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Evidence of household consumption changes associated with the global economic slowdown[1]

Abstract: The state tracks income changes between two groups of households, i.e., with incomes at or below and above social minimum during the period 2004–2008. The description of spatial variables accounting for differences across voivodships is followed by the description of differences in expenditures on major foods and food categories illustrating the gaps between two household groups over time. The income disparities have been growing during the period under consideration. Low-income households are relatively more dependent on staples and foods that are less desired from a nutritional standpoint. Results suggest the need for intensification of efforts to prevent the poor household segment falling into permanently poor households with possible detrimental effects for overall competitiveness of the national and regional economies.
Keywords: social minimum, regions, food expenditure, staples, non-staples.
JEL codes: R11, O12.

Introduction

This chapter examines changes in incomes of two groups of households, those with incomes above the social minimum and those at or below social minimum. The analysis reviews the changes in household incomes between 2004 and 2008, i.e., the period of Poland's membership in the European Union (EU). Although Poland's economy grew at a healthy rate throughout the period, incomes of households in the two groups show a different pattern. Moreover, the regional analysis shows the spatial differences

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in incomes, while the analysis of expenditure on food expands the insights helpful for broad policy development. The country's competitive position is influenced by business environment conditions. Poor households create demands on government budgets, alter the urban landscape, and establish anti-investment social circumstances.

Section 1 reviews the recent economic growth and income changes. The next section defines the household income as used in this chapter. A summary of income growth rate of the average household, the average household at or below the social minimum and a household above the social minimum is found in Section 3 and is followed by Section 4 that examines the spatial income growth differences across 16 voivodships. Section 5 reports on differences in expenditure on selected foods and food categories in two household income groups. Section 6 discusses implications of the study.

1. GDP growth and income changes

Poland's economy has been steadily growing in the last decade. The value of the GDP in constant terms increased from 797.56 billion Polish zlotys in 2001 to 1.275 trillion in 2008 and 1.413 trillion in 2010 [World Bank 2011]. The rate of growth of real GDP was highly changeable but positive. The rate was 1.44% in 2002 and was the lowest rate of growth between 2002 and 2010. Even in 2009, the year when the full effects of the global financial crisis reverberated across the world, real GDP growth rate was 1.65% (Figure 1). There was a noticeable increase in the growth rate in 2004, the year Poland became a full EU member. The highest level was reached in 2006 (6.23%) and 2007 (6.79%). The pace of growth slowed in 2008, the year the financial crisis fully revealed itself. More recently, in 2010, the GDP growth rate increased and it is expected to be about 4% in 2011.

From the household standpoint, the growing GDP should be reflected in an increase in income. Although individual households fare differently because the distribution of income is complex and confounded by many factors, in general, household income is expected to reflect the growth of GDP. The purpose of this study is to examine whether the effects of the global financial crisis were experienced at the household level, especially the most vulnerable households, i.e., households with low incomes. The peculiar situation of the Polish economy during the development of financial crisis is reflected in a decrease of the GDP growth rate. However, the economy has not slipped into recession proving that the overall competitiveness of the economy has been (to a large degree) maintained. Consequently, the issue of income discrepancy across households becomes less urgent.

Two recent studies compared various measures of poverty in Poland. Szulc [2008] distinguished between monetary and subjective poverty where the monetary pov-

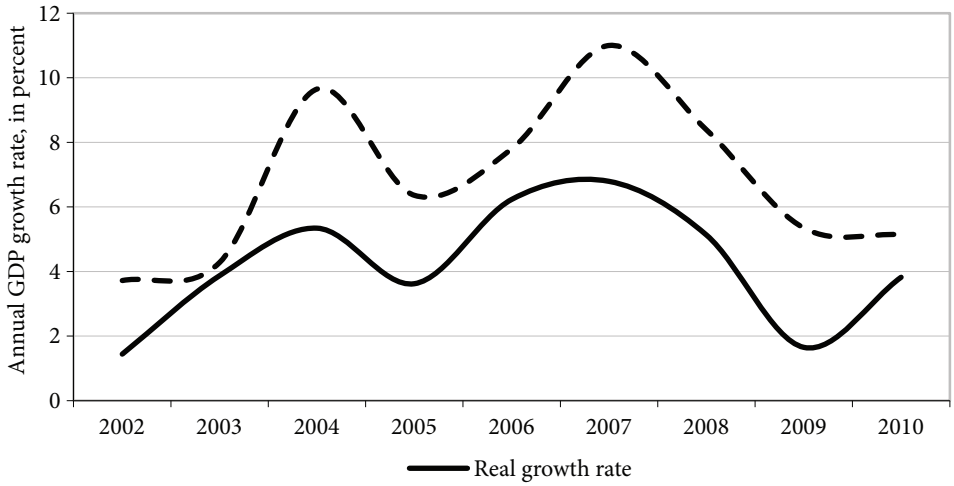

Figure 1. The nominal and real rate of GDP growth in constant terms in Poland, 2002–2012

Source: World Bank national accounts data and OECD National Accounts Data

erty is based on person's income or expenditure. He concluded that the "entirely poor" represented a very small number of Poland's residents; however, he used data for the period 1997–2003. Brzezinski [2010] compared several different measures of income affluence using data from 1998 to 2007. He concluded that the income affluence increased at the cost of the relatively poor and middle-income families. Both studies refer to the period prior to the global financial crisis. The current study uses a monetary measure to examine the differences in household incomes and food expenditure.

The literature on the effects of financial crises on households is considerably smaller than the literature on the aggregate adjustments of financial or exchange rate crises. Often, the effects on households are deduced from macroeconomic adjustments. The focus on macroeconomy is justified by the requirement of in-depth analysis prior to the receipt of meaningful foreign or international assistance. It has been recognized that the impact of a financial crisis and credit crunch affect household welfare [Kang, Sawada 2008]. An economic downturn also tends to have a lasting effect on low income households although standards of living decline for most [Cutler et al. 2000]. Moreover, the application of approaches from other developed economies to address challenges faced by vulnerable households may be ineffective because there is a need to accurately measure the qualitative insufficiency of the diet as much as the quantity of food consumed [Hamelin, Mercier & Bédard 2010]. Diet diversity, which also reflects the diet quality, tends to be inversely related to food prices [Brinkman et al. 2010]. Households suffering from an economic crisis induced by disturbances on financial markets develop coping strategies [Fiszbein,

Givagnoli & Aduriz 2003]. The common adaptive strategy results in the reduction of food consumption. For example, the income allocated to basic foods (staples) increases [McKenzie 2003, 2006], and substitution of higher quality sources of calories by lower quality sources such as grains, roots or tubers, takes place [Pernia & Knowles 1998; Serova, von Braun & Wehrheim 1999]. The use of the adaptive strategy leads to the marginalization of certain groups and exclusion from economic opportunities offered by the market economy [Lokshin & Yemtsov 2004].

In the case of Poland, the recent crisis did not result in the contraction of the economy, while the recent increase in the unemployment rate was related primarily to the return of migrants temporarily seeking better paying jobs in other EU countries. Polish citizens who lost jobs outside the country as a result of the global financial crisis returned to their home. However, the continuation of the economic growth in Poland and rising aggregate consumption, even after the global financial crisis [Gruen & Klasen 2011], hid the growing problem of an underclass of households, which threatens to convert into a class of persistently poor.

The comparison of the average household income between those with the minimal or less than minimal income and households with incomes above the minimal level as well as the rate of growth of their incomes provides insight about the severity of the budget constraint. Moreover, because of the regional disparities in the level of economic activity, past growth, and existing opportunities, household incomes vary across space. In Poland, the spatial discrepancies in income and the level of economic development have been determined historically and decades of central planning did not erase all differences. Therefore, the changes in household incomes have been measured for each administrative district. Insights from the spatial income differences are essential to gauge the real impact of the economic slowdown resulting from the global financial crisis at the micro level. Finally, the severity of income constraint is captured by the differences in expenditures on various foods and food categories reported by households from two income groups. Differences in the level of expenditures for various foods are likely to deepen as a result of income growth slowdown and solidify the existence of an isolated, permanently poor segment of society. Permanent poverty creates a drag on economic growth and raises budget costs. Proposed solutions for the alleviation and prevention of this segment's growth must incorporate knowledge about the depth and spatial presence of poor households.

2. Household incomes

The average household income growth corresponded to the decrease in unemployment. As more people worked, households enjoyed larger incomes and were able to increase consumption. The unemployment decrease was facilitated by the open-

ing of job markets for Polish citizens in many EU member countries. Hundreds of thousands took advantage of temporary and permanent job opportunities in other EU member countries. The result was an increase in foreign transfers to households in Poland stimulating the domestic investment demand and consumption. Rural households benefitted from sizable transfers under the CAP.

To assess the changes in household incomes, the household sample data were divided into two groups: households with income at or below preset income level and those above the level. The threshold value of household income was the minimum income (*pol. minimum egzystencji* or *minimum biologiczne*) established by the Instytut Pracy i Spraw Socjalnych (IPSS) each year for a household of two adults listed as one woman and one man [Instytut Pracy i Spraw Socjalnych 2009] multiplied by 1.25 to account for the "average household size," because the available data did not provide adequate information about the household size and gender and age composition. The social minimum is the lower of the two income measures developed by the IPSS; the other measure is the minimum existence-permitting income (pol. *minimum socjalne*). However, for the purpose of this article the social minimum seems particularly important and relevant, because it is considered the lowest level permitting existence.

Inequality is commonly measured by the Gini coefficient. Between 1987 and 1999, the inequality measured by the Gini coefficient changed marginally [Kolodko 1999], especially when compared to other countries of the region and countries established after the dissolution of the Soviet Union. Kolodko attributed an increase in income inequality to price liberalization, the elimination of government subsidies, and the diminishing role of the state sector in the economy. Admittedly, the Gini coefficient during the implementation of the "Strategy for Poland" increased from 0.25 to 0.29 based on the wage measures or fluctuated between 0.32 and 0.34 measured by per capita income (Kolodko citing World Bank as a source of the information) during the period 1993 to 1996. Torrey, Smeeding & Bailey [1999] supported the view that the growth in relative poverty was tame and reported the change in the Gini coefficient for Poland from .217 in 1987 to .243 in 1993. Paci, Sasin & Verbeek [2004] stated that there was a steady increase in inequality measured by the Gini coefficient in the second half of the 1990s. Based on the household budget data they reported the Gini coefficient for consumption inequality at 0.28 in 2002. They noted that the growth of regional inequalities outpaced the growth of total inequalities increasing the relative importance of regional inequalities in total inequality. Stark, Micevska & Mycielski [2009] indicated the country-wide Gini coefficient of income inequality at 0.29 in 1998 and noted that it reached 0.34 in 2004. Using unpublished information obtained from GUS, Stark, Micevska & Mycielski [2009] reported the range of variation of Gini coefficients for voivodships from 0.39 for Mazowieckie to 0.28 for Podlaskie in 2004. Brzezinski [2010] reported several inequality measures and that the value of the Gini coefficient increased from 0.28 in 1998 (similar

to the value used by Stark et al.) to 0.311 in 2007. The author based his calculations on the household survey and World Development Indicators. The Gini coefficient equaled 0.34 in 2008 for Poland [World Bank 2011].

The value of the Gini coefficient falls within the range of the majority of the EU countries in recent years [World Bank 2011]. Only Scandinavian countries reported a lower value of the Gini coefficient, while among older EU members, Portugal reported a higher value. However, the evaluation of the inequalities using macro-indicators like the Gini coefficient fails to capture the true scale of inequality. Moreover, a single indicator for the whole country fails to guide the development of programs targeting regional differences, while the values of Gini coefficients for voivodships remain publicly inaccessible. Therefore, despite a generally satisfying size of the Gini coefficient for Poland as compared to other EU member-countries, the aggregate measure clearly misses the details necessary to effectively track and reduce, if not eliminate, poverty. For example, it is noteworthy that after many years of internal EU support, Portugal, a small country, still shows a large level of inequality.

3. Growth rates of average income in poor and non-poor households

Table 1 shows the average monthly income of households reporting total income at or below the social minimum (defined above). The growth rate reflects the change with regard to the preceding year. The levels of income in the sample are averages calculated on answers provided by about 3,000 households,[2] except in 2008, when the number of reporting households was noticeably lower (2,351). The average income among poor households included in the sample remained quite low throughout the period under consideration. Moreover, the rate of income growth shows nearly stagnant incomes during that period. Incomes were reported in nominal terms suggesting that the average income in households at or below poverty level were shrinking in real terms.

The average nominal income of households with incomes above the minimum income grew faster than the inflation rate between 2004 and 2008, with the exception of 2005. The average income was 2,098.36 Polish Zlotys in 2004 and increased to 2,817.78 Polish Zlotys in 2008. The average income growth in that group of

[2] The study is based on data obtained from annual Glowny Urzad Statystyczny surveys of Polish households. The data are not publicly available. After purchasing the raw data, the data had to be recoded because the coding pattern changed in preparation for the EU accession and after joining the EU. The average expenditure on various foods and food categories discussed in the subsequent sections was obtained from these data.

households followed the growth of the economy. In nominal terms, the growth was particularly rapid in 2007–2008. In comparison, the rate of income growth among poor households was minimal in 2007 and 2008 and did not keep up with inflation.

Overall, the gap in income between the two household groups grew between 2004 and 2008. The average income reported by poor households represented 24.8 percent of the average income of households with incomes above the social minimum in 2004, but only 20.5 percent in 2008. This tendency suggests that the existing economic mechanisms and policies lead to the establishment of a population segment that has become permanently removed from sharing in the economic growth and continues to be marginalized under the existing conditions. There are likely multiple reasons responsible for the observed tendency including lack of education and marketable job skills, various disabilities, chronic addiction, or deficient life skills. Yet, undoubtedly the growing gap will eventually create social problems that will have to be addressed. Households will resort to private strategies to cope with shrinking budgets including employment in the informal economy and criminal activity, while the socially and economically destructive behavior will increase [Izumov 2010]. Early intervention offers a chance of less costly correction of the emerging problem, which will burden the government budget and taxpayers.

The onset of the financial crisis in 2007 was not reflected in the average household income of any of the two groups. Among non-poor households, the average nominal incomes continued to grow at a rapid pace, while among the poor households income growth stagnated. Even in 2008, the effects of the global financial crisis were not captured by income growth in Poland, likely because the full scale of the crisis became visible only in the last quarter of the year. However, in 2009 the GDP growth rate (Figure 1) declined in response to the disrupted trade and capital flows as well as the instability of the world's banking system. The induced global recession affected Poland's major economic partners leading to an economic slowdown in the country. An economic slowdown tends to affect low-income households to a larger degree than well-off households, while government revenues tend to fall below the projected figures. The inability of government agencies to alleviate income discrepancies and the resulting problems are exacerbated.

4. Regional variation in incomes of poor and non-poor households

A review of the average household income by voivodship (administrative district) shows that the growth differed widely across regions, over time and between the two household groups. The causes of the uneven growth are not the focus of this study although one of the reasons could be the random selection of the households in the

panel and the need for replacing the households which dropped out of the panel in subsequent years. However, because the number of households in each district was substantial and the survey was conducted by the government statistical service, the sample is considered representative of each district's population. The current division into 16 administrative districts is discussed by Kowalski, Pietrzykowski & Heciak [2011]. The recent OECD [2011] report indicated that among its members, incomes of the richest households grew faster than those of the poorest households, leading to the widening of income inequality, although the report did not explicitly mention Poland.

Historically, the eastern districts have been considered less developed and, consequently, worse off in terms of economic development, income, and wealth. This notion is confirmed by the average household income level comparison across districts. The three voivodships, Podlaskie, Lubelskie, and Podkarpackie are among those with the lowest average incomes throughout the period under consideration (Table 2). The Kujawsko-pomorski district, located in central Poland, which also reported a low average income level in 2004, has made rapid progress. Similarly, the Warmińsko-mazurski district showed impressive gains (contrasting with the adjacent low-income Podlaski district) and no longer can be considered lagging in terms of household average income. In central Poland, only the Świętokrzyski district reported an average income level consistent with the level of the poorest eastern districts.

Among the wealthiest districts is Mazowiecki, which includes the capital city of Warszawa. This pattern of household income distribution is not surprising. The capital attracts the headquarters of domestic and foreign companies employing highly-paid experts, while the government sector offers well-paid public sector jobs. Among other regions, the fastest growth took place in the Dolnośląski district. This district, nestled in southwestern Poland, borders Germany in the west and the Czech Republic in the south. Its proximity to two developed economies and the accessibility to a well-developed transportation network as well as a relatively milder climate than other parts of Poland likely worked to its advantage, encouraging investment and job creation. Not surprisingly, the Lubuski district located just north of the Dolnośląski district (but still along the western border) also reported a steady and fast growth of average household income. The district was catapulted from last in terms of average income in 2004 to 10th place among the sixteen districts. The northwestern district of Zachodniopomorski reported mixed fortunes as far as the average income is concerned, but its gains were solid during the period 2004–2008.

Overall, the global financial crisis has not been reflected in the rates of growth of the average income in Poland in 2007 or 2008. Both years were characterized by double digit growth with very few exceptions (Table 2). Although the rates show the growth in nominal terms, they have been so large that the real growth of the average household income was likely among the highest since the years of transformation in the early 1990s.

Table 2 also shows the average incomes of households with incomes above the minimum. Households in the three eastern districts fall behind other districts in this category of income. The growth rates were lowest in the Podlaski and Podkarpacki district. The gap in terms of average incomes above the minimum income has been widening between the eastern districts and the majority of other parts of Poland. The tendency has been reflected in the increasing depopulation of some areas of the eastern districts,[3] especially in rural areas, where the opportunities for a profitable conventional agricultural production are limited by the natural resource endowment. Furthermore, because the districts represent part of the outer border of the EU, the opportunities for cross-border sale and purchase of goods and services are quite limited. In contrast, the special status of the Russian enclave of Kaliningrad seems to have benefited the Warmińsko-mazurski district.

Among districts where the average income of above minimum income households advanced between 2004 and 2008 was Kujawsko-pomorski, Śląski, Pomorski, and Zachodnio-pomorski. The four districts with the highest average household incomes included Mazowiecki, Pomorski, Opolski, and Dolnośląski. The good news is that the Kujawsko-pomorski and Świętokrzyski districts made gains and have been closing the gap between them and the upper half of Poland's districts.

5. Differences in expenditures on major foods and food categories by households in two income groups

The regional disparities in incomes may reflect the differences in costs of living. In cross-country comparisons, the per capita income is adjusted to the parity level which accounts for cost of living differences. Within the country, other differences are also applicable although they are not often calculated because, inter alia, they are influenced by numerous factors, many of which are difficult to quantify at the micro level. Therefore, to provide additional insights about economic differences between households with incomes above and at or below the minimal income, this study examines the expenditure on major foods and food categories (Table 3). The foods and food categories include several groups and account for staples and non-staples to contrast expenditure levels and their changes between 2004 and 2008.

Staples. Previous studies reporting on preferences for various foods among retirees and the unemployed [Moon et al. 2002a] indicate that low-income groups

[3] For an illustration of the local level of changes in the population structure in eastern voivodships see Klepacki and Klepacka [2011]; Klepacka and Klepacki [2011]. The demographic structure and education level severely reduce the competitiveness of municipalities and rural areas in the Podlaskie voivodship, the district with the lowest average household income for all groups (Table 2).

showed relatively frequent consumption of animal fats. Animal fats such as lard are rather inexpensive and perceived as inferior fat as compared to butter or margarine. While lard is consumed in Poland, for many it is an occasional item eaten during special events. It has become popular to offer it in restaurants and pubs with bread to accompany the consumption of alcoholic beverages. However, for low-income households, animal fats, including lard, may be used as a spread on the popular open-faced sandwiches and in cooking.

A review of animal fat expenditures by households above and at or below the minimum income level show (Table 3; Figure 2A) that despite large differences in average income of the two groups, the amount spent on animal fat was very similar, and indeed, in many years slightly higher in the low-income group. This pattern shows the relatively larger importance of animal fats in the consumption of low-income pensioner households and supports previous studies [Moon et al. 2002a].

The comparison of expenditures on potatoes, a staple source of starch in Polish households, shows a similar pattern (Table 3; Figure 2B). Although between 2005 and 2008 the potato expenditure in households with incomes above the minimal level were higher than in the other group, the differences were very small. It is quite possible that low-income households are, on average, smaller, increasing the relative importance of potato consumption (and expenditure).

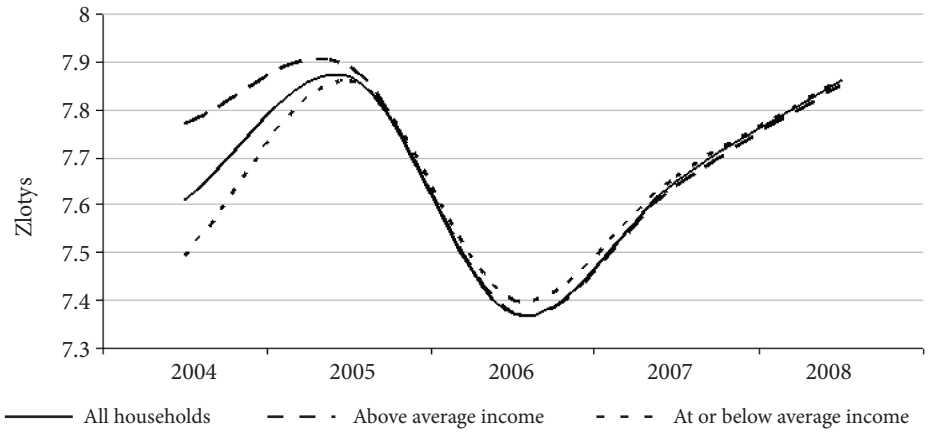

Figure 2A. Average expenditure on animal fat by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

Among the three primary nutrients, fat, carbohydrates, and protein, the latter is best represented by milk in the European temperate zone. Milk is less expensive than other sources of protein such as meat or fish. The average expenditure on milk shows that low-income households spent more than households with incomes above the minimal level (Table 3; Figure 3). The milk expenditure by low-income house-

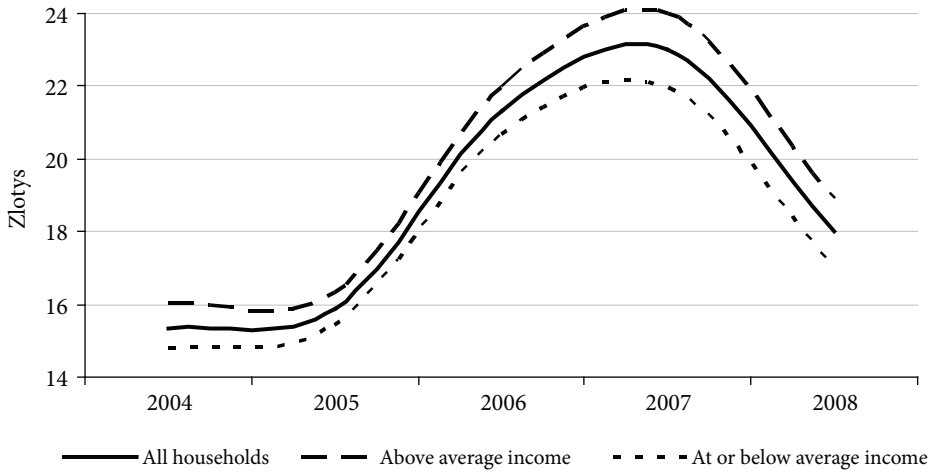

Figure 2B. Average expenditure on potatoes by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

holds was the only higher expenditure by non-poor households among all foods considered in this article between 2005 and 2008. In 2008, the expenditures were nearly identical although the low-income households still outspent the other group by one grosz.[4] The relative importance of milk could result from the demographic household composition reflecting the presence of young children.[5] It appears that low-income Polish households are likely to disproportionately feel the burden of any contraction of milk supply. The Polish dairy industry has recently undergone a wave of consolidations, while the EU CAP also changed the supply conditions and higher feeding costs squeezed producer and retailer margins. The overall consequences experienced by low-income households seem to have escaped the attention of policymakers.

Finally, the examination of the average expenditure on sugar (Table 3) shows that although households with more income spent more on sugar, households with less income did not spend much less. Sugar is a staple in Polish households used for multiple purposes. Sugar provides little nutrition, but it is a highly preferred ingredient added to beverages, baked goods, or eaten in other forms. It has wide applications in home fruit processing. Although home food preservation has been greatly decreasing as the majority of households can afford the purchase of fruit preserves and prefers to allocate time away from such tasks to higher utility activities, poor households continue to use sugar in making fruit preserves and fruit compotes. Home

[4] Grosz is one hundredth of a zloty, the monetary unit.

[5] However, Moon et al. [2002b] found in their study of Bulgarian consumers that vulnerable households showed a relatively strong preference for and high consumption frequency of yogurt, which in Bulgaria is a traditional dairy staple.

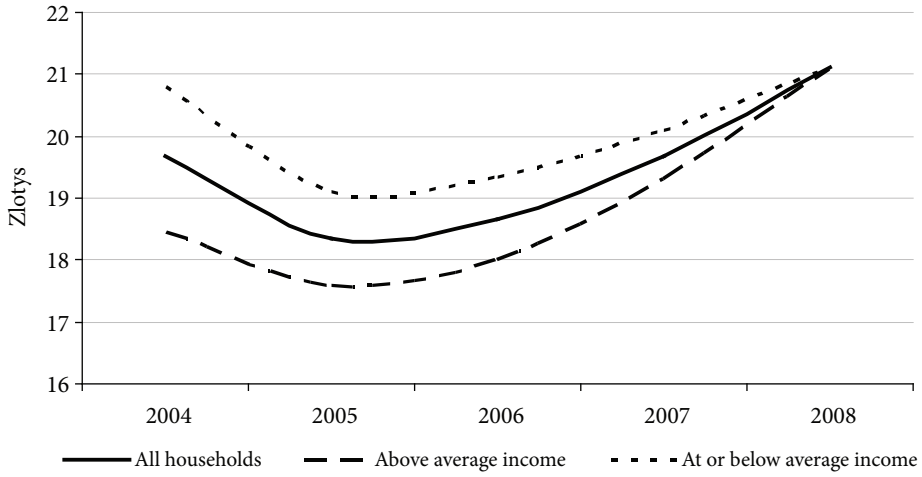

Figure 3. Average expenditure on milk by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

food production such as fruit preservation is a part of the active strategies households use under economic pressure [Fiszbein, Giovagnoli & Aduriz 2003]. Clearly, the relative importance of sugar for households at or below minimal income levels is much higher than in households with higher income implying its important role for food consumption in the low-income sector. Sugar consumption in the context of the general food expenditure pattern further suggests a relatively unhealthy diet, which contributes to major health problems over time.

Other foods and food categories. Table 3 shows average expenditure by two household groups for several other foods and food categories. From among items listed in Table 3, the expenditure on several foods and food categories by two household groups and the average household were graphically presented in Figures 4 through 11. The patterns observed show the clear discrepancy in expenditures conditioned by income level. It appears that low-income households apply an adaptive strategy by changing food consumption patterns captured by the expenditure on various foods.

Among meat types, pork and chicken dominate the consumption of Polish households [Florkowski, Muczynski & Holubowicz 2011]. Figure 4 shows that both household groups considered in this study show similar preferences for meat type, i.e., they spent more on pork than chicken. Chicken is less expensive than pork although the price of chicken has been growing faster than the price of pork [Holubowicz, Muczynski & Florkowski 2011]. Overall, the increased expenditure on both types of meat in 2007 and 2008 reflect the increased commodity prices (including higher feed costs) which eventually were transferred onto consumers. The pattern of expenditures on meat types reveals a more complex pattern and shows that the more vulnerable households likely lowered their meat consumption. The difference in ex-

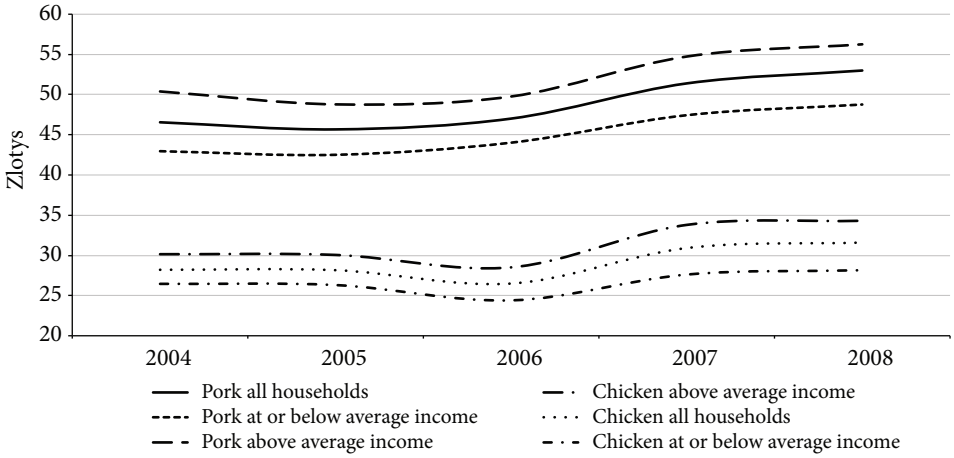

Figure 4. Average expenditure on pork and chicken by household type, Poland, 2004–2008

Source: Author's calculations based on sample data

penditure on pork between the two groups was fairly stable through 2006, but accelerated in the subsequent years. It appears that once the feeding costs increased, the poor households did not keep up with the increase in expenditure on pork. The gap in expenditure on chicken has been increasing throughout the considered period and noticeably increased in 2007 and 2008. Households with a severe budget constraint begun to spent relatively less as, most likely, they were unable to re-allocate additional income away from other expenditures towards meat purchases.

The above observations are consistent with the pattern of regional income level differences described in the previous section, which suggested the increasing gap between the average incomes of the two household groups. It is plausible that the low-income households purchase different quality meat cuts than high-income households and, consequently, the overall quantity of consumed meat may be less than the difference in expenditure would imply. However, there is evidence that the consumption of chicken in Poland is influenced by consumer education level [Holubowicz, Muczynski & Florkowski 2011] and therefore, the quality/quantity trade-off may not be uniform for the low income households. The quality/quantity trade-off potentially has long-term implications as the nutritional value and health effects of eating various meats and meat cuts are affected by such a trade-off, and may influence the market for health services where the need for fundamental reforms of the health service sector has been ignored.

Cheese is a large and diversified category. Figure 5 shows expenditures on two main types of cheese, namely, farmers' cheese and hard cheese. Although households with incomes above the minimal level spent more on both types than poor households, the relative importance of expenditure was quite different. Poor house-

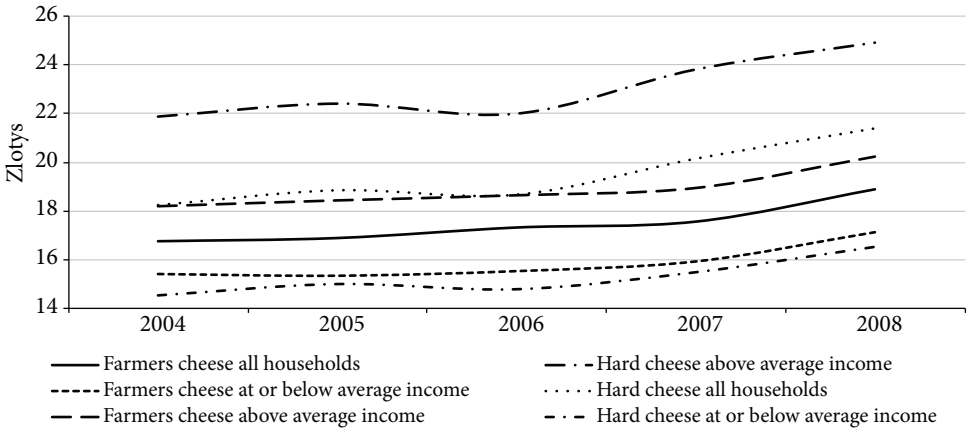

Figure 5. Average expenditure on farmers cheese and hard cheese by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

holds spent more on farmers' cheese than on hard cheese. Farmers' cheese is less expensive and is used in several other dishes in the Polish cooking tradition. Hard cheese is mostly eaten on sandwiches. The difference in expenditure on hard cheese between the two groups of households was particularly striking. For poor households, farmers' cheese continues to be relatively important although its price is fully market-determined. In the early 1990s, farmers' cheese was included in the very limited group of foods subject to partial price control. This ended in 1993. Therefore, any limitation in the domestic milk supply may affect farmers' cheese supply with disproportionate effects on the low-income households.

Eggs are a good source of nutrition and can replace other protein sources. Better-off households spent more than poor households on eggs between 2004 and 2008. Most importantly, the difference in expenditure widened (Figure 6) in 2007 and 2008. A similar phenomenon of the widening expenditure gap can be observed in Figure 7 depicting margarine expenditure. The difference in expenditure on vegetable oil decreased in 2008, but remained wider than earlier in the period under consideration.

Fruit consumption is a very good indicator of how prosperous households are. In Poland, fruit consumption doubled since the early 1990s [Strojewski 2004]. Figure 8 shows the expenditure on citrus. Citrus fruit was in short supply prior to the adoption of the market economy in 1990. The volume of citrus fruit consumed rapidly increased although the growth has been much slower recently. Nevertheless, the pattern shows that citrus is a fruit that differentiates the consumption of poor from well-off households. In recent years the gap in expenditure on citrus has been increasing, again reminiscent of the trend in 2004–2005. In contrast, the gap in ex-

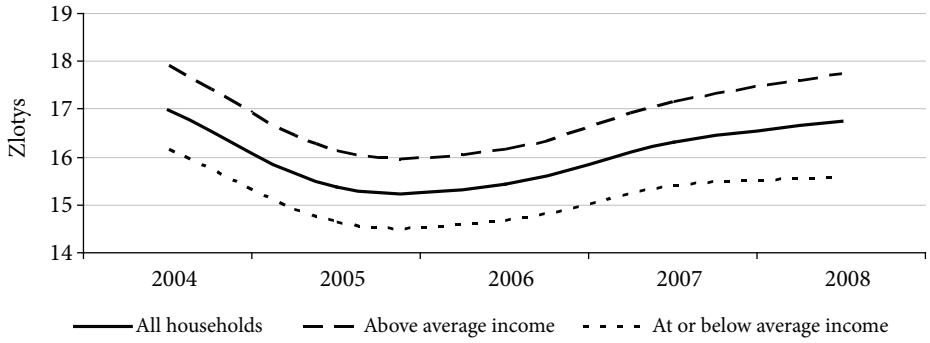

Figure 6. Average Expenditure on Eggs by Household, Poland, 2004–2008
Source: Author's calculations based on sample data

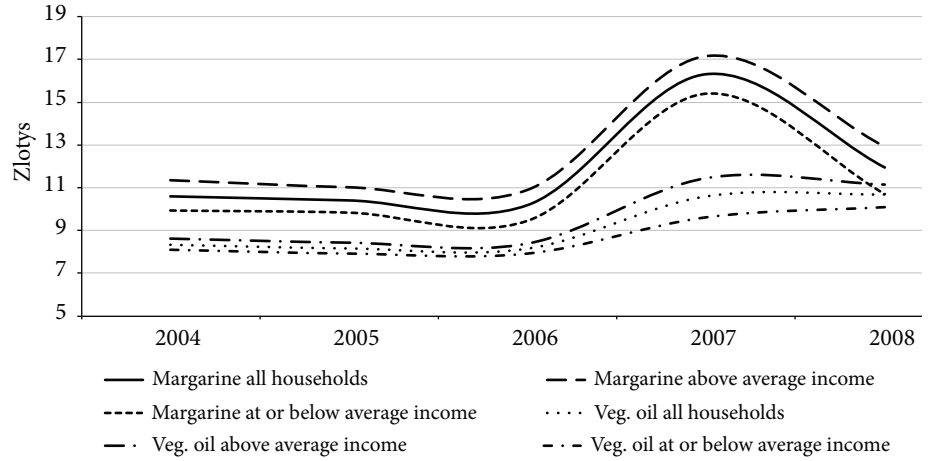

Figure 7. Average Expenditure on Margarine and Vegetable Oil by Household Type, Poland, 2004–2008
Source: Author's calculations based on sample data

penditure on apples, the main fresh fruit produced domestically (Figure 9), has been steadily decreasing. The tendency to narrow the gap results from well-off households spending less on apples rather than an increase in poor household expenditure. The observed phenomenon is consistent with the study by Florkowski, Muczynski & Holubowicz [2011]. On one hand, apples are relatively more important for poor households because they spent considerably more on apples than citrus, while the overall apple consumption in per capita terms is falling in Poland possibly forcing supply adjustment. Poor households are much more dependent on apples in their fresh fruit consumption than well-off households, which tend to consume a wider variety of fruits.

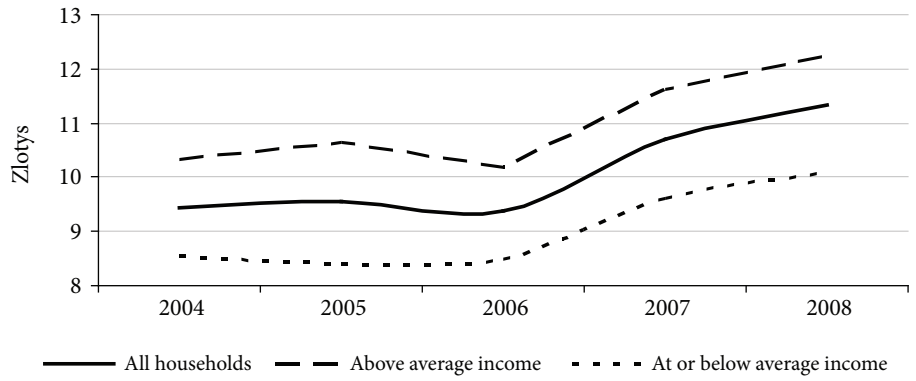

Figure 8. Average expenditure on citrus by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

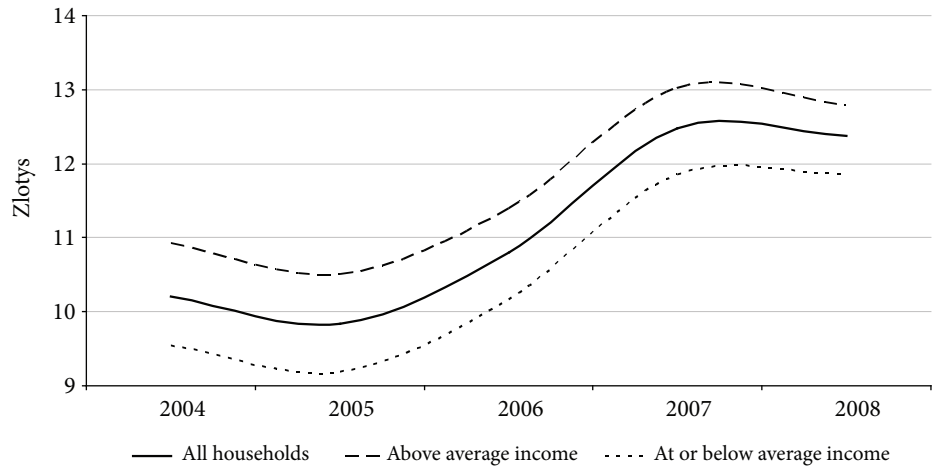

Figure 9. Average expenditure on apples by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

Necessity vs. luxury is illustrated by the expenditure differences on coffee and tea (Figure 10). Although the gap in expenditure on tea has remained almost unchanged (1.77 zloty in 2004 and 1.87 zloty in 2008), the gap in expenditure on coffee has noticeably widened. The gap increased between 2007 and 2008. Coffee is considered a luxury although its consumption has been increasing, while tea consumption has been mostly determined by the population size as tea is a traditional hot beverage.

Finally, Figure 11 shows the difference in expenditure on beer between the two household groups. The gap in expenditures has been sizable throughout the period. It narrowed somewhat in 2005 and 2007, but dramatically increased in 2008. Beer consumption doubled in per capita terms between 1995 and 2005 in Poland

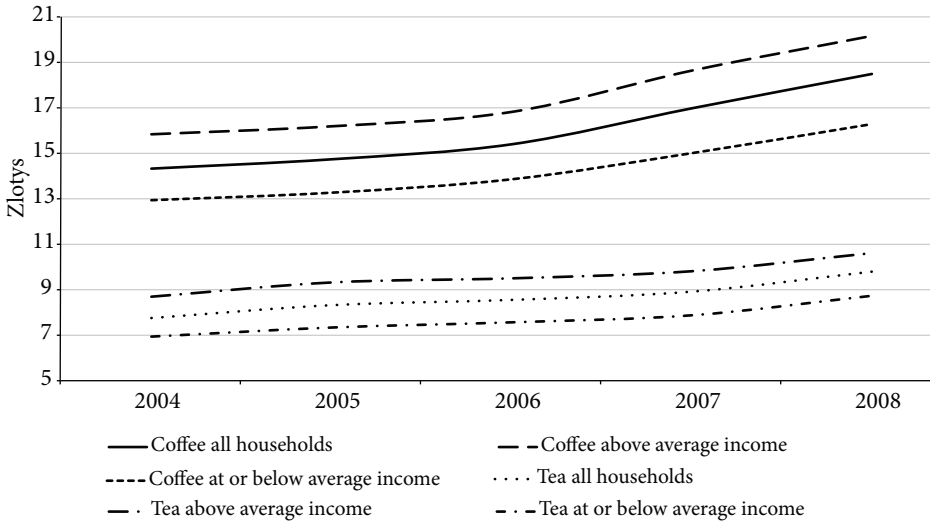

Figure 10. Average expenditure on coffee and tea by household type, Poland, 2004–2008
Source: Author's calculations based on sample data

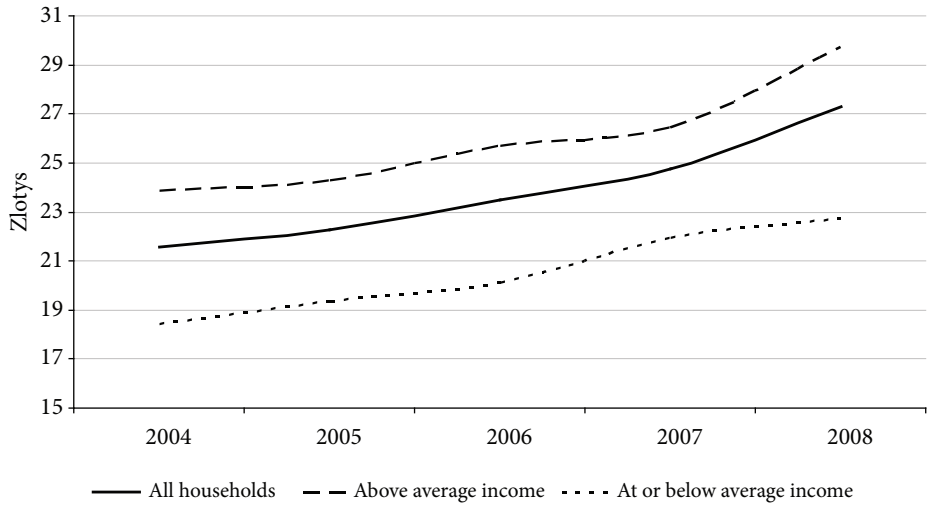

Figure 11. Average Expenditure on Beer by Household Type, Poland, 2004–2008
Source: Author's calculations based on sample data

and continues to increase. It appears, however, that the consumption growth results mostly from increased consumption by well-off households. Beer varies in price due to quality and it is possible, as in the case of the majority of considered foods that poor households eat or drink a comparable quantity.

6. Implications

The focus of the effects of the global financial crisis on the national economy is justified by the need to maintain economic growth. Preventing a recession is the foremost goal of government. However, the accumulated national or regional evidence from the financial crises of the last 15–20 years suggests that the burden of adjustments induced by the consequences of the crises and policies intended to alleviate the aggregate effects are carried by households. The often ignored microeconomic effects change incomes and consumption at the household level and, typically, are felt stronger by poor households.

The review of changes in the average household income focused on two groups: households with incomes at or below the social minimum and above that level. The income threshold level was determined arbitrarily using the measures published by the Instytut Pracy i Spraw Socjalnych. The examination of income changes first addressed changes in 16 voivodships (administrative districts) and next reviewed differences in expenditures on selected foods and food categories.

Income disparities continue between the districts in eastern Poland and other areas. It is plausible that the costs of living differ across the country and it is less expensive to live in eastern Poland, but the lower incomes signal a likelihood of numerous other issues. Lower costs of living and, therefore, cheaper labor could attract investors, but the outmigration and the composition of the remaining population in terms of education and age may divert investors to other regions. Consequently, in the foreseeable future, the regional income differences will persist and may deepen.

The differences between the two household groups in 16 administrative districts indicate that the income level gap tends to widen. The widening of income differences between the two household groups appears to mimic the regional differences reported by Stark, Micevska & Mycielski [2009]. Namely, households with incomes above the social minimum experience income growth at a faster rate than households with incomes at or below the social minimum. Such tendency is even observed in voivodships where the average household incomes are below the national average. Therefore, it is quite possible that the emerging disparities are dual in nature: the regional differences are somewhat independent from household differences within the same region while having potentially serious consequences for the regional competitiveness and the resulting job creation.

Poor households report stagnant or slowly growing incomes in almost all districts, on average. Households with incomes above the social minimum report sizable growth rates, often double-digit growth in nominal terms. Their economic well-being and consumption increased substantially between 2004 and 2008. In real terms, incomes of poor households included in the survey and reporting incomes have been declining. Because their income level is low, poor households are likely to be strongly affected by any possible cuts in welfare and assistance programs. A decrease in such programs will tend to solidify the emergence of a permanent class of poor households with numerous detrimental effects for the economy and negative social influence ultimately costing more for the whole society. At the same time, the central government made little effort to counteract the growing disparities. Local governments which are directly burdened by the social and economic effects of the poverty-stricken household sector need guidance and expertise to adjust national programs to local conditions, and proportionate resources to address the current situation and reduce the future negative effects of economic disparities.

The examination of expenditures on food shows the relatively larger importance of staple or less expensive foods in poor households. This result is not unexpected and supports some previous research. However, some relatively important and inexpensive foods are highly undesirable from a nutrition standpoint. Avoidance of such foods would, in aggregate, improve the health of members of poor households. The potential emergence of the permanently poor will create demand on additional healthcare and welfare services, which are predominantly financed from the local and central government budgets. Moreover, the emerging household category will create additional social problems [Izumov 2010] and will change the environment affecting the evaluation of various regions by investors. Quality of life aspects contribute to the creation of a business environment, which, in turn, is a determinant of national competitiveness singled out by Porter [1990]. In the regional context, the issue of competitiveness is even more pressing if voivodships in eastern Poland are to accelerate their growth measured by household incomes. The emergence of a permanently poor category of consumers may occur first in economically lagging regions due to the decreasing quality of human capital and dwindling social capital. The Global Competitiveness Report [2007] emphasized both types of capital as essential for sustained economic development, which leads to improved incomes. The recent global economic slowdown, like other crises, leads to an increase in income disparities because poor households lack the information, abilities, or job/life skills needed to maintain earnings.

The data used in this study have not yet captured the possible full extent of the crisis because of the lag between economic effects and social consequences. The emergence of the permanently poor will create opportunities for niche markets for selected goods and services. Lower-than-the-national-average income will also alter marketing strategies of not only food distributors but also marketers of non-

food items. Eventually, the evolving segmentation will change the dynamics of the economy. Although not all aspects of such segmentation will be negative, it is the tendency for the negative phenomena to appear first that is bothersome from the greater societal viewpoint.

The accelerated economic growth in eastern administrative districts is possible with wise investment and social policies. Otherwise, the eastern voivodships may fall farther behind [Kliber, Maćkowiak & Malaga 2004]. Some locations are attractive; for example, Bialystok has been consistently ranked high as people-friendly and a suitable place to raise a family. However, efforts of the central government will be effective only if they are complemented by efforts of local and regional governments. Such coordination of effort is even more important in times when budgets are cut and some programs eliminated or reduced in size in order to maintain the country's financial credibility.

Overall, the gap in household incomes across regions, due to possible cost of living differences is less of a concern than the gap in food expenditure between the two household groups. Preventing the creation of a class of permanently poor is of utmost importance. Transient poverty may be difficult to avoid and the phenomenon may intensify in periods of international financial crisis and budget tightening. What is necessary is the constant turnover of households that slip into poverty by aggressive and effective efforts offering opportunities to advance and permanently leave that category. The experience with aid programs offered by the EU shows that results are often elusive; for example, the high Gini coefficient in Portugal. In Poland, numerous agencies are focused on assisting in filing applications for aid funds and documentation of how funds were spent rather than funding effectiveness. This emphasis contributes to a possibly inefficient use of funded activities, while improving the expertise of local governments in reducing the segment of poor households is inadequate.

This chapter only illustrates selected aspects of spatial and micro-level distribution of low-income households. Lower-than-the-national-average income does not imply a poor household, but some characteristics of food consumption are reliable indicators of severe budget limitations. To effectively counteract the permanency of poverty, government actions must by coordinated and complemented by efforts of private, non-government organizations, which often have easier access and better knowledge of households in need. The environment of crisis and the induced budget revisions create a precondition for reviewing the existing approach to improve society's welfare.

Table 1. Mean household income and growth rates, Poland, 1998–2008

Variable	No. of observations	Mean	Percentage change from previous year	Min.	Max.
Total average household income					
1998	19316	1327.38	-	1.75	38000.00
1999	18851	1450.16	9.3	.50	214950.00
2000	20951	1567.93	8.1	1.00	210756.00
2001	18274	1647.11	5.1	.30	15900.00
2002	18207	1684.65	2.3	1.40	65933.50
2003	18348	1760.04	4.5	10.00	46600.00
2004	18516	1806.96	2.7	10.00	27583.06
2005	19982	1830.66	1.3	7.20	40890.00
2006	21945	1971.69	7.7	1.94	32000.00
2007	22646	2213.31	12.3	1.85	39744.87
2008	22878	2587.65	16.9	1.83	41066.67
Total average income of households above minimum income					
1998	16666	1476.37	–	541.57	38000.00
1999	16269	1613.60	9.3	598.00	214950.00
2000	17511	1785.57	10.7	665.56	210756.00
2001	15366	1870.37	4.8	699.91	15900.00
2002	14921	1946.58	4.1	727.89	65933.50
2003	15111	2031.09	4.3	729.60	46600.00
2004	15095	2098.36	3.3	765.00	27583.06
2005	16241	2131.77	1.6	795.42	40890.00
2006	18478	2243.64	5.3	792.67	32000.00
2007	19521	2477.49	10.4	825.00	39744.87
2008	20527	2817.78	13.7	864.00	41066.67
Total average income of households below minimum income					
1998	2650	390.41	–	1.75	541.5
1999	2582	420.33	7.7	.50	597.40
2000	3440	460.06	9.5	1.00	665.15
2001	2908	467.39	1.6	.30	699.87
2002	3286	495.28	6.0	1.40	726.16
2003	3237	494.73	–.1	10.00	729.20
2004	3421	521.15	5.3	10.00	764.06
2005	3741	523.46	.4	7.20	795.34
2006	3467	522.25	–.2	1.94	792.30
2007	3125	563.10	.2	1.85	824.00
2008	2351	578.35	2.7	1.83	862.67

Note: The minimum income equals 2.25 minimum income for two adults as listed for each year by Instytut Pracy Spraw Socjalnych [www.ipiss.com.pl].

Source: Own calculations based on GUS household survey data.

Table 2. Mean household income and growth rates by administrative district, Poland, 2004–2008 (2003=100)

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
Total average household income					
Dolnośląskie					
2004	1447	1678.52	–2.3	30.00	26665.07
2005	1547	1838.35	9.5	11.60	40890.00
2006	1712	1942.41	5.7	4.92	16023.69
2007	1777	2144.51	10.4	2.07	39744.87
2008	1820	2608.32	21.6	5.00	18033.33
Kujawsko–Pomorskie					
2004	937	1578.72	4.7	40.00	8200.00
2005	1032	1553.10	–1.6	15.00	11229.79
2006	1107	1728.12	11.3	4.00	12356.94
2007	1158	2065.77	19.5	16.67	13971.42
2008	1192	2351.29	13.8	7.33	17402.95
Lubelskie					
2004	923	1657.03	7.1	28.80	9900.00
2005	1037	1588.53	–4.1	15.00	12400.00
2006	1117	1640.10	3.3	1.94	13871.61
2007	1171	1889.44	15.2	12.67	18167.33
2008	1206	2252.77	19.2	5.33	14119.00
Lubuskie					
2004	455	1495.88	–6.2	50.00	10463.26
2005	514	1687.17	12.8	36.00	10000.00
2006	611	1854.86	9.9	1.97	7530.67
2007	657	2074.82	11.9	26.67	8312.00
2008	637	2430.10	17.1	24.00	12230.00
Łódzkie					
2004	1434	1688.26	2.8	50.00	14526.70
2005	1499	1740.96	3.1	30.00	22796.08
2006	1576	1859.01	6.8	3.33	23932.08

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2007	1623	2078.11	11.8	16.67	17059.73
2008	1651	2451.56	18.0	13.33	30133.33
Małopolskie					
2004	1456	1857.74	10.1	80.00	27583.06
2005	1664	1862.29	0.2	31.50	17687.74
2006	1835	1907.88	2.5	10.66	18471.37
2007	1930	2149.30	12.7	4.33	19781.25
2008	1905	2573.13	19.7	8.00	21570.00
Mazowieckie					
2004	2684	2432.15	2.4	40.00	26000.00
2005	2831	2364.60	–2.8	20.00	21600.00
2006	3237	2493.74	5.5	10.00	22673.94
2007	3267	2756.38	10.5	1.85	28432.00
2008	3269	3267.11	18.9	4.00	41066.67
Opolskie					
2004	497	1722.66	–1.5	20.00	9000.00
2005	583	1797.27	4.3	7.20	8266.42
2006	638	1853.18	3.1	6.66	7894.53
2007	641	2114.48	14.1	13.33	9109.87
2008	650	2518.55	19.1	5.00	10520.38
Podkarpackie					
2004	875	1575.34	2.1	45.00	11500.00
2005	1004	1642.35	4.3	50.00	15900.00
2006	1143	1680.18	2.3	4.67	10098.40
2007	1160	1875.12	11.6	20.00	10973.34
2008	1189	2219.95	18.4	4.73	21600.00
Podlaskie					
2004	524	1626.50	4.3	33.00	8046.00
2005	503	1638.11	0.7	28.06	8700.00
2006	546	1748.09	6.7	16.67	10800.00

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2007	571	1946.94	11.4	11.67	9488.64
2008	638	2303.23	18.3	16.67	25701.37
Pomorskie					
2004	1127	1829.80	–1.2	10.00	12519.70
2005	1121	1860.94	1.7	30.00	15000.00
2006	1294	2156.96	0.1	2.50	18000.00
2007	1361	2551.28	18.3	50.00	29582.00
2008	1361	2781.78	9.0	16.53	14846.00
Śląskie					
2004	2456	1756.18	2.0	35.70	10600.00
2005	2652	1828.38	4.1	22.84	22940.00
2006	2801	1993.59	9.0	8.00	14357.67
2007	2860	2177.61	9.2	10.00	15489.00
2008	2789	2563.55	17.7	33.33	18467.67
Świętokrzyskie					
2004	537	1536.28	–0.4	100.00	8650.00
2005	576	1511.55	1.6	82.00	5180.00
2006	661	1673.25	10.7	18.00	8500.00
2007	665	1928.00	15.2	26.67	9000.00
2008	703	2290.08	18.8	16.67	16142.00
Warmińsko–Mazurskie					
2004	662	1514.19	–3.5	70.00	6635.62
2005	710	1589.74	5.0	30.00	9490.00
2006	756	1765.66	11.1	16.67	8012.04
2007	798	1962.24	11.1	10.00	20276.51
2008	841	2353.29	22.2	70.00	11704.00
Wielkopolskie					
2004	1677	1769.35	6.7	20.00	14500.00
2005	1832	1763.00	–0.4	29.00	13500.00
2006	1966	1941.02	10.1	5.00	11366.67

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2007	2017	2218.56	14.3	34.00	15885.93
2008	2028	2476.85	11.6	1.83	25654.83
Zachodniopomorskie					
2004	825	1732.06	0.4	45.80	11150.21
2005	877	1746.24	0.8	24.00	11872.00
2006	945	1981.62	13.5	10.67	32000.00
2007	990	2174.52	9.7	30.00	12738.60
2008	999	2464.56	13.3	34.16	26740.00
Total average income of households above minimum income					
Dolnośląskie					
2004	1123	2017.13	–1.8	770.00	26665.07
2005	1250	2149.75	6.6	800.00	40890.00
2006	1439	2211.77	2.9	795.00	16023.69
2007	1519	2416.44	9.3	826.67	39744.87
2008	1646	2822.25	16.8	870.00	18033.33
Kujawsko–Pomorskie					
2004	734	1864.50	3.9	766.98	8200.00
2005	781	1887.73	1.3	800.00	11229.79
2006	857	2084.94	10.5	800.00	12356.94
2007	944	2408.30	15.5	829.00	13971.42
2008	1036	2620.74	8.8	864.00	17402.95
Lubelskie					
2004	717	1985.10	10.5	766.41	9900.00
2005	790	1929.40	–2.8	797.00	12400.00
2006	890	1933.05	0.2	792.67	13871.61
2007	947	2205.20	14.1	826.40	18167.33
2008	1035	2528.44	14.7	865.44	14119.00
Lubuskie					
2004	344	1826.18	–3.5	785.00	10463.26
2005	409	1996.97	9.4	800.00	10000.00

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2006	506	2130.96	6.7	797.90	7530.67
2007	567	2307.93	8.3	825.00	8312.00
2008	570	2647.24	14.7	867.00	12230.00
Łódzkie					
2004	1146	1984.85	3.2	780.00	14526.70
2005	1196	2055.12	3.5	800.00	22796.08
2006	1279	2168.47	5.5	795.60	23932.08
2007	1392	2331.09	7.5	830.00	17059.73
2008	1482	2669.52	14.5	865.31	30133.33
Małopolskie					
2004	1242	2083.59	8.6	767.00	27583.06
2005	1402	2108.95	1.2	800.00	17687.74
2006	1573	2133.71	1.2	794.22	18471.37
2007	1670	2392.14	12.1	827.45	19781.25
2008	1732	2773.19	15.9	869.00	21570.00
Mazowieckie					
2004	2358	2629.96	0.0	770.00	26000.00
2005	2465	2636.99	0.3	798.00	21600.00
2006	2859	2755.16	4.5	794.67	22673.94
2007	2904	3032.80	10.1	825.00	28432.00
2008	3013	3496.11	15.3	865.20	41066.67
Opolskie					
2004	396	2034.16	–0.5	770.00	9000.00
2005	464	2130.93	4.8	795.42	8266.42
2006	530	2134.34	0.2	794.30	7894.53
2007	546	2397.80	12.3	825.37	9109.87
2008	561	2835.08	18.2	870.00	10520.38
Podkarpackie					
2004	684	1860.71	5.9	765.40	11500.00
2005	813	1892.93	1.7	798.00	15900.00

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2006	951	1907.94	0.8	794.27	10098.40
2007	990	2096.65	9.9	826.00	10973.34
2008	1045	2441.07	16.4	866.00	21600.00
Podlaskie					
2004	409	1943.35	6.6	778.41	8246.00
2005	394	1951.75	0.4	800.00	8700.00
2006	433	2086.73	6.9	800.00	10800.00
2007	484	2205.64	5.7	830.00	9488.64
2008	559	2551.86	15.7	890.00	25701.37
Pomorskie					
2004	921	2126.72	–0.8	765.98	12519.70
2005	879	2233.97	5.0	800.00	15000.00
2006	1105	2442.40	9.3	800.00	18000.00
2007	1210	2796.79	14.5	830.00	29582.00
2008	1218	3043.09	8.8	865.00	14846.00
Śląskie					
2004	2052	1999.04	1.9	766.00	10600.00
2005	2217	2082.70	4.2	798.95	22940.00
2006	2412	2229.80	0.1	796.00	14357.67
2007	2526	2389.96	7.2	826.44	15489.00
2008	2549	2746.69	14.9	866.00	18467.67
Świętokrzyskie					
2004	434	1777.42	–2.5	765.80	8650.00
2005	453	1778.49	0.1	799.25	5180.00
2006	537	1937.91	9.0	796.50	8500.00
2007	556	2186.65	12.8	825.00	9000.00
2008	610	2547.48	16.5	864.00	16142.00
Warmińsko–Mazurskie					
2004	513	1797.92	0.1	766.00	6635.62
2005	559	1870.64	4.0	800.00	9490.00

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2006	625	2016.07	7.8	799.00	8012.04
2007	666	2231.53	10.7	826.55	20276.51
2008	752	2561.82	14.8	865.00	11704.00
Wielkopolskie					
2004	1367	2049.99	6.4	765.00	14500.00
2005	1475	2061.07	0.5	795.65	13500.00
2006	1687	2173.37	5.5	800.00	11366.67
2007	1747	2475.40	13.9	828.36	15885.93
2008	1832	2678.68	8.2	864.50	25654.83
Zachodniopomorskie					
2004	655	2042.28	4.1	768.99	11150.21
2005	694	2068.55	1.3	799.10	11872.00
2006	795	2250.93	8.8	796.00	32000.00
2007	853	2432.65	8.1	825.61	12738.60
2008	887	2702.94	11.1	864.00	26740.00
Total average income of households below minimum income					
Dolnośląskie					
2004	324	504.89	3.1	30.00	764.06
2005	297	527.78	4.5	11.60	791.35
2006	273	522.62	–1.0	4.92	792.30
2007	258	543.48	4.0	2.07	820.00
2008	174	584.65	7.6	5.00	860.50
Kujawsko–Pomorskie					
2004	203	545.40	9.6	40.00	764.00
2005	251	511.92	–6.1	15.00	793.61
2006	250	504.96	–1.4	4.00	792.00
2007	214	544.80	7.9	16.67	821.16
2008	156	561.83	3.1	7.33	860.00
Lubelskie					
2004	206	515.16	8.1	28.80	761.70

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2005	247	798.31	55.0	15.00	795.00
2006	227	491.57	–61.6	1.94	781.19
2007	224	544.52	10.8	12.67	821.00
2008	171	584.25	7.3	5.33	862.32
Lubuskie					
2004	111	472.23	8.0	50.00	764.00
2005	105	480.42	1.7	36.00	788.00
2006	105	524.31	9.1	1.97	790.00
2007	90	606.24	15.6	26.67	820.00
2008	67	582.81	–3.9	24.00	860.00
Łódzkie					
2004	288	508.08	4.5	50.00	760.00
2005	303	500.91	–1.4	30.00	790.00
2006	297	526.33	5.1	3.33	790.00
2007	231	553.64	5.2	16.67	823.97
2008	169	540.24	–2.4	13.33	862.33
Małopolskie					
2004	214	546.96	6.5	80.00	761.96
2005	262	542.39	–0.8	31.50	795.00
2006	262	522.07	–3.8	10.66	790.00
2007	260	589.52	12.9	4.33	823.00
2008	173	570.14	–3.3	8.00	862.67
Mazowieckie					
2004	326	516.78	3.1	40.00	760.00
2005	366	530.08	2.6	20.00	793.54
2006	378	516.43	–2.6	10.00	790.95
2007	363	545.01	5.5	1.85	822.88
2008	256	571.97	5.0	4.00	860.42
Opolskie					
2004	101	501.37	13.9	20.00	758.00

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2005	119	496.32	0.2	7.20	791.60
2006	108	473.42	–4.6	6.66	790.00
2007	95	486.13	2.7	13.33	818.00
2008	89	523.35	7.7	5.00	860.00
Podkarpackie					
2004	191	553.39	3.3	45.00	764.00
2005	191	575.77	4.0	50.00	795.00
2006	192	552.11	–4.1	4.67	787.33
2007	170	585.03	6.0	20.00	820.00
2008	144	615.33	5.2	4.73	860.00
Podlaskie					
2004	115	499.63	4.6	33.00	760.00
2005	109	504.43	1.0	28.06	792.00
2006	113	450.48	–10.7	16.67	776.33
2007	87	507.72	12.7	11.67	820.40
2008	79	543.92	7.1	16.67	860.00
Pomorskie					
2004	206	502.32	8.1	10.00	761.90
2005	242	506.03	0.7	30.00	793.00
2006	189	488.14	–3.5	2.50	790.00
2007	151	583.91	19.6	50.00	820.00
2008	143	556.13	–4.8	16.53	862.60
Śląskie					
2004	404	522.64	6.0	35.70	761.00
2005	435	532.25	1.8	22.84	792.00
2006	389	528.93	–0.6	8.00	791.00
2007	334	571.65	8.1	10.00	820.00
2008	240	618.51	8.2	33.33	860.00
Świętokrzyskie					
2004	103	520.21	–2.1	100.00	762.00

cont. Table 2

Year/ District	No. of observations	Mean	Percentage change from previous year	Min.	Max.
2005	123	528.40	1.6	82.00	790.00
2006	124	527.12	–0.2	18.00	773.00
2007	109	608.63	15.5	26.67	820.00
2008	93	601.74	–1.1	16.67	862.00
Warmińsko–Mazurskie					
2004	149	537.33	2.0	70.00	760.70
2005	151	549.84	2.3	30.00	791.00
2006	131	570.98	3.8	16.67	790.00
2007	132	603.58	5.7	10.00	820.00
2008	89	591.35	–2.0	70.00	856.00
Wielkopolskie					
2004	310	531.80	5.3	20.00	760.00
2005	357	531.44	–0.1	29.00	795.34
2006	279	536.10	0.9	5.00	790.00
2007	270	556.64	3.8	34.00	820.00
2008	196	590.32	6.1	1.83	860.00
Zachodniopomorskie					
2004	170	536.80	5.9	45.80	763.20
2005	183	523.92	–2.4	24.00	794.77
2006	150	554.25	5.8	10.67	785.00
2007	137	567.32	2.4	30.00	824.00
2008	112	576.66	1.7	34.16	856.37

Note: The minimum income equals 2.25 minimum income for two adults as listed for each year by Instytut Pracy Spraw Socjalnych [www.ipiss.com.pl].

Source: Own calculations based on GUS household survey data.

Table 3. The average expenditures on selected foods and food categories for all households, households above the minimum income, and households with incomes at or below the minimum income in Poland, 2004–2008

	All households		Households above minimum income		Households at or below minimum income	
Year / Food or food category	Number of observations	Average expenditures	Number of observations	Average expenditures	Number of observations	Average expenditures
2004						
Bread	9080	51.02	5008	55.56	4072	45.44
Pasta and flour	19633	13.45	9205	13.63	10428	13.28
Offal and offal products	3377	78.35	1822	84.64	1555	70.98
Barley	12373	3.46	5332	3.40	7041	3.51
Pork	27646	46.54	13258	50.42	14388	42.97
Chicken	28466	28.23	13534	30.15	14932	26.49
Seafood	13187	14.52	6587	15.51	6600	13.53
Freshwater fish	2693	24.26	1322	26.29	1371	22.31
Milk	18562	19.67	8892	18.45	9670	20.80
Farmers cheese	28706	16.75	13832	18.18	14874	15.41
Hard cheese	28066	18.24	14142	21.88	13924	14.54
Eggs	30022	16.97	14060	17.91	15962	16.15
Margarine	26948	10.60	12705	11.34	14243	9.94
Vegetable oil	22553	8.34	10607	8.62	11946	8.10
Animal fat	14259	7.61	6072	7.77	8187	7.49
Citrus	21112	9.43	10474	10.33	10638	8.54

cont. Table 3

	All households		Households above minimum income		Households at or below minimum income	
Year / Food or food category	**Number of observations**	**Average expenditures**	**Number of observations**	**Average expenditures**	**Number of observations**	**Average expenditures**
Apples	25793	10.20	12204	10.93	13589	9.55
Potatoes	25611	15.36	11828	16.03	13783	14.78
Sugar	26786	17.48	12261	17.80	14525	17.21
Coffee	26360	14.33	12686	15.85	13674	12.93
Tea	24888	7.77	11611	8.72	13277	6.95
Beer	14362	21.58	8270	23.89	6092	18.44
2005						
Bread	6052	46.95	3390	50.94	2662	41.87
Pasta and flour	11269	12.73	5444	12.85	5825	12.63
Offal and offal products	0	0	0	0	0	0
Barley	7221	3.33	3286	3.30	3935	3.36
Pork	15900	45.65	7925	48.81	7975	42.52
Chicken	16856	28.18	8331	30.06	8525	26.34
Seafood	8200	15.36	4244	16.28	3956	14.37
Freshwater fish	1542	26.23	771	27.54	771	24.91
Milk	11304	18.34	5735	17.60	5569	19.10
Farmers cheese	17136	16.88	8561	18.42	8575	15.34
Hard cheese	17058	18.85	8863	22.41	8185	15.00

Eggs	17567	15.36	8552	16.12	9015	14.64
Margarine	15761	10.41	7723	11.01	8038	9.84
Vegetable oil	13075	8.17	6389	8.43	6686	7.92
Animal fat	7926	7.87	3479	7.89	4447	7.86
Citrus	12801	9.55	6509	10.65	6292	8.41
Apples	15219	9.84	7500	10.51	7719	9.19
Potatoes	15289	15.88	7369	16.35	7920	15.43
Sugar	15580	15.68	7587	15.77	8293	15.59
Coffee	15560	14.74	7823	16.20	7737	13.26
Tea	14586	8.33	7156	9.34	7430	7.35
Beer	8918	22.25	5243	24.27	3675	19.37
2006						
Bread	6794	47.60	3900	51.59	2894	42.23
Pasta and flour	12466	12.73	6299	12.93	6167	12.52
Offal and offal products	0	0	0	0	0	0
Barley	8065	3.37	3754	3.27	4311	3.46
Pork	17754	47.00	9171	49.79	8583	44.03
Chicken	18799	26.52	9604	28.52	9195	24.43
Seafood	9202	16.32	4909	17.29	4293	15.21
Freshwater fish	1633	25.21	860	26.43	773	23.84
Milk	13541	18.65	6967	18.00	6574	19.33
Farmers cheese	19227	17.13	9943	18.63	9284	15.53
Hard cheese	19053	18.67	10264	22.00	8789	14.79

cont. Table 3

	All households		Households above minimum income		Households at or below minimum income	
Year / Food or food category	**Number of observations**	**Average expenditures**	**Number of observations**	**Average expenditures**	**Number of observations**	**Average expenditures**
Eggs	19566	15.42	9868	16.16	9698	14.67
Margarine	17602	10.19	8972	10.89	8630	9.46
Vegetable oil	14636	8.16	7449	8.39	7187	7.92
Animal fat	8494	7.37	3910	7.34	4584	7.40
Citrus	14591	9.38	7644	10.18	6947	8.50
Apples	16751	10.80	8605	11.40	8146	10.17
Potatoes	17347	21.31	8632	21.96	8715	20.67
Sugar	17878	16.03	8884	16.14	8994	15.92
Coffee	17413	15.40	9051	16.83	8362	13.85
Tea	16424	8.56	8320	9.52	8104	7.58
Beer	10018	23.48	6067	25.68	3951	20.10
2007						
Bread	5897	53.66	3484	58.14	2413	47.20
Pasta and flour	11036	14.23	5873	14.68	5163	13.73
Offal and offal products	0	0	0	0	0	0
Barley	6971	3.82	3404	3.82	2567	3.83
Pork	15996	51.40	8645	54.76	7351	47.45
Chicken	16754	30.93	8956	33.78	7798	27.65

Seafood	8285	17.16	4522	18.16	3763	15.96
Freshwater fish	1932	24.90	1107	25.96	825	23.48
Milk	12317	19.68	6631	19.32	5686	20.10
Farmers cheese	16961	17.55	9176	18.93	7785	15.93
Hard cheese	16867	20.15	9459	23.81	7408	15.48
Eggs	17236	16.32	9070	17.15	8166	15.41
Margarine	15713	10.60	8423	11.44	7290	9.63
Vegetable oil	13073	8.86	7041	9.22	6032	8.43
Animal fat	7440	7.65	3595	7.64	3845	7.66
Citrus	13293	10.70	7206	11.63	6087	9.60
Apples	14439	12.48	7710	13.02	6729	11.85
Potatoes	15302	23.01	7975	23.98	7327	21.97
Sugar	15554	15.44	8098	15.77	7456	15.08
Coffee	15597	16.98	8492	18.64	7105	15.00
Tea	14421	8.92	7686	9.83	6735	7.89
Beer	9117	24.76	5707	26.44	3410	21.95
2008						
Bread	5789	58.48	3505	63.65	2284	50.56
Pasta and flour	967	16.79	720	17.25	247	15.47
Offal and offal products	1579	82.83	935	88.93	644	73.98
Barley	0	0	0	0	0	0
Pork	16100	53.01	9079	56.28	8021	48.78
Chicken	16866	31.61	7467	34.29	7399	28.19

cont. Table 3

	All households		Households above minimum income		Households at or below minimum income	
Year / Food or food category	**Number of observations**	**Average expenditures**	**Number of observations**	**Average expenditures**	**Number of observations**	**Average expenditures**
Seafood	8156	17.31	4628	18.14	3528	16.22
Freshwater fish	2475	23.27	1431	24.15	1044	22.06
Milk	12330	21.10	6901	21.09	5429	21.10
Farmers cheese	16910	18.87	9486	20.22	7424	17.14
Hard cheese	16965	21.40	9876	24.91	7089	16.51
Eggs	17042	16.76	9396	17.73	7646	15.57
Margarine	15463	11.95	8721	12.91	6742	10.71
Vegetable oil	13036	10.69	7300	11.14	5736	10.11
Animal fat	6920	7.86	3502	7.85	3418	7.86
Citrus	13106	11.32	7388	12.26	5718	10.11
Apples	14120	12.37	7797	12.79	6323	11.86
Potatoes	15035	18.02	8192	18.88	6843	17.00
Sugar	15163	13.90	8277	14.17	6886	13.57
Coffee	15348	18.49	9745	20.16	6603	16.28
Tea	14274	9.79	7936	10.62	6338	8.75
Beer	9204	27.31	6011	29.73	3191	22.76

Source: Author's calculations based on GUS household survey data.

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