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"Over-indebted Households and Poverty"

Marsellou Emilia

Ph.D Candidate in the UadPhilEcon Doctoral Program, Economics Department, National and Kapodistrian University of Athens,

Research Associate Labour Institute of General Confederation of Greek Workers

Bassiakos Yiannis

Assistant Professor at National and Kapodistrian University of Athens, Economics Department

Abstract

Household over-indebtedness has become one of the most crucial social problems of the current economic crisis in Greece. Unemployment and wage cuts have left many households with insufficient income to meet essential living expenses and debt repayments as they fall due. These external factors are largely beyond the power of the individual to control and are found by most of the relative literature as the main causes of personal over-indebtedness. Other factors are health problems and divorce or separation.

In this paper we use data collected from a sample of cases of bankrupt filers whose cases have been judged by the Greek courts throughout the country. This data cover the first wave of Greek bankrupt debtors since the personal bankruptcy law went into effect in January 2011. The data collected emphasize the financial condition of the debtors: debts, assets, and income as well as some demographics.

The data revealed the social and economic profile of the bankrupt debtors who filed during 2011-2012. As expected we find that the majority of people who filed for bankruptcy are people, who lost their job during the crisis, suffered a significant drop in their wage or pension, had health problems, especially the pensioners, and raise children. The data permitted us to compare the characteristics of debtors with those of the general population. Finally, we examined where the debtors stand with regard to the poverty line.

Keywords: Greek economic crisis, over-indebted households, Greek Bankruptcy Code, Absolute Poverty

Introduction

Amid economic crisis and deteriorating recession, the fears fuelled by the remarkably rising of household borrowing during the last fifteen or so years and its potential consequences in the event of an economic downturn, came true. Since the implementation of the measures of the Memorandum in 2010 that aimed to cut the country's deficits, the Greek economy has plunged into a spiral recession with no visible end. Unemployment, from 12.5% in 2010 climbed to 17.7% in 2011 and rocketed to 26% in 2012. It is expected that during 2013 it will hit 30% while Greek Trade Unions expect unemployment to rise as high as 35% in 2013. The wage and pension cuts range from 20% to 30%. The risk of poverty increased from 16.3% in 2010 to 22.9% in 2011.[1] Within the first two years, 2010-2012, of implementation of the Greek Personal Bankruptcy Law 3689/2010, hundreds of thousands of households have filed for bankruptcy.

Usually, the topic of Poverty and Inequality in the literature is distinguished from the phenomenon of Over-indebtedness. However, in a period of generalized economic crisis these two sets feed one another. On the one hand, poverty, due to income loss, affects households that previously could serve their debts resulting to a fall below the poverty line as well as losing part of their property, while on the other hand, increasing indebtedness due to low income, leads inevitably to over-indebtedness forcing those people's standard of living below the poverty line in order not to lose their assets.

This paper is an extended part of a study concerning "Over-indebted households in Greece" conducted at the Observatory of the Labour Institute of the General Confederation of Greek Workers (INE/GSEE) under the research program Macroeconomic Analysis and Economic Transformation. This work attempts to explore the phenomenon of over-indebted Greek households and to relate it to poverty by examining the percentage of over-indebted that fall below the poverty line. When studying over-indebted households our first priority is to identify them. The next step is to determine the common features among the indebted households and to compare the frequency of occurrence of these common features between the group of over-indebted households and an appropriate control group. The most direct way to do this is to investigate which are over-indebted, if they have some common features, if those features are detected more frequently in them than in the population that does not face the problem of indebtedness. For this purpose, a sample of judgments of cases of indebted households that filed for the beneficial provisions of the Bankruptcy Law 3689/2010 was collected. These files are a rich source of data: demographic, occupational and financial (income and debt). These features were tested with statistical methods against a sample of households drawn by the micro-data basis of EU-SILC 2008, from which all those households that appeared to be in the range of over-indebtedness were removed. This sample formed the control group. We then calculate the net disposable household income in both samples (the over-indebted and the over-indebtedness –free) and examine the percentage of households in the two populations that falls below the threshold of poverty.

This paper is organized as follows: section 1 presents information on the macroeconomic context of Greece emphasizing on wage and labor cost cuts and unemployment due to the implementation of the Memorandum, as well as recent

[1] Hellenic Statistical Authority (2013), "Living conditions in Greece", Population Statistics and Labor Market Division. The at-risk-of-poverty threshold is calculated using 2005 as a base year.

trends on household debt. Section 2 presents the results of the examination of characteristics (demographic, professional and financial) of the over-indebted households as well as provides comparisons with those of the population of non-indebted households. Other aspects included are methodological issues and comparisons with the results of the relevant literature. In section 3 the percentage of households below the poverty line in both populations is calculated. These rates are compared and conclusions are derived. Also there is a discussion on various methodological issues. A summary of results and concluding remarks are provided in Section 4.

1. The Greek Macroeconomic Context

The dominant view within and across borders, is that the country's economic recovery will only come through a reduction in labor costs. The implementation of these policies has led the Greek economy to a deep recession and have a significant negative impact on the country's budget deficit due to the dramatic drop in demand and hence GDP. Moreover, according to the Report of the Governor of the Bank of Greece (BoG) of 2010, "the deficit remained high despite the horizontal cuts in wages and pensions and increasing taxes which appears to be due solely to the rapid contraction of GDP of 4,5% due to an expected decline in domestic demand." This assumption, however, does not seem to affect next years' report, 2011, according to which "in this context and given the loss of competitiveness in the period after 2000 [...] it is certain that, among other things, required and is useful to reduce the labor cost per unit of output. This reduction can be achieved in two ways: reducing wages or increasing productivity. Since productivity growth takes time, in fact the only way left for the short-term decline in labor costs per unit of output is the reduction of total labor costs." (Report of the Governor of the BoG, 2011). Employees' income therefore is stifled both by reducing their salaries in order to reduce unit labor costs and increase competitiveness, other than a tax increase in order to consolidate public finances. Consequently, the breakdown of family budgets and the inability of a growing number of households to meet their loan obligations is inevitable. Table-1 presents detailed estimates of the evolution of earnings and labor costs of employees 2005-2012.

Table-1: Wages and Labor Costs (2005-2012) (annual percentage changes)

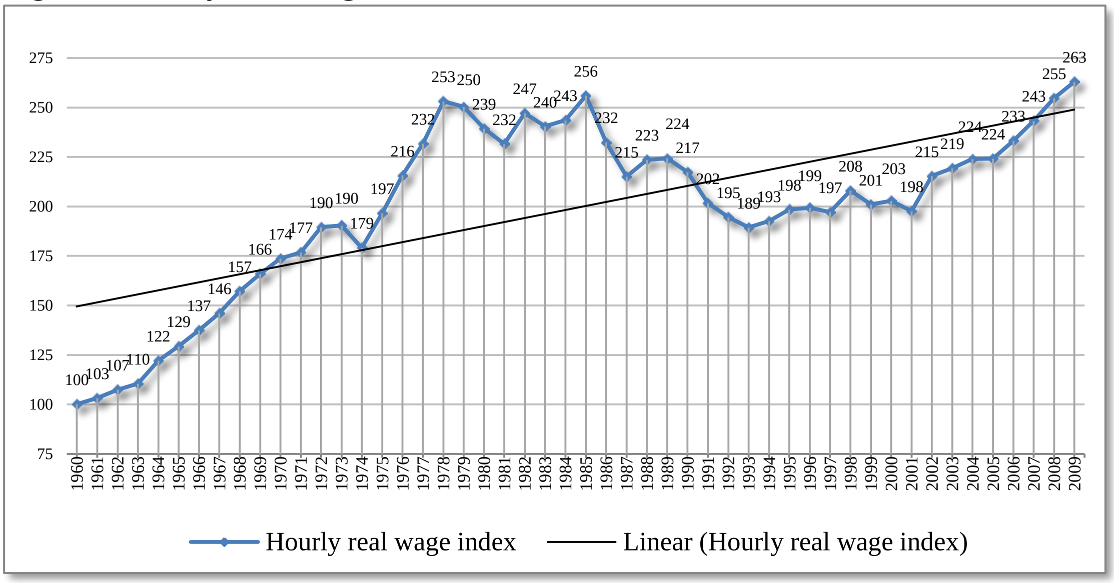
	2005	2006	2007	2008	2009	2010	2011*	2012*
Average gross earnings (nominal)								
-Total Economy	4,4	5,7	5,2	6,2	4,6	-4,8	-3,0	-8,4/-9,2
-Public Sector	2,3	3,1	3,8	7,1	5,2	-8,5	-4,9	-7,4
-Utilities	7,6	7,0	7,1	8,2	7,7	-5,5	-7,9	-9,5
-Banks	1,5	10,8	8,9	0,0	3,7	-1,8	0,1	-7,5
-non-financial private sector	5,6	6,8	6,1	6,5	2,8	-2,9	-1,7	-8,5/-10,1
Minimum Wages	4,9	6,2	5,4	6,2	5,7	1,7	0,9	-19,6
Average gross earnings (real)	0,9	2,4	2,2	1,9	3,3	-9,1	-6,4	-9,3/-10,1

Source: Monetary Policy 2011-2012, BoG. Note: Hellenic Statistical Authority (GDP 2005-2010) and forecasts of the BoG (for the GDP in 2011-12 and the remaining annual volumes 2005-2012).

In Greece, the development of household credit (consumer and mortgage) started relatively late compared to most countries of the European Union, and the US. During the last fifteen years, converging trends have occurred in the financial sector and particularly in the banking sector to households. These developments were primarily triggered by the supply side. The supply side explanations of increasing household indebtedness mostly concern the competition between financial institutions that induced banks to lower interest rates, relax credit rationing processes, remove debt burden ceilings, proliferate securitization etc. On the other hand, the demand side explanations of rising household borrowing are linked to the increasing inequality as well as stagnant or anemic increases in wages (Barba and Pivetti, 2009; Pollin, 1988, 1990) and the struggle of wagers to keep up with their socially acceptable living standard.

In the case of Greece, the 1990s were marked by the privatization and deregulation of the financial sector following the developments taking place in advanced capitalist economies. This process as an aspect of financialization, made access to credit widespread, and especially after the country's accession to the Eurozone in 2001 that provided the security of a stable financial environment. Interest rates have fallen considerable since 1995.[2] There are evidences that the inequality argument of the demand side explanation for the rise of household indebtedness also holds for the case of Greece. In Figure 1 below we observe the course of the hourly real wage index in Greece during the last 50 years. The index indicates that from 1985 to 1993 it fell by approximately 26.0% whereas it increased from 1994 until 2009, by 32.2%, only to reach the levels of 1985 in 2008. Meanwhile, the real GDP grew almost twice this rate, by approximately 63.0%, during the period 1994-2008. Thus, the picture that emerges is one in which workers even if they experienced increases in real wages since 1995, they were in a worse financial position than they were more than ten years ago (1978-1985) (Marsellou, 2011). In a more macroeconomic context, one could argue that the inability of Greece to improve its competitiveness in comparison with European core countries of the euro zone forced the Greek economy to rely on domestic demand and therefore on consumer credit. However, the general trends and interpretations based on the above macro-data should be combined with an investigation of micro-data at the household level in order to shed more light on the causes of this phenomenon.

Figure-1: Hourly Real Wage Index. Greece 1960-2009.



Source: Hellenic Statistical Authority. National Accounts

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[2] For the majority of the debtors the fall in the interest rates balanced out the amounts spent in installment payments due to increased borrowing. The cost of servicing loans was less than 30% of the debtors' income in 2002 for the 80% of the debtors, for the 75% in 2005 and back to 80 % in 2007 (BoG, May-2008).

Table-2 presents the ratio of household debt to households' net disposable income. Housing debt accounts for the most part of total household debt. The proportion of housing to consumer debt was 2.74 in 1996. In the following decade this proportion fell and stabilized around 2 implying that consumer credit was growing faster than housing. Since 2010, when the Greek crisis started, the proportion increased to 2.27 and 2.31 in 2011 more likely because it is easier to constrain consumer credit than to reduce the housing debt. Practically, it means that debtors choose to be in arrears many months in their consumer loans instead of the housing and consequently banks write the non-performing loans (NPLs) off.

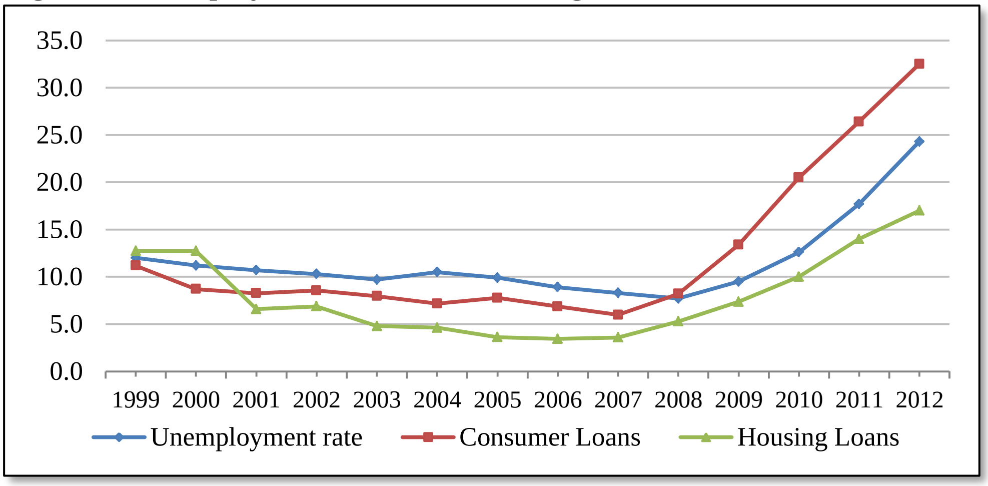
Table-2: Household Debt as % of Households' Net Disposable Income

	Total Debt	Housing Loans	Consumer Credit	Other	Housing/Consumer Loans
Year					
1996	0.08	0.06	0.02	-	2.74
2000	0.16	0.11	0.05	0.00	2.17
2005	0.46	0.30	0.15	0.01	2.01
2009	0.73	0.49	0.22	0.02	2.17
2010	0.80	0.54	0.24	0.02	2.27
2011	0.85	0.58	0.25	0.02	2.31

Source: BoG - AMECO (Net disposable income: h/h and NPISH). Authors' Calculations

The evolution of NPLs at least until 2007, before the effects of the mortgage crisis started to be felt, was moving to acceptable levels, to begin to rise in 2008 and be ejected from 2010 onwards to double digit (Figure-2). Figure-2 shows the evolution of the unemployment rate and the rates of consumer and housing loans in arrears. It is obvious from the diagram that unemployment and arrears are in parallel, with the arrears in consumer credit to react rapidly to increases in unemployment. Non- performing housing loans also increased but not quite so rapidly. Note also that while, as we have already seen in Table-2, mortgage and consumer loans showed a remarkable rise from 1996 onwards, the levels of arrears seem to have a declining tendency up to 2008. As soon as the crisis started to affect the real economy arrears began to rise massively.

Figure-2: Unemployment Rate and Percentage of NPLs to the total of all loans



Source: Unemployment Rate, AMECO. NPLs as a % to Total Loans, BoG

Review of the Literature

Over-indebtedness is a matter of concern especially since the burst of the financial crisis in the US in 2007/2008. As has been pointed out, “contrary to the standard life cycle model, the reason that the burst haven’t occurred until 2008 is the favorable macroeconomic environment that sustained household debt obligations at reasonable levels and not the rational smoothing of consumption during the last 25 years” Cynamon and Fazzari (2008). Nowadays, that the favorable macroeconomic environment has been replaced by unstable financial sector and recession, over-indebtedness concerns an increasing fraction of previously responsible debtors.

In the report conducted by the European Communities Economic and Social Committee (2000) it was noted that “no common definition of the concept of over-indebtedness […] exists at European level and neither are reliable statistics available to gauge the scale of the problem in the different Member States. No determined efforts have yet been made to harmonize measures to prevent and deal with over-indebtedness”. Since then and although the issue of household indebtedness has been growing very rapidly, there is still confusion about the meaning of the term (European Commission, 2008). This is due to the fact that there is no commonly accepted definition and concepts vary from country to country, mainly reflecting the special characteristics, sophistication and dimensions of this complex phenomenon as it appears in each of them. Different definitions are also found among analyses that have an institutional or public policy orientation and those who are academic or counseling (European Commission, 2008). In the same report it is noted that the concept of indebtedness initially tended to cover more of the daily expenditures of a household, while towards the end of the decade (2007/8) a broader range of debts that ranges from household debts to the daily expenses of a household was adopted. Betti et al. (2001) also note, that the definition of over-indebtedness in many cases depends on the specific legal framework for consumer indebtedness, the absence of which (mostly in Mediterranean countries) means that it is unlikely to have any data collected.

In several recent studies, some use the term indebtedness solely in terms of the debt due to borrowing (Betti et al., 2001 cited in European Commission (2008)), while others include debts on utility bills, such as electricity, water, telephone (e.g. Kempson, 2002, Kempson et al., 2008). In many cases, the meaning adopted comes from the legal term insofar there is a Personal Bankruptcy Law. According to the Greek Bankruptcy Law “over-indebted are the citizens, who do not have a commercial activity, and have proven and permanent inability to service their debts” […] while the “debts owed to the public sector are excluded”. Since, utilities are State owned it turns out that household indebtedness concerns mostly debts owed to financial institutions. In this study, we adopt this interpretation of over-indebtedness since our sample of over-indebted households comes from those who have filed for the Bankruptcy Code and their case was accepted.

Before the U.S. subprime mortgage crisis in 2008, in the relative literature there were claims for both irresponsible lending as well as irresponsible borrowing as a cause of over-indebtedness. Irresponsible lending practices include (Kempson, 2002): a) the automatic raising of credit limits on credit and store cards and on overdraft facilities, b) encouraging people to transfer balances on credit cards, by offering low initial interest rates and higher credit limits, c) reducing the minimum payment on credit cards and d) issuing cheques that can be used to draw on credit card accounts. On the other hand what includes irresponsible borrowing is quite straightforward (Kempson, 2002): a) borrowing money when already in financial difficulty to pay off other credit or to pay off arrears on bills and other commitments, b) taking on credit agreements, despite knowing that they will struggle to repay the money and c) impulsive shopping and credit use by consumers who buy things on the spur of the moment and know they will not be able to repay or do not consider whether they will be able to do so. There is a number of works that provide evidence for both cases. However, as it mentioned by author, each of these practices, borrowing or lending, affects only a relatively small proportion of high-risk households. The interest and concern would have better focus on the effects of a potential economic downturn or a period of sustained increase of interest rates (Kempson, 2002).

Clare (1990) argues that in most cases of personal bankruptcy the attribution to the failure to credit management and lack of knowledge about this is in general rather simplistic. The study showed that very often over-extension of credit to the point of driving the household into bankruptcy is directly linked to personal and lifestyle problems.

Sullivan et al. (2000) for the US, identified a number of possible reasons for over-indebtedness: a) the growing instability of jobs and wages, b) the explosive growth of consumer loans with high interest rates, c) divorce and changes in parenting patterns e.g. increase in single-parenthood, d) rising healthcare costs, e) the social obsession with home ownership. The instability of the capitalist system combined with a thin social safety net, ensures that there will always be some households that will fail to meet their financial obligations (Sullivan et al., 2000).

There is a strong link between financial difficulties and low income and poverty (Berthoud and Kempson, 1992; Kempson, 2002; Kempson et al, 2004; Mitrakos et al, 2005, Woods (2006)). Low income for long periods of time increases the possibility of having arrears on the amounts owed (Berthoud and Kempson, (1992); Dearden et al., (2010)). Unemployment is of equal importance as low income and poverty in affecting the ability of the debtor to pay on schedule his debts (Berthoud and Kempson (1992); Kempson (2002); Kempson et al. (2004); Korczak (2000); Kearns (2003)).

The tenancy status is also related to financial difficulties in Belgium, France and the UK (Banque de France, 2005; Berthoud and Kempson, 1992; Kempson, 2002; Kempson et al, 2004; Observatoire du Crédit et de l'endettement, 2005). This is due to fact that tenants tend to have fewer resources than homeowners. Equivalently, homeownership is associated with lower risk of over-indebtedness in UK and Norway (Bridges and Disney, 2004 for UK; Poppe, 1999 for Norway).

The size and the composition of the household play a significant role in its ability to cope with financial obligations. Divorced and separated with children are in higher risk of over-indebtedness as well as married with two and more children (Sullivan et al. (2000) for the US; Berthoud and Kempson (1992); Kempson (2002); Kempson et al, (2004) for UK; Kearns (2003) for Ireland).

2. Empirical Study

The dynamics of economic aggregates are determined not only by macroeconomic variables, but also by household-specific factors (ECB, 2009). Several macroeconomic variables such as household borrowing, debt, balance sheets are to a considerable degree driven by social, demographic as well as job related characteristics. These characteristics reveal valuable insights about different group of the population and hence determine to a large extent the implications any policy might have. However, these characteristics can only be accessed through micro-level data.

For the purposes of this study we needed micro-level data concerning some basic economic variables such as personal and household income (net/gross wages and salaries, pensions, unemployment benefits, inability, health children benefits, taxes on income and social insurance contributions etc), outstanding debt (housing, consumer, credit cards and other) as well as several demographic variables such as gender, age, marital status, household size, children protected, basic activity, occupation, private property.

As has already been mentioned, we use two samples of households: one sample contains those who are over-indebted and the other those households that do not face any debt problems. The first sample was collected from cases that have been accepted from courts around the country according to the Bankruptcy Law 3869/2010. This is the first Personal Bankruptcy Law in Greece which came into effect in 2010, and hence these are the first micro-level data concerning the over-indebted. It is worth noting, that Courts do not collect or report data of any kind so we had to collect the publicized judgments, and then record all the data of interest. Apart from the demographical data, the economic data come from the tax statements of the debtors. These data have been crosschecked by representatives of the creditors, debtors and the court. From January 2011 to September 2012, the total number of applications submitted in the Greek Territory was 26,869, 6,641 of which have been filed in the County Court of Athens. According to the General Secretariat of Consumer up to September 2012, only 3,000 have been judged, while only a small number is publicized. From our research we collected a sample of 553 judgments, 287 (51.9%) of which had a positive result, 229 (41.4%) were rejected and 37 (6.7%) were postponed. Our sample consists of the 287 positively judged cases.

The second sample comes from the household micro-level data of the European Union Statistics on Income and Living Conditions (*EU-SILC*) of 2008.[3] We constructed the second sample by using the stratified *(*by geographic segment)-random sampling method, in which first we have excluded all the cases that there were evidences of over-indebtedness. In order to do this we used the following variables: ‘‘Arrears on utility bills’’ (HS021), removed those who answered they were on arrears for ‘‘two or more months’’, ‘‘Arrears on mortgage or paying rent’’ (HS011), removed those who answered ‘‘Arrears for two or more months’’, ‘‘Arrears on hire purchase installments or other loans payments’’ (HS031), removed those who answered ‘‘two or more months’’, ‘‘Ability to face unexpected financial expenses’’ (HS060), removed the respondents' who answered ‘‘no’’, ‘‘Ability to meet current expenses’’ (HS120), removed those who answered ‘‘with great difficulty’’. We also

[3] The data of the EU-SILC 2008 used in this paper have been provided to the Labour Institute of GSEE (INE-GSEE/ADEDY) in the framework of the cooperation with the PhD Program UadPhilEcon of the Department of Economics of the National and Kapodistrian University of Athens.

checked variables ‘‘Financial pressure from the costs of housing’’ and ‘‘financial pressure to repay debts on hire purchase installments and other loans" and we found that this population was already excluded due to the previous questions. Consequently, we constructed a sample population from which we have removed those households that could be considered as "highly indebted" in the conventional sense used by the European Commission (2008).

Over indebtedness and gender

The percentage of women, who have made individual application and are subject to the Law 3869/2010, although lower than that of men, is impressive. Women amount to 44.3%, while men and those who have made a joint application as a couple are 53.5% and 2.2%, respectively. Studies from several countries, particularly the U.S. which has a long tradition in personal bankruptcy processes, refer to the increasing trend for single women to file individually for bankruptcy. The reasons for this trend, according to some are related to the economic independency of women, their increased participation in the labor market, educational level, spreading single-parenthood and ultimately with the general independency experienced by women from the 1960s onwards. However, there are a number of other causes, as reported by Sullivan et al. (2000), associated with the marital status of women, such as a divorce or a separation as well as the existence of dependent children that interpret the increased appearance of women in the population of indebted households. Such strong female presence is not due to gender-equality but largely due to heavier financial burdens a woman faces after a divorce/separation/widowhood especially when there are dependent children.

Table 3 shows the relation between gender and marital status. We observe that while 69.3% of men are married, the percentage of women is 40.5%, while 23.4% are divorced. Within unmarried, men (53.7%) are more than women (46.3%), while within the divorced, women (72.2%) are by far the majority. Women are also the majority among the separated.

Table-3: Gender and Marital Status (Sample Over-Indebted)

			Marital status					
			Single	Divorced	Married	Separated	Widow	Total
Gender	Male	% within gender	15.7	7.1	69.3	4.3	3.6	100.0
		% within marital status	53.7	27.8	68.3	42.9	27.8	55.8
	Female	% within gender	17.1	23.4	40.5	7.2	11.7	100.0
		% within marital status	46.3	72.2	31.7	57.1	72.2	44.2
	Total	% within gender	16.3	14.3	56.6	5.6	7.2	100.0
		% within marital status	100.0	100.0	100.0	100.0	100.0	100.0
Pearson Chi-Square = 27,227, p (2-tailed) = 0.000 <0.001								

Comparing the gender distribution in the over-indebtedness free population and the sample of bankrupt households we find that there are significant differences. We should first note that in the sample population, the husband is usually considered as the representative (leader) of the household. In the sample of bankrupt households the filer is usually identified by the head of household in married couples. The data show that women who apply and are the head of household are most of the times divorced or separated. However, there are cases where the choice of who the filer might be depends on who owns the property (house) so that the debtor can avoid chapter 9 of the law that force him to payments in order to keep their house.

Table-4: Gender distribution in the sample of over-indebted and over-indebtedness free households

			Over-indebted households	Over-indebtedness free households	Total
Gender	Male	% within gender	42.8	57.2	**100.0**
		% within sample	55.8	75.1	**65.4**
	Female	% within gender	64.2	35.8	**100.0**
		% within sample	44.2	24.9	**34.6**
Total		% within gender	50.2	49.8	**100.0**
		% within sample	**100.0**	**100.0**	**100.0**
Pearson Chi-Square = 20,626, p (2-tailed) = 0.000 <0.001					

Over-indebtedness and age

The age of the head of the over-indebted households gives us important information about the stage of the debtors' life. The ages range from 28 to 85 years old. However, the majority of the applicants belong to the so-called "middle age", that of 45 to 54. The average and the median is at ages 53 and 53.3, respectively.

Table-5: Age distribution in the sample of over-indebted and over-indebtedness free households

		Sample		**Total**
		Over-indebted	Over-indebtedness free	
Age Group	20-24		1.6	**0.9**
	25-34	4.2	10.1	**7.5**
	35-44	16.7	17.3	**17.0**
	45-54	33.3	18.1	**24.8**
	55-64	29.2	14.9	**21.1**
	65+	16.7	37.9	**28.6**
Total		**100.0**	**100.0**	**100.0**
Fisher's exact statistic = 45.949, p (2-tailed) = 0.000 <0.001				

In Table-5 we observe that the two samples differ with respect to the age. The age groups of 45-54 and 55-64 appear more frequently in the sample of the over-indebted while the most frequent age group in the sample of non-over-indebted is 65+. The age groups of 20-24 and 25-34 are the least frequent in the sample of over-indebted. This is in contrast to other studies that find young people as being "at greater risk of arrears (e.g. Kempson et al. (2004), European Commission (2008)-EU-SILC reference period 2005). Taking into account both age groups of 45-54 and 54-64, one could argue that almost two-thirds of the sample (62.5%) belongs to the postwar generation of the «baby-boomers», i.e. those born after the II.W.W. and the civil war that followed, between 1948 and 1965. They are nowadays middle-aged, some of whom have retired recently, that grew up and evolved professionally during a period of relative stable, secure and developing economic environment. Perhaps, this is the reason that this generation is more debt-burdened than the other age groups. This is not peculiar if one considers that the "baby boomers" were those whose economic and professional maturity coincided with the rapid expansion of personal debt from 1995 onwards. It also coincided with their personal maturity, a family housing market and overall increase in family expenditure.

Over-indebtedness and family

A series of studies in the UK, France, Belgium, Germany and Portugal show that the probability for a household to face financial difficulties climbs when there are dependent children.[4] This is also found for 25 European countries in European Commission (2008) where data from the Eurobarometer (2006 release) were used. In a similar analysis using data from the EU-SILC, it is also found that families with dependent children are about twice as likely to experience delays in the repayment of their debts (within the last 12 months) compared to those without children. Furthermore, the number of protected children seems to affect the probability of indebtedness of the household, and there is a positive relation between the number of children and the probability of indebtedness even when other variables such as age and income are controlled (Kempson et al (2004); Poppe (1999); Pyper (2002); Worthington (2006)). Niviere (2006) offers a possible explanation according to which families with children have very inelastic expenditures. Besides, the birth of a child is usually accompanied by a parent abstention from work or reduced working time (part-time work) (European Commission, 2008).

In our sample of over-indebted households however, the majority (61.0%) has no protected children. This is due to the fact that most of the fillers are middle-aged. Note, however, that a sizable proportion of the sample households have adult children that are financially dependent on their parents because they are unemployed. For economy of space, in Table-7 below we relate the number of protected children with the marital status.

Over-indebtedness and marital status

It seems that there is a relation between the probability of being over-indebted and the number of adult members of a household, while the unmarried living alone are much more likely to be over-indebted compared to a married couple or cohabiting couple (European Commission, 2008). Similarly, single parent households face a higher risk.[5] The European Commission (2008), reports that the presence of dependent children is a more important factor affecting the probability of becoming over-indebted than the number of adult members in the household is.

In our sample, more than half of households are married (56.5%), followed by singles (16.4%), divorced (14.5%), widows (7.0%) and separated (5.5%). In short, the sample is divided between households with married couples and households that consist of one adult (possibly living with his children, or in the case of unmarried hosted by their parents but are financially independent). However, when we compare the two samples (over-indebted and over-indebtedness free) we find that those who are divorced and separated face a greater risk of finding themselves into over-indebtedness (Table-6).

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4 European Commission (2008) reports the following studies: Berthoud and Kempson, (1992), Frade et al. (2005), Kempson (2002), Nivière (2006), Davydoff et al. (2008), Observatoire du Crédit et de l’endettement, 2005; Springeneer et al, 2007.

5 See for example: Nivière (2006), Observatoire du Crédit et de l’endettement (2005), Springeneer et al. (2007), Central Statistics Office (Ireland) (2005), Kempson (2002).

Table-6: Marital Status in the sample of over-indebted and over-indebtedness free households

		Sample		Total
		Over-indebted	Over-indebtedness free	
Marital Status	Single	16.3	16.9	16.6
	Divorced	14.3	4.8	9.6
	Married	56.6	60.6	58.6
	Separated	5.6	0.8	3.2
	Widow	7.2	16.9	12.0
Total		100.0	100.0	100.0
Pearson Chi-Square=30.881, p(2-tailed)=0.000<0.001				

Table-7 shows the cross-tabulation between the variables of marital status and the number of dependent children. First note that nearly half of all married households have dependent children. What is, however, interesting is that 65.6% of separated have at least one protected child, a rate apparently higher than that of married couples (50.7%). Also, 30.4% filers in widowhood have at least one protected child while for the divorced the percentage is 25.6%. It seems, therefore, that in a fairly large extent the coexistence of divorce/separation/widowhood with dependent children is a situation which can cause serious pressure on the household's financial position which becomes quite unmanageable in the event of an unfavorable development either in income or employment.

Table-7: Marital Status and Protected Children

		Number of Protected Children					Total
		0	1	2	3	4	
Marital Status	Single	95.1	4.9				100.0
	Divorced	73.0	16.2	8.1	2.7		100.0
	Married	49.3	23.2	21.8	4.2	1.4	100.0
	Separated	35.7	35.7	21.5		7.1	100.0
	Widow	66.7	27.8	5.6			100.0
Total		60.7	20.2	15.1	2.8	1.2	100.0
Fisher's exact statistic = 42.465, p (2-tailed) = 0.000 <0.001							

Over-indebtedness and income

The link between household income and over-indebtedness is interesting in that the median income[6] of over-indebted households is lower than the median

[6] When we refer to income we mean total disposable household income which is the sum of: the sum for all household members of gross personal income components (gross employee cash or near cash income), gross cash benefits or losses from self-employment (including royalties), unemployment benefits, old-age benefits, survivor' benefits, sickness benefits, disability benefits and education-related allowances, income from rental of a property or land, family/children related allowances, housing allowances, regular inter-household cash transfers received; interests, dividends, profit from capital investments in unincorporated business, income received by people aged under 16, minus regular taxes on wealth, regular inter-household cash transfer paid and tax on income and social insurance contributions.

income of those who do not face any financial difficulties (Table-8). This kind of result is in agreement with many surveys that find that households with low income tend to be in greater risk of over-indebtedness (Berthoud and Kempson, 1992; Kempson, 2002; Kempson et al, 2004; Mitrakos et al, 2005).

Table-8: Median Total Household Disposable Income in the sample of over-indebted and over-indebtedness free households

	Over-indebted	Over-indebtedness free
Median	15.283,34	25.169,77
p-value (Wilcoxon)	Ho: The medians are the same across samples	0.000
p-value (Wilcoxon)	Ho: The distribution is the same across samples	0.000

In particular, Kempson (2002) in a survey of over-indebtedness in UK found that low income was considered as the main cause for being in arrears or difficulties in past 12 months by 14% of households, for being in arrears by 15% of households, for having difficulties by 9% of the households, while among young people in arrears or difficulties the percentage amounted to 25%. Likewise in a survey for adults seeking debt counseling, in Germany, Korczak (2000) reports that 19% considered its low income as the basic factor for this position. Similarly, in another study for Germany, Springeneer (2005) found that 8% in the West and 29% in the East were over-indebted because of their low income. Similar results were found in a study for the case of Belgium, according to which 19% of households filing for cancelation of debt considered low income as the causal factor for their position. Dearden et al. (2010), take into account the dimension of the time period a household remains in low income and suggest that budgeting is difficult for households who remain on a low income for a sustained period of time and that frequent small scale borrowing can ultimately leave people over-indebted and struggling to manage.

Table-8: Total Household Disposable Income in the sample of over-indebted and over-indebtedness free households

		Sample		Total
		Over-indebted	Over-indebtedness free	
Total Household Income Group	0-10.000	66.3	33.7	100.0
	10.001-15.000	53.8	46.2	100.0
	15.001-20.000	61.9	38.1	100.0
	20.001+	35.2	64.8	100.0
Total		50.4	49.6	100.0
Pearson Chi-Square=33.969, p(2-tailed)=0.000<0.001				

Table-8 is quite interesting because it offers an even stronger confirmation of the above mentioned evidences. The table presents the percentage of over-indebted and over-indebtedness free households by income group. Over-indebted households of the lowest income group are twice as many as the households that are not over-indebted. Similarly, but not quite as much, the concentration of over-indebted households is larger in the second and third income groups. On the contrary, in the fourth income group the proportion totally changes and those with no debt problems are almost twice as many as the over-indebted.

Over-indebtedness and property

The most important asset of Greek households is their house. Home ownership is traditionally a symbol of wealth and social status not only in Greece but almost everywhere. It constitutes the most valuable asset of most households, and hence it is considered a “shelter” both in the physical and the financial sense. The rate of home ownership in Greece is among the highest in EU and its significance is even stronger if we consider the fact that "a very large percentage reflects net property without debt commitments from mortgages" (Emmanuel, 2006). The Greek State has always supported home ownership with a variety of institutions and settings, although not always in a coherent way.

Tenants tend to have a higher probability to face financial difficulties. This seems to be the case in Belgium, France and the UK.[7] At the same time, however, it should be noted that the risk of a household to face financial difficulties is greater when it is involved into mortgage loan than when a household already owns the house (European Commission, 2008).

In Table-9 we observe that the majority in both populations are home owners. This is due to the high rate of home ownership that exists historically in Greece, as we noted before. Within the sample of over-indebted households the percentage of those who do not own a house is 25.5% while for those who do is 74.5%. Similarly, for the over-indebtedness free population the proportions are 20.5% and 79.5%. It is worth noting, that the χ^2 test fails to reject the null hypothesis and hence we conclude that the two samples do not differ as far as the private property is concerned.

Table-9: Private property: Over-indebted and Over-indebtedness free households

			Sample		
			Over-indebted	Over-indebtedness free	Total
Private House	No	% within those with no private house	55.7	44.3	100.0
		% within sample	25.5	20.5	23.0
	Yes	% within those with private house	48.6	51.4	100.0
		% within sample	74.5	79.5	77.0
Total		% within those with private house	50.2	49.8	100.0
		% within sample	**100.0**	**100.0**	**100.0**
Pearson Chi-Square=1.776, p(2-sided)=0.183>0.05					

Over-indebtedness and employment

The link between unemployment and increased risk of over-indebtedness is straight forward. Numerous studies confirm this relation for several countries (US, UK, Belgium, Germany etc). Households whose head is unemployed are more likely to experience delays in payment of their debts. This result maintains even when other factors such as disposable income are taken into account. A recent study for Ireland showed that the proportion of over-indebted working people tends to increase (Central Statistics Office, 2005). This is a rather inevitable situation that is expected to prevail especially in those countries where massive austerity policies are implemented, such as Greece, Ireland, Portugal and Spain. As noted by Sullivan et al.

[7] European Commission (2008) reports the results of the following studies: Banque de France, 2005; Berthoud and Kempson, 1992; Kempson, 2002; Kempson et al, 2004; Observatoire du Crédit et de l'endettement, 2005.

(2000), who examined the over-indebted middle class in the U.S. during the 1990s, "if there is one factor that can undermine the "economic security" of the middle class, this is the rupture of employment and employment structure." The evidence suggests that the "job instability" is an indicator of financial fragility of households in the middle class (Sullivan et al. 2000). The reforms imposed to Greece by the Troika in the labor market, public sector and the rest it took decades to be implemented in the US economy. Those periods of reforms coincided with recession and massive waves of personal bankruptcies.

Table-10: Basic Activity of the filer or the head of the household in the sample of over-indebted and over-indebtedness free households.

			Sample		Total
			Over-indebted	Over-indebtedness free	
Basic Activity	At work	% within activity	45,7	54,3	100,0
		% within sample	42,1	50,6	46,3
	Unemployed	% within activity	96,9	3,1	100,0
		% within sample	24,6	0,8	12,8
	Retired	% within activity	46,7	53,3	100,0
		% within sample	30,6	35,3	32,9
	Inactive	% within activity	17,5	82,5	100,0
		% within sample	2,8	13,3	8,0
Total		% within activity	50,3	49,7	100,0
		% within sample	100,0	100,0	100,0
Pearson Chi-Square=75.592, p(2-sided)=0.00<0.05					

In Table-10, we observe that working people and the retired that are over-indebted are less than those without debt problems. These two categories of activities represent 72.7% and 85.9% of the over-indebted and the over-indebtedness free population, respectively. The unemployed, however, are less in absolute terms within the samples, while almost all of them (96.9%) come from the sample of the over-indebted.

Over-indebtedness and debt

The most prevailing form of borrowing is credit cards, consumer loans come next and the most common type of secured debt, mortgage loans, follows. EU-SILC does not provide such detailed data so we cannot compare the two samples. However, these figures are much higher than in the general population. Based on the most recently published survey by the Bank of Greece (2007), it is reported that one in three adults over the age of 20 have two credit cards. The increased use of credit card payments is attributed to the easiness and flexibility it provides, despite the fact that the interest rates charged are higher than the other categories of loans (BoG, 2008). Another interesting difference with respect to the BoG survey rests in the finding that in the BoG survey the second most common category of loans is that mortgage and the third is consumer loans. In contrast, in our sample, average consumer loans are close to the credit cards while housing loans are by far less. In other words, the non secured forms of credit are more frequent in the population of over-indebted. This difference between the two studies[8] provides some evidence of verification to the consideration according to which consumer credit commitments especially those

8 Note that the BoG survey covers the whole population irrespective of being indebted or not.

from credit cards contributes to over-indebtedness more than the other types of credit. Note also that 81.3% of the over-indebted households has more than one form of credit.

The above findings are confirmed by the relevant literature. The use of credit without collateral is positively associated with the likelihood of delays in the repayment of debts (Poppe, 1999). Studies have shown that the greater the number of credit loans, the greater the proportion of the income which is directed to the repayment of these debts, and the probability of significant delays in repayments (Kempson, 2002; Kempson et al., 2004). In the same studies, the authors also find that large amounts of unsecured debt (credit cards or consumer loans) have strong predictive power for over-indebtedness.

Table-11: Number of Loans per filer

	Housing loans	Consumer Loans	Credit Cards	Entrepreneurial Loans	Other
Mean	1.11	3.08	3.62	0.11	0.05
Sum	279	774	908	27	12

Income and Debt

One way of measuring the financial pressure households undergo is through the ratio of outstanding debt to total disposable household income. Unsurprisingly the poorest households, although they have the least debt obligations, face the greatest financial stress. In Table-12 we observe that the first income group (low-income households) has the higher ratio for all types of debt. The ratio falls as we move from the lower-income group to the higher in all types of debt, too. The same relationship between income groups and debt is reported in the three surveys of the Bank of Greece (2008)[9]. Poor households undergo greater financial pressures. The same trends were observed in the work of Sullivan et al. (2008), in which the authors use data from U.S. households' court judgments.

This phenomenon obviously raises questions about the lending policy of banks towards customers who appear not to have sufficient resources to repay their loans. In general, low income households do not have assets and therefore their access to credit is limited. The lending policy of banks has frequently been criticized in Greece as well as internationally especially after the mortgage crisis in the U.S. in 2007-8.

In Greece during the period 2003-2007 credit expansion to households grew at an average annual rate of 27.5%, which resulted in significant indebtedness as measured by the ratio of outstanding loans to income (Mitrakos etc., 2008). In the same survey it is implied that already since 2007 the banks were starting to realize the credit risk of providing loans to low-income households and therefore "within a more effective management of credit risk, competition of banks to attract customers increasingly focuses on households of the two highest income groups."

[9] Mitrakos, et al. (2005), Simigiannis and Tzamourani (2006) and Simigiannis and Tzamourani (2007)

Table-12: Households Total Debt by income group. Ratios of Total Debt to Disposable Household Income

Income Group	Total debt	Proportion of Income Group debt to sample's total debt	Mean	Ratio of Total Debt to Disposable Household Income*
0-10.000	6285123.6	17.1	98169.8	23.5
10.001-15.000	7061408.0	19.2	125675.6	9.9
15.001-20.000	10119439.0	27.6	168963.1	9.6
20.001+	13227922.3	36.1	189334.1	6.8
Income Group	Housing debt	Proportion of Income Group's housing debt to sample's housing debt	Mean	Ratio of Housing Debt to Disposable Household Income
0-10.000	2771294.1	17.3	43285.9	10.3
10.001-15.000	3191171.1	19.9	56794.9	4,5
15.001-20.000	3713103.7	23.1	61997.3	3,5
20.001+	6377447.6	39.7	91281.8	3,3
Income Group	Credit Cards debt	Proportion of Income Group's credit cards' debt to sample's housing debt	Mean	Ratio of Credit Card's Debt to Disposable Household Income
0-10.000	698899.6	16.7	10916.4	2.6
10.001-15.000	1064496.4	25.4	18945.4	1.5
15.001-20.000	848460.7	20.3	14166.7	0.8
20.001+	1577965.4	37.7	22585.8	0.8
Income Group	Consumer Loans Debt	Proportion of Income Group's consumer debt to sample's housing debt	Mean	Ratio of Consumer Debt to Disposable Household Income
0-10.000	1573674.9	16.7	24579.8	5.9
10.001-15.000	2342149.4	24.8	41684.5	3.3
15.001-20.000	2457078.6	26.0	41025.6	2.3
20.001+	3076440.3	32.6	44033.8	1,6
Income Group	Other Loans Debt	Proportion of Income Group's Other loans debt to sample's housing debt	Mean	Ratio of Other Loans Debt to Disposable Household Income
0-10.000	691.564,4	53,9	10801.8	2,6
10.001-15.000	34.365,8	2,7	611.6	0,1
15.001-20.000	85.763,1	6,7	1431.9	0,1
20.001+	471.353,4	36,7	6746.6	0,2

* This ratio is the ratio of the mean outstanding debt of the income group to the mean income of the respective income group.

3. Over-indebtedness and Poverty

In this study we use the concept of absolute poverty. Absolute poverty can be defined as the situation where a person and his/her dependents lack the minimum amount of goods and services they need to survive and be reproduced in an orderly way in a given historical and social context. As a result, of this lack of means a person is unable to perform his/hers basic functions or to participate in usual activities needed to survive and reproduce itself in an orderly way. As a measure of Absolute Poverty we use the Index developed by Labrinidis et al. (2010) and calculated for Greece for the reference period 2011 by Labrinidis et al. (2011). This index expresses in monetary terms the needs for housing, feeding, clothing and footwear, transport, education, health, and leisure.

In addition to the Index developed by Lamprinidis et al. (2010), we also examine two different indicators used as the official and the alternative complement indicator for poverty line in the U.S. that have been calculated in Lamprinidis et al. (2011). The first is the index of US Census Bureau structured by Orshansky (1965). The writers have calculated this Index by using the latest released data of the Household Budgets Survey of 2008, where the cost of nutrition (including non-alcoholic drinks, expenditure category HE01) represents the 13.06% of the total expenditure for households, and multiplied the cost of nutrition of the Index 2011 for each household type with the inverse of the share of food we take the poverty line ("Orshansky line") in accordance with the methodology of the US Census Bureau. The second alternative indicator is the one proposed by the Committee of National Academy of Sciences (NAS) of the U.S. The NAS index calculates the poverty line according to the following formula, which is based on the actual consumption of the median household in three basic categories of needs: Poverty line = (80% of the median consumption of total population for food, clothing, housing) * 1.20. Table-13 summarizes the three alternative poverty thresholds mentioned above.

Table-13: Absolute Poverty Thresholds (in euros)

Household size*	**1**	**2**	**3**	**4**	**5**
Index-2011	804.58	1203.60	1537.94	1848.56	2183.79
“Orshansky line”	1106.42	2024.34	3100.16	3644.72	3858.64
NAS (100%)	747.66	1135.92	1434.05	1540.49	1545.65

*Where 1 is for a household with one adult, 2 for a household with two adults, 3 for a household with two adults and one child, 4 for a household with two adults and two children, 5 for a household with two adults and three children.
Source: Labrinidis et al. (2011).

In Table-14 below, we present the median household income and the proportion of households below the poverty line according to Index-2011, for both of our two samples in order to make comparisons. Our calculations were made for the total and for each household size category.

Table-14: Median and proportion below Poverty Line comparisons by household size and in total (Index-2011)

Size	OVER-INDEBTED		SILC		(median)	(percent)
	Median	% below poverty line	median	% below poverty line	p-value (Wilcoxon)	p-value (Fisher's exact test)
1	12124.00	25.23%	12575.00	10.00%	NS (0.1233)	0.0121
2	15657.00	23.61%	21650.00	16.67%	0.0359	NS (0.7529)
3	**14896.00**	**40.74%**	**26000.00**	**17.14%**	**0.0008**	**0.0487**
4	21558.55	40.91%	32671.09	25.00%	0.0037	NS (0.3480)
5[10]	15165.00	66.67%	41130.00	14.29%	NS (0.0633)	NS (0.1026)
TOTAL	**14720.19**	**28.99%**	**23240.40**	**14.94%**	**< 0.0001**	**0.0014**

From Table-14 above it is clear that there exist statistically significant differences both in median income and in proportion of families below the poverty line. Since the distribution of household size is dissimilar between the two groups the analysis was also carried out within each household size category. As it is evident in Table-14 above,

- for household size 1 there is no statistically significant difference in median income, but there exists statistically significant difference in proportion of families below the poverty line.
- for household size 2 there is no statistically significant difference in proportion of families below the poverty line, but there exists statistically significant difference in median income.
- for household size 3 there exists statistically significant difference in both the proportion of families below the poverty line and the median income.
- for household size 4 there is no statistically significant difference in proportion of families below the poverty line, but there exists statistically significant difference in median income.
- for household size 5 there is no statistically significant difference in both the proportion of families below the poverty line and the median income. As noted in the footnote below, this is directly attributable to the very small sample size (total n=13). Otherwise the actual differences are the largest observed.

Table-15: Proportion below Poverty Line (NAS and Orshansky) comparisons by household size and in total

	NAS			ORSHANSKY		
	% below poverty line		p-value	% below poverty line		p-value
Size	OVER-INDEBTED	SILC		OVER-INDEBTED	SILC	
1	31.53%	25.71%	0.5026	61.26%	54.29%	0.3582
2	40.28%	16.67%	0.0969	23.61%	16.67%	0.7529
3	**59.26%**	**25.71%**	**0.0099**	**92.59%**	**80.00%**	**0.2768**
4	40.91%	25.00%	0.3480	40.91%	25.00%	0.3480
5[1]	66.67%	14.29%	0.1026	100.00%	71.43%	0.4615
TOTAL	39.08%	24.03%	0.0021	75.63%	65.58%	0.0386

[10] For household of size=5 the lack of statistically significant differences is directly attributable to the very small sample size (total n=13). Otherwise the actual differences are the largest observed.

As it can be seen from Table-15 above, the only statistically significant difference is observed in the case where the poverty line used is the one proposed by NAS and the household size is 3. The overall difference observed is attributable to the bigger overall sample size and the difference in the size distribution between the two groups.

In all the differences observed, the over-indebted households have smaller incomes and higher proportions below the poverty line than the general population, as represented by the SILC group. The lack of differences observed when poverty threshold is defined by the Orshansky line, is attributable to the fact that this line is placed very high, thus the proportions of households below the poverty line are very elevated compared to the same proportions defined using the poverty group's definition.

4. Concluding Remarks

As in many other studies of the over-indebtedness phenomenon, we have found a strong relation between low income, poverty, unemployment, children protected, divorced/separated, gender when combined with divorce and there are dependent children and age with over-indebtedness and personal bankruptcy. Contrary to the literature, homeownership doesn't seem to affect the possibility of having arrears or any financial difficulty. This is probably due to the high rate of homeownership in Greece.

Although we have no micro-level statistical data concerning over-indebtedness before the implementation of the Bankruptcy Law in 2010, we do know that the majority of the unemployed (with only few exceptions of long-run unemployed) lost their jobs after the outbreak of the crisis in 2010. We also know from the judgment files that most of the files of working people and the retired have started having arrears after 2010 and especially after the first austerity measures that involved cuts in wages and pensions along with increases in tax on income. This has also been obvious from the data of non-performing loans released by the bank of Greece.

There is no doubt that lending as well as borrowing practices have changed during the last fifteen or so years. This shift in attitude towards credit has contributed to the indebtedness of households for sure. However, before the outbreak of the crisis, only a small proportion of the households was identified as over-indebted is the sense of not being able to repay its debts. The bulk of indebted households could make ends meet without having arrears. This implies that measures that aim at the promotion of responsible borrowing (such as promoting consumer awareness of the terms and conditions of the agreements or knowledge of the rate of interest they are charged though financial education) and lending (such as upgrading of risk management departments etc), although they are welcomed, they will only affect a minority of cases and by no means the waves of over-indebted and bankrupt households that found themselves in this situation because of reasons outside their control.

The phenomenon of over-indebtedness has already spread to a large proportion of the population and due to this fact more fundamental measures need to be taken. The settlement of the Bankruptcy Law in 2010 was a first positive step. However, due to the massive applications there are huge delays that schedule the trials in 5 or 8 years from now. Consequently, more debt settlement structures and procedures should be implemented. Moreover, the debt cancellation should be more brave and correspond to more realistic repayment plans so that debtors can abide them during the cool off periods. Lastly and more importantly, measures should be taken to stop the rise of unemployment and increase employment, increase unemployment benefits, support the income of separated women with protected children and other socioeconomic groups that are at the risk of poverty and over-indebtedness.

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