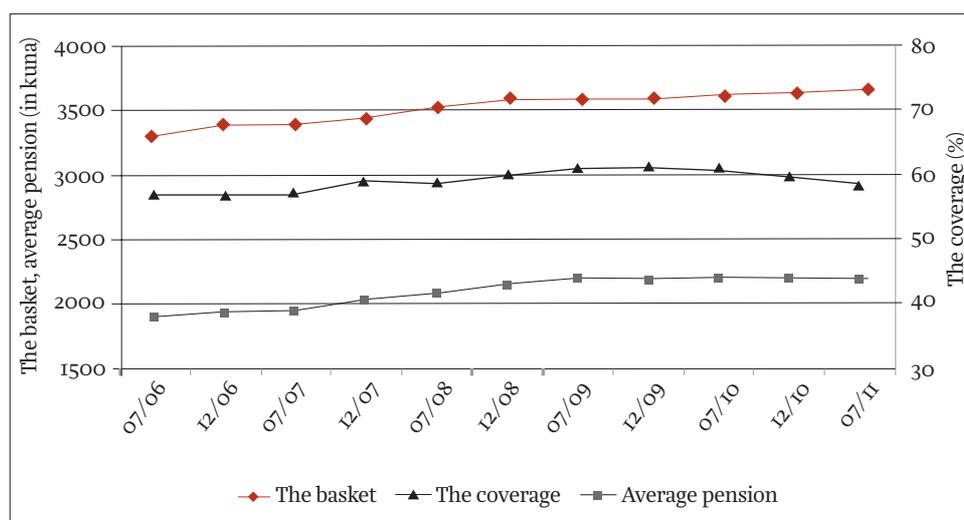
Below we deal with the indicators for type III – a two-pensioner family. The left vertical axis of Figure 3 shows the average pension and the value of the pensioner consumption basket (which is hereinafter called "the basket"), while the right vertical axis indicates the percentage of their ratio, i.e. an indicator of the coverage of the basket by the average pension (henceforth "the coverage").<sup>7</sup>

2006, reaches the peak value of 61% in November 2009, and then gently falls to 59.3% at the end of the period.

## 5. COMPARISON OF THE "UNION" AND THE "SURVEY" CONSUMER BASKET

In December 2008 the basket is represented by Table 2. Around 35% of the basket consists of expenses for food, and a little more, about 37%, expenses for housing. Thus, these two items comprise more than 2/3 of the basket, followed by clothing, culture, hygiene, supplemental health insurance, and transportation.

**Figure 3**  
Average pension, the basket and the coverage



Source: CPU, Consumer Basket (July 2006 - July 2011)

The values of indicators are available for each month since September 2004. Here we show the period from July 2006 until July 2011. The average pension rises until mid-2009 and then stagnated. The value of the basket grows until November 2008, and slightly moves around 3,600 kuna. The Coverage increases from 57% in July

<sup>7</sup> For the type III family the basket is calculated only for the city of Zagreb, while to obtain the coverage, the basket is placed in the ratio with the national average pension in Croatia. As can be inferred from the publication "Consumer Basket", there are significant differences in the prices of goods and services among Croatian cities, and average pensions across the country are also different. Therefore, the coverage is representative neither of Zagreb (as it takes into account the national average pension in Croatia), nor of Croatia (as it deals only with the living costs in the city of Zagreb).

Furthermore, the "average pension" takes into account pensions of beneficiaries whose pension is determined according to the Law on Pension Insurance. In this way, the average pension does not include pensions of beneficiaries who acquire them according to special laws (Act on the Rights of Croatian Homeland War Veterans and Their Family Members and Act on Rights Arising from the Pension Insurance of Military Personnel, Police Officers and Authorised Officials). Since the average pension for these two groups is somewhat higher, the selected indicator of the average pension underestimates the actual average (statistical information from the Croatian Institute for Pension Insurance, 2/2011).

**Table 2**  
The basket (december 2008.)

	Amount in kuna	% of the basket
Food	1,236	34.7
Hygiene	204	5.7
Clothing	412	11.6
Housing	1,297	36.5
Transportation	83	2.3
Culture	227	6.4
Supplemental health insurance	100	2.8
The basket – total	3,559	100.0
Average pension	2,129	59.8

Source: CPU, Consumer Basket (December 2008)

On the other hand, HBS classifies consumption expenditures of households into 12 major groups: food and non-alcoholic beverages, alcoholic beverages and tobacco, clothing and footwear, housing and energy consumption, furniture, house equipment and maintenance, health,

**Table 3**  
*Groups of expenditures*

The current analysis	The basket (CPU)	Personal consumption (HBS)
Food, beverages and tobacco	Food	Food and non-alcoholic beverages Alcoholic beverages and tobacco
Housing	Housing	Housing and energy consumption Furniture, house equipment and maintenance
Clothing and footwear	Clothing	Clothing and footwear
Transportation	Transportation	Transportation
Culture and recreation	Culture	Recreation and culture
Health	Supplemental health insurance	Item „Supplemental health insurance” within Other goods and services Health
Personal care	Hygiene	Item “Personal care” within Other goods and services
Other	Not available	Communications Education Restaurants and hotels Other goods and services (less Supplemental health insurance and Personal care)

transportation, communications, recreation and culture, education, restaurants and hotels, and other goods and services.

The aim of the following analysis is to compare the structure of the basket with the actual baskets of pensioners households’ consumption from the HBS. For this purpose seven groups of expenditures were formed that roughly correspond to those in the basket, and contain various elements from the HBS. The overview is given in Table 3.

Comparison of the basket with the average baskets of different income groups within the pensioners’ group B (pensioner couples) is shown in Figure 4. Columns represent the average spending of four income groups on different consumer items. Since in this part of the analysis only two-member households are considered, we analyze the income and consumption of the whole household, instead of income and consumption per household member.

For example, look at the item “Food, beverages and tobacco”. The couple with a monthly income (MI) from 0 to 3,000 kuna, on average spends about 1,300 kuna on that group of goods. Couples with MI between 3,000 and 6,000 kuna spend on average 1,800 kuna, while those with MI of over 9,000 kuna spend more than 2,600 kuna on food, beverages and tobacco. In the same way we look at the expenses for all other groups of goods. A regularity is obvious – pensioners with higher incomes spend more on average for all groups of goods.

Red dots and lines in Figure 4 indicate the amounts of items in the basket that are already shown in Table 2, for each consumer group. In the basket food costs 1,236 kuna, which means that all income groups in the B group of pensioners on average meet the standard set for food by the basket.

However, recall that our definition of this category, unlike the basket, includes beverages and tobacco, which accounts for about 7% of expenditure for this category. Taking this into account, we conclude that couples with incomes up to 3,000 kuna on average spend somewhat less on food than what is demanded by the basket.

On the other hand, in the category “housing” for the two lower income groups there is a large gap between realized consumption and standards set by the basket. A similar gap can be seen in the categories clothing and footwear, culture and recreation and personal care. The case of clothing is particularly marked: only the couples with the highest incomes spend on average more than 412 per month for clothes, as determined by the basket.

In contrast, in the “health” area the spending outlays of all income groups are above the standard set by the basket, which assumes that each pensioner only pays supplemental health insurance of 50 per month.

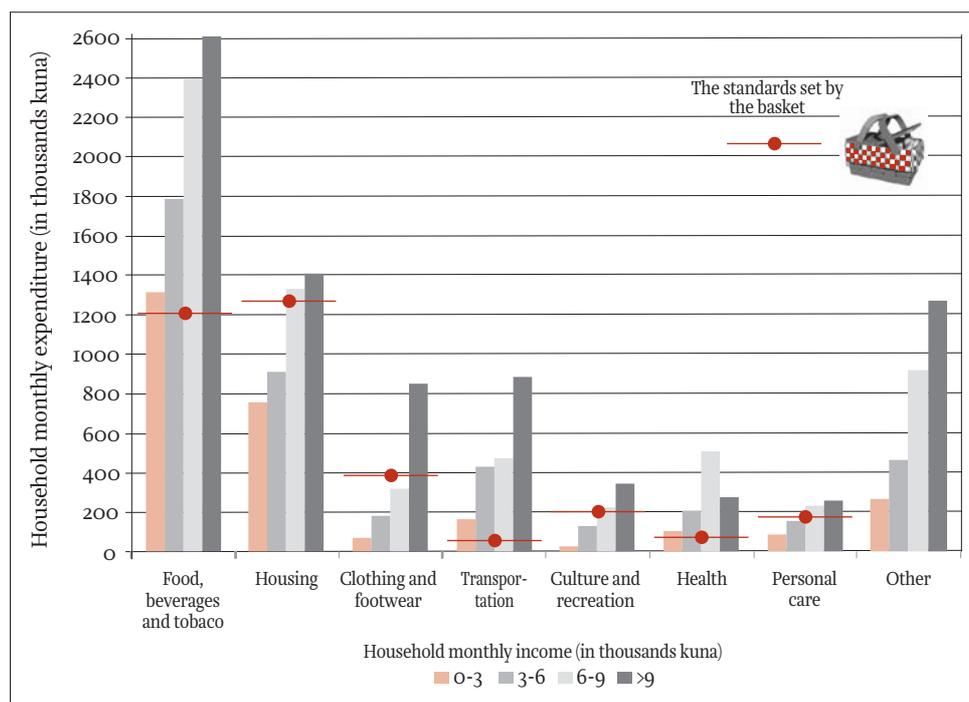
It also shown that a significant portion of personal consumption, put into the category “other”, is not included in the basket. HBS data reveal that there are the two items of particular importance here: phone bills and the broadcasting fee.<sup>8</sup>

## 6. INCOME VS. CONSUMER BASKET – THE ACTUAL RATE OF COVERAGE

The coverage, i.e. the ratio of average pension and the basket was 59.8% in December 2008. Instead of a hypothetical family with two adults, we will calculate a new indicator

<sup>8</sup> A similar analysis was made for other groups of pensioners. Results for group A and group D followed the same pattern, but the gaps between average spending and the basket standards are even higher.

**Figure 4**  
The “union” and the “survey” consumer baskets for pensioner couples (group B)



Source: author's calculations based on HBS and Consumer Basket (December 2008)

of coverage, for every pensioner household from the HBS sample, taking into account household income and the number of its members.

The basket was calculated only for families with two adults. As the basic needs of a family differ according to the number of its members, it is essential to calculate a separate basket for each type of a family. Here we take into account “economies of scale” and the different needs of individual household members.

Therefore, typically we use adjustment factors that depend on the number of adult members and children in the household, and here we use the “modified OECD scale”. The value of the basket is first divided by 1.5, giving us an adjusted basket for a single person; this represents a starting value for the calculation of adjusted baskets for all other households, depending on the number of adult members and children. For December 2008 the adjusted consumer basket for a single pensioner is 2,373 kuna. For other households, this value is multiplied by adjustment factors from Table 4 in the Box, so for a four person household with two adults and two children rate it is equal to 4,983 kuna (= 2.1 \* 2,373 kuna).

Now we divide the monthly income of each pensioner household in the HBS sample by the value of the corresponding adjusted basket. Thus we obtain the income coverage

#### The adjustment scale

According to the “modified OECD scale” the adjustment factor is calculated as follows. The first adult member gets 1 point, each additional adult member gets 0.5 points and each child gets 0.3 points. As shown in Table 3, for a one-person household with one adult member the factor is equal to 1. For a two-member household with two adults the factor is 1.5, for a household of two adults and one child the factor is 1.8, and if there are two children the factor rises to 2.1. In the same way, factors are calculated for any type of household.

**Table 4**

Factors to calculate the adjusted basket

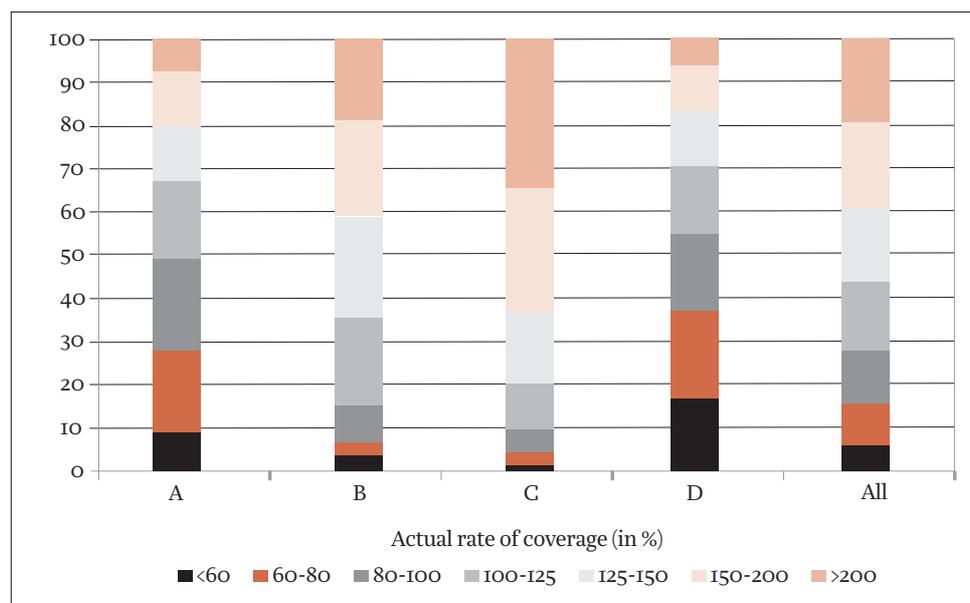
The first adult	Other adults	Children	Household members	Formula	Factor
1	0	0	1	$I * I =$	1
1	1	0	2	$I * I + I * 0.5 =$	1.5
1	1	1	3	$I * I + I * 0.5 + I * 0.3 =$	1.8
1	1	2	4	$I * I + I * 0.5 + 2 * 0.3 =$	2.1

Source: author's calculations

rate of adjusted basket, or “the actual rate of coverage” (ARC).

In Figure 5 we observe the distribution of pensioners by ARC. The worst conditions are again emphasized for

**Figure 5**  
Actual rate of coverage, % of pensioners



Source: author's calculations based on HBS

group D: 17% of pensioners in the group have ARC of less than 60%, the following 20% have ARC between 60 and 80%, and another 18% have ARC between 80 and 100%. Thus, 55% of pensioners in the group D cannot cover necessary expenses from income. Pensioners from group A do not fare much better: for almost half of them ARC is below 100%, and for 9% of them ARC is less than 60%.

When looking at the results for the entire population (column 'All'), we conclude that 6% of pensioners cover with their income less than 60% of the corresponding adjusted basket. For the next 22% of pensioners ARC lies between 60% and 100%. Thus, a total of 28% of pensioners have ARC below 100%. Thirty three percent of pensions have an ARC between 100% and 150%, and so on.

In calculating the rate of poverty, CBS uses the same adjustment factors, so the poverty lines and the values of adjusted baskets are comparable parameters, and the poverty rate and percentage of people with ARC below 100% are comparable indicators. An adjusted basket for a single person in 2008 amounted to 2,373 kuna, which is 17% higher than the CBS poverty threshold in 2008, which was equal to 2,026 kuna monthly. The poverty rate of pensioners in that year was 23.4%, while the proportion of pensioners with ARC less than 100% is equal to 28%. The calculations in Figure 5 will easily provide us with alternative "poverty rates" of pensioners. For example, if we consider that the value of the adjusted basket is too low, we can increase it by 50%, so that for the single pensioner it equals 3,560 kuna, and for a pensioner couple

5,339 kuna. Consequently, the share of pensioners who do not cover the new adjusted basket from their income rises from 28 to 61%. If the value of adjusted basket were increased to 200% of the initial value, the percentage of "the poor" climbs to 81%, which corresponds to the rate of poverty obtained by the GPU. In this case the basket for a single pensioner is 4.746 kuna, and for a couple it is equal to 7.119 kuna.

On the other hand, if we lower the value of the adjusted basket to 60% of the baseline, the "poverty rate" is reduced from 28% to only 6%. In this case, the basket for a single pensioner is 1,424 kuna, and 2,135 kuna for a couple.

## 7. RECOMMENDATIONS AND FURTHER RESEARCH

The analysis has used the common methods in the measurement of living standards. Income includes pensions, market incomes, social benefits, the value of production for own use and gifts, while the values of consumer baskets, i.e., poverty lines, were adjusted for different types of households.

However, it should be noted that various aspects of living standards are not included in the analysis. Account has not been taken of the "imputed rent", which is the value of the services that durable goods provide to their customers. For example, two pensioners may have equal pensions and all other circumstances identical, but the one who lives in a better apartment has a better overall standard of living. Furthermore, some pensioners due to illness or disability need more resources to achieve the same liv-

ing standards as those who are healthy. All of these and some other additional areas should be integrated into future analysis or analyzed separately.

For economic policy makers the recommendation is to strengthen the databases. This study was based on the Household Budget Survey, but as we know, despite being valuable sources of information, all surveys have their drawbacks. One solution is to follow the example of Slovenian researchers who have, with the support of different

state institutions, compiled a large database linking information about individuals from different administrative sources: tax administration, ministries disbursing social benefits, pension and health insurance institutes, etc. These data provide an accurate overview of the actual state of living standards, and are used in microsimulation that can determine how various reforms would affect the distribution of income, tax revenues and government expenditures.