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MISSED PAYMENTS, RENEGOTIATIONS, AND HOUSEHOLD CONSUMPTION

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Abstract
The paper examines how consumption habits of borrowers are affected after missing one or more payments or when their loan payments are delayed by more than 90 days. In addition, we investigate how household consumption may be impacted by successful loan restructuring. Using data from the Eurosystem Household Finance and Consumption Survey for 2017, we find that households with late or missed loan payments report a fall in consumption levels and those with loans in arrears register an increase in consumption. This suggests that a household's failure to fulfil its commitments may actually help it increase its consumption. Other determinants that affect household consumption and income disparities are also considered to be explanatory variables.

JEL Classification: C21, E21, G21
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1. Introduction

People's lives nowadays revolve around borrowing, especially among young people who are compelled to do so in order to cover potential obligations, such as a house purchase or funding their studies. However, because of the various needs that appear in the course of people's lives, households frequently lack the discipline and responsibility borrowing requires. This leads to missed payments, which makes the loans problematic (non-performing) and, in turn, poses financial stability and economic growth issues for the economy (Klein 2013).

The main objective of this study is to investigate to what extent consumption is affected by loan repayments. To conduct our analysis, we use data from the third wave of the Household Finance and Consumption Survey (HFCS) for Cyprus. The database allows identification of households that had late or missed loan payments while, in addition, it also offers information on whether these payments were delayed by more than 90 days. The extended information regarding households' financial status and demographics aids in having significant control variables for such estimation, while the split between consumption inside and outside the household allows us to better capture spending dynamics (Du Caju *et al.*, 2022; Lamarche 2015). With a weighted sample of 800 households with loans, we are offered a unique opportunity to examine this sort of behaviour. This study is the first to examine how loan repayments and consumption interact at the household level in Cyprus. These interactions are particularly important for policymaking as well as from a social perspective, since it allows us to obtain a deeper understanding of household behaviour, especially during crisis periods, when economic risks arise.

Our findings suggest that in high-income (top 5%-10%) households' in-house consumption is negatively affected by late or missed loan payments, while their out-of-house consumption is affected positively. High-income households report an increase in in-house consumption when loans are more than 90 days past due. At the same time, low-income households (40%-60% of the population) experience an increase in out-of-house consumption when they have loans in arrears. This can be explained by the fact that consumers frequently finance their consumption with the money they save from deferring a loan repayment. When the reason of the loan repayment issues is connected to a reduction in income, the out-of-house consumption of high-income households is also positively impacted; and this also applies to in-house consumption.

This study also demonstrates a positive link between in-house consumption and the household size, household income, and age of the person interviewed. The more people living in a household the higher the consumption costs usually are because of increased needs. Although older respondents tend to spend more on in-house consumption, this does not hold for out-of-house consumption. Consumption increases as expected when income increases, and this is especially true for low-income households where income elasticity is higher.

2. Literature Review

The relationship between indebtedness and consumption has been the subject of quite a few studies up to now, due to its economic policy importance. The understanding of such a relationship is significant for the financial system and the economy in general, as increases in debt can cause problems in the financial sector, which can slow economic development.

According to previous studies, households are more prone to borrowing when their income is temporarily low in order to level out their consumption. Therefore, greater credit availability may raise the amount of external finance available, which, in turn, may enhance current consumption (Rinaldi *et al.*, 2006; Bump *et al.*, 2009). They also suggest that households with mortgages that spend a larger portion of their income on mortgage payments spend less of their income on consumption, demonstrating the crowding-out effect (Fan *et al.*, 2020).

Interestingly, over the past ten years, and as borrowing has grown, consumption appears to have become more sensitive to major shocks (i.e., income shocks) according to Australian data (Kearns *et al.*, 2020). This is in line with the findings of Johnson *et al.*, (2007); Dynan *et al.*, (2007); Zabai (2017); Du Caju *et al.*, (2022) who found that the consumption of households with high debt-service obligations and low liquid assets is more sensitive to income fluctuations than the consumption of households with low liquid assets alone. However, in the event of negative income shocks, consumers who have illiquid assets, with high returns and illiquidity, prefer to cling onto these assets and use credit card borrowing to smooth their consumption (Laibson *et al.,* 2003; Dynan *et al.*, 2012). In other words, access to financial markets has a significant impact on household consumption spending, in what is known as the marginal propensity to consume out of wealth (see Poterba, 2000).

The ability of households to maintain their level of consumption could also be greatly affected if they were constrained from taking on new debt (Lindquist *et al.*, 2016). In addition, households are more likely to default on their obligations (by failing to pay off loans or other accounts) or be obliged to reduce their level of consumption if the debt service to income ratio is particularly high (Farinha *et al.*, 2012). A similar finding was reported by Antoniou *et al.*, (2022), who show that a higher debt service to income ratio increases a household's default probability.

Some studies look at the variations that arise for different types of households (high vs. low income households). First off, low-income households continuously consume at rates close to unity, meaning they consume all their income or are hand-to-mouth consumers (Fagereng *et al.*, 2016). However, it seems that wealthy hand-to-mouth households (people in their early forties who have significant wealth in housing and retirement accounts) have more intense consumption reactions to transient income shocks (Weidner *et al.*, 2014).

The existing literature has also used micro-level data to elaborate on this relationship. Le Blanc *et al.*, (2020), using data from the euro area's Household

Finance and Consumption Survey (HFCS) find that households with limited access to credit (most likely low-income households) may have a larger marginal propensity to consume out of wealth. In addition, they find that the elasticity of consumption with respect to income is significantly higher in households with high levels of debt. Borrowing and liquidity limitations are the main factors that account for the differences in household consumption elasticities with regards to income among households with different debt-to-asset ratios and debt levels (Baker *et al.*, 2015).

Other studies using HFCS data show that a negative relationship exists between debt and consumption (Lamarche 2015; Du Caju *et al.*, 2022). The findings suggest that the effect is stronger for lower-income households, for households the Financial Knowledgeable Person (FKP, the person answering the questionnaire) of which is unemployed and has a lower level of education.

In line with the literature overviewed, the focus of our study is on the relationship between loan repayment difficulties and household consumption in Cyprus, using micro (HFCS) data. Our findings indicate that households' inability to make loan payments on time has a negative impact on their consumption spending, but when loans are more than 90 days past due, consumption rises as a result of households using the money they did not use for loan repayment to fulfil their needs. The following section presents an overview of the methodology and the data employed in this study.

3. Methodology and Data Description

This study's objective is to determine whether debt repayment challenges have an impact on household consumption habits. To do this, the study uses a weighted cross-sectional regression model and, for obvious reasons, focuses only on households with loans. A similar setup to the one employed here was used by Antoniou *et al.*, (2022).

To answer our research question, we use data from the third wave of the Eurosystem Household Finance and Consumption Survey (HFCS). The survey, which gathers data on household finances and consumption, is run by the European Central Bank's Household Finance and Consumption Network (HFCN). The Central Bank of Cyprus has been conducting the survey in Cyprus since 2009, and the third wave, the data of which this study uses, was conducted in 2017[1]. Overall, the sample includes 800 households that have taken out a loan, of which 288 are considered below the (weighted) average, while the remaining 512 fall into the category of those whose income is above average[2]. This is due to the "oversampling of the wealthy" process that is followed according to the HFCN and ECB guidelines (Antoniou *et al.*, 2022).

1. Other studies that have used HFCS data for Cyprus include Antoniou *et al.*, (2022), Michail *et al.*, (2020), and Michail *et al.*, (2021).
2. Some descriptive statistics are presented in table A4 in the Appendix.

We use two dependent variables: in-house consumption and out-of-house consumption[3], which measure how much money a household spends each month on food and beverages inside and outside the household, such as at cafes, restaurants, and canteens. As per Du Caju *et al*., (2022) and Lamarche (2015), who also employ food consumption as a measure for their analyses, the benefits of using this metric are straightforward. In particular, it is easy for households to identify such consumption, it is quite inelastic because it represents an essential component of households' consumption, and it appears to suffer from less significant underreporting bias. In Cyprus, the weighted mean of in-house consumption is 414.3 euros while the weighted mean of out-of-house consumption and total food consumption is 154.1 euros and 568.4 euros, respectively. As such, out-of-house consumption represents the 26.4% of total food consumption while the in-house represents the 73.6% of total food consumption.

The explanatory variables used relate to loan repayment difficulties, financial characteristics and household demographics. The equation used to explain changes in consumption habits, is specified as follows:

$$C_{j,i} = a + b_{1j}*delays_i + b_{2j}*npl_i + b_{3j}*inc\_decrease_i + b_{4j}*hhsize_i + b_{5j}*age_i + \sum_{k=1}^{4} b_{6j,k}*education_{i,k} + b_{8j}*monthly\_inc_i + b_{9j}*monthly\_instal_i + \sum_{k=1}^{4} b_{10j,k}*empl\_status_i + b_{11j}*restructuring_i + b_{12j}*fin\_assets_i + e_i$$

where *j* takes value 1 for in-house consumption and 2 for out-of-house consumption, while *i* represents the respective household. Our dependent variable is total debt (i.e., mortgage, revolving, and other consumption debt), given that we are interested in the household's behaviour concerning the totality of its loans. To this end, our key variables of interest relate to difficulties in loan repayment, which are connected to dummy variables, namely $delays_{j,i}$, $npl_{j,i}$, and $inc\_decrease_{j,i}$. In particular, the first variable takes the value of one if the household had any late or missed loan payments. The second variable equals one if the household has non-performing loans[4], and the last one takes the value of one if the loan delay was attributed, by the survey respondents, to any negative income shocks. All of these variables provide important insights with regards to household behaviour: delays in payments could potentially be a result of shifting funds from repayments to consumption, especially as income declines (the third dummy). At the same time, higher NPLs could potentially mean higher consumption as households stop repaying.

3. We also used total food consumption (the sum of in- and out-of-house consumption) as the dependent variable. Results are qualitatively similar and estimates are available upon request.
4. We note that the specification of the question relates to instalments that been in arrears for more than 90 days. Hence, while the more generic term "non-performing loan" is used, we note that this relates to households that have missed their payments by more than 90 days.

Table 1. Full Sample Estimates

	In-house Consumption			Out-of-house Consumption		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Delays in Loan Payments (Dummy)	-55.70***	-52.10***	-68.95*	-31.13*	-18.37	19.27
	(19.23)	(20.17)	(35.08)	(17.52)	(16.39)	(23.78)
Non-Performing Loans (Dummy)			130.9**			4.452
			(57.07)			(38.70)
Decrease in Income (Dummy)			-99.79*			-13.43
			(50.93)			(34.54)
Household size	79.02***	79.01***	55.51***	15.11***	16.73***	-0.126
	(6.73)	(6.72)	(6.57)	(5.78)	(5.14)	(4.452)
Age	5.59***	6.18***	3.99***	-0.80	0.28	-0.539
	(0.90)	(0.91)	(1.05)	(0.55)	(0.54)	(0.712)
Education						
Lower Education		-52.01*	-53.67*		-12.75	9.617
		(31.52)	(28.27)		(16.87)	(19.16)
Degree		-15.75	-41.44*		48.53***	37.01**
		(22.32)	(23.29)		(16.94)	(15.79)
Post-Graduate Degree		36.43	-27.76		126.1***	28.02
		(33.29)	(28.53)		(33.54)	(19.34)
Total Household Monthly Income			0.03***			0.032***
			(0.004)			(0.003)
Total Monthly Instalments			0.001			-0.014***
			(0.007)			(0.005)
Employment status						
Retiree			66.79*			-23.11
			(36.93)			(25.04)
Salaried			-18.60			-9.048
			(26.76)			(18.14)
Self-Employed			11.04			-7.703
			(32.71)			(22.18)
Successful Loan Restructuring (Dummy)			-55.95*			-13.79
			(30.63)			(20.77)
Total Financial Assets			-0.114			0.008
			(0.102)			(0.069)
Constant	-87.53	-108.9	-9.46	154.6	71.40	111.3
	(45.40)	(49.83)	(63.44)	(35.70)	(35.02)	(37.51)
R-squared	**0.2606**	**0.2700**	**0.2540**	**0.0333**	**0.1044**	**0.2560**
Observations	**800**	**800**	**800**	**800**	**800**	**800**

The table presents the results of a weighted regression using hi0100 for in-house consumption and hi0200 for out-of-house consumption as the dependent variables. Variables "delays in loan payments", "non-performing loans" and "decrease in income" are dummy variables which take the value of one if the statement is true and the value of zero otherwise. The same holds for "lower education", "degree" and "post-graduate degree", and relates to the respondent's (Financially Knowledgeable Person – FKP) education, on the basis of question pa0200. See Table A2 in the Appendix for more details. "Retiree", "salaried" and "self-employed" are also dummy variables created from pe0100 and pe0200. ***, **, * and denote significance at the 1%, 5% and 10%, respectively. Details regarding the construction of the variables can be found in Table A1 in the Appendix.

Age, education level, and employment status are those of the household member who is answering the survey (FKP = Financially Knowledgeable Person). We use four different categories of education: "lower education", "medium education", "degree" and "post-graduate degree" and four different categories of employment status: "retiree", "salaried", "self-employed" and "unemployed", in order to exam-

ine whether findings change depending on the FKP's employment status and educational attainment (see also Blanden and Gregg, 2004). With regards to other demographic variables, refers to the number of people residing in the household, something that has also been found to be a significant determinant of household behaviour (Antoniou *et al*., 2022)[5].

Additional financial regressors were included in the model in order to capture other factors that may influence a household's spending ability. More specifically, $monthly\_inc_{j,i}$ is the household's total monthly income (annual income divided by 12). Similarly, $monthly\_instal_{j,i}$ refers to monthly payments on households' loans, other property loans and non-collaterised loans. $Restructuring_{j,i}$ takes the value of one if the household's non-performing loans have been restructured and it is zero otherwise, while $fin\_assets_{j,i}$ refers to all financial assets of a household[6]. As expected, the higher the financial assets of a household, the higher the consumption, given the propensity to consume out of wealth (Poterba, 2000). More details on the construction of these variables are available in Tables A1 and A2 in the Appendix. The next section presents the empirical results from this exercise.

4. Empirical Estimates

Table 1 displays the estimation results of the weighted linear regression models, studying the impact of the previously-mentioned variables on in- and out-of-house consumption. To begin with, there is a significant negative relationship between late or missed loan payments and in-house consumption (specifications 1-3). In particular, missed or late loan payments are associated with a reduction in consumption by approximately 50-60 euros, a finding that is consistent across all specifications. This result can perhaps be justified due to the tendency of households to decrease their consumption in an effort to address their financing needs. However, the same does not seem to happen with out-of-house consumption. In this case, the relationship is insignificant (specifications 5-6).

A significant positive relationship between household size and in-house consumption is also present. Nonetheless, the relationship disappears in the out-of-house consumption, when the household's monthly income is incorporated in the equation (specification 6). In addition, the in-house consumption coefficient is greater than the out-of-house one. As such, this suggests that having a larger household leads to higher consumption levels. This higher need for consumption is a natural outcome of having more people at home, and one that was shown to also have an impact on default risk (Antoniou *et al*., 2022).

5. In robustness checks for our analysis we also divide consumption by household size to obtain the per person consumption.

6. In line with Antoniou *et al*., (2022), we have included the DSTI variable, representing the mortgage debt service to income, which is calculated as the proportion of monthly mortgage payments to total household monthly income; we have also introduced to the model a variable that takes the value of one when DSTI-exceeds 40%. However, this was found to be insignificant in our estimates.

The effect resulting from age differs depending on the type of consumption. An increase in in-house consumption occurs when the FKP is older, while the relationship between age and out-of-house consumption is insignificant. It appears that peoples' needs tend to change as they grow older. This is in line with relevant literature that suggests that older people spend less on restaurants, coffee shops and canteens in comparison to how much they spend on household products (Kearney *et al*., 2001). The impact of education, on the other hand, suggests that household consumption decisions do not seem to correlate with the level of the FKP's education.

A clear connection between income and consumption both in- and out-of-house consumption is evidenced (specifications 3 and 6). As expected, higher income positively affects consumption. However, the marginal effect is not large, given that an increase in income by around 100 euros only results in a 3-Euro rise in spending. When compared to the (weighted) average household expenditure of 400 euros for in-house consumption and 100 euros for out-of-house consumption, respectively, the 3-euro increase suggests that the marginal propensity for in-house consumption is around 1% but rises to 3% for out-of-house consumption, when demographic and spending factors are taken into consideration.

While not present in the in-house specifications, a negative relationship between monthly instalments and out-of-house consumption is present. It seems that households, in their efforts to meet their responsibilities, find it easier to cut down their out-of-house consumption when monthly instalments are higher. No evidence of such behaviour is found in the case of in-house consumption. As such, estimates suggest that in-house is more inelastic than out-of-house consumption. Finally, employment status and financial factors (e.g., debt service to income ratio, financial assets, and loan restructuring) do not appear to have a substantial impact on consumption.

Table 2. Estimates for in-house consumption using income percentiles

	<20%	20%-40%	40%-60%	60%-80%	>80%	>90%	>95%	<50%	>50%
Delays in Loan Payments	2.699	-1.244	-29.57	-135.8	-136.1	-461.9***	-373.2***	3.277	-78.43*
	(76.34)	(34.32)	(56.20)	(107.7)	(86.54)	(142.9)	(93.06)	(32.53)	(44.46)
Non-Performing Loans	-95.61	-95.76	-24.05	159.5	234.3**	505.5***	467.4**	-15.81	73.42
	(133.0)	(63.59)	(71.94)	(146.2)	(98.69)	(134.4)	(216.3)	(66.75)	(78.73)
Decrease in Income (Dummy)	108.9	26.65	21.18	6.635	-129.2	220.6*	258.0	-20.29	-19.72
	(106.4)	(68.91)	(67.27)	(92.73)	(83.16)	(112.6)	(213.0)	(65.20)	(69.55)
Household size	35.66*	59.83***	64.36***	73.10***	93.22***	105.0***	137.8***	53.41***	71.72***
	(18.06)	(16.47)	(14.50)	(14.44)	(13.63)	(21.29)	(32.31)	(11.24)	(9.643)
Age	1.080	6.716***	1.633	1.998	13.21***	13.66***	14.01*	2.667*	5.057***
	(1.928)	(2.060)	(2.349)	(1.757)	(2.730)	(3.479)	(7.278)	(1.393)	(1.558)
Education									
Lower Education (Dummy)	-8.841	-71.54*	-7.134	16.55	-198.4***	-293.4**	N/A	-14.32	-63.67*
	(66.35)	(37.96)	(45.55)	(51.66)	(71.19)	(137.6)		(42.20)	(34.26)
Degree (Dummy)	-71.85	33.88	-59.67	-30.23	-75.20	16.70	181.3	-19.06	-61.65**
	(57.89)	(45.38)	(51.93)	(40.36)	(50.39)	(63.17)	(118.5)	(35.88)	(31.31)
Post-Graduate Degree (Dummy)	235.2	-14.01	-36.10	-117.2**	35.24	148.7*	258.1*	-41.39	-35.91
	(226.7)	(48.99)	(55.76)	(56.25)	(55.16)	(81.13)	(140.8)	(59.34)	(38.82)
Total Household Monthly Income	0.20	0.152	0.038	0.066*	0.019**	0.006	0.003	0.064**	0.025***
	(0.16)	(0.093)	(0.067)	(0.037)	(0.008)	(0.009)	(0.012)	(0.030)	(0.007)
Total Monthly Instalments	-0.02	-0.007	-0.019	-0.023	0.023	0.034**	-0.009	0.003	0.016
	(0.04)	(0.026)	(0.014)	(0.016)	(0.014)	(0.013)	(0.026)	(0.015)	(0.014)
Employment Status									
Retiree (Dummy)	6.370	128.8	-7.123	348.2***	-76.70	-129.8	178.3	54.28	81.50
	(90.76)	(125.4)	(86.64)	(118.3)	(87.99)	(126.8)	(251.6)	(68.56)	(66.45)
Salaried (Dummy)	-56.22	27.99	-33.57	85.88*	-46.49	-124.3	-139.7	-40.27	-1.619
	(81.82)	(104.6)	(45.77)	(46.40)	(58.42)	(104.1)	(215.2)	(49.51)	(37.57)
Self-Employed (Dummy)	23.38	-5.329	26.82	69.09	-78.60	-144.4	-48.63	-7.410	-44.24
	(118.5)	(112.1)	(56.94)	(53.52)	(67.63)	(122.5)	(232.2)	(52.07)	(45.44)
Successful Loan Restructuring (Dummy)	-6.935	-93.16**	23.57	-49.54	-36.82	90.90	249.4	-49.32	-27.68
	(87.65)	(41.26)	(50.60)	(57.31)	(62.13)	(131.8)	(189.8)	(32.98)	(37.54)
Total Financial Assets	1.740***	0.827	-0.217	-0.646*	-0.062	-0.057	-0.081	1.587*	-0.104
	(0.653)	(1.323)	(0.622)	(0.386)	(0.143)	(0.140)	(0.176)	(0.881)	(0.151)
Constant	12.91	-358.0	64.42	-192.9	-546.9	-494.2	-660.8	-7.372	-122.3
	(134.6)	(264.8)	(176.5)	(183.6)	(165.0)	(243.2)	(490.2)	(82.87)	(101.7)
R-squared	**0.2900**	**0.3793**	**0.2995**	**0.3178**	**0.3579**	**0.3596**	**0.3757**	**0.2719**	**0.3019**
Observations	**105**	**108**	**157**	**185**	**245**	**148**	**76**	**288**	**512**

The table presents the results of a weighted regression using hi0100 for in-house consumption as the dependent variables. To differentiate between households with high and low incomes, income percentiles are used. Variables "delays in loan payments", "non-performing loans" and "decrease in income" are dummy variables which take the value 1 if the statement is true and the value 0 otherwise. The same holds for "lower education", "degree" and "post-graduate degree", and relates to the respondent's (Financially Knowledgeable Person – FKP) education, on the basis of question pa0200. See Table A2 in the Appendix for more details. "Retiree", "salaried" and "self-employed" are also dummy variables created from pe0100 and pe0200. ***, **,* and denote significance at the 1%, 5% and 10%, respectively. Details regarding the construction of the variables can be found in Table A1 in the Appendix.

Table 2 illustrates the results of grouping households by income brackets while accounting for variances in income. Brackets are used in order to obtain more accurate results, given that it is likely that differences in income could lead to a different kind of behaviour by households. The specifications in Table 2 include all the factors of the third specification of Table 1.

Our findings reveal a substantial inverse relationship between household spending for higher-income households and late or missed loan payments, albeit only in the top income brackets. In other words, households with monthly incomes of over 5,799 euros (90th percentile) appear to cut back on their consumption of food and beverages at home by around 460 euros, whereas households with monthly incomes of over 7,649 euros (95th percentile) experience a 373-euro reduction. This might be a result of households with higher incomes being more responsible and preferring to sacrifice a significant portion of consumption expenditure in order to pay back the payments later. Overall, it appears that high-income households (top 5%-10% of the population) experience greater changes in consumption compared to low-income households (below 40th percentile). This is in line with literature (Weidner *et al*., 2014) that suggests wealthy households exhibit more intense consumption reactions to temporary income shocks.

On the other hand, a positive connection emerges between non-performing loans and consumption. Housing consumption expenditure appears to be higher for households with non-performing loans (NPLs) in the top 20% of income brackets. This is in line with earlier studies, suggesting that borrowing is increased to support consumption during periods of temporary low income (Bump *et al*., 2009; Kittiphongphat 2018; Rinaldi *et al*., 2006). It is important to note that for households with higher incomes, the rise in consumption because of NPLs outweighs the reduction brought about by loan payment delays. Hence, while loan payment delays may induce households to reassess their spending habits, this stops being significant after the loan enters the 90-day-past-due category. This finding is in line with the literature on the topic that suggests that wealthy households may react differently as opposed to ordinary indebted households, since their portfolios are more diversified (Fagereng *et al*., 2016). According to the aforementioned findings, there may be a vicious cycle that causes GDP growth to suffer because of a decrease in consumption brought about by late loan payments. Given the pervasive Okun's law link, a decline in GDP growth is likely to result in a rise in unemployment, which, subsequently, influences loans in the economy (Cleanthous *et al*., 2017).

As already mentioned, having a bigger family has a positive effect on consumption levels. Taking income variances into consideration, it appears that higher income households present a higher increase in consumption due to their size. When comparing the 20th and 95th percentiles of income, it appears that household size boosts high-income households' consumption by almost four times more than low-income ones (35.7 euros versus 138 euros, respectively).

The FKP's age has a positive impact on in-house consumption, although differences in income do not appear to have a large impact on coefficients. As opposed to the analysis above, there are observable changes in the relationship between consumption and education levels. In other words, consumption spending and households with a low-educated FKP appear to have a significant negative relationship.

A significant relationship seems to also emerge between those with a post-graduate degree and consumption. On the one hand, the relationship seems to be negative for households with monthly incomes between 3,100 and 4,583 euros, i.e., the above-average income bracket. One plausible explanation is that persons with higher levels of education are more efficient and can buy the same amount of goods for less money (Michael, 1975). On the other hand, the relationship is positive for households with incomes over 5,799 euros (90^{th} percentile and above). It's possible that people with higher income and level of education have more expensive requirements and, hence, spend more on in-house consumption, something that is naturally in contrast with what Michael (1975) is suggesting.

The relationship between financial assets and consumption is somewhat mixed, given that it is only positive in the bracket below 20%. This is in line with Fagerent *et al.*, (2016), who point out that using some of the household's financial assets to smooth consumption is an option if the household has enough financial assets. In this case, work status does seem to have an effect on consumption. Particularly when the FKP of a household is retired, the in-house consumption for the 60% to 80% income range increases.

Table 3 presents the estimates for the effects of out-of-house consumption. In this case, a different relationship between delays in loan payments and consumption appears. For low-income households (i.e., under 20%), the relationship is negative but for high-income households (over 95%) it becomes positive. Lower-income households may, as previously mentioned, restrict their out-of-house consumption expenditures in order to preserve money for their liabilities, whereas higher-income households may have high standards and find it difficult to cut back on spending even during difficult times, which leads to an increase in their expenditure.

Additionally, there are differences in how households with non-performing loans and out-of-house consumption are related. When their loans stop performing, low-income households (in the 40-60% brackets of the population) are seen to increase their consumption. This appears to be a behaviour of people using their borrowings to finance their consumption (Khalaf *et al.*, 2018). According to the authors, it is likely that households who cannot meet their obligations by paying their instalments, use the money for investments and consumption. That is consistent with the fact that Cyprus' level of consumption was not as negatively affected by the 2013 crisis as initially expected.

Conversely, high-income households' (80^{th} and 95^{th} percentile) consumption decreases when their loans become non-performing. Taken in conjunction with Table

2, while in-house consumption declines for high-income households, it increases for low-income ones when their loans are more than 90 days past due. Overall, it appears that the impact of missed instalment payments mitigates, to some extent, the impact from non-performing loans for both low-income and high-income households. It is interesting to see that these two types of households do not seem to react similarly. The in-house consumption of low-income households does not seem to be affected by late loan payments. On the other hand, the in-house consumption of high-income households is negatively affected by late loan payments and positively affected by NPLs. Additionally, low-income households' (those with incomes below the 20th percentile) out-of-house consumption declines when late payments take place. On the other hand, the impact is positive and negative, respectively, for the out-of-house consumption patterns of high-income households.

For people with incomes between €2,083 and €3,100 (40th-60th percentiles), a delay in loan payments resulting from a decrease in household income has a negative impact on out-of-house spending. Thus, families who experience a negative shock in income seem to spend less money on out-of-house consumption. However, it is interesting that households in the highest percentile income groups increase their out-of-house spending when the reason behind their delays in loan payments is due to a reduction in income.

A different relationship than that shown in Table 2 appears to exist for household size. In this case, household size does not have a clear impact on household consumption, with coefficients being negative for the 40%-60% of the population and positive for the 60%-80%. As such, it appears that households with more members do not tend to spend more on out-of-house consumption.

As expected, monthly income has a substantial relationship with out-of-house expenditure. The coefficient falls as household income rises (20% vs. 80% of the distribution), which means that compared to high-income households, low-income households base their consumption more on their level of income.

For the highest income levels, the employment status-related coefficients seem to be negative (mainly for the top 5%-10% of the population). Out-of-house spending appears to be negatively impacted by work status in all three instances (i.e., when the FKP of a household is a retiree or salaried or self-employed). In contrast to in-house consumption, this relation may develop because supplementary consumption (e.g., spending on cafes, restaurants, canteens) is easier to stop than other types of spending.

Further analysis of the estimates, using equivalised consumption (i.e., consumption adjusted by household size) shows that our results remain robust to this adjustment. The analysis can be found in the Appendix.

Generally, high-income households' in-house consumption is negatively impacted by loan repayment issues, while their out-of-house consumption is positively impacted. Low-income families indicate no change in in-house consumption when loans are more than 90 days past due, whereas high-income households report an increase. An increase in out-of-house consumption is also reported for low-income households when their loans are in arrears.

Table 3. Estimates for out-of-house consumption using income percentiles

	<20%	20%-40%	40%-60%	60%-80%	>80%	>90%	>95%	<50%	>50%
Delays in Loan Payments	-70.71***	83.41	-26.48	-37.56	90.46	-156.5	209.1***	14.06	17.79
	(23.83)	(63.24)	(28.94)	(51.85)	(60.96)	(118.0)	(59.91)	(47.23)	(35.19)
Non-Performing Loans	4.697	-88.31	112.6*	143.9**	-154.2*	83.76	-541.7**	19.73	-34.36
	(37.75)	(70.09)	(62.37)	(68.46)	(80.30)	(132.5)	(210.0)	(54.14)	(55.43)
Decrease in Income (Dummy)	47.88	-12.01	-105.9*	-66.79	232.0**	594.3	1397.8***	-30.68	39.54
	(37.00)	(49.97)	(60.48)	(53.59)	(113.3)	(372.6)	(181.5)	(32.74)	(57.30)
Household size	-11.24	-15.31	-20.45**	19.42**	6.130	18.37	20.96	-15.97**	7.757
	(11.24)	(11.48)	(8.562)	(9.607)	(12.30)	(14.85)	(22.96)	(6.454)	(9.033)
Age	-1.321	-1.604	-2.365**	0.185	0.574	-0.834	-0.563	-1.425*	-0.211
	(1.137)	(1.614)	(0.973)	(1.413)	(2.555)	(3.588)	(7.334)	(0.727)	(1.126)
Education									
Lower Education (Dummy)	-3.977	13.04	-24.80	0.262	143.7**	-69.28	N/A	6.353	-3.003
	(26.89)	(25.59)	(25.79)	(23.18)	(60.30)	(123.3)		(18.24)	(28.02)
Degree (Dummy)	49.51	-28.64	0.558	36.22	21.73	33.18	35.46	27.89	11.62
	(32.70)	(41.22)	(27.75)	(25.30)	(41.32)	(58.90)	(116.4)	(22.91)	(20.27)
Post-Graduate Degree (Dummy)	134.2	11.18	-17.80	100.3	36.58	13.90	-55.49	13.83	60.55
	(122.5)	(38.54)	(31.52)	(61.68)	(40.84)	(61.29)	(117.9)	(24.37)	(38.53)
Total Household Monthly Income	0.105***	0.164**	0.091**	0.067***	0.034***	0.027***	0.020**	0.049***	0.030***
	(0.038)	(0.072)	(0.038)	(0.023)	(0.008)	(0.009)	(0.010)	(0.015)	(0.006)
Total Monthly Instalments	-0.013	-0.006	-0.002	-0.033**	-0.007	-0.003	0.028	-0.009	-0.009*
	(0.018)	(0.011)	(0.007)	(0.013)	(0.006)	(0.008)	(0.031)	(0.006)	(0.005)
Employment status									
Retiree (Dummy)	27.62	61.46	-79.11**	79.19	-187.0**	-481.7***	-350.6**	32.75	-69.60*
	(43.24)	(69.75)	(38.73)	(54.03)	(81.83)	(163.4)	(167.7)	(31.24)	(35.54)
Salaried (Dummy)	9.337	29.35	-76.84**	28.71	-86.05	-371.1**	-268.9***	14.88	-38.89
	(34.94)	(52.95)	(35.55)	(33.52)	(71.02)	(161.3)	(97.76)	(25.32)	(26.66)
Self-Employed (Dummy)	-14.87	-9.248	-60.34	-14.55	-129.0*	-447.2***	-322.1***	-3.977	-76.08***
	(32.80)	(51.67)	(37.13)	(32.77)	(75.00)	(168.5)	(114.5)	(23.86)	(25.26)
Successful Loan Restructuring (Dummy)	-54.47	-33.83	-46.98	67.65	-14.66	107.1	18.99	-12.63	-2.768
	(34.37)	(33.18)	(38.68)	(47.02)	(66.78)	(131.7)	(190.8)	(24.83)	(38.75)
Total Financial Assets	0.935	0.489	-0.671**	0.151	-0.035	-0.007	0.197	0.811*	-0.081
	(0.755)	(0.606)	(0.264)	(0.244)	(0.123)	(0.008)	(0.194)	(0.464)	(0.005)
Constant	93.17	-66.68	171.9	-195.0	37.56	413.4	337.6	125.3	68.55
	(73.97)	(147.5)	(111.5)	(120.1)	(171.0)	(252.0)	(428.6)	(41.87)	(79.38)
R-squared	**0.3555**	**0.2316**	**0.2860**	**0.2320**	**0.2836**	**0.3203**	**0.4292**	**0.1902**	**0.2383**
Observations	**105**	**108**	**157**	**185**	**245**	**148**	**76**	**288**	**512**

The table presents the results of a weighted regression using hi0200 for consumption outside the house as the dependent variables. To differentiate between households with high and low incomes, income percentiles are used. Variables "delays in loan payments", "non-performing loans" and "decrease in income" are dummy variables which take the value 1 if the statement is true and the value 0 otherwise. The same holds for "lower education", "degree" and "post-graduate degree", and relates to the respondent's (Financially Knowledgeable Person – FKP) education, on the basis of question pa0200. See Table A2 in the Appendix for more details. "Retiree", "salaried" and "self-employed" are also dummy variables created from pe0100 and pe0200. ***, **,* and denote significance at the 1%, 5% and 10%, respectively. Details regarding the construction of the variables can be found in Table A1 in the Appendix.

5. Conclusions

When a household has to satisfy various needs, such as purchasing a home, funding studies, or boosting consumption, the need for obtaining a loan rises significantly, especially among younger adults. However, given the numerous challenges a household must deal with, paying off debts is not simple. In this respect, troubles with loan repayment can be potentially passed on to other aspects of a household's life, such as its consumption behaviour. The main goal of this paper is to examine to what extent difficulties in repaying debts, including having loans in arrears (over 90 days past due), can potentially affect household consumption patterns, using data from the third wave of the Eurosystem Household Finance and Consumption Survey (HFCS).

Our findings suggest that loan-repayment difficulties have a negative impact on in-house consumption but a positive impact on out-of-house consumption for high-income households. When loans are over 90 days past due, low-income households do not report any change in their in-house consumption, while high-income households experience an increase. At the same time, low-income households experience an increase in out-of-house consumption, as well. This can be explained by the fact that consumers tend to use the money they save from not paying back their loans to finance their spending. High-income households' out-of-house consumption is also positively affected when the reason behind the loan repayment difficulties is related to a decline in income, and this holds for in-house consumption (only for households in the top 90% of the population). Low-income households (20% - 40%), after settling the arrears by restructuring their loans, appear to cut back on their consumption. A possible explanation for this is that households attempt to conform and keep their consumption at levels they can handle.

This study also indicates a positive relationship between household size, age and in-house consumption. Higher consumption expenditure is associated with having more people in a household, since there are more needs. Older respondents suggest that they tend to spend more on in-house consumption but this does not hold for out-of-house consumption. As expected, higher income leads to more consumption, and this holds particularly for low-income households since income elasticity is higher for them.

An interesting implication is that a trade-off is observed between consumption and non-performing loans, given that higher NPLs lead to higher consumption. While this can partially explain the reason behind the better-than-expected economic performance in Cyprus over the Economic Adjustment Programme period of 2013-2016 (European Commission, 2013), this poses a heavy burden on banks as their NPLs rose significantly during the period, raising significant financial stability and bank viability issues. The positive relationship between NPLs and consumption appears to be because households are likely to use borrowing to fund their consumption.

The identification of relationships such as the above is of high importance for the economy of Cyprus, since understanding the reactions of households to various shocks allows us to identify the impact of these events on economic growth. Specifically, this study suggests that a vicious circle may develop when consumption declines as a result of loan-payment delays, which will then hurt GDP growth. The loop would continue as a decrease in GDP growth is likely to lead to an increase in unemployment, given the prevalent Okun's law relationship, which would then affect loans in the economy (Cleanthous *et al.*, 2017). As such, the need to take pre-emptive action to minimise the likelihood of default (as per the factors identified by Antoniou *et al.*, 2022), as well as to avoid over-extension of credit (Cleanthous *et al.*, 2017) is further emphasised by our estimates. This would ensure that even when periods of economic turbulence occur, the ripple effect of problems across the economy via the financial sector is further decreased. As such, it is clear that late loan payments pose a significant threat to financial institutions, household prosperity, and economic growth on a wider scale. However, the extent and magnitude of this relationship has not been thoroughly studied in Cyprus. Additionally, different models might be applied, allowing for a more extensive investigation and, perhaps, better results (e.g. Branten, 2022). While interesting and with significant policy implications, we leave this highly intriguing area open for future research.

Appendix

Table A1. Variable Definitions

Codes	Questions	Regression Variable
RA0300	What is X's (your) age?	Age
PA0200	What is the highest level of education (you/he/she) (has/have) completed?	Education (table A2)
HNC0125 (2)	Now, thinking of all the various loan or mortgage payments due in the last twelve months: were all the payments made the way they were scheduled, or were payments on any of the loans sometimes made later or missed? (It happened once or more that I was late with or missed some of the payments)	Delays in Loan Payments
HCCY002	Were you ever overdue by 90 days or more?	Non-Performing Loan
HCCY005 (1)	Reason you/your household does not pay the instalments of your loan on time? (Decrease of the household's monthly income)	Decrease in Income
HCCY008	In the past did you have any loans that were overdue 90+ days, that are now restructured, and all instalments are paid on time?	Successful Loan Restructuring
PE0100	What is (your/X's) current employment status? Which categories best describe (your/his/her) situation? Please start with the most important employment status.	Employment Status (Unemployed, Retiree)
PE0200	In (your/his/her) current main job, (are you/is [he/she]) working for someone else, self-employed with or without employees or an unpaid worker in a family business?	Employment Type (Salaried vs Self-Employed)
HI0100	About how much does (you/your household) spend on average by month on food and beverages at home?	Consumption in the house
HI0200	About how much does (you/your household) spend on an average month on food and beverages **outside the home**? I mean expenses at restaurants, lunches, canteens, coffee shops and the like. Please, include only amounts (you/your household) paid out i.e., net of any employer subsidy/discount/promotion etc.	Consumption outside the house
Derived	Number of persons in the household	Household Size
Derived	Total Household Income = gross labour income (PG0110) + gross income from self-employment (PG0210) + gross income from public pensions (PG0310) + gross income from occupational and private pension plans (PG0410) + gross income from unemployment benefits (PG0510) + income from public/regular social transfers (HG0110) + gross rental income from real estate property (HG0310) + gross income from financial investments (HG0410) + gross income from private businesses other than self-employment (HG0510) + income from regular private transfers (HG0210) + gross income from other sources (HG0610)	Total Household Income
Derived	Total Financial Assets = value of sight accounts (HD1110) + value of saving accounts (HD1210) + market value of mutual funds (HD1330) + market value of bonds (HD1420) + value of publicly traded shares (HD1510) + value of additional assets in managed accounts (HD1620) + value of any other financial assets (options, futures, index certificates, etc.) IID1920	Total Financial Assets
Derived	Total Monthly Instalments = monthly payment on loan (HB200$) + monthly payment on additional loans (HB2200) + monthly payment on other property loan (HB400$) + monthly payment on additional other property loans (HB4205) + monthly payment on non-collaterised loan (HC100$) + monthly payment on additional non-collaterised loans (HC1200) + monthly leasing payments (HC0110)	Total Monthly Instalments
Derived	Total Outstanding Amount = amount owed on the loan (HB170$) + outstanding amount on loan on the residence (HB2100) + amount still owed on property loan (HB370$$) + amount still owed on other loans (HB4105) + outstanding amount on overdraft accounts (HC0220) + outstanding amount on credit cards(HC0320) + outstanding amount on other loans (HC036$) + amount still owed on other private loans (HC0370) + outstanding amount on other loans (HC080$) + amount still owed on the loans (HC1100)	Total Outstanding Amount
Derived	Total household monthly income = Total household income/12	Total Monthly Income

Table A2. Education Brackets

Education Brackets	
Lower Education	***0*** *– Early childhood education or no education* ***1****- Primary education* ***2*** *- Lower secondary or second stage of basic education*
Medium Education	***3*** *- Upper secondary* ***4****-Post-secondary non- tertiary education* ***5*** *–Short cycle tertiary education*
Bachelor's Degree	***6*** *– Bachelor or equivalent*
Post-Graduate Degree	***7****- Master's or equivalent* ***8*** *– Doctoral or equivalent*

Table A3. Wages (monthly) per household

Percentile (%)	Amount (€)
20	1,375
40	2,083
50	2,583
60	3,100
80	4,583
90	5,799
95	7,649

Table A4. Descriptive Statistics for financial elements

Variable	Mean (SD)	Median	Min	Max
Total Outstanding Amount (€)	121,708 (210,269)	65,000	20	2,504,107
Total Financial Assets (€)	20,448 (57,939)	2,500	0	1,479,867
Total Monthly Household Income (€)	3,191 (2,558)	2,589	52	29,167
Total Monthly Instalments (€)	905 (1,320)	600	50	11,500
Net Wealth (€)	455,870 (996,681)	220,500	-669,800	13,200,000

Table A5. Full Sample Estimates using equivalised consumption

	Equivalized In-house Consumption			Equivalized Out-of-house Consumption		
	(1)	(2)	(3)	(4)	(5)	(6)
Delays in Loan Payments (Dummy)	-21.42** (10.81)	-19.35 (11.80)	-25.76* (15.37)	-8.523 (12.33)	-1.319 (12.71)	-11.04 (9.419)
Non-Performing Loans (Dummy)			44.51 (38.95)			37.87* (21.36)
Decrease in Income (Dummy)			-53.95 (36.90)			-24.62 (25.78)
Age	2.804*** (0.493)	3.042*** (0.485)	2.013*** (0.484)	-0.550* (0.330)	-0.033 (0.251)	-0.234 (0.289)
Education						
Lower Education		-12.80 (16.50)	-13.85 (16.83)		-2.778 (8.370)	-1.646 (8.185)
Degree		0.302 (10.82)	-5.032 (10.96)		34.31*** (10.47)	32.02*** (10.58)
Post-Graduate Degree		21.58 (18.82)	12.76 (17.54)		59.18** (26.02)	52.42** (26.66)
Total Household Monthly Income			0.001 (0.002)			0.001 (0.001)
Total Monthly Instalments			0.010 (0.007)			-0.004 (0.003)
Employment status						
Retiree			54.43** (26.15)			21.98 (16.10)
Salaried			-3.625 (17.90)			13.11 (10.90)
Self-Employed			0.209 (21.27)			2.009 (11.61)
Successful Loan Restructuring (Dummy)			-26.70** (10.84)			-10.28 (12.20)
Total Financial Assets			0.067 (0.072)			0.028 (0.055)
Constant	20.95 (22.40)	8.588 (22.73)	52.95 (26.95)	91.11 (16.60)	51.01 (13.49)	49.96 (18.40)
R-squared	**0.1104**	**0.1104**	**0.1659**	**0.0102**	**0.0854**	**0.1042**
Observations	**800**	**800**	**800**	**800**	**800**	**800**

Table A6. Estimates for equivalised in-house consumption using income percentiles

	<٣٠%	٣٠%-٤٠%	٤٠%-٦٠%	٦٠%-٨٠%	>٨٠%	>٩٠%	>٩٥%	<٥٠%	>٥٠%
	<20%	**20%-40%**	**40%-60%**	**60%-80%**	**>80%**	**>90%**	**>95%**	**<50%**	**>50%**
Delays in Loan Payments	-10.08	-19.82	-14.25	-64.01	-58.38**	-126.6***	-131.6***	-16.63	-32.40
	(44.73)	(21.61)	(26.95)	(41.58)	(29.52)	(34.42)	(44.89)	(21.32)	(21.12)
Non-Performing Loans	-25.14	-31.99	20.22	69.18	95.44***	136.1***	201.3**	55.55	20.05
	(97.74)	(37.23)	(37.68)	(53.42)	(34.99)	(30.45)	(78.41)	(47.83)	(33.97)
Decrease in Income (Dummy)	9.681	10.12	-32.06	-22.70	-52.33*	-12.30	-41.41	-78.91*	-13.60
	(87.31)	(37.70)	(29.65)	(30.33)	(31.02)	(38.77)	(79.46)	(47.33)	(27.00)
Age	1.586	2.870**	1.221	2.095***	6.515***	6.084***	6.648**	1.518**	3.236***
	(1.250)	(1.135)	(1.063)	(0.663)	(1.190)	(1.474)	(2.667)	(0.726)	(0.637)
Education									
Lower Education (Dummy)	3.371	-52.92**	-11.37	7.490	-61.49**	-10.61	N/A	-6.888	-31.72**
	(42.52)	(25.25)	(15.41)	(16.51)	(26.92)	(59.15)		(25.05)	(13.93)
Degree (Dummy)	9.197	9.581	-12.23	7.479	-14.13	17.01	58.82**	6.772	-8.956
	(45.55)	(22.04)	(19.26)	(12.36)	(17.29)	(16.33)	(29.11)	(21.06)	(10.69)
Post-Graduate Degree (Dummy)	467.3***	-26.79	40.60	-26.77*	32.78*	55.55*	102.2**	27.21	15.50
	(140.8)	(35.26)	(29.92)	(15.46)	(19.71)	(29.91)	(48.27)	(46.60)	(14.15)
Total Household Monthly Income	0.059	-0.006	0.011	0.018	0.001	-0.001	-0.001	-0.020	0.003
	(0.068)	(0.060)	(0.025)	(0.011)	(0.002)	(0.002)	(0.003)	(0.014)	(0.002)
Total Monthly Instalments	-0.014	-0.002	-0.003	-0.008	0.015**	0.022***	0.001	0.004	0.013*
	(0.020)	(0.014)	(0.007)	(0.006)	(0.006)	(0.005)	(0.006)	(0.010)	(0.007)
Employment status									
Retiree (Dummy)	16.41	110.8*	24.74	160.3***	-12.98	19.38	62.13	55.30	44.15
	(50.76)	(57.04)	(34.44)	(57.51)	(38.22)	(38.01)	(69.09)	(35.51)	(31.25)
Salaried (Dummy)	0.992	28.63	4.254	29.16*	1.246	6.681	-30.58	5.479	1.062
	(52.67)	(50.42)	(18.48)	(17.64)	(23.69)	(24.84)	(48.15)	(26.56)	(14.15)
Self-Employed (Dummy)	-39.56	41.97	12.17	9.505	-28.09	-25.95	-15.57	18.84	-31.91
	(52.09)	(64.69)	(20.98)	(22.94)	(31.34)	(34.71)	(55.24)	(32.01)	(19.63)
Successful Loan Restructuring (Dummy)	-42.90	-45.88**	32.26	-2.041	-41.21**	-34.12	41.62	-22.51	-17.82
	(63.25)	(20.23)	(23.38)	(18.45)	(16.32)	(23.93)	(31.90)	(19.57)	(12.12)
Total Financial Assets	0.364	0.336	-0.220	-0.155	-0.012	-0.007	-0.042	0.699	-0.028
	(0.564)	(0.717)	(0.252)	(0.171)	(0.041)	(0.040)	(0.051)	(0.481)	(0.046)
Constant	40.58	14.74	42.97	-47.83	-184.7	-170.9	-184.7	96.71	-28.93
	(74.59)	(147.3)	(75.62)	(61.43)	(61.07)	(74.94)	(132.8)	(42.73)	(33.21)
R-squared	**0.2428**	**0.2827**	**0.1092**	**0.3728**	**0.4602**	**0.5830**	**0.5159**	**0.1544**	**0.2833**
Observations	**105**	**108**	**157**	**185**	**245**	**148**	**76**	**288**	**512**

Delays in Loan Payments	-54.09**	1.652	-15.98	-31.10*	14.42	-45.48**	38.80**	-26.66*	3.750
	(22.89)	(18.18)	(17.45)	(18.24)	(15.18)	(22.06)	(15.51)	(15.13)	(12.88)
Non-Performing Loans	11.42	21.32	128.1**	48.00**	-38.49**	-4.320	-137.3**	76.98***	-12.90
	(40.53)	(33.86)	(53.58)	(20.08)	(19.11)	(26.42)	(53.89)	(29.35)	(16.12)
Decrease in Income (Dummy)	-2.146	-36.42	-126.9***	-22.97*	196.2**	163.1*	342.6***	-74.57***	44.76
	(33.55)	(35.13)	(46.45)	(13.60)	(99.25)	(94.36)	(56.36)	(25.77)	(36.24)
Age	-0.728	-1.348	-0.306	0.411	1.376	1.381	2.449	-0.690	0.549
	(0.664)	(0.883)	(0.497)	(0.641)	(0.979)	(1.039)	(2.170)	(0.422)	(0.443)
Education									
Lower Education (Dummy)	-0.926	-12.24	-16.15	-2.271	19.88	26.39	N/A	-0.339	-17.29
	(21.53)	(11.93)	(9.811)	(8.417)	(19.09)	(37.86)		(11.20)	(12.54)
Degree (Dummy)	70.60***	9.485	41.66	22.70**	19.69	15.91	25.06	52.51**	19.54*
	(23.85)	(31.61)	(30.19)	(11.39)	(15.43)	(16.70)	(30.91)	(20.52)	(10.11)
Post-Graduate Degree (Dummy)	160.3***	12.07	79.84***	18.00	57.75**	14.10	3.713	39.15**	56.00*
	(57.12)	(16.76)	(24.09)	(13.01)	(27.74)	(15.94)	(25.37)	(18.06)	(29.04)
Total Household Monthly Income	0.061*	0.023	0.021	0.007	0.004*	0.005**	0.004	-0.009	0.004***
	(0.031)	(0.043)	(0.020)	(0.009)	(0.002)	(0.002)	(0.003)	(0.008)	(0.002)
Total Monthly Instalments	-0.010	-0.0001	-0.006	-0.009***	-0.001	0.000	0.005	-0.005	-0.002
	(0.010)	(0.006)	(0.004)	(0.003)	(0.003)	(0.002)	(0.007)	(0.004)	(0.003)
Employment status									
Retiree (Dummy)	25.25	67.59**	3.599	35.25*	-23.88	-81.74***	-85.46	36.59	-2.846
	(36.99)	(32.90)	(18.65)	(20.91)	(28.38)	(28.79)	(54.36)	(22.70)	(15.88)
Salaried (Dummy)	10.14	20.99	3.298	9.943	8.663	-46.68**	-42.26	19.65	9.093
	(23.94)	(25.59)	(12.63)	(10.21)	(22.84)	(23.05)	(26.37)	(14.69)	(13.33)
Self-Employed (Dummy)	-12.66	3.967	12.78	-7.351	-26.32	-72.02***	-55.58*	8.810	-12.82
	(31.53)	(25.91)	(19.87)	(9.952)	(31.32)	(25.62)	(31.01)	(16.68)	(11.23)
Successful Loan Restructuring (Dummy)	-63.32*	-21.18*	-5.418	31.01	-27.12	6.019	-9.165	-3.307	-9.577
	(33.38)	(12.13)	(21.30)	(19.20)	(20.14)	(23.07)	(36.30)	(18.09)	(15.97)
Total Financial Assets	0.803	0.259	-0.216	0.016	-0.021	0.007	0.055	0.493	-0.036
	(0.642)	(0.317)	(0.141)	(0.079)	(0.036)	(0.027)	(0.044)	(0.325)	(0.043)
Constant	49.82	59.39	4.838	-2.583	-49.14	14.20	-52.59	84.65	-3.150
	(35.33)	(100.4)	(50.09)	(54.34)	(51.15)	(60.67)	(122.6)	(25.27)	(27.50)
R-squared	**0.4372**	**0.1682**	**0.2720**	**0.1508**	**0.3336**	**0.2069**	**0.3679**	**0.2069**	**0.1424**
Observations	**105**	**108**	**157**	**185**	**245**	**148**	**76**	**288**	**512**

Table A7. Estimates for equivalised out-of-house consumption using income percentiles

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