

Financial Security of Middle Class Families in Poland Over 2006-2009

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FINANCIAL SECURITY OF MIDDLE CLASS FAMILIES IN POLAND OVER 2006-2009

The purpose of the paper is to create a measurement, a Middle- Class Financial-Security Index, to investigate the level of financial security experienced by middle-class families in Poland in 2009-2008 and 2007-2006. The source of data is the 2006-2009 Polish Household Budget Survey. The findings show that between 2007 and 2009 the fraction of economically insecure households declined from 22% to 18% while the percent of households who enjoyed economic security increased from 6% to 9%. In both years the majority of middle-class families (73%) were between these two groups. Such households were not at immediate and high risk for falling out of the middle class but they still experienced lack of the solid foundations for safeguarding their financial security. The level of financial assets is a crucial factor for security of middle-class households. Housing expenses were not a factor that threatened households' security both in 2009 and 2007. In 2009 and 2007, more or less half a middle-class families experienced the budget problem.

Keywords: financial security, middle class, assets, housing expenses, budget

INTRODUCTION

Not earlier than in XIX century the attention of scientists was aimed at evaluation of economic risk resulting from income instability, instability of labor market, instability of healthcare insurance access as well as property prices, and the level of pensions (Hacker, 2006, 2008; Jakobs, 2007, Orszag, 2007, Wiship, 2009). In the literature there are two concepts: economic security and economic insecurity. Scientists define economic insecurity concentrating on either existence of current losses (Hacker at all., 2007) or anxiety, fear connected with the possibility of occurrence of such losses in the near future (Osberg, 1998; Dominitz, Manski, 1997; Scheve, Slaughter, 2004; Anderson, Gascon, 2007). In contrary security is regarded as the fulfillment of certain conditions which guarantee the individual wealth (Beeferman, 2002; report „By a Thread: The New Experience of America's Middle Class (2007) prepared together by Demos: A Network for Ideas & Action and The Institute on Assets and Social Policy at Brandeis University; ILO Socio-Economic Security Programme). The problem of economic (in)security is gaining more attention but it is still a field where there is much to investigate.

In the Polish literature the concept of “economic security” is mostly considered in regard to a state not an individual (Frejtag-Miki, Kołodziejak, Putkiewicz, 1996; Bobrow, Haliżak, Zięba, 1997; Michałowski, 2001; Książkowski, 2004; Guz, Kłosiński, Marzec, 2006; Żukrowska, Grącik, 2006). Empirical researches basing on population surveys deliver only very general data mostly because they are not aimed at investigating individual economic security. The phenomenon of individual economic security has not been the aim of complex research in Poland yet.

The purpose of the paper is to create a measurement, a Middle- Class Financial-Security Index, to investigate the level of financial security experienced by middle-class families in Poland in 2009-2008 and 2007-2006.

The index shows which percentage of middle class families can be considered really secured, what factors strengthen or destabilize financial security, how the level of financial security was changing in 2009-2008 in comparison with 2007-2006. The index is created for Poland as a whole and for different groups of middle-class-households.

The structure of the paper is as follows: the research concept is presented in the first section; the findings in the second and finally the conclusions.

I. RESEARCH CONCEPT

Economic security can be defined as the ability to achieve income necessary for covering household needs at its suitable level and to create financial reserves to be at disposal in case of unfavorable accident (sickness, job loss, family breakdown).

From microeconomic point of view it is essential to distinguish whether the household is economically secure or not. From the macroeconomic position it is important to assess the aggregate level of security broken by different groups of households and to investigate changes in security levels over time.

Source of data : *Household Budget Survey* (HBS) conducted by the Polish Central Statistical Bureau for the period of 2006-2009. Each household is included in the HBS over two years. The research is carried out basing on two panel data for 2006-2007 and 2008-2009. The 2008-2009 HBS is the last available panel. The second one, 2006-2007, has been chosen for comparing the findings. Over 2006-2007 the Polish economy experienced very dynamic growth, while over 2008-2009 growth was visible slower.

Methodology

The methodology of the middle-class financial-security index:

- defining a middle class sample;
- identifying factors influencing middle class financial security;
- setting for each area included in the index: 1) a threshold that would be optimal to support overall financial security, and 2) a threshold that would threaten it – finally, determining percentage of middle class families that met of these thresholds;
- defining criteria for considering the family: 1) securely in middle class, or 2) at high risk of slipping out of the middle class, or 3) in-between these two groups.

The general idea of the methodology is inspired by the Middle Class Security Index suggested by researches of Demos: A Network for Ideas & Action and the Institute on Assets and Social Policy at Brandeis University, however, the index created for Poland is adjusted to the economic situation experienced by Polish families and data available.

Defining a middle class sample

Families should be considered the middle class on a base of income, a way of life and even social mobility. The concept of the middle class is not well developed in Poland. The middle

class is not a symbol of the “Polish way of life”. The paper avoids the discussion on social and cultural aspects of being middle class and focuses only on economic factors.

In the paper defining the middle class sample is based on the following criteria:

- main income source - families which main income source of maintenance is: income from hired work or income from self-employment (employees and owners of small and medium-sized firms, lawyers, artists, journalists; excluding farmers’ incomes); all incomes are considered equivalent incomes; the modified OECD scale is used: 1 for the first adult person in household, 0.5 for each next member of household – 14 years and over, 0.3 – for every child under 14 years.
- income range – families with an equivalent household income between 150 and 600 percent of social minimum (incomes adjusted to a household size using the OECD scale);
- age range – age of household head: 25-64 (working age for a man with the university’s diploma)

The income range requires some explanation. The Polish Government Statistical Bureau defines existence minimum, as an absolute poverty line. It is income that allows to meet only needs which must be met to avoid biological weakness. Social minimum is not a poverty line. It constitutes income that allows to keep living standards at the minimum but fair level, including not only biological but also social needs. It seems that social minimum is much more suitable to determine a middle-class income range. Social minimum is calculated by the Institute of Labour and Social Studies.

Setting the range between 150 and 600 percent relies on (S80/S20) income quintile share ratio for population less than 65 years. S80/S20 fell between 7 and 5 in 2005-2009. It is rationally to assume that within middle class the ratio of highest and lowest income is equal to 4. Moreover the additional criterion has been applied to support a choice of 150% of social minimum as a lower threshold. In Poland there is a common opinion that the intelligentsia should be included into the middle class, whatever a concept of the middle class would mean. In the paper it is assumed that a family that consists of parents, who are appointed teachers, and two children, one below 14 and second upper 14, is included in the middle class. A double wage of an appointed teacher gives such a family income only a little bit higher than 150% of social minimum.

The income range in 2009:

- 1844 PLN \approx 461 EUR (an equivalent income per person per month) = the 150% of social minimum for a 4-person family;
- 7378 PLN \approx 1845 EUR (an equivalent income per person per month) = the 600% of social minimum (both incomes adjusted to a family size using the OECD scale – $2.3 = 1+0.5+0.5+0.3$)

while in 2007 – 1687 PLN \approx 422 EUR and 6749 PLN \approx 1687 EUR.

Identifying factors influencing middle class financial security and setting the thresholds

Factors included in the index

The index used in this paper, like index created by researchers of Demos and IASP, includes: financial assets, education, housing and budget. Healthcare, the fifth factor included by Demos and IASP, is omitted. In Poland all family members are covered by public obligatory health insurance. It does not make sense to consider how many family members are covered

by health insurance (like in the index suggested by Demos and IASP). However, public obligatory health insurance does not mean that serious illness cannot destroy financial stability. The quality of Polish healthcare system is not sufficient, in this sense that patients often must wait for a visit to a doctor or for an operation for very long time and they are forced to use private healthcare. Another example, the costs of medicines against some illnesses must be covered privately in 100%. Financial assets or incomes left after covering living expenses should be sufficient to cover the cost of private healthcare.

Assets

Assets are the key factor of middle class security. The problem has occurred how to estimate household's assets. There are not data on savings, securities as well as on home equity at a household's level. It seems to be acceptable to investigate whether a household has been able to generate savings over two succeeding years (a given household is included in the HBS only over two years). Basing on this proposal the 2-year sum of an increase in savings plus capital income has been applied as a proxy of assets accumulated over two years; in details:

household's assets accumulated over two years = Δ savings in two succeeding years + sum of income from property and income from rental of a property and land in two succeeding years

An increase in savings is calculated as a surplus of available income over total consumer expenditures and loan repayment and private insurances; in details:

Income from hired work or Income from self-employment

- total expenditures on consumer goods and services
- principle and interest of loans (excluding housing loans)
- private insurances

= Δ savings in a year

The asset factor is included in the index as the number of months when a family could meet 75% of its essential living expenses, using financial assets accumulated over two last years (the increase in assets calculated as above).

Essential living expenses are expenditures on food, housing (without spending on furniture and equipment), clothing, transport (without purchases of cars and motors, bicycles), health care, personal care, education, transport insurance, private health insurance.

Thresholds for the asset factor

Setting the thresholds is based on the average number of months without employment income. This number of months depends on the situation on labor market and it was equal 10 months in 2009 and 14 months in 2007. Therefore:

- the optimal level for financial security - the level of assets accumulated over two last years that allows a family to cover 75% its essential living expenses for at least 150% of average number of months without employment income or income from self-employment;
- Risk for financial security – the level of assets accumulated over two last years that allows to finance 75% essential expenses for less than 50% of average number of months without employment income or income from self-employment.

Education

Eurostat's data for Poland's population in age of 25-64 over 1999-2009 show the higher employment rates were associated with the higher level of education attained. Employment rates for tertiary education fell between 86% and 82%, while for upper secondary and post-secondary non-tertiary education between 67% and 61%, and for lower secondary education between 47% and 36%.

Higher level of education is a factor that strengthens financial security. In-work at risk-of poverty rates for tertiary education are between 2% and 3%, while for upper secondary and post-secondary non-tertiary education between 14% and 12%, and for lower secondary education between 34% and 27%.

Education is included in the index as the academic level of education.

Thresholds for the education factor

- The optimal level for financial security – tertiary education
- Risk to financial security - upper secondary and post-secondary non-tertiary education or less

Housing

The housing factor means percentage of after-tax income spent on housing.

Housing expenses: mortgage principle and interest for owned home/or vacation home, rent, insurance, maintenance, utilities, fuels and public services.

Thresholds for the housing factor

In absence of Polish definition of housing affordability the thresholds are based on the definition used by the Department of Housing and Urban Development in USA (like in Demos and IASP research). This definition can be also accepted in Polish conditions.

- The optimal level for financial security – less than 20% of after-tax income spent monthly on housing;
- Risk for financial security – more than 30% of after-tax income spent monthly on housing

Budget

The budget factor is included into the index as the amount left at the end of the month after paying taxes and covering living expenses.

This amount should afford a middle class family to cover the costs of expensive medicines, to improve housing, or in general, to improve the quality of life or saving and investing.

In details:

Living costs =

Income from hired work/income from self-employment + income from property and income from rental of a property and land

- total consumer expenditures
- principle and interest of loans and house loans
- house, life health and other private insurances

Thresholds for the budget factor

The research is aimed at investigating the changes in security over time, therefore the thresholds cannot be defined as constant amounts of PLN. It is worth to consider an amount that allows to make ends meet, as a base for the thresholds. In 2009 this amount was equal 736 PLN per month/ per person (\approx 184 EUR) , while 703PLN (\approx 176 EUR) in 2007.

- The optimal level for financial security – Amount left at the end of the month after paying taxes and covering living costs is more than 150% of the amount that allows to make ends meet (the amount adjusted to a family size);
- Risk for financial security – Amount left at the end of the month after paying taxes and covering living costs is less than 50% of the amount that allows to make ends meet (the amount adjusted to a family size).

Defining criteria for considering the family securely in middle class, or at high risk

A family can enjoy financial security within middle class, if at least three factors for this family meet the optimal threshold for financial security.

A family is exposed to high financial insecurity, if at least three factors for this family meet the threshold defined as risk for financial security.

If a family falls between these two groups it means that the family is not at high risk of slipping out of the middle class but its financial security is fragile.

II. RESULTS

The discussion on the findings will begin from information on the middle class sample, next the Middle-Class Financial-Security Index in 2009 will be presented and compared with the Index in 2007. Additionally, the similar index will be discussed for the working-age population whose equivalent income was below 150% of social minimum in 2009.

The sample of the middle class – a problem with the income range

The sample of all households who were included in the HBS over two years, 2009-2008, covers 15676 households.

The sub-sample of households with a head in 25-64 age and with a main income source, as income from hired work or income from self-employment, consists of 8253 households in 2009 (households included in the HBS over two years, 2009-2008). The median equivalent income is equal 1500 PLN and the average equivalent income = 1966 PLN in this sub-sample.

The question can occur whether 1844 PLN, as the bottom of the income range for identifying the middle class, has been set correctly. On the one hand, it is below the median equivalent income, on the second, the bottom of income range at the level of only 150% of social minimum seems not to be overestimated. For comparison in 2009, the equivalent social minimum per person amounted 1229 PLN (≈ 307 EUR), or 2827 PLN (707 EUR) per a 4-person family. Taking into account that the aim of this paper is not to find out the best definition of the middle class, setting the income range has been held but the research has been extended to construct the Security Index for households whose the equivalent income per person was below 1844 PLN in 2009.

The middle class, meeting the income criterion (the equivalent income per person in the range of 1844 PLN – 7378 PLN), covers 3411 households in 2009-2008, 41,2% of the sub-sample defined above (workers, the self-employed, age range for household's head, 25-64), while a number of households with income below 1844 PLN is equal 4774 or 58% of the sub-sample. Only 0.8% households had the equivalent income per person above the top of the income range, 7378 PLN. Even taking into account that really reach people do not participate in the HBS, the income range used in the definition of the middle class in this paper has generated the sample of relatively well-off households rather than the typical middle class with income below and upper the median.

The middle class sample covers 2625 households in 2007-2006, 35% of the sub-sample (workers, the self-employed, age range for household's head, 25-64).

The middle class extended in 2009 comparing with 2007 (41% and 35%, respectively) in spite of worsening economic activity (1.7% = real GDP growth rate in 2009 while 6,8% = real GDP growth rate in 2007). The question is how slower economic growth has affected financial security of these households.

The Middle-Class Financial-Security Index in 2009-2008 and 2007-2006

Middle-class households show vulnerabilities differentiated in each factors included in the middle-class financial security index (see Table 1).

Table 1. The relevance of the factors included in the Middle-Class Financial-Security Index in 2009 and 2007

Factor	Optimal for financial security			Risk to financial security		
	Threshold	Percent of middle-class households		Threshold	Percent of middle-class households	
		2009-2008	2007-2006		2009-2008	2007-2006
Assets Number of months able to live at 75 percent of current essential living expenses using financial assets accumulated over last	≥ 15 months in 2009-2008	34%		≤ 5 months	42%	
	≥ 21 months in 2007-2006		20%	≤ 7 months in 2007-2006		54%

two years						
Education Academic degree	Tertiary education	36%	40%	Upper secondary and post-secondary non-tertiary education or less	64%	60%
Housing Percent of after-tax income spent on housing	≤20% monthly income	75%	81%	≥30% monthly income	12%	7%
Budget Percent of amount left at the end of the month after paying taxes and covering living costs	≥ 150% of the amount that allows to make ends meet	21%	17%	≤50% of the amount that allows to make ends meet	46%	51%

A number of middle-class households in 2009-2008 = 3411 and a number of middle-class households in 2007-2006 = 2625

Definition of the middle class:

1. A main income source: income from hired work or from self-employment
2. Head of household - age 25-64
3. Income range for the equivalent income per person: 1844 PLN – 7378 PLN in 2009-2008 and 1687 PLN – 6749 PLN in 2007-2006

The average number of months without employment/self-employment income: 10 months in 2009 and 14 months in 2007

The amount that allows to make ends meet: 736 PLN per month/ per person (≈ 184 EUR) in 2009, while 703 PLN (≈176 EUR) in 2007.

Source: own calculation

Assets

The level of financial assets is a crucial factor for security of middle-class households. Over 2009-2008 42 percent of middle-class families were not able to accumulate enough assets to meet $\frac{3}{4}$ of basic expenses for even 5 months (the average number of months without job=10 months) but on the other hand 34 percent of families could accumulate assets covering $\frac{3}{4}$ essential expenses for more than 15 months.

In spite of slower economic growth over 2009-2008 than 2007-2006, higher percent of middle-class households had enough assets to cover their essential expenses for more than 150% of the period needed, in average, to find job (34% in 2009 and 20% in 2007) as well as lower percent of families had assets for less than 50% of such a period (42% in 2009 and 54% in 2007). Comparing the median number of months, in 2009 middle-class households had assets to cover $\frac{3}{4}$ of their essential expenses for 8 months while in 2007 for only 5 months. Therefore the ability to accumulate financial assets has increased.

However, taking into account that households included in the middle-class represent rather the well-off families, percent of them who is able to cover $\frac{3}{4}$ of their essential expenses for less than 5 months if they needed to live on assets alone, should be definitively lower than 40 %.

Housing

Housing expenses were not a factor that threatened security of middle-class families both in 2009 and 2007. Only minority of them has spent on housing monthly more than 30 percent of their after-tax income, however, percent of such households has grown considerably for two years (from 7% in 2007 to 12% in 2009).

Budget

In both of the years, 2009 and 2007, more or less half a middle-class families experienced the budget problem. The median percent of amount left at the end of the month in 2009 (2007) was equal only 0.6% (0.5%) of the amount that allowed to make ends meet. Considerable part of middle-class had a deficit, higher expenses than after-tax income, 25% in 2009 while 31% in 2007.

Visibly lower GDP growth in 2009 resulted in less percent of households who could meet the optimal budget criterion (21% of middle-class households) in comparison with the percent of families (34%) who was able to accumulate enough assets over two years (2009-2008) to meet the optimal threshold of assets. Stagnation, foreseen in 2012, can deep the budget problem.

Insight into economic security of the middle class in 2009

The Middle-Class Financial-Security Index in 2009 shows that **only 4,5% of the middle class households were strongly insecure** (see Table 2). They experienced threats to their standard living because their lack of assets, education, ability to cover housing costs and meet basic expenses (They did not meet the criteria for all four factors). What it is interesting that this group of households spent till 55% of their after-tax income on housing, while for the whole middle class the highest percent of families (75%- see Table 1) met the optimal threshold just for the housing factor.

In general, **18% of middle-class families met the standards for high insecurity**. They were below the risky thresholds for three factors (assets, education and budget) and only the housing factor they met at non-risky level (housing expenses less than 30% of after-tax income). Economically insecure households experienced the asset deficit equal to $\frac{3}{4}$ essential expenses for 6 months. Loss of job or illness could slip them out of the middle class. Such families should change their consumer behavior. They have spent monthly more than they have earned in spite of their available income higher, in average, by 36% than the lower threshold of the income range for the middle class (average equivalent income per person=2500PLN while lower income threshold=1844 PLN). The budget deficit has been covered by consumer loans. Fortunately for these households their loan burden has not been troublesome yet. In 2009 their principle and interest of consumer loans took 8% of their available income, while mortgage principle and interest only 0.5%.

Families who could enjoy very high economic security, covered 6.7% of the middle class in 2009. They were economically secure in all four factors. If only three factors were met percent of **secure households** increased not very much, to **7.3%** (if housing<30%) or **9.3%** (if lack of academic education) – see Table 2). Foundations of economic security were very solid. Middle-class households, economically secure, have been able to accumulate over two years financial assets needed to cover $\frac{3}{4}$ essential expenses for 38-44 months. They have generated each month considerable financial surplus in their budget. Their loan burden was

equal only to 3-4% of their available income in 2009 (in average, consumer loan burden=2% and mortgage burden=1.2%).

In 2009 the majority of middle-class households (73%) were not at immediate and high risk for falling out of the middle class but they still experienced lack of the solid foundations for safeguarding their financial security. Such families were in-between two groups, economically secure (9%) and not economically secure (18%).

Table 2. Middle-class economic security, 2009

	Middle-class households vulnerable in:		Middle-class households economically secure in:		
	4 factors	3 factors plus housing <30%	4 factors	3 factors plus housing <30%	3 factors plus lack of academic education
Assets Number of months able to live at 75 percent of current essential living expenses using financial assets accumulated over last two years	≤5 months	≤5 months	≥15 months	≥ 15 months	≥15 months
Education	lower than tertiary	lower than tertiary	tertiary	tertiary	lower than tertiary
Housing Percent of after-tax income spent on housing	≥30%	<30%	≤20%	<30%	≤20%
Budget Percent of amount left at the end of the month	≤50% of the amount that allows to make ends meet	≤50% of the amount that allows to make ends meet	≥ 150% of the amount that allows to make ends meet	≥ 150% of the amount that allows to make ends meet	≥ 150% of the amount that allows to make ends meet
Characteristics					
Percent of households	4.5%	18%	6.7%	7.3%	9.3%
Assets are enough, in average, for	-4 months (deficit in assets=3/4basic expenses for 4 months)	-6 months (deficit in assets =3/4basic expenses	39 months	38 months	44 months

		for 6 months)			
Housing, in average	55%	13.4%	8.6%	9.9%	8.2%
Percent of ends-meet amount at the end of the month, in average	-109%	-62%	+265%	+262%	+236%
Average equivalent income per person	2370 PLN	2500 PLN	3966 PLN	4009 PLN	3160 PLN
Principle and interest of loans as percent of after-tax income, in average	8,4%	8,5%	3,2%	4.1%	1,3%

A number of middle-class households in 2009-2008 = 3411

Source: own calculation

Comparing economic security in 2009 and 2007 it is worth to stress movement of households from the low level of security towards the higher level, keeping “the middle percent” almost intact (see Table 3). In context of slow growth in 2009 (1.7%=real GDP growth rate in 2009, while 6.8% in 2007) an increase in percent of households threatened by high economic insecurity could be expected rather than such a change shown in Table 3. It seems that the first wave of the current financial crisis has not influenced strongly economic security of middle-class families in Poland.

Table 3. Percent of middle-class households by a level of economic security, 2009 and 2007

Percent of middle-class households who experienced economic security at:			
	Low level	Middle level	High level
2009	18%	73%	9%
2007	22%	72%	6%

Low level of economic security = not economically secure in 3 or more factors

High level of economic security = economically secure in 3 or more factors

Middle level of economic security = not economically secure in 2 factors and economically secure in 2

Source: Own calculation

An analysis of economic insecurity of middle-class households vulnerable in 4 factors

The deeper analysis of economic insecurity is carried out for middle-class households vulnerable in 4 factors (see table 4), however, conclusions are the same for a group vulnerable in 3 factors.

The high level of economic insecurity has been experienced more by manual workers than “the white collars”.

Young families (a head in 30-aged, in average) have made a smallest fraction of insecure middle-class households and they have managed with threats in all areas better than older families.

There are differences in fractions of insecure households across Poland's regions. What is interesting that higher the average equivalent income, higher percent of insecure middle-class households.

Insecure middle-class households have lived mainly in the country. These families have managed with the threats better than families in towns.

Table 4. Characteristics of middle-class households vulnerable in 4 factors, 2009

	Middle-class households vulnerable in 4 factors					
	Percent of households	Assets, in average, (months)	Housing, in average	Budget, in average	Average equivalent income per person (PLN)	Loan burden, in average
Main income source						
Income from hired work - <i>manual workers</i>	1.9%	-5	52%	-82%	2234	7.5%
Income from hired work - <i>non-manual workers</i>	1,5%	-5	54%	-127%	2465	10.5%
Income from self-employment	1,0%	-4	62%	-133%	2487	6.8%
Age of head						
25-34	0.7%	-3	50%	-73%	2314	10.5%
35-44	1.1%	-7	53%	-108%	2509	9,7%
45-54	1.7%	-4	56%	-122%	2296	7.6%
55-64	1.0%	-4	57%	-111%	2384	6.8%
Region of Poland						
central with a capital	1.2%	-5	59%	-52%	2452	9.5%
south	1.2%	-3	51%	-78%	2424	4.9%
east	0.4%	-5	56%	-143%	2294	6.6%
north-west	0.7%	-4	51%	-72%	2323	6.5%
south-west	0.6%	-8	65%	-178%	2385	13.2%
north	0.3%	-5	46%	-61%	2068	15.5%
Place of dwelling-number of habitants (thousands)						
more than 500	0.6%	-4	57%	-282%	2417	10.3%
200-500	0.1%	-5	33%	-104%	2249	13.6%
100-200	0.2%	-10	59%	-234%	2807	10.6%

20-200	0.8%	-6	57%	-167%	2354	10.1%
less 20	0.4%	-5	69%	-133%	2508	13.5%
the country	2.3%	-3	52%	-67%	2308	6.7%

A number of middle-class households in 2009-2008 = 3411

Source: own calculation

An analysis of middle-class households economically secure in 4 factors

The deeper analysis of economic security is carried out for middle-class households who have met the criteria of all four factors (see Table 5), however, conclusions are the same for a group secure in 3 factors.

Non-manual workers households have made a dominate fraction of highly secure middle-class families.

The fraction of young families has been superior to older ones among highly secure middle-class households. They have enjoyed the highest equivalent income, in average. Both findings for secure and insecure households show that financial position of young families in the middle class is relatively good.

A capital usually gives the opportunity to earn more, so the largest fraction of economically secure families have lived in the central region of Poland, especially in Warsaw.

Families with high economical security have preferred to live in larger towns as well as in the country.

Table 5. Characteristics of middle-class households economically secure in 4 factors, 2009

	Middle-class households economically secure in 4 factors					
	Percent of households	Assets, in average	Housing, in average	Budget, in average	Average equivalent income per person	Loan burden, in average
Main income source						
Income from hired work - <i>manual workers</i>	0.3%	37	6.3%	223%	3248	2.1%
Income from hired work - <i>non-manual workers</i>	5.4%	38	8.7%	268%	4007	3.2%
Income from self-employment	1.0%	44	8.6%	262%	3976	3.1%
Age of head						
25-34	2.3%	36	10.0%	274%	4293	3.3%
35-44	1.7%	37	7.5%	249%	3762	3.3%
45-54	1.6%	44	8.0%	246%	3605	3.8%
55-64	1.1%	41	8.0%	298%	4111	1.9%

Region of Poland						
central with capital	2.3%	37	9.0%	272%	4139	3.6%
south	1.1%	48	9.2%	279%	3952	3.1%
east	1.1%	38	6.6%	232%	3442	1.1%
north-west	0.8%	39	9.2%	245%	3775	3.2%
south-west	0.6%	35	8.9%	275%	4042	4.6%
north	0.9%	35	8.4%	279%	4286	3.6%
Place of dwelling Number of habitants (thousands)						
More than 500	2.0%	40	9.6%	282%	4278	3.6%
200-500	1.2%	39	9.1%	252%	3863	2.1%
100-200	0.5%	31	8.8%	279%	4240	6.2%
20-200	1.1%	34	8.8%	272%	4207	2.8%
less 20	0.6%	33	9.7%	242%	3502	2.5%
the country	1.3%	46	5.6%	247%	3471	2.8%

A number of middle-class households in 2009-2008 = 3411

Source: own calculation

Economic security of households with income below the middle-class income range (below 1844 PLN)

Finally, summary of information on economic security of households whose equivalent income per person in 2009 was below 1844 PLN, or below the lower threshold of the income range set in this paper for the middle-class.

Criteria for a household sample:

- A main income: from hired work and from self-employment
- Age range : a head in 25-64 aged
- Equivalent income per person per month: below 1844 PLN

Number of such households = 4773

Median equivalent income per person per month = 1262 PLN

Average equivalent income per person per month = 1241 PLN

Fraction of households vulnerable in 4 factors = 13%

Fraction of households vulnerable in 3 factors (plus housing<30%) = 38%

Fraction of households economically secure in 4 factors = 0.04%

Fraction of households economically secure in 3 factors (plus lack of academic education) = 0.27%

Table 6. Percent of below-middle-class households by a level of economic security, 2009

Percent of below-middle-class households who experienced economic security at:			
	Low level	Middle level	High level

2009	38%	61.7%	0.3%
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Low level of economic security = not economically secure in 3 or more factors

High level of economic security = economically secure in 3 or more factors

Middle level of economic security = not economically secure in 2 factors and economically secure in 2

Source: Own calculation

The double fraction of households, in comparison to the middle class, were at economic risk.

CONCLUSIONS

The findings from the Middle Class Security Index show that between 2007 and 2009 the fraction of economically insecure households declined from 22% to 18% while the percent of households who enjoyed economic security increased from 6% to 9%.

In both years the majority of middle-class families (73%) were between these two groups. Such households were not at immediate and high risk for falling out of the middle class but they still experienced lack of the solid foundations for safeguarding their financial security.

The level of financial assets is a crucial factor for security of middle-class households. Over 2009-2008 42 percent of middle-class families were not able to accumulate enough assets to meet $\frac{3}{4}$ of basic expenses for even 5 months but on the other hand 34 percent of families could accumulate assets covering $\frac{3}{4}$ essential expenses for more than 15 months. Comparing the median number of months, in 2009 middle-class households had assets to cover $\frac{3}{4}$ of their essential expenses for 8 months while in 2007 for only 5 months. Therefore the ability to accumulate financial assets has increased.

Housing expenses were not a factor that threatened security of middle-class families both in 2009 and 2007.

In both of the years, 2009 and 2007, more or less half a middle-class families experienced the budget problem. Considerable part of middle-class had a deficit, higher expenses than after-tax income, 25% in 2009 while 31% in 2007. Such families should change their consumer behavior. The budget deficit has been covered by consumer loans. Fortunately for these households their loan burden has not been troublesome yet.

Young families (a head in 30-aged, in average) have made a smallest fraction of insecure middle-class households and they have managed with threats in all areas better than older families. On other hand such families created the largest fraction among highly secure middle-class households. They have enjoyed the highest equivalent income, in average. Both findings for secure and insecure households show that financial position of young families in the middle class is relatively good.

Non-manual workers households have made a dominate fraction of highly secure middle-class families

It seems that the first wave of the current financial crisis (2008-2009) has not influenced strongly economic security of middle-class families in Poland.

Among households with income below the middle-class income range, the double percent of families (38%) experienced economic insecurity.