

Types of Household Debt, Trends, and Risks

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December 14, 2018

New risk, old problem

This year, for the first time, the number-one risk is “TECHNOLOGY”

...

Is facilitating growth by making excessive risk-taking more likely, particularly by encouraging people to overborrow (CSFI)



Technology cannot solve all of Afric...
economist.com

High level of debt is a matter of concern...



people living below poverty line ...
businessstoday.in

A household that can not repay its debt could be forced to weaken also its consumption, ultimately experincing decrease in its standard of living

... especially if high level of debt concerns many households



Poor People's Campaign - Wikipedia
en.wikipedia.org

If many households cannot serve their debt, banks will suffer and will cut their loans, the economic activity of a country will slow down, potentially causing social instability..



**Monitoring
household debt
is **VERY** important!!!**

Survey data are VERY USEFUL because they allow to:

- 1) study phenomena that cannot be detected from macroeconomic data (Informal debt)
- 2) identify groups of households at risk
- 3) evaluate the dynamics over time
- 4) distinguish between demand and supply
- 5) measure the risks through indicators

Outline

- Categories of household debt
 - Informal debt
 - Consumer credit & mortgages
- Different indicators of over-indebteness
- Financial vulnerability

**Micro data to study phenomena
that cannot be detected from
macroeconomic data:
Informal debt**

Informal debt: the case of Italy (but also a universal case!)

Borrowing money from family and friends

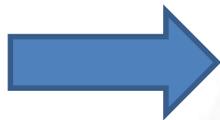
On 31 December 2014, did the household have credits or debts with relatives or friends not living with the household? **CREDIT€/DEBIT€ (If "Yes")** What was the amount? **TCREDIT€/TDEBIT€**

	YES	NO	AMOUNT
- credits	1	2 (If "Yes")	→ € _ , _ _ _ , _ _ _
- debts	1	2 (If "Yes")	→ € _ , _ _ _ , _ _ _

Informal debt: the case of Italy (but also a universal case!)

Borrowing money from family and friends

Financial
Crisis



Banks tightened
their lending standards
especially to poorer hhs
with unstable job



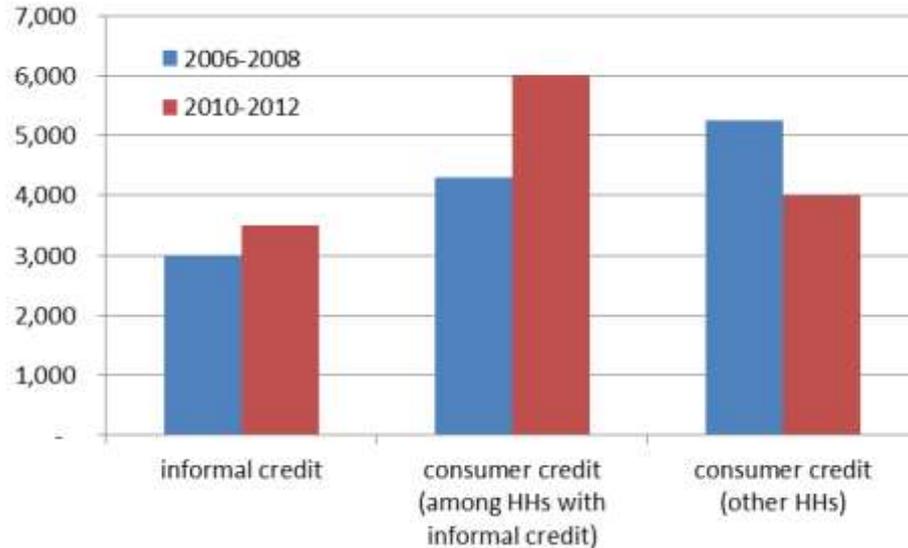
- Who used informal debt?
- Did this debt help hhs to maintain their standard of living?
- Any new risks?

Bartiloro & Rampazzi (2015, in Italian)

Informal debt: participation and dynamics

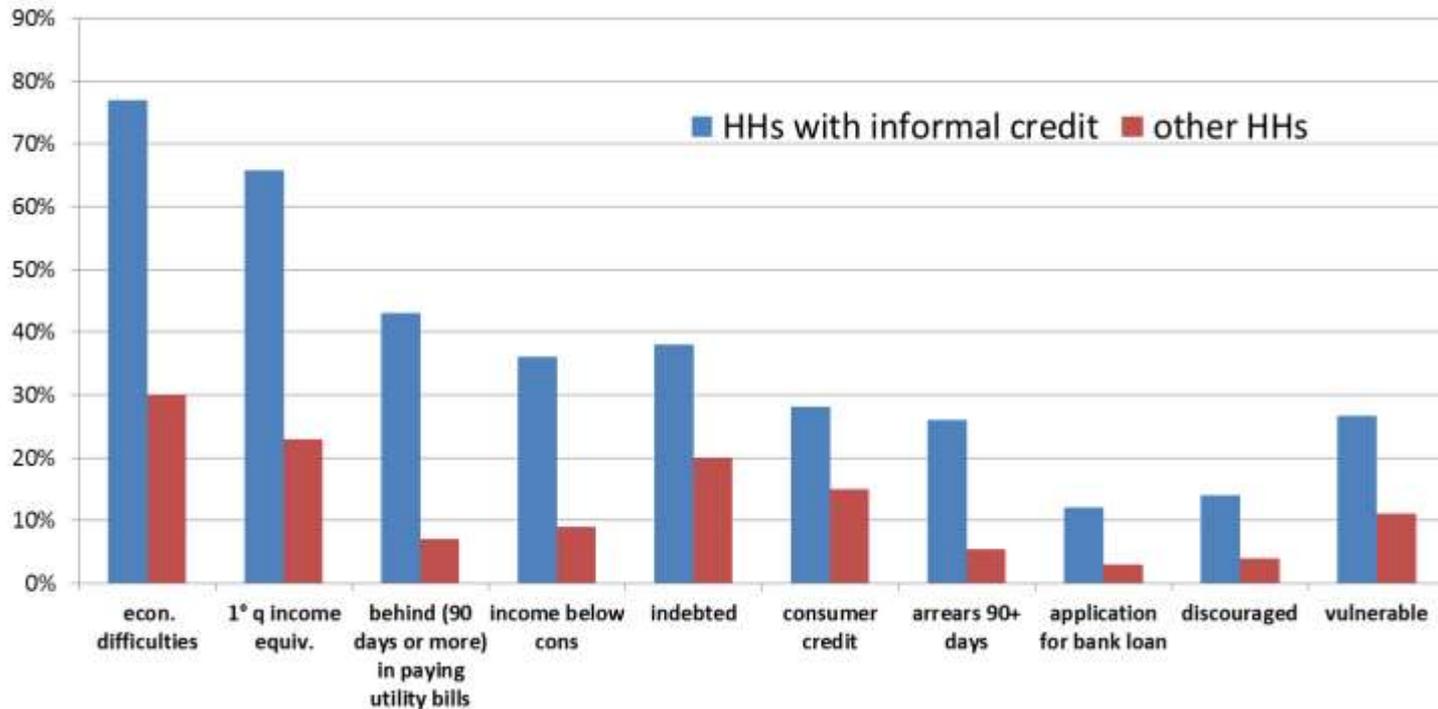
Participation: 2006-08=3.9%; 2010-12= 4.5%

Loan amount (*median*)



Who uses informal debt? More fragile households

Share of households (*mean values 2010-14*)



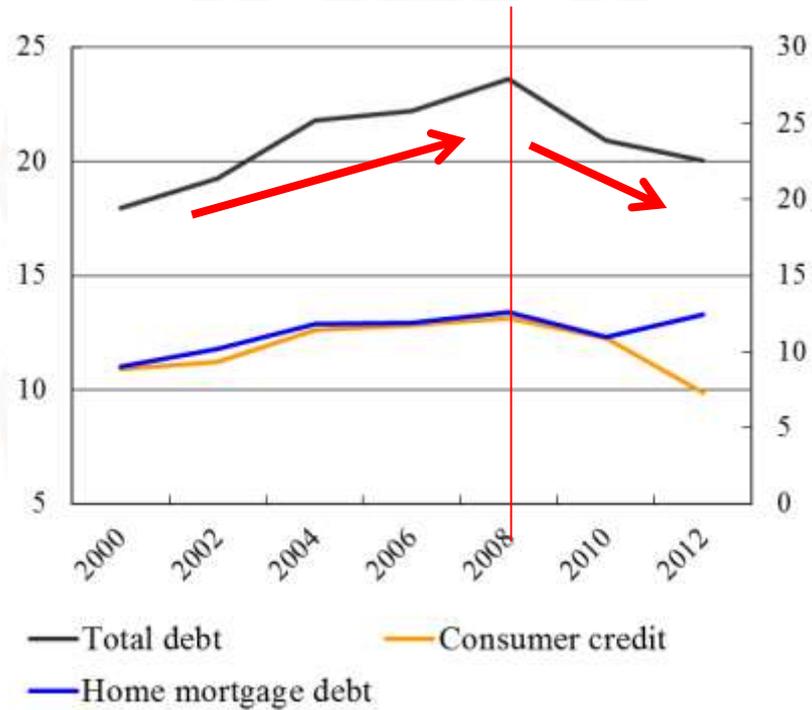
Did informal debt help households maintain consumption?

- The most relevant variable explaining household borrowing money from family and friends is the unemployment
- However, informal debt is not sufficient to offset the drop in consumption associated to the income negative shock
- The informal net is typically formed by households in similar economic conditions that cannot provide enough economic sustain

**Micro data to study dynamics and
identify risks by looking at
households' characteristics
(heterogeneity)**

Mortgages and consumer credit

Total debt participation



Total debt: demand and supply

D39. (If "No" to Question D34) Did you apply for a loan or mortgage in 2012 or 2013? MUTUOR3[€]

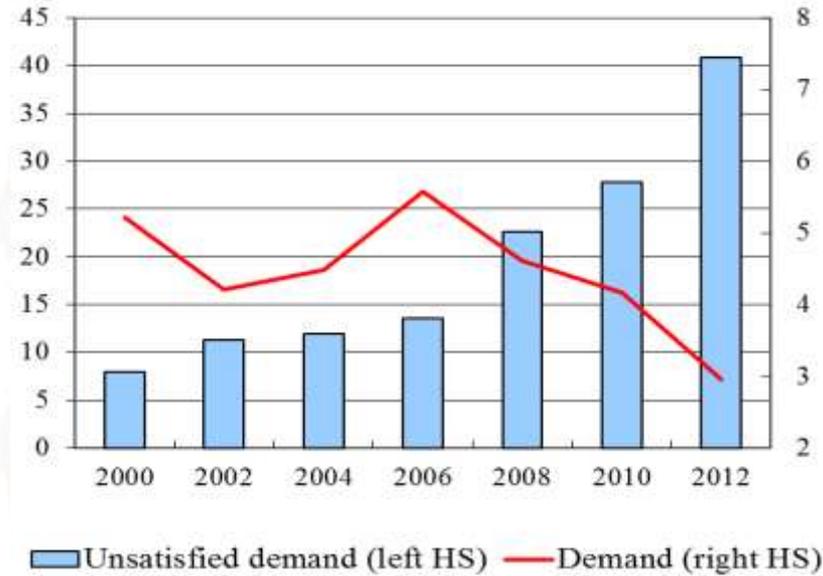
- Yes.....1
- No2 → Question D41

D40. (If "Yes") Was the request granted in full, granted in part or refused?

MUTUOE3[€]

- granted in full1
- granted in part2
- refused3

Total debt: demand and supply

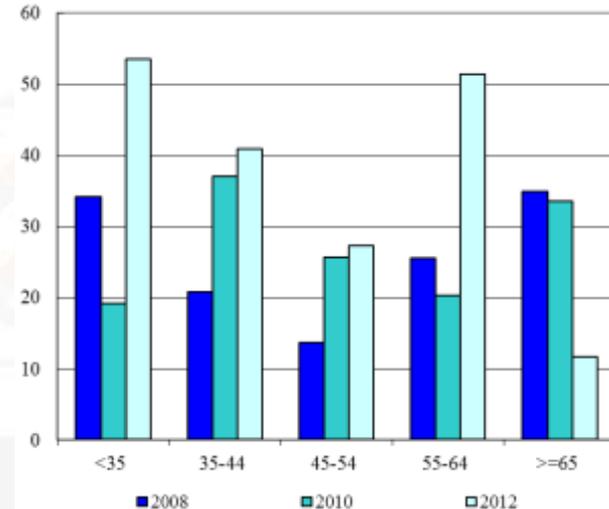
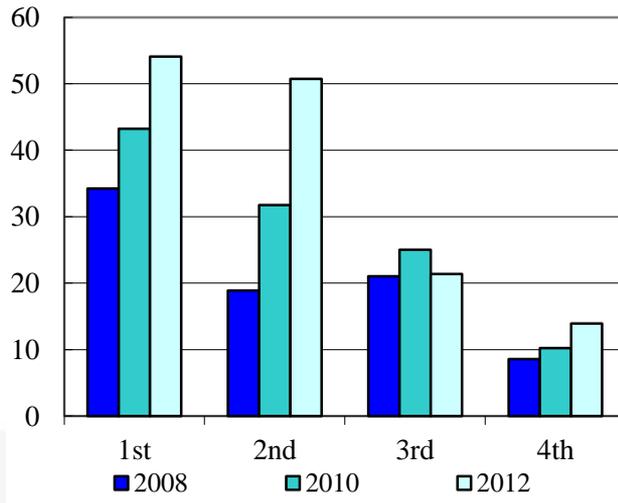


Demand of loans: Percentage of HHs that apply for a loan => **DECREASE AFTER 2008**
Unsatisfied demand: Percentage of HHs with unsatisfied demand among those that apply for a loan. => **INCREASE AFTER 2008**

Total debt: Role of supply

Banks more selective after 2008 financial crisis, in particular towards HHs with low income and young

Percentage of HHs with unsatisfied demand among those that apply for a loan



Mortgages

BANK OF ITALY GUIDES

BUYING A HOME - MORTGAGES

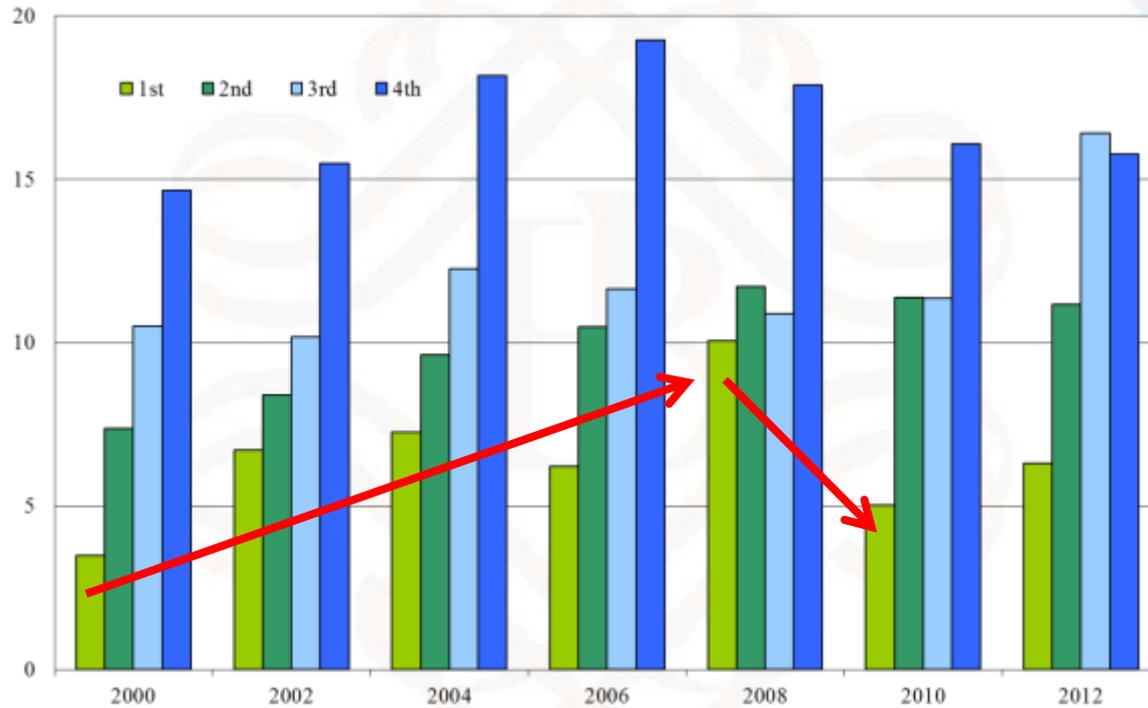


- A mortgage is a **medium- to long-term loan**, usually with a duration of 5 to 30 years.
- The borrower generally receives the entire amount in a lump sum and repays it over time in fixed or variable instalments.
- A mortgage is used to buy, build or renovate a building, particularly residential property.
- A mortgage is **secured by the property it is used to purchase.**

Mortgages: collateralized loans

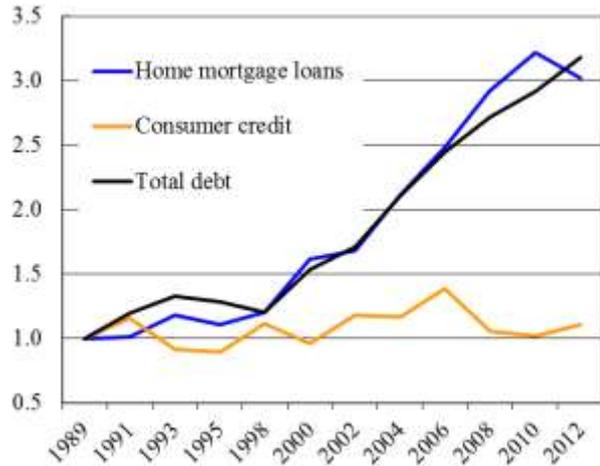
The vast majority of Italian HHs have a house, but mortgages are not very common (10% of the population)

Mortgages: participation by income class

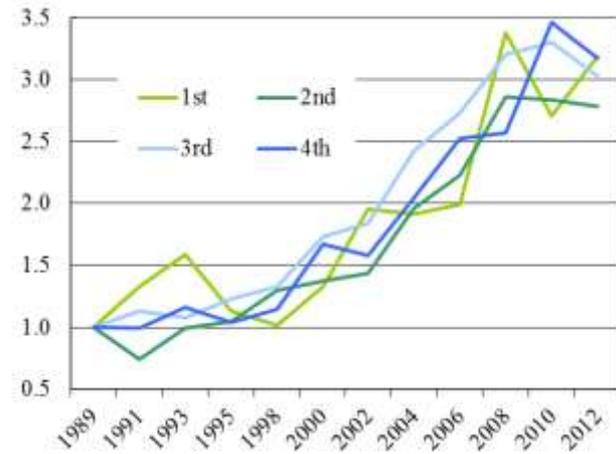


Mortgages: average household debt

by loan type



mortgages by income class



Costant price; index 1989=1

Consumer credit

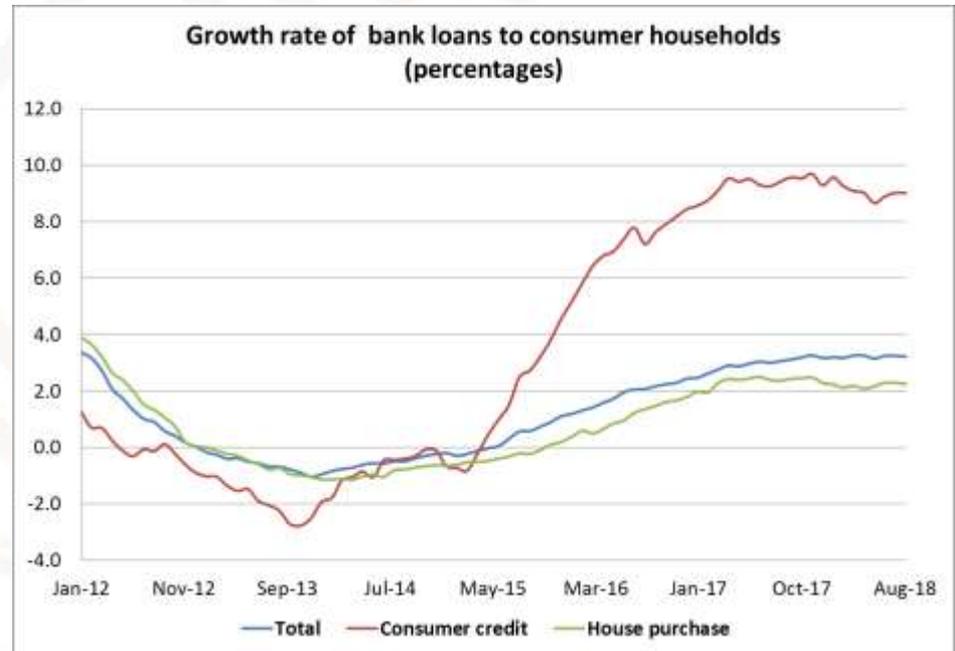
- A secured loan is connected to a piece of collateral, such as a car. With a secured loan, the lender can take possession of the collateral if you don't repay the loan .
- An unsecured loan is not protected by any collateral (credit cards, student loans, and personal loans). If the household does not repay the loan, the lender can't automatically take any property. To compensate this risk, these loans comes with higher interest rates.

Consumer credit: macro data

Macro data indicate a strong growth in recent years...

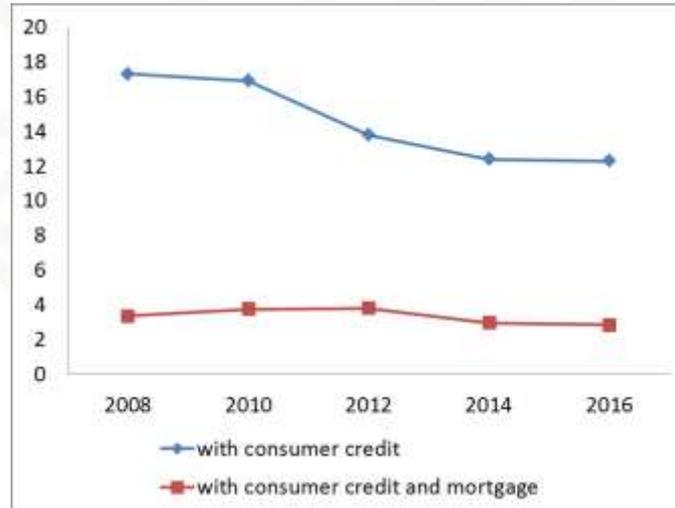
Any risks???

Who holds the debt?



Consumer credit: micro data

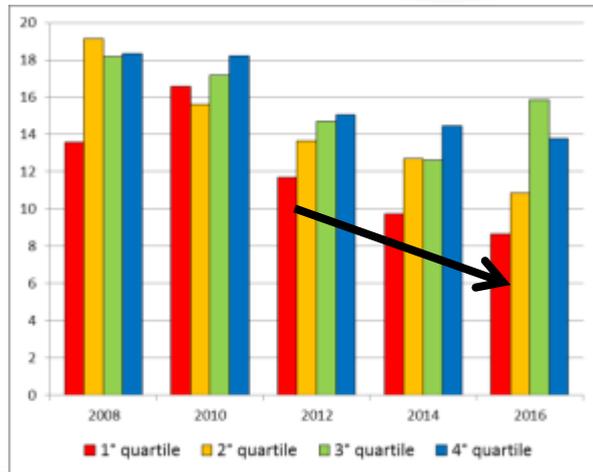
...Micro data indicate stable consumer credit participation in 2014-16 (lower than 2008)



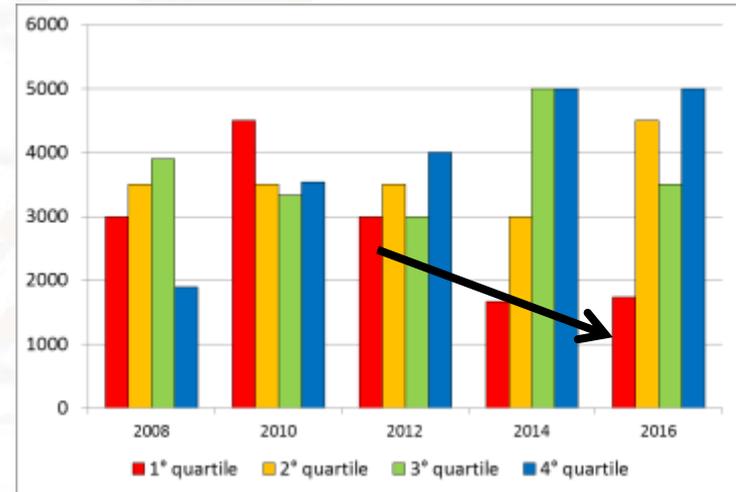
Consumer credit: heterogeneity by income quartiles

Increase in the median loan amount for HHs with higher income with respect to 2012

Participation (% HHs)



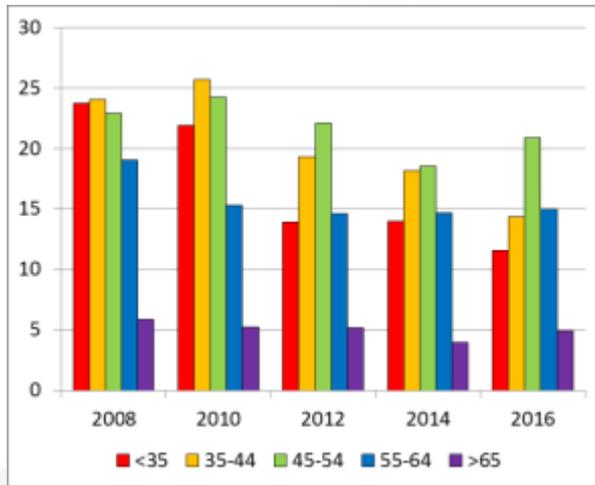
Median loan amount (euros)



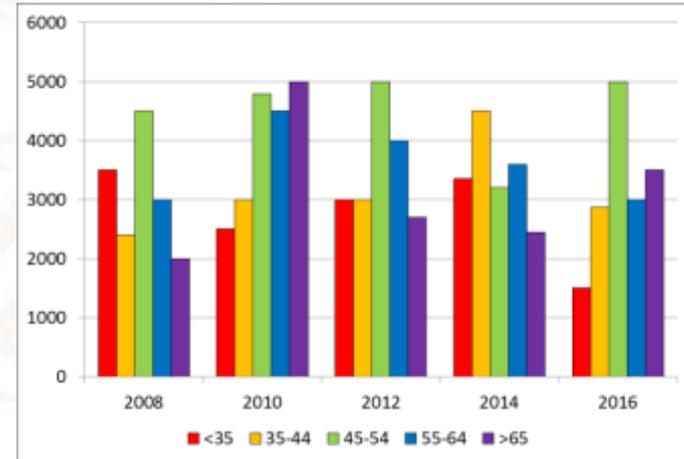
Consumer credit: heterogeneity by age

Decrease in participation and median loan amount for younger HHs

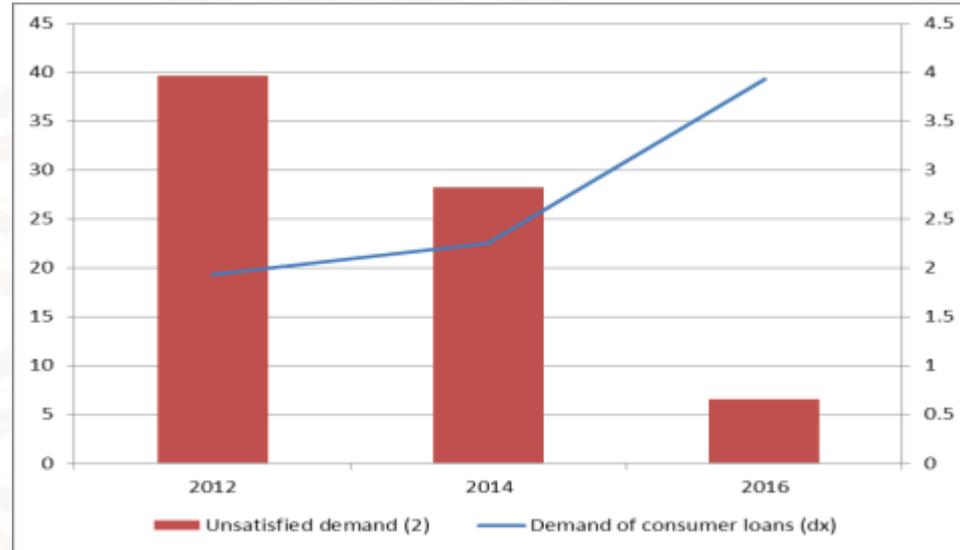
Participation (% HHs)



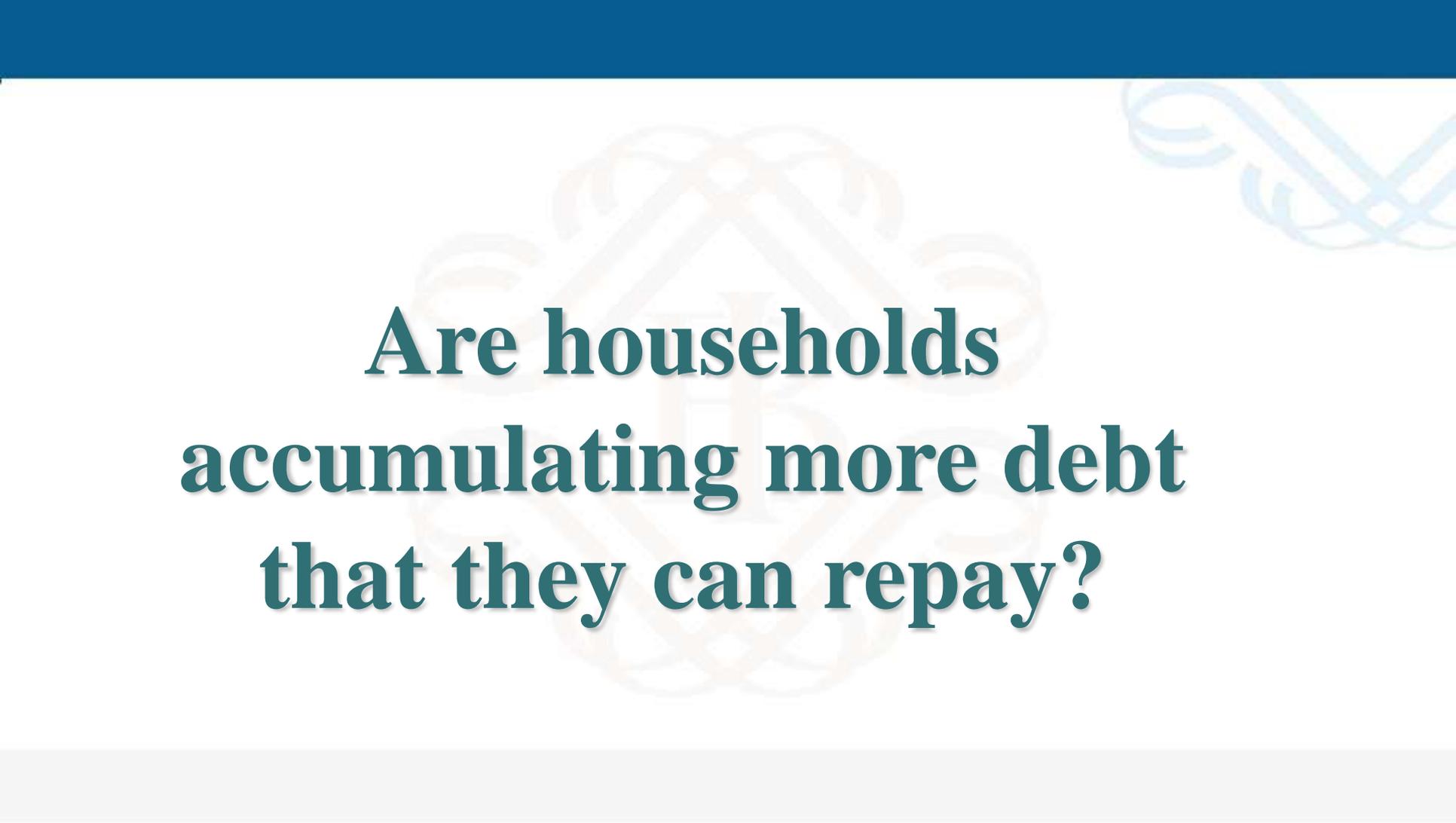
Median loan amount (euros)



Consumer credit: demand and supply



Demand of consumer loan: Percentage of HHs that apply for a loan => **INCREASE**
Unsatisfied demand: Percentage of HHs with unsatisfied demand among those that apply for a consumer loan. => **DECREASE**



**Are households
accumulating more debt
that they can repay?**

Over-indebtedness (D'Alessio & Iezzi, 2013)

Drivers/causes of over-indebtedness:

- Financial imprudence, i.e. poor financial decisions caused by an inadequate understanding of the real cost of repaying the loan
- Unexpected events: job loss, raise in interest rates, unexpected medical expenses
- Poverty, need for a loan (vicious circle)

Identify over-indebtedness

Set of criteria (European Commission, 2010) :

- the unit of measurement should be the household because the incomes of individuals are usually pooled within the same household;
- indicators need to cover all aspects of households' financial commitments: borrowing for housing purposes, consumer credit, to pay utility bills, to meet rent and mortgage payments and so on;
- over-indebtedness implies an inability to meet recurrent expenses and therefore should be seen as a structural rather than a temporary state;
- it is not possible to resolve the problem simply by borrowing more;
- for a household to meet its commitments, it must reduce its expenses substantially or find ways of increasing its income.

Identify over-indebtedness

According to these criteria, a **household is over-indebted when its existing and expected resources are insufficient to meet its financial commitments without lowering its standard of living.**

This definition of over-indebtedness might be widely accepted in principle but in practice it is very difficult to identify households in such a situation.

Consequently empirical studies have tended to use more practical definitions. Recent studies of over-indebtedness have tended to converge on a common set of indicators, while noting that there is no universal agreement on which indicator best captures true over-indebtedness (BIS, 2010, Keese, 2009)

Common indicators of over-indebtedness

Category	Indicator
Cost of servicing debt	Households spending more than 30% (or 50%) of their gross monthly income on total borrowing repayments (secured and unsecured)
	Households spending more than 25% of their gross monthly income on unsecured repayments
	Households whose spending on total borrowing repayments takes them below the poverty line
Arrears	Households more than 2 months in arrears on a credit commitment or household bill
Number of loans	Households with 4 or more credit commitments
Subjective perception of burden	Households declaring that their borrowing repayments are a “heavy burden”

SIMPLE EXAMPLE:

Are households that are taking consumer credit over-indebted? Can the growth in consumer credit lead to problems for financial sustainability and economic growth?

Consumer credit and financial difficulties (1)

In the SHIW, no question on subjective perception of burden, but the following question captures a condition of difficulty (not only associated with debt)

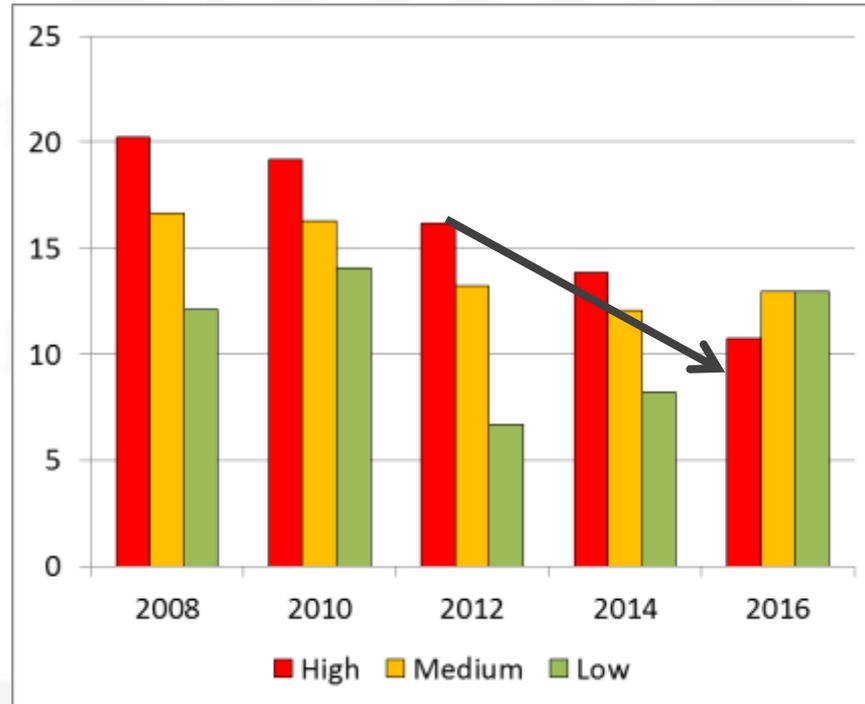
E18. Is your household's income sufficient to see you through to the end of the month... ? **CONDGEN**

(Interviewer, read out the answers)

- with great difficulty 1
- with difficulty 2
- with some difficulty 3
- fairly easily 4
- easily 5
- very easily 6

Consumer credit and financial difficulties (1)

Households with consumer credit by financial difficulty
(percentage of households)



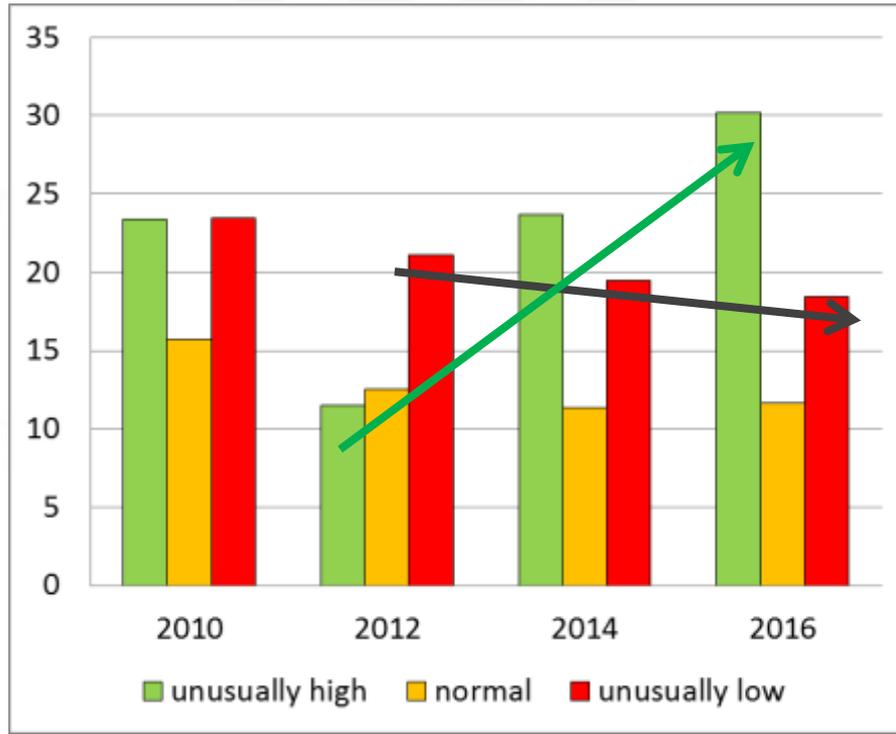
Consumer credit and financial difficulties (2)

B33. Considering the total income of your household in 2014, would you say that it was unusually high, unusually low, or normal with respect to the yearly income your household generally makes in a normal year?

(Interviewer! Read the possible answers) **VARRED**

- Unusually high..... 1 → *Question B34*
- Normal..... 2 → *Question B38*
- Unusually low 3 → *Question B36*
- Don't know (Interviewer! Do not read aloud!)..... 4 → *Question B38*
- No answer (Interviewer! Do not read aloud!) 5 → *Question B38*

Consumer credit and financial difficulties (2)



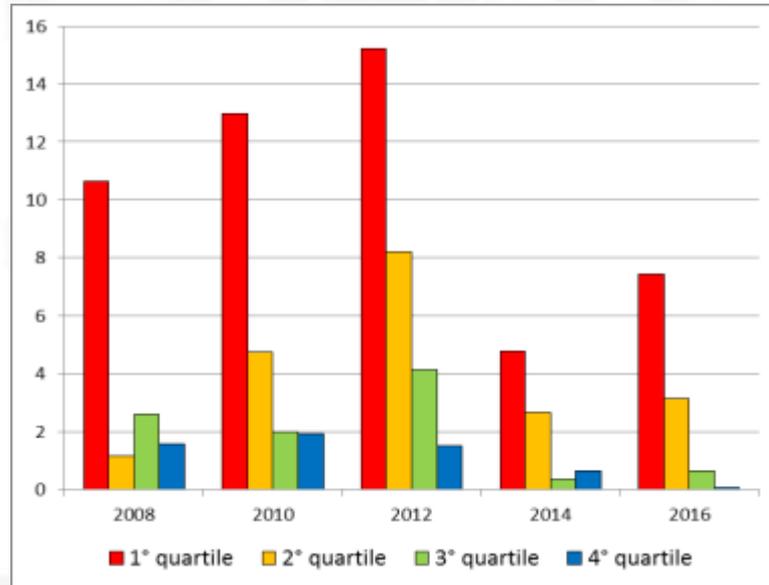
Consumer credit and risk

D32. Considering all loans of whatever type, was the household behind with payments by more than 90 days at any time or for any period of time last year? **RITARDO**

- Yes 1
- No 2

Consumer credit and risk

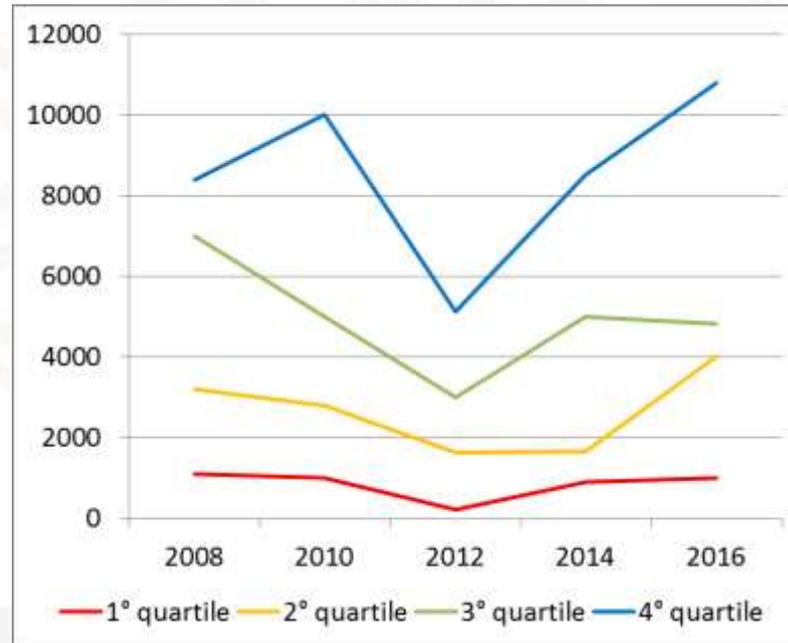
Households in arrears by more than 90 days by income quartile
(percentage of households among those with consumer credit)



Why the most affluent HHs need a consumer loan?

Liquid financial assets by income quartile

(median values, euros)



Banks' perspective: Non-performing loans

Non-performing loan: A loan on which the borrower is not making interest payments or repaying any principal.

Banks normally set aside money to cover potential losses on loans (loan loss provisions) and write off bad debt in their profit and loss account.

At what point the loan is classified as non-performing by the bank?
Different definitions in different countries and local regulations...

Harmonized definition of non-performing loans

European Banking Authority (EBA) issued in 2014 an **uniform definition of “non-performing exposure”** (NPE). The European Central Bank adopted the same definition to evaluate the level of non-performing loans of banks in its supervisory tasks for financial stability purposes.

Harmonized definition of non-performing loans: EBA (2014)

“non-performing exposures are those that satisfy either or both of the following criteria:

1. material exposures which are more than 90 days past-due
2. the debtor is assessed as unlikely to pay its credit obligations in full, without realisation of collateral, regardless of the existence of any past-due amount or of the number of days past due.”



**PAST-DUE
MORE THAN
90-DAYS**

**UNLIKELY
TO PAY**

Arrears +90 days: SHIW data and Supervisory reports

SHIW QUESTION: *‘Considering all loans of whatever type, was the household behind with payments by more than 90 days at any time or for any period of time last year?’*

Share of debt held by households in arrears +90 days (percentages)

	2014	2016
SHIW	3.2	3.4
Supervisory reports	3.9	3.5

Great similarity between SHIW data and the data from the Bank of Italy
Supervisory reports

Arrears +90 days and financial difficulty

Share of households in arrears +90 days (*percentages*)

	2008	2010	2012	2014	2016
Total sample	3.3	4.6	7.4	2.5	2.5
Is your household's income sufficient to see you through to the end of the month... ?					
with great difficulty/with difficulty	7.0	12.7	15.4	6.7	8.4
with some difficulty/fairly easily	1.6	1.5	3.0	0.3	0.7
easily / very easily	0.3	0.0	3.4	0.7	0.0

The share of households in arrears +90 days is concentrated among those with financial difficulties in making ends meet.

Arrears +90 days: distribution of HHs by income, debt, wealth

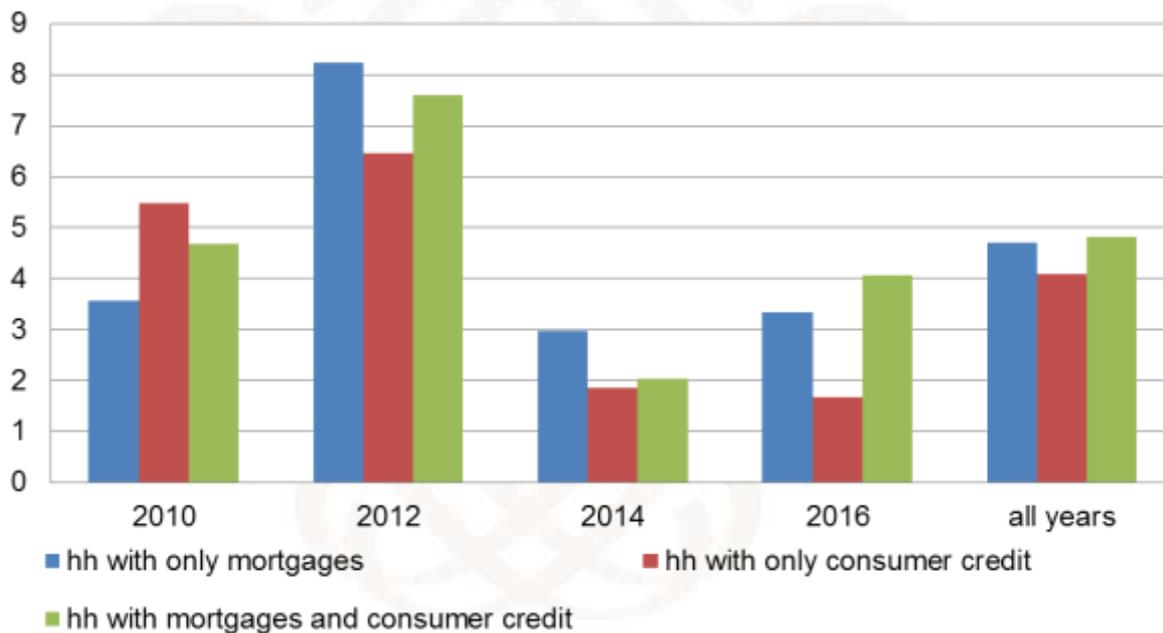
Table 3: Distribution of 90+ days delinquent households
(percentages)

quartiles	Equalized income (1)	Financial assets (1)	Total debt (2)	Debt service-to-income ratio (2)	Net wealth quartile (1)
1°	53.9	55.4	23.2	17.6	38.4
2°	20.7	25.8	29.2	19.0	30.6
3°	17.4	12.7	27.1	22.4	18.4
4°	8.1	6.1	20.4	41.1	12.7

(1) Quartiles refer to total sample.

(2) Quartiles refer to indebted households only.

Share of HHs in arrears +90 days by type of debt



Arrears +90 days and vulnerability indicators based on debt service to income ratio

It is difficult to project an indicator based on arrears to identify problems in advance.

We closely monitor with a semiannual frequency a **vulnerability indicators based on debt-service to income ratio** that are:

- highly correlated with arrears +90 days (Michelangeli and Rampazzi, 2016)
- suffer less from misreporting bias
- much simpler to project in order to identify in advance problems in the population

Main indicator of household vulnerability

$$\frac{\text{loan instalments}}{\text{net income}} > 30\%$$

&

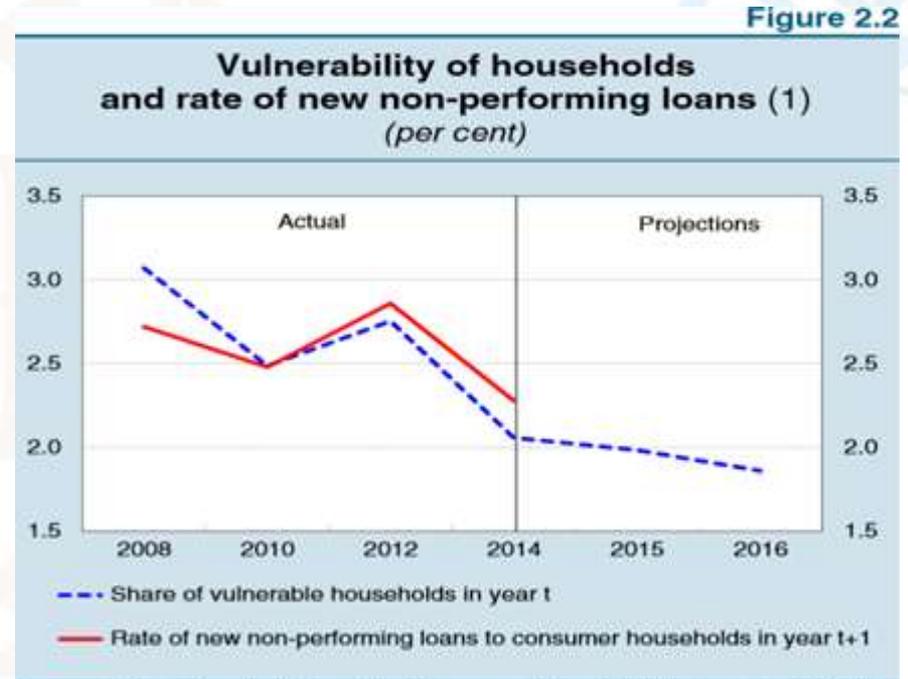
net income < median of the population

- Used by the Bank of Italy since 2012 in the Financial stability report

Vulnerability indicator and new non-performing loans

Financial stability report 1, 2016

(1) The red line indicates the rate of new non-performing loans to consumer households in year $t+1$, based on Central Credit Register data. The dotted blue line indicates the number of vulnerable households in year t , calculated using microeconomic data. The latest data available refer to 2014; a microsimulation model is used to estimate the values for 2015 and 2016.



Sources: Based on data from the Survey on Household Income and Wealth, and Central Credit Register data.

Vulnerability indicator and liquidity

Vulnerable HHs have on average higher wealth but less liquid assets. In particular their liquidity index, which measures the number of years a household could cover the total debt service only with the available liquidity, is below one.

Indicators of indebted households' liquidity <i>(percentages; average 2010-16)</i>				
	Total wealth	Financial wealth	Liquid assets	Liquidity index (fa/installment)
Vulnerable hhs	116.728	4.604	3.450	0,62
Other low-income hhs with DSR<30%	100.238	5.950	4.654	6,50
High-income hhs with DSR>30%	348.463	26.905	13.427	0,82
High-income hhs with DSR<30%	335.674	36.104	16.190	15,15

Vulnerability indicator and interest rates

Vulnerable HHs have on average a higher consumer credit amount and pay higher interest rates

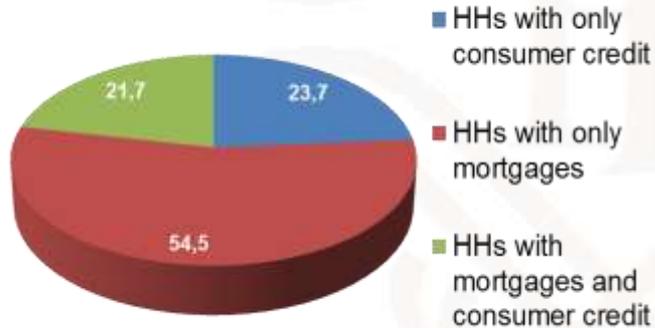
Consumer credit			
<i>(euro and percentages; average 2010-16)</i>			
Type of households		Average consumer credit amount	Average interest rate
Low-income	Vulnerable	2.253	5,22
	DSR<30%	1.662	4,32
High-income	DSR>30%	2.880	4,59
	DSR<30%	2.007	3,96

Vulnerability and type of debt

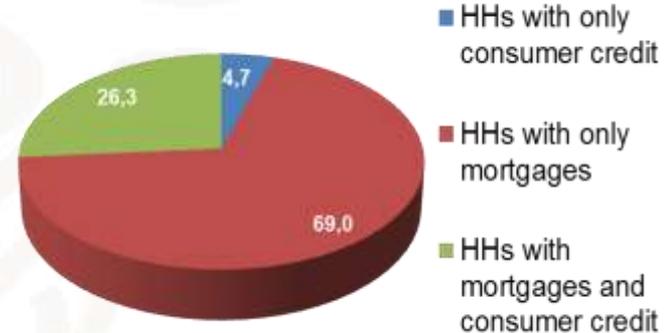
Financial vulnerability by type of debt

(average 2010-16; percentages)

a) Distribution of vulnerable households



b) Distribution of debt at risk



A microsimulation model to evaluate Italian households' financial vulnerability (Michelangeli & Pietrunti, 2014)

We build a microsimulation model to monitor the financial vulnerability of Italian households.

The model is used to:

- To project the future path of households' indebtedness and debt-service ratio.
- To evaluate the impact of possible policy interventions.
- To analyse the evolution of vulnerable households under stress scenarios (e.g. income or interest rate shocks) in the short-to-medium run.

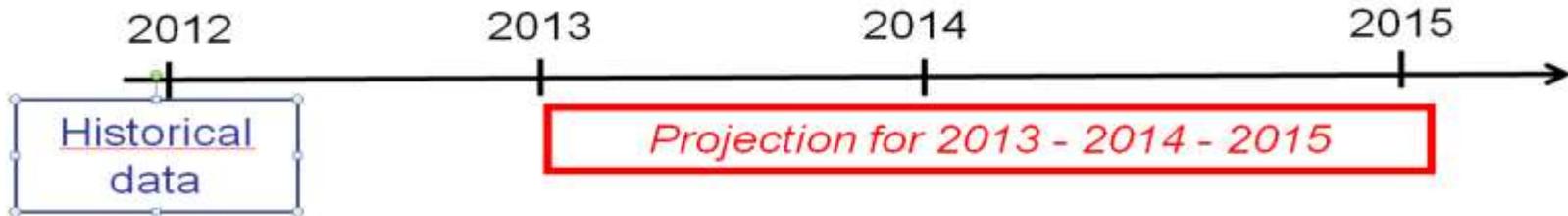
Pros and cons of microeconomic data

- **PROS:** The use of microeconomic data allows to identify the groups of households that are more exposed to macroeconomic and financial shocks.
- **CONS:** Low frequency data (for instance, the Survey on Households, Income and Wealth is carried out every two years) and available after one or two years.

Pros and cons of macroeconomic data

- **PROS:** Data available at higher frequency
- **CONS:** Aggregate data: do not allow to identify the groups of households that are more exposed to negative shocks

Microsimulation model of vulnerability



- To monitor the risks for the financial stability, we use microsimulation models that allow to update the microeconomic information on the vulnerability of households with macroeconomic data.
- We keep the benefits associated with the heterogeneity (micro data) and of timeliness (macro data) => that allows to identify in advance in which groups of households can arise difficulties in meeting the debt obligations

Projections of vulnerability

Financial stability report 2, 2018

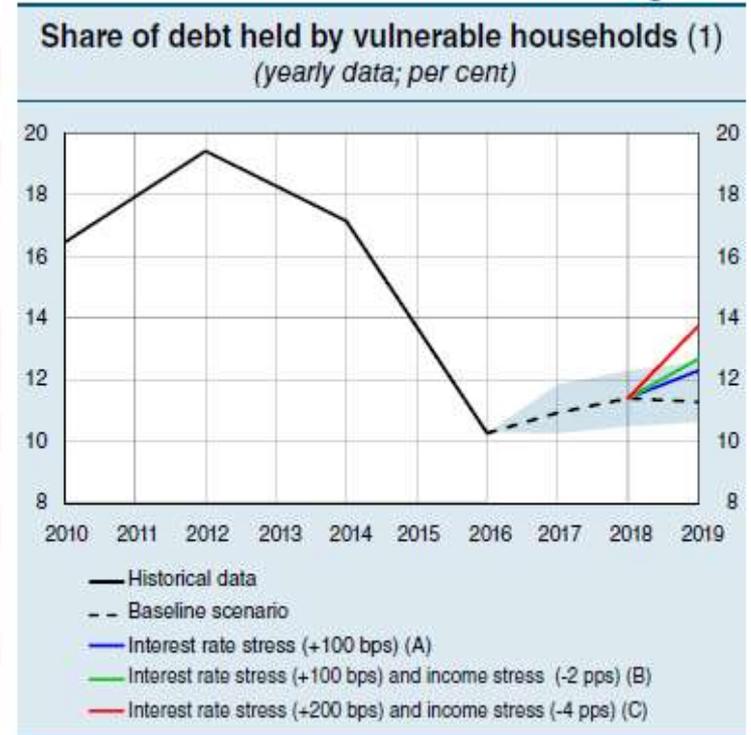
The projections of the Bank of Italy's microsimulation model indicate that at the end of 2019, in the baseline scenario,..., the share of vulnerable households and the ratio of their debts to the total are expected to remain essentially stable, at 1.8 and 11.3 per cent

...

If the 3-month Euribor were higher by 100 points..

In a particularly adverse scenario..

Figure 1.7



Source: Based on data from the Survey on Household Income and Wealth (SHIW).

Projections of vulnerability

Financial stability report 2, 2018

*Vulnerable households have a **limited amount of financial assets** available to deal with adverse events.*

*Their **deposits** are on average sufficient to pay about ten monthly instalments compared with the thirty instalments that other households with mortgages could pay.*

*The share of their financial wealth invested in **government securities, bonds and mutual funds** is limited (to just over 10 per cent) and is currently exposed to market tensions.*

Projections of vulnerability

Financial stability report 2, 2018

*The impact on financial intermediaries of any insolvencies would be softened by the low average level of the **outstanding debt-to-value ratio** of just over 40 per cent; only 10 per cent of vulnerable households have a ratio of over 80 per cent.*



Thank you

Contact

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