Is financial fragility a matter of illiquidity?
An appraisal for Italian households[1]

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Abstract

The aim of this paper is to assess the role played by the composition of the household portfolio besides standard determinants of financial fragility (e.g. income, indebtedness, age, gender, financial literacy). Our analyses provide a contribution on these issues by taking the case of Italy, which lends itself to the investigation given the very peculiar portfolio composition (high level of housing on the one hand, low level of indebtedness and financial diversification on the other). First, we propose a novel definition of financial fragility. Second, based on this new measure, we use data drawn from the 1998-2008 Bank of Italy Survey on Household Income and Wealth (SHIW) and we perform a probit analysis to investigate the main determinants of financial fragility. The results highlight that our definition confirms the role played by most usual marker of fragility confirmed but emphasises new dimensions of financially fragile households.

PRELIMINARY VERSION, PLEASE DO NOT QUOTE

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1. Introduction

In recent years, household portfolios have attracted much attention and research efforts in a life cycle perspective, also due to a progressive shift from public to private pension schemes which force households to take a long-term perspective when deciding the portfolio composition. However, the recent financial and economic crisis has brought to the forefront the issue of household financial fragility, whose definition is by itself not univocal and remains somewhat controversial (see, e.g. Christelis et al., 2009; McCarthy, 2011).

The aim of this paper is to assess the role played by the composition of the household portfolio besides standard determinants of financial fragility (e.g. income, indebtedness, age, gender, financial literacy). More specifically the analyses we perform mean to answer a set of related questions: are households' portfolios too illiquid and, in particular, is there too much housing in them? Is there a trade-off between the optimal short- and long-term household portfolio? Are households too procyclical in their portfolio decisions?

Our analyses provide a contribution on these issues by taking the case of Italy, which lends itself to the investigation given the very peculiar portfolio composition (high level of housing on the one hand, low level of indebtedness and financial diversification on the other) and the very pronounced demographic structure (strong population ageing, whereby elderly are typically "house rich and cash poor"). We use data drawn from the 1998-2008 Bank of Italy Survey on Household Income and Wealth (SHIW), which provides a complete picture of the socio-economic and financial condition of around 8,000 households every two years.

First, we focus on the measurement issue. The existing literature uses different measures for (and hence definitions of) household financial fragility, most of them based on the degree of indebtedness, whereby financially fragile households are those unable to repay debts (Worthington, 2006; Jappelli et al., 2008; Anderloni and Vandone, 2010; Georgarakos et al., 2010). In our view, this definition is not only an ex-post measure (it actually captures the realized households' defaults), but it is also unsuitable for countries such as Italy, where households with access to credit (mainly mortgages) are already strongly selected. Not surprisingly the number of defaulted households is low. In contrast, by means of a new definition we mean to capture households unable to quickly finance unexpected expenses (even if possibly small). Thus, we define as financially fragile those

households whose income suffices to cover only the expected expenses. In this way, a more comprehensive measure of financial fragility is obtained, which includes households that are not necessarily indebted but have small or inexistent savings and households with positive but totally illiquid net wealth. In sum, our measure of financial fragility applies to all households, regardless of their being indebted or not. In order to test the goodness of our measure w.r.t. other existing ones, we compare it with other objective (actual) measures of financial fragility and with the subjective (perceived) one. More specifically, for the latter we rely on the answer to the question, available in the most recent waves of the SHIW (2002-2008), about the overall financial condition of the households. Our results can be usefully confronted with Lusardi et al. (2011), who perform a comparable analysis for the US.

Second, based on this new measure, we perform a probit analysis to investigate the main causes of financial fragility. Specifically, we analyse the typical socio-economic characteristics - e.g. income, wealth, age, gender, position on the labour market and education - of financially fragile households. Besides these traditional features however, we investigate the association between financial fragility of households and the illiquidity of their portfolios, appropriately measured by means of a liquidity index. These analyses allow to gauge to what extent the excessive weight placed on housing accounts for the financial fragility of some households with specific demographic features (e.g. old age). Moreover the time span we take for our investigation includes booms and busts in markets - e.g. stock and housing - which are fundamental in determining the composition of household portfolios, allowing the evaluation of the role played by excessive procyclicality in portfolio choices.

The rest of the paper is organized as follows. While Section 2 discussed the definition of household financial fragility and reviews the literature on financial fragility and highlights some limitations of the measures so far used, Section 3 presents our novel definition. Section 4 describes our dataset. The results of the empirical analyses are presented and discussed in Section 5. Last Section concludes.

2. The literature

The definition of households' financial fragility is not univocal and is by itself an issue. Therefore a review of the literature on the issue is not easy and the present Section does not mean at all to be exhaustive on the topic, but to give only a references to frame our contribution.

A strand of literature has been developing in recent years fostered by the increasing indebtedness of the households in mature economies which has raised, among others, concerns about sustainability of their debt. The burst of the subprime crisis in the United States has emphasized the need of an in-depth understanding of the household ability to service the debt. It follows that studies falling within this literature are mainly concerned with indebted households and look at some indicator of their financial vulnerability. Still, the various studies differ depending on the vulnerability indicator and the vulnerability threshold used, the dataset and countries of interest, the period of time analyzed and the empirical approach used. As for the indicator used, a further distinction concerns the use of quantitative versus qualitative variables. Tables 1 and Table 2 offer a synopsis of some studies based on quantitative and qualitative indicators respectively.

[Table 1 and Table 2 here]

By inspection of the Tables it is apparent that the great part of the studies are concerned with a concept of financial distress which is merely related to indebted household, with some notable exceptions (e.g. Brown and taylor (2008), Chritselis et al. (2009), Lusardi et al., 2011). As for the determinants in most case, most of the informative content (or early warning nature) of these measures can be explained by income. Moreover it has to be stressed that some measure based on answer to specific questions may suffer of a strong subjectivity bias.

By contrast, we seek for a quantitative definition that relates to financial portfolio allocation, that does not refer to indebted household only and takes as relevant horizon the short run[2].

3. Financial Fragility: our definition

If the broad literature on the issue recalled above is of much interest for countries where (excessive) indebtedness for housing is quite common, there are countries such as Italy where the saving rate has normally been high and indebtedness quite low.

Our ideal measure of financial fragility does not aim to capture difficulties raising from insufficient income or over-indebtness, rather it aims to capture cases of "suboptimal" portfolio allocation, whereby by suboptimal we mean a portfolio that does not reach an appropriate diversification not only in terms of market and credit risks, but also in terms of liquidity risk. In other words, we believe that all households should hold a liquidity buffer to face unexpected expenses.

We thus define as financially fragile those households meeting the following two conditions:

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[2] In other words, we do not want to address retirement issues that fall within a different literature.

1) Income >= expected expenses

2) Liquidity < unexpected expenses

        Where:

- income is the total yearly income earned by the household

- expected expenses measure the programmed expenditures of the household, and are here measures as the sum of the yearly: nondurable consumption, payments for rent and/or mortgages, maintenance payments and insurances (life, health and indemnity insurances).

- liquidity represents the liquid assets of the households, here measured as the sum of bank and postal deposits

- unexpected expenses correspond to "non-programmed" outflows such as major car repairs, unexpected medical expenses or even a temporary income loss. We here quantify them with 1500 € (in real terms)[3], which is coherent with survey question by Lusardi et al. (2011).

The definition adopted therefore allows us to depict all households that do not have strict income constraints problems (the income they earn is more than enough to cover all expected expenses), they might not be able to face unexpected expenses. In this way, we are able to identify those households which are not (currently) in economic or financial trouble, rather those which might (potentially) be so. Our financially fragile households might even be rich: simply they hold somehow too illiquid, "long-term oriented" portfolios (presence of housing, financial assets held in risky assets, etc...).

4. Dataset and Methodology

Our dataset spans over the period 1998-2008 and draws from the Bank of Italy Survey of Household Income and Wealth (SHIW), which specifically provides over that period nine waves (1989, 1991, 1993, 1995, 1998, 2000, 2002, 2004, 2006, 2008). The SHIW basic sample unit is the household defined as "a group of cohabiting people who, regardless for their relationships, satisfy their needs by pooling all or part of their incomes". For each household, the SHIW provides plenty of demographic information, of which we have used the following: the number of household components, the number of children, as well as the age, level of education, gender and marital status of the financial head of the household. Beside demographic information, the SHIW also provides

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[3] We use the consumption deflator (100 = 2008) provided by ISTAT.

economic information about the households, including income, net wealth (real and financial assets net of financial liabilities) as well as the amounts (expressed in Italian lira until 2000 and in Euro thereafter) invested in a variety of financial assets.

Based on this dataset, we have estimated a probit model for the household being financially fragile according to the definition given in Section 3 as a function of several controls:

- Year
- Region of residence
- Demographic: gender, age, marital status, number of components of the household, number of children under the age of 18, education
- Economic: income and wealth, occupational status
- Portfolio choices: presence of housing, mortgages or debt towards other families or relatives, liquidity of financial assets, relative weight of housing value over total assets.

Descriptive statistics are reported in Table 3.

Table 3. Descriptive statistics

	mean	sd	min	max	N
welloff (those meeting the first condition)	0,7948	0,404	0	1	45.926
fragile among welloff	0,2058	0,404	0	1	36.753
fragility	0,1636	0,370	0	1	45.926
liquid_af	0,7717	0,347	0	1	38.895
liquid_home	0,2600	0,381	0	1	43.327
liquid_tot	0,1648	0,278	0	1	45.926
illiquidity	0,577	1	0	100	45926
eta	55,4274	16,197	16	104	45.926
y2	29888,4900	26.459,310	-41575	1022617	45.926
w	211293,1000	424.393,200	-769612	28600000	45.926
ncomp	2,6040	1,286	1	9	45.926
kids	0,4544	0,810	0	7	45.926
edu_1	0,0670	0,250	0	1	45.926
edu_2	0,2664	0,442	0	1	45.926
edu_3	0,2883	0,453	0	1	45.926
edu_4	0,2889	0,453	0	1	45.926
edu_5	0,0857	0,280	0	1	45.926
edu_6	0,0037	0,061	0	1	45.926
male	0,6509	0,477	0	1	45.926
married	0,6452	0,478	0	1	45.926
nevermarried	0,1224	0,328	0	1	45.926
divorced	0,0619	0,241	0	1	45.926
widow	0,1706	0,376	0	1	45.926
owner	0,6986	0,459	0	1	45.926
val_home	131683,2000	169.217,000	0	5000000	45.926
debt_banks	0,2333	0,423	0	1	45.926

debt_mortg~e	0,0796	0,271	0	1	45.926
debt_family	0,0211	0,144	0	1	45.926
pf1	8406,7320	48.932,640	0	4200000	45.926
mortgage	497,5196	2.127,618	0	51646	45.926
pf3	144,9885	2.107,061	0	200000	45.924
pf	9164,8340	54.782,150	0	4301000	45.926
employed	0,3424	0,475	0	1	45.926
employee	0,1573	0,364	0	1	45.926
retired	0,4072	0,491	0	1	45.925
unemployed	0,0246	0,155	0	1	45.925
noempl	0,0685	0,253	0	1	45.926
squares	52,5648	37,458	3	1000	32.795

5. Results

We have first run a specification based on the standard control listed in the previous Section: results of the probit model are reported in Table 4.

Table 4. Results of the probit model

Constant	-1.2257***
male	-0.1331***
age	-0,0082
age_sq	0.0084*
Yquint2	0,0156
Yquint3	-0.1036**
Yquint4	-0.1414***
Yquint5	-0.2374***
Wquint2	-0.3378***
Wquint3	-0.5651***
Wquint4	-0.7249***
Wquint5	-0.8958***
ncomp	0.0736***
kids	-0.0849***
edu_2	-0.2008***
edu_3	-0.3904***
edu_4	-0.5117***
edu_5	-0.4764***
edu_6	-0.9448***
nevermarried	-0,0371
divorced	0.0974**
widowed	0,0720
debt_mortgage	-0.1664*
debt_family	0.2155***
employed	0.1337***
selfemployed	0.1425***
unemployed	0,0616

retired	0.1366**
owner	0.7225***
Observations	45925
Pseudo R2	0,1316

As for the economic dimension, it is apparent that financial fragility is decreasing in income and wealth, but increases with house ownership**.** As for the demographic dimension, it is to be noted that financial fragility is increasing in age but only very weakly, is lower for male, while the only relevant marital status is the divorced one which is characterised by a higher fragility, but not for widowed as could be expected. The number of components naturally increases fragility, but number of children decreases it, which can be explained on the basis of a higher attention of household with children to unexpected expenses. Consistent with the literature on financial education, the educational attainment, which can be taken as a proxy of financial education, is very relevant. As for the ooccupational status, financial fragility is higher for all status. Interestingly, mortgage debt is not highly significant but it would in case decrease financial fragility, while debt versus family indicates a state of financial distress, possibly due to the fact that household resorting to relatives for credit have already been rated low from banks. The time dimension (time dummies not shown in the table) indicate procyclicality of this indicator, possibly due to overall portfolio procyclicality, as shown by previous studies for Italy (Brunetti and Torricelli, 2010).

In sum, most results are as expected expect for the role of age and the marital status of widowhood. To explain the latter result, we add to the above model the interaction between widowed and owner: the results in Table 5 reveals that financial fragility of widowed is present only in the presence of housing.

Table 5. The role of ownership for widowed

Constant	-1.2190***
male	-0.1346***
age	-0,0077
age_sq	0.0081*
Yquint2	0,0122
Yquint3	-0.1046**
Yquint4	-0.1419***
Yquint5	-0.2372***
Wquint2	-0.3452***
Wquint3	-0.5696***
Wquint4	-0.7280***
Wquint5	-0.8983***
ncomp	0.0738***

kids	-0.0852***
edu_2	-0.2025***
edu_3	-0.3919***
edu_4	-0.5128***
edu_5	-0.4771***
edu_6	-0.9467***
nevermarried	-0,0381
divorced	0.0921**
widowed	-0,0123
debt_mortgage	-0.1585*
debt_family	0.2140***
employed	0.1334***
selfemployed	0.1444***
unemployed	0,0598
retired	0.1369**
owner	0.6980***
widowed*owner	0.1132**
Pseudo R2	0,1318

 To further assess the mild relevance of age, we estimate a probit with a finer specification of age in terms of age classes (<30, 31-40, 41-50, 51-60, 61-70, >79), where the former is the reference one. Based on this finer age specification, we estimate a model where we interact the age dummies and the widowed status with house ownership.

Table 6 – The role of age and widowhood

Constant	-1.4515***
male	-0.1355***
Age_class2	0,0037
Age_class3	0.1106*
Age_class4	0,0983
Age_class5	0,1179
Age_class6	0,1346
Yquint2	0,0100
Yquint3	-0.1081**
Yquint4	-0.1432***
Yquint5	-0.2343**
Wquint2	-0.3538***
Wquint3	-0.5763***
Wquint4	-0.7341***
Wquint5	-0.9041***
ncomp	0.0765***
kids	-0.0915***
edu_2	-0.2054***
edu_3	-0.3912***

edu_4	-0.5144***
edu_5	-0.4782***
edu_6	-0.9314***
nevermarried	-0,0336
divorced	0.0870**
widowed	-0,0100
debt_mortgage	-0.1677*
debt_family	0.2068***
employed	0.1390***
selfemployed	0.1486***
unemployed	0,0625
retired	0.1238*
owner	0.8439***
widowed*owner	0,1132
dage2_owner	-0,0664
dage3_owner	-0.1821***
dage4_owner	-0.2434**
dage5_owner	-0.1577**
dage6_owner	-0,1206
Observations	45925
Pseudo R2	0,1324

Results in table 5 reveal that, even in the presence of a finer age specification, age alone does not affect financial fragility, but house ownership make younger and older families more fragile Overall we can say that age matters only for homeowners and dominates the marital status effect.

5.1 Robustness

Main results and conclusions persists with different specifications: e.g. for income and wealth (quadratic rather than in quintile dummies), with different thresholds for the liquidity level entering our definition of financial fragility (1200 to 1800€), with number of income earners rather than number of components. Results available upon request.

6. Conclusions

In the present paper we have proposed a definition of household financial fragility that aims to exclude households whose financial fragilities are totally explained by income (e.g. overindebted) and to separate the role played by expected and unexpected expenses. In particular, we define as financially fragile those households who are able to afford expected expenses, but do not have liquidity enough to face unexpected ones. In other words, our definition means to capture households who are not currently financially vulnerable but might become so in the near future.

The empirical analysis is performed for the case of Italy where ownership is high, but indebtedness low and usual measure fail to capture fragilities of the households. The results highlight that our definition confirms the role played by most usual marker of fragility confirmed (income, wealth, education, gender etc), but emphasises new dimensions of financially fragile households. In particular, contrary to common credence, we show that the fragility connected with age and widowhood is not extant, but it is confirmed only in the presence of housing.

Our approach is comparable with Lusardi et al.(2011), although they use answers to survey questions and they stress that some of their results may be due to perceptions related to the period the survey was run (June-Sept. 2009), e.g. the emerging fragility of US "middle class" may be due more to anxiety/pessimism. In our investigation, where we use an objective measure, we do not find that financially fragility is connected to the middle class, rather it appears that there is too much housing in Italian household portfolios. In particular old people find themselves with an excessive (compared also with their needs) amount of wealth immobilized in houses and young ones (with uncertain labour income perspectives) are locked in too early in housing, an important engagement which, as stressed by Donovan & Schnure (2011) also implies a reduction in labour mobility.

Our analyses, which is preliminary to further investigations, is relevant for markets and intermediaries (e.g. financial advisors) and highlight the need for normative models for household portfolio selection to drive realistic choices in consideration of the housing decisions (e.g. Kraft and Munk, 2011) and the need to hedge its riskiness (e.g. Voicu and Seiler, 2011).

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Table 1 – Quantitative indicators in the literature

Quantitave variable	Definition/interpretation	Threshold (when given)	Paper/Country/Period
Net worth	Assets (financial assets +house estimated value for home owners) – Liabilities (mortgages + unsecured debt)	<0 (negative net worth)	Brown S., Taylor K., (2008) D (Soep 2002), UK (BHPS 2000), USA (PSID 2001)
Net worth/income ratio			Christelis D., Jappelli T., Paccagnella O., Weber G. (2009) SE, DK, DE, NL, BE, FR, CH, AT, IT, ES, GR (SHARE 2004, i.e. *over 65*)
Debt-to-income ratio	secured (i.e. mortgage) debt relative to annual income, unsecured debt relative to annual income		Brown S., Taylor K., (2008) D (Soep 2002), UK (BHPS 2000), USA (PSID 2001) *(based on definitions by Cox(2002))*
Mortgage income gearing	monthly mortgage payments relative to monthly income (i.e. the mortgage income gearing ratio)		Brown S., Taylor K., (2008) D (Soep 2002), UK (BHPS 2000), USA (PSID 2001) *(based on definitions by Cox(2002))*
Debt service ratio (DSR)	Total mortgage payments / household income (monthly basis)	> 35% (estimated)	Chiorazzo V., D'Apice V., Milani C., Torriero G., (2009) US (SCF , 2007), IT (SHIW, 2006) *Used as regressor*
	Total payments (any debts) / household income (gross due to problems in calculating the net one)	> 30% (from the literature) > 40% (used by financial institutions)	Faruqui U., (2008), 1999-2007 Dey S., Djoudad R., Terajima Y., (2008), 1999-2007 Canada
	Total mortgage payments / annual household disposable income		Kida M., (2009) New Zeland (HES, 2001-04-07)
	NB used together with negative financial margin to construct a scenario for debt at risk	> 50% > 75%	Fuenzalida M., Ruiz-Tagle J. (2009) Chile, EHF (2007)
			European Central Bank, (2005) NL, IE, LU, BE, FI, FR, ES, AT, DE, PT, IT, GR (1994-2001)
Income gearing ratio	Total mortgage payments / income (of the household or of the household head only)		May O., Tudela M., (2005) UK, BHPS (1992-2002) *Used as regressor*
Saving to income ratio	monthly savings relative to monthly income (i.e. the capital gearing ratio)		Brown S., Taylor K., (2008) D (Soep 2002), UK (BHPS 2000) e USA (PSID 2001) *(based on definitions by Cox(2002))*
Household income – debt service	Overindebtedness measure	< Non-seizable income	Keese M., (2009) D, Soep (2002-07)
		< Social assistance level & Debt service > 0	
(Income – debt service) / Non-seizable income	Debt performance measure		Keese M., (2009) D, Soep (2002-07)
(Income – debt service) / Social assistance level	Debt performance measure		Keese M., (2009) D, Soep (2002-07)

Consumer credit / income	Overindebtedness measure	> 0.5	Cavaletti B., Lagazio C., Vandone D., (2008) IT, SHIW 2004
Outstanding LTV ratio	Mortgage outstanding / house market value		Cunha M.R., Lambrecht B.M., Pawlina G., (2009) NL, DHS (1992-2005)
LTV	ratio of the original mortgage (i.e. value of mortgage when first taken) to the original value of the house	LTV classes < 50%, >50% <69%, > 70% <89%, >90%	May O., Tudela M., (2005) UK, BHPS (1992-2002) *As regressor*
	Estimated mortgage value / estimated current house value		Kida M., (2009) New Zeland (HES, 2001-04-07)
Margin	Household total income – debt service – Household total expenditures	< 0	Fuenzalida M., Ruiz-Tagle J. (2009) Chile, EHF (2007)
Financial margin	Household monthly income – minimum monthly income "to make ends meet"	< 0	European Central Bank, (2005) NL, IE, LU, BE, FI, FR, ES, AT, DE, PT, IT, GR (1994-2001)
Economic margin	Household disposable income – interest expenditure – other running costs	<0	Johansson M.W., Persson M. (2006) Sweden, HEK (2004)
Dummy distress	= 1 if Surplus + pledgeable wealth < minimum household consumption level		Herrala R., Kauko K., (2007) Finland (2000-04)
Debt at risk	$DR_k = \sum_{j=1}^{N} \frac{M_j D_{k,j} Exp(Z_j)}{1 + Exp(Z_j)}$ i iditifiy the household, k the debt type (mortgage vs. other), N total number of household in the sample, M sample weight, D debt amount, Z determined by the logit model		Herrala R., Kauko K., (2007) Finland (2000-04) *Simulation study*
Debt at risk	Calculated by multiplying the estimated probability of having mortgage payment problems for each household by the outstanding value of its mortgage		May O., Tudela M., (2005) UK, BHPS (1992-2002)
Aggregate negative housing equity (debt> house value)	$NHE = \sum_{j=1}^{N} M_j Max(0, D_{j,housing} - H_j) Exp(Z_j)/\{$ D= j household's mortgage, H proxy for house value		Herrala R., Kauko K., (2007) Finland (2000-04) *Simulation study*
Net housing equity	Mortgage debt/ Housing equity (market value of the house)	< LTV	European Central Bank, (2005) NL, IE, LU, BE, FI, FR, ES, AT, DE, PT, IT, GR (1994-2001)
% of households with financial wealth < = 3 months of income			Christelis D., Jappelli T., Paccagnella O., Weber G. (2009) SE, DK, DE, NL, BE, FR, CH, AT, IT, ES, GR (SHARE 2004, i.e. *over 65*)
% of households with debt other than housing			Christelis D., Jappelli T., Paccagnella O., Weber G. (2009) SE, DK, DE, NL, BE, FR, CH, AT, IT, ES, GR (SHARE 2004, i.e. *over 65*)

Table 2 – Qualitative indicators in the literature

Variable	Definition/Interpretation	Paper/Country/Period
Percentage of population in arrears on mortages and other loans	Answer to a question (separate for the two types of laons) regarding the past 12 months	Jappelli T., Pagano M., Di Maggio M., (2008) 11 countries EU (A, B, DK, Fin, FR, GR, Irl, IT, NL, PT, ES). ECHP (1994-2001) + Silc (2004)
Dummy for mortgage in distress	Arrears > 90 days in at least one instalment	Bonaccorsi di Patti E., Felici R., (2008) IT, data Centrale dei Rischi (2004 – 2007)
Dummy for expired credit		Bonaccorsi di Patti E., Felici R., (2008) IT, data Centrale dei Rischi (2004 – 2007)
Dummy for credit expired, in distress, stranded		Bonaccorsi di Patti E., Felici R., (2008) IT, data Centrale dei Rischi (2004 – 2007)
Financial burden	Ordinal response to the question how burdensome the total housing cost is. Responses vary from 3 = a heavy burden, over 2 = somewhat a burden, to 1 = not a burden at all	Beck T., Kibuuka K., Tiongson E., (2010) A, B, Cyprus, DK, Fin, FR, UK, GR, Irl, IT, Lux, NL, PT, ES, SW, CZ, Estonia, H, Latvia, Lit, Pol, SK, Slo. Eu-Silc (2005,06,07)
Dummy for distress due to housing cost	Ordinal response to the question how burdensome the total housing cost is. Responses vary from 3 = a heavy burden, over 2 = somewhat a burden, to 1 = not a burden at all	Georgarakos D., Lojschova A., Ward-Warmedinger M., (2010) FI, UK, DK, DE, NL, BE, FR, AT, IT, ES, PT, GR. ECHP (1994-2001)
Dummy for: arrears on mortgages and rents; arrears on bills; arrears on instalment loans and other loans; - any arrears		Beck T., Kibuuka K., Tiongson E., (2010) A, B, Cyprus, DK, Fin, FR, UK, GR, Irl, IT, Lux, NL, PT, ES, SW, CZ, Estonia, H, Latvia, Lit, Pol, SK, Slo. Eu-Silc (2005,06,07)
Dummy for unmet medical needs due to lack of finance		Beck T., Kibuuka K., Tiongson E., (2010) A, B, Cyprus, DK, Fin, FR, UK, GR, Irl, IT, Lux, NL, PT, ES, SW, CZ, Estonia, H, Latvia, Lit, Pol, SK, Slo. Eu-Silc (2005,06,07)
Dummy for difficulties in keeping up with housing payments	Answer to the question: In the last twelve months would you say you have had any difficulties paying for your accommodation?	May O., Tudela M., (2005) UK, BHPS (1992-2002)
Percentage of households in arrears on mortgages conditional on having this type of loan	Answer to a question regarding the past 12 months	Magri S., Pico R., (2009) ES, Fin, FR, Irl, IT, NL, UK. Eu-Silc (2005-2006)
Frequency of households in arrears on mortgages on the total population	Answer to a question regarding the past 12 months	Duygan-Bump B., Grant C., (2008) DK, NL, B, FR, Irl, IT, GR, SP, PT, A. ECHP (1994-2001) Diaz-Serrano L., (2004) DK, NL, B, Lux, FR, UK, Irl, IT, SP, PT, A, Fin. ECHP (1994-2001)
Frequency of households in arrears on mortgages and other debts on the total population	Answer to a question regarding the past 12 months	Duygan-Bump B., Grant C., (2008) DK, NL, B, FR, Irl, IT, GR, SP, PT, A. ECHP (1994-2001)
Dummy for arrears on the household's debts		Peter V, Peter R., (2006) Australia (ABS, 2001 e AHS, 1999)

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% of families that thinks a mortgage is : A big burden somewhat a burden		European Central Bank, (2005) Per: NL, IE, LU, BE, FI, FR, ES, AT, DE, PT, IT, GR (1994-2001)
% of households having difficulties "making ends meet"		Christelis D., Jappelli T., Paccagnella O., Weber G. (2009) SE, DK, DE, NL, BE, FR, CH, AT, IT, ES, GR (SHARE 2004, i.e. *over 65*)
% of families that at the same time: Monthly debt servicing burden-to-income ratio >30% Negative financial margin Unable to service debt		European Central Bank, (2005) NL, IE, BE, FI, FR, ES, AT, PT, IT, GR (1994-2001)
% of families and % of debt hold by household having both High LTV (>80%) High DSR (>55%)		Kida M., (2009) New Zeland (HES, 2001-04-07)
Confidence in Ability to Cope with Unexpected Expense	"*How confident are you that you could come up with $2,000 if an unexpected need arose within the next month?*" Certain/Probably/Proably not/ Certainly Not	Lusardi, Schneider, Tufano 2011