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ITALIAN HOUSEHOLD DEBT AFTER THE 2008 CRISIS

by Silvia Magri and Raffaella Pico*

Abstract

Between 2008 and 2010, in the wake of the crisis, the percentage of indebted households in Italy declined as credit demand contracted and supply conditions tightened. The decline regarded mortgage loans and involved low-income households and self-employed workers. Recourse to consumer credit remained stable overall and increased among households with modest incomes. Debt sustainability, measured by debt in relation to income and assets, did not worsen; the average mortgage loan installment decreased in proportion to income for low-income households. The percentage of vulnerable households – with a high loan installment relative to income – remained unchanged between 2008 and 2010, when the reduction in income was accompanied by a sharp fall in interest rates; simulations for the two years 2011-12 indicate modest changes in vulnerability. Some 160,000 households, or 0.6 per cent of the total, are estimated to be over-indebted, a situation in which the borrower is permanently unable to meet his obligations.

JEL Classification: D12, D91, I32.

Keywords: household debt, financial crisis, vulnerability, over-indebtedness.

Contents

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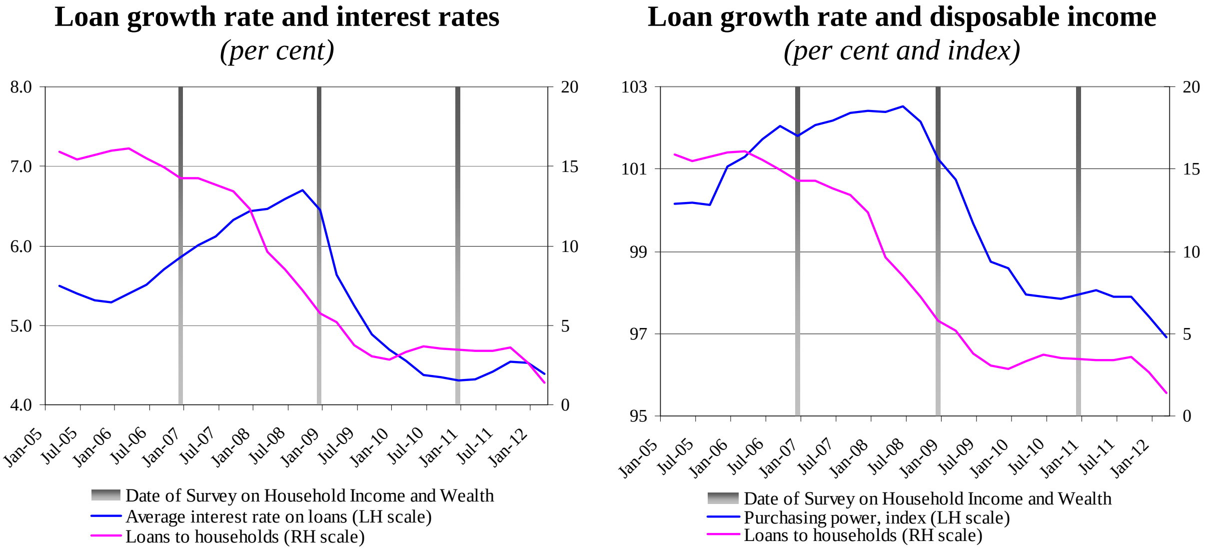
1. Introduction[1]

In 2007, after years of rapid expansion, credit to Italian households began to slow, reflecting the rise in interest rates in response to monetary policy tightening (Figure 1, left-hand panel). The deceleration grew more marked in the early months of 2008 as banks adopted more restrictive standards for loans to households, after years of an easing of conditions in granting loans. Their greater stringency in selecting borrowers was mainly due to the deterioration in funding conditions, especially on wholesale markets. The warning signs of the financial crisis which reached its peak in the autumn of 2008 were already visible at the start of the year.

Figure 1: Credit to households



Sources: Bank of Italy and Istat. See Methodological Notes.

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Thus the crisis of late 2008 erupted in a context in which the growth in lending to households had already slackened considerably. The prolonged tightening of credit supply conditions to which it gave rise and the recession-induced fall in loan demand (Figure 1, right-hand panel) were reflected in a further drop in the growth rate of loans in the course of 2009. After stabilizing in 2010, loan growth began to decline again in the second half of 2011 owing to the sovereign debt crisis.

This paper assesses the effects of the economic and financial crisis of 2008-09 on household debt. In particular, it identifies the characteristics of the hardest-hit households using the data of the Bank of Italy's Survey on Household Income and Wealth, which every

[1] The views expressed in this paper are those of the authors and do not necessarily reflect those of the Bank of Italy. The authors thank Giorgio Gobbi for his comments.

two years photographs the state of household finances. The subject is still relatively unexplored because of the difficulty of analyzing updated microeconomic data, unlike for data concerning non-financial firms. A recent paper has studied the effects on the mortgage market, using banks' reports to the Central Credit Register, and found a sizable fall in new mortgage loans granted to households between 2008 and 2011, especially as regards younger borrowers and non-EU citizens (Felice, Manzoli and Pico, 2012). An earlier work (Bonaccorsi Di Patti and Felice, 2010) considered trends in the risk on one million mortgages granted between 2004 and 2007, showing that the crisis pushed up the default rate on these loans during 2009.

The survey data permits us to extend the analysis to households' total debt incurred for non-work-related reasons, including both mortgage loans and consumer credit. The aim is to find out which categories of household suffered a decline in credit market participation because of the slowdown in lending growth and what effects the crisis had on the sustainability of household debt for the median household. Our analysis also dwells on households with a high debt service for mortgage to income, the ones most vulnerable to variations in interest rates and income. Finally, the paper contributes to the debate on the over-indebtedness problem by estimating the potential beneficiaries of a law recently passed by Parliament to permit households unable to honor their debts to propose a restructuring agreement.

Briefly, the results show that the 2008-09 economic and financial crisis was reflected in a decline in the percentage of households with debt in the 2010 survey compared with that carried out two years earlier. This decline stemmed from a reduction in loan demand combined with a tightening of supply conditions, both of which trends were already under way before the end of 2008. The drop in credit market participation was entirely accounted for by mortgages and regarded low-income households and those headed by a self-employed person. By contrast, there was no reduction in the frequency of use of consumer credit, which increased among less affluent households and was high among those that suffered a sharp drop in income. The degree of debt sustainability did not change between 2008 and 2010, although some indicators did worsen compared with the pre-crisis years. For some types of household, the ratio of consumer credit payable to income rose: this was the case of households headed by an elderly person and those struggling to make ends meet on their disposable income. Between 2008 and 2010 the share of households with a high ratio of debt service to income remained basically unchanged: the decline in disposable income due to the 2009 recession was compensated for by the steep fall in interest rates recorded that year. This indicator improved for low-income households, whose ratio of mortgage debt service to income decreased. An estimated 160,000 households (0.6 per cent of the total) are over-indebted according to the definition contained in the law.

The paper is organized as follows. Section 2 analyzes credit market participation. Section 3 examines the amount of debt and the ratios of debt to income and to total assets of the median household as well as its debt service costs. Section 4 studies vulnerable households and delays in loan repayment, Section 5 deals with the issue of over-indebtedness. Section 6 sketches some trends for 2011 and 2012. Section 7 concludes with a brief overview of the results.

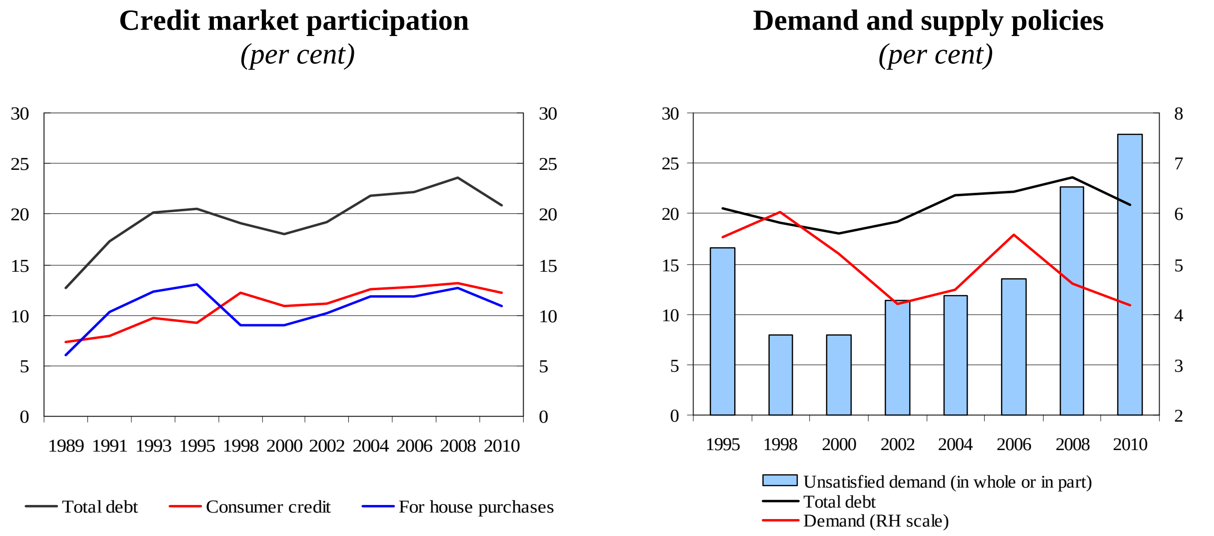
2. Credit market participation

Total debt: demand-side effects and lenders' supply policies

The economic and financial crisis of 2008-09 was reflected in a reduction in households' credit market participation. According to the Bank of Italy's Survey on Household Income and Wealth,[2] between 2008 and 2010 the proportion of households with debt fell by more than 2.5 percentage points, from 23.6 to 20.9 per cent (Figure 2, left-hand panel). The reduction is similar, from 26.5 to 24.1 per cent, when debt is calculated including current account overdrafts and negative balances on credit cards, data for which are only available starting from 2008 (Table A1). The decrease was concentrated in mortgage loans; no statistically significant decrease is found in the share of households that used consumer credit (Tables A2 and A3).[3]

[2] See the Methodological Notes for details about the survey. In this paper the expressions "mortgage loans", "house-purchase loans" and "property loans" are synonymous. The data may diverge slightly from those reported in Banca d'Italia, Supplement to *Statistical Bulletin* (2012): the sample weights we use are appropriate for a longer-term analysis whereas in the Supplement the sample weights are those of the survey for the year.
[3] As a rule, we limit our discussion to statistically significant phenomena. The Methodological Notes contain information on the tests for the significance of difference.

Figure 2: Credit market participation: demand and supply



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

Controlling for different household characteristics, econometric estimates show that the fall in credit market participation involved households whose head was self-employed (10 percentage points), had a labour contract associated with income uncertainty[4] (7.5 percentage points), or, to a lesser degree, was a pensioner (1.9 percentage points). By geographical area, the decline involved households resident in the North and in the South and Islands. Among low-income households, the change in mortgage debt and that in debt for consumption purposes diverged sharply, offsetting each other when total debt is considered.[5] The following analysis considers separately the two markets and contributes to clarify the more general trends.

The reduction in credit market participation stemmed from a fall in loan demand and a tightening of supply conditions on the part of financial intermediaries. These trends, already visible by the end of 2008, grew more accentuated in the next two years. Between 2006 and 2008 the share of households that asked for a loan diminished by more than one percentage point, from 5.6 to 4.2 per cent (Figure 2, right-hand panel). At the same time, the percentage

[4] For payroll workers, essentially fixed-term contracts; for self-employed workers, this refers to workers with continuous collaboration contracts, occasional workers and project workers. In the tables, these are called temporary workers in the classification by type of contract.
[5] In classifying households according to income we rely on equivalent income, defined in the Methodological Notes. Table A11 gives the composition of the households in each equivalent income quartile on the basis of the main household characteristics; the Methodological Notes contain remarks on the table.

of those that received less than the full amount requested or no loan at all rose to just over a quarter in 2010, double compared with 2006.[6]

Between 2006 and 2010 requests for loans decreased among households whose head was a pensioner or had a low level of schooling; the decline was concentrated among those resident in the North. Controlling for the different household characteristics, among those whose head was younger than 35 one also finds an appreciable rise in the proportion of "discouraged" households – households that had considered asking for a loan but then decided not to because they thought their request would be turned down.[7] This development can be traced to the negative trend of the labour market for younger workers, whose unemployment rate rose faster than that of the other age groups.[8]

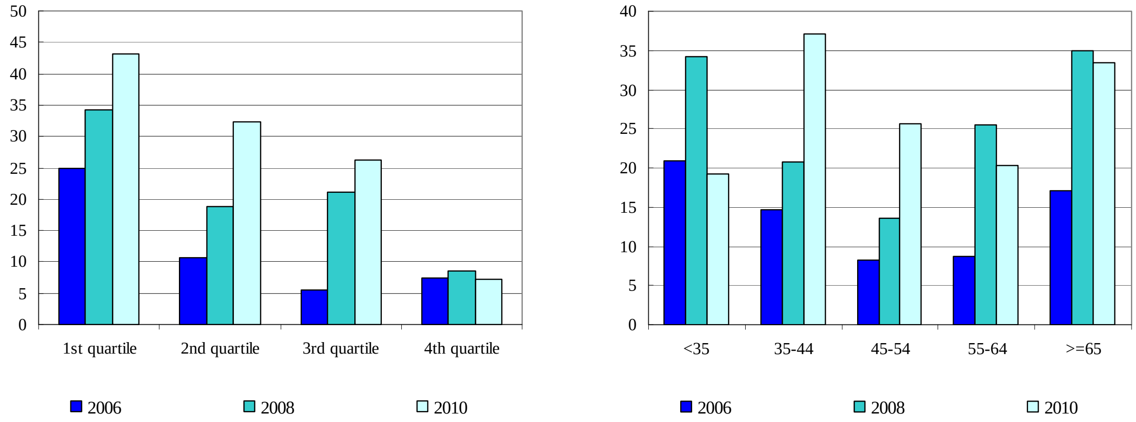
Financial intermediaries were reportedly more stringent in 2010 than in 2006 in screening borrowers in all income brackets except the highest (Figure 3, left-hand panel). In the 2010 survey more than 40 per cent of households in the lowest income class that had asked for a loan failed to get all or part of the desired amount. Among age groups, screening became more selective particularly for households whose head was aged 35-44; the share that did not get the amount of credit requested jumped by more than 20 percentage points between 2006 and 2010, becoming the highest for any age group (Figure 3, right-hand panel). Among young households (head under age 35) the changes shown in the chart are not statistically significant owing to the small number of observations in this group: the decrease between 2008 and 2010 is partly attributable to self-selection, with these households often deciding not to apply for a loan if they believed they would not get one. The share of households whose credit demand was not satisfied also rose sharply among self-employed persons, to more than 40 per cent in 2010, against 23 per cent in 2008 and 7 per cent in 2006. This can be traced to the fact that these households saw a more marked decline in average income at constant prices than did employee households (Banca d'Italia, 2012). Econometric estimates confirm the significance of some of the developments discussed here: in particular, banks' screening became considerably more stringent in the case of self-employed workers and in the North; since self-employed workers are overrepresented among households headed by someone aged 35-44, this partly explains the trends by age group.

[6] The survey questions asking whether the household had requested a loan during the year and if it had been granted all or part of its request refer to any type of loan, including loans for business purposes.
[7] The proportion of discouraged households in this age group reached 10 per cent, more than double the figure for the two next-higher age groups and for the sample overall.
[8] At end of 2010 the unemployment rate for workers aged 15-34 was about 4 percentage points above its pre-crisis (2006) level and twice as high as the overall unemployment rate.

Figure 3: Households that did not get all or part of the credit requested

By equivalent income quartile
(percentages)

By age group
(percentages)



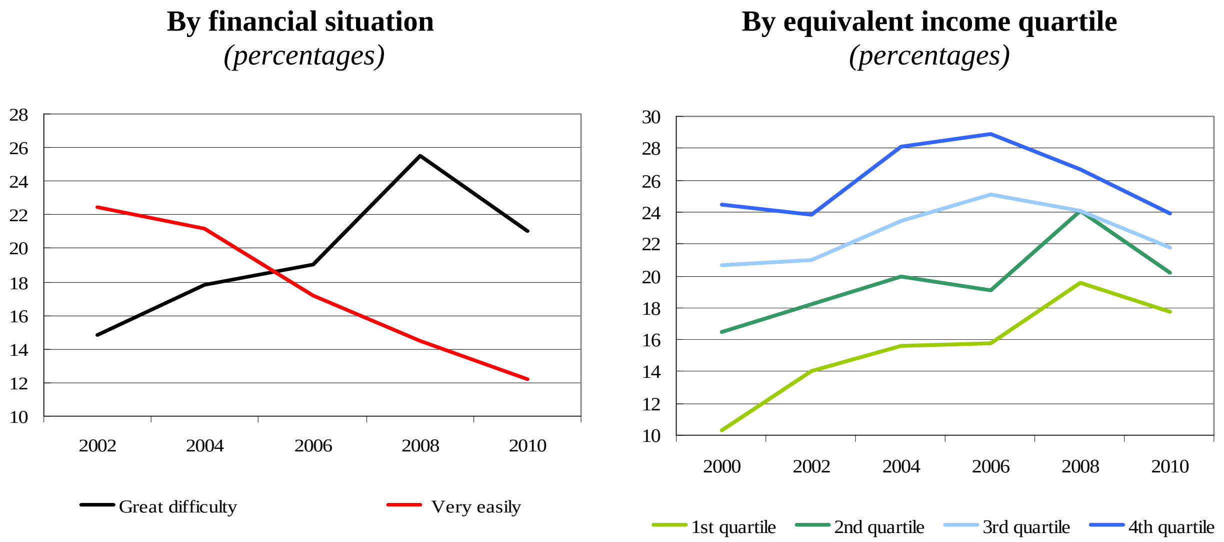
Source: Based on data from the Survey on Household Income and Wealth. Shares of households that did not get all or part of the credit requested among those that applied for a loan during the year.

The crisis interrupted the process of expansion of credit market to low-income households. The period from the start of the last decade up to 2008 had seen a significant expansion in the share of households with debt in the two lowest income brackets as well as among those that had great difficulty in making ends meet (Figure 4).[9] The expansion of the credit market to low-income households was a consequence of banks' adopting less severe standards of assessment, especially for mortgages. This process, partly in response to the intensification of competition, had made the credit market in Italy more like that of the main countries abroad. In particular, the loan-to-value ratio on mortgage loans had approached 70 per cent in 2006 (compared with 79 per cent in the euro area), before falling back to 60 per cent in 2011.[10]

[9] To assess the way households perceive their economic situation, the survey asks: "Is your household's income sufficient to see you through to the end of the month?" The possible answers are: 1) with great difficulty; 2) with difficulty; 3) with some difficulty; 4) fairly easily; 5) easily; 6) very easily. The question has appeared in the survey since 2002.

[10] In the years before the crisis, and particularly the period between 2006 and 2007, the eight largest banks participating in the Bank Lending Survey had reported an easing of lending conditions, often giving as a reason the increase in competition from other banks or from non-banks for consumer credit. The tightening of lending conditions for households began in the first quarter of 2008 and grew more severe in the course of the year. The indicator has subsequently remained in positive territory, signaling restrictive credit terms and conditions. The figure for the mortgage loan-to-value comes from the Regional Bank Lending Survey of some 400 banks. The euro-area figure is taken from European Central Bank (2009).

Figure 4: Households with debt



Fonte: Banca d'Italia e Istat; cfr Note metodologiche.

Even during the expansionary phase, the share of indebted households that used both a mortgage loan and consumer credit remained quite small – about one in every ten. This justifies proceeding with a separate analysis of these two very different forms of borrowing.

House-purchase loans

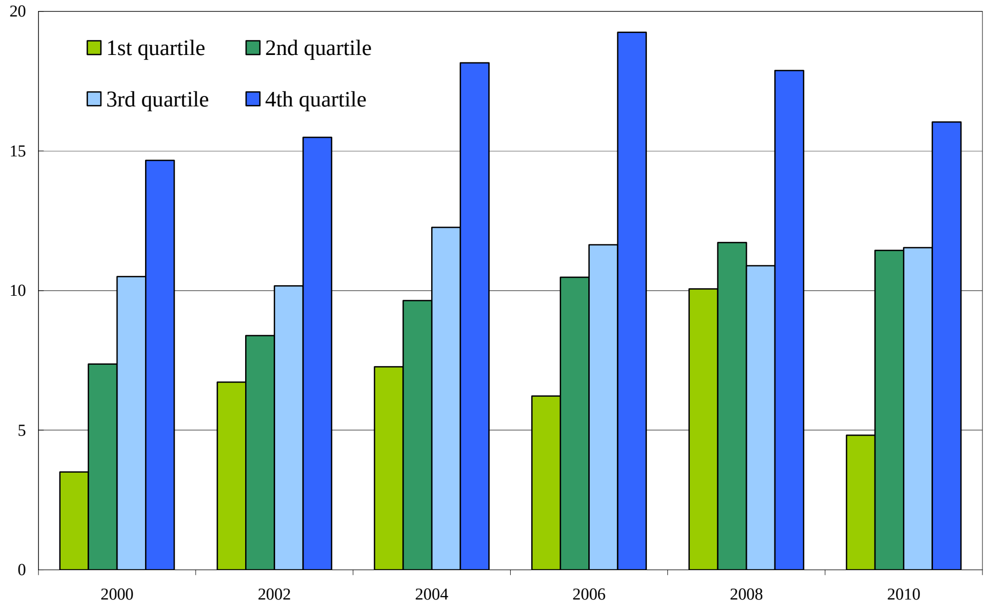
Between 2008 and 2010 the share of households with a house-purchase loan fell from 12.6 to 11 per cent, the lowest level among both the main euro-area countries and the Anglo-Saxon countries.[11]

The decline in the use of mortgages was concentrated among households with a modest income (first quartile and temporary employment contracts); the finding based on income is confirmed when we control for other household characteristics with economic estimates. Between 2008 and 2010 the percentage of households with mortgage loans among very-low-income households (first quartile) fell by more than 5 percentage points (Figure 5). The inclusion of these households in the mortgage loan market observed, in particular, between the 2006 and 2008 surveys therefore came to an abrupt halt, both for demand-related reasons and because of banks' more stringent screening. In 2008 the share of households with

[11] House-purchase loans make up about two thirds of total household debt. According to EU-SILC data for 2008, the percentage of households with a mortgage loan was around 30 per cent in many countries (France, Germany, Ireland, Portugal and Spain), 40 per cent in the United Kingdom and 50 per cent in the Netherlands.

a mortgage loan was the same in the first three income quartiles, around 10 per cent; in 2010 the distribution by income quartiles went back to being like that of the start of the decade: fewer than 5 per cent of very-low-income households had a mortgage contact.[12]

Figure 5: Households with mortgages by equivalent income quartile
(percentages)



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

Econometric analysis confirms a marked reduction (9 percentage points) in the share of self-employed households with mortgage debt, screening of whom became much more selective. Controlling for the different household characteristics, the trends by geographical area show a decline both in the North and in the South and Islands.

Debt for consumption purposes

Between 2008 and 2010 the percentage of households using debt for consumption purposes remained basically unchanged at around 17 per cent according to the definition that also includes current account overdrafts and credit cards (12.3 per cent excluding these types

In the United States, according to the Survey of Consumer Finance in 2010 about half of all households had a loan to purchase their principal residence.

[12] The decline was linked to the reduction in new mortgages to households in this income bracket. Felici, Manzoli and Pico (2012) show that the share of mortgage contracts for amounts less than €120,000, i.e. in the range most often granted to low-income households, fell considerably in 2008-11 compared with 2004-07. In addition, data from the Survey on Household Income and Wealth indicate that the total value of mortgage loans granted in the two years 2009-10 to households in the first income quartile was far lower than in 2007-08.

of loan; Table A3). The use of debt to finance consumption is comparable to that found in several of the other main European countries.[13]

The incidence of use of consumer credit did increase for some types of household. It rose among households with very low incomes (first income quartile; Table A3). It was also high among households that reported that their 2010 income had been unusually low with respect to a normal year: about 25 per cent, nearly 10 percentage points higher than among households reporting no significant change in income for the year.[14] Households that suffered large drops in income because of the crisis used consumer credit to cushion the effects of income fluctuations on their consumption. In this way they warded off a decline in their standard of living, which was less common among these households.[15]

By contrast, use of consumer credit diminished among households in the second and third income quartiles and among pensioners, who are overrepresented in those two quartiles, especially the second (Table A11). This was part of the broader contraction in the use of consumer credit, which had grown rapidly among pensioners between 2006 and 2008 as a result of a 2005 law equating pensions with salary for purposes of loans secured by a pledge of one fifth of salary. The contraction may also be partly ascribed to more restrictive rules on loans of this kind, particularly to pensioners, established by a supervisory communication of the Bank of Italy in November 2009.[16]

Econometric estimates confirm the trends described above. Controlling for the different household characteristics, use of consumer credit increased in frequency among households belonging to the first income quartile and fell among those headed by a pensioner; as with mortgage loans, the decline was concentrated in the North and in the South and Islands.

[13] The frequency of use of consumer credit in Italy is about the same or lower than in the Netherlands, Portugal and Germany. Use of consumer credit is more widespread in Spain, Finland and France (between 25 and 37 per cent). In Ireland and the United Kingdom about half of all households tap consumer credit (the figures for the European countries are calculated using Eurostat's EU-SILC dataset for 2008). According to the 2010 Survey of Consumer Finance, roughly half of US households also had contracted a loan to finance consumer spending.

[14] The reference is to survey question that asks whether the household's income in 2010 was unusually high, unusually low or normal. The question was introduced in the 2010 survey.

[15] Among households whose income was unusually low in 2010, the percentage of those that also significantly curtailed their spending was lower among those that used consumer credit than those that did not (17 per cent against 22 per cent).

[16] The communication contains the following passage: "Among the measures to prevent customers from being directed to products obviously unsuited to their financial needs, banks and financial intermediaries will take special precautions for loans secured by a pledge of one fifth of pension, in relation to these transactions that are particularly onerous for elderly persons owing to the high cost of the insurance. In all cases the coupling of policies with loans must be based on rules marked by the utmost fairness and transparency. Specific checks will be made of the distribution network's behavior in this area."

3. Degree of indebtedness and debt service

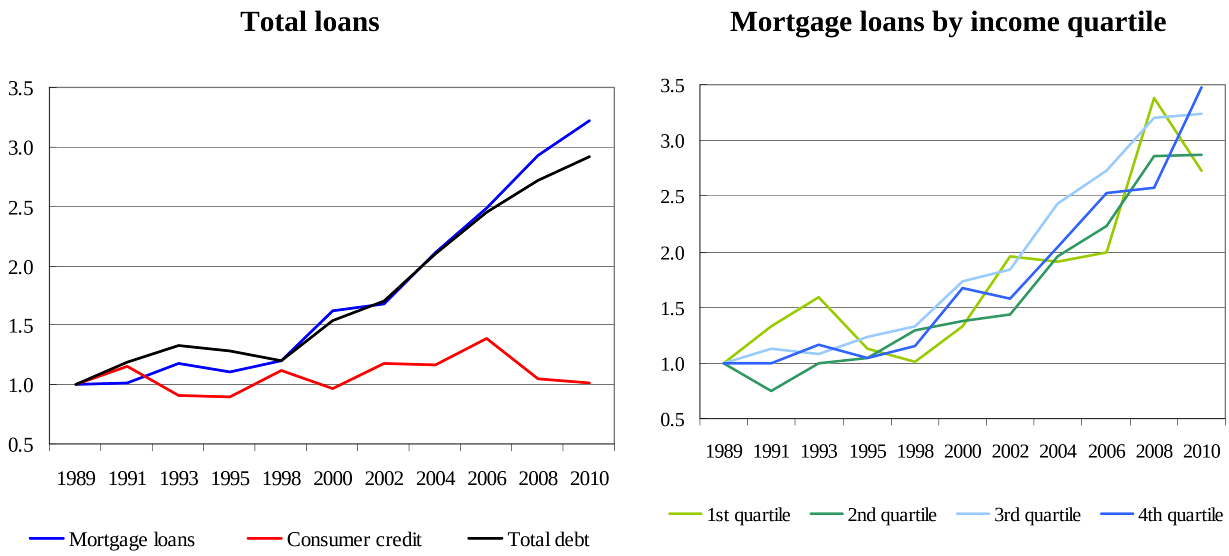
In this section we assess debt sustainability by analyzing debt in relation to household income and total assets and the ratio of debt servicing cost to income for the median household. Overall, the degree of sustainability of Italian households' debt did not worsen between the survey of 2008 and that of 2010, a period of acute economic and financial crisis. This was especially true for mortgage debt; consumer credit liabilities did rise in relation to income for some types of household.

The average amount of debt and the distribution of debt by groups of households

The average amount of debt per household continued to grow between 2008 and 2010, though more slowly than at the beginning of the decade. Mortgage loans accounted for all of the increase (Figure 6; right-hand panel).

Figure 6: Average debt per household

(at constant prices; indices, 1989=1)



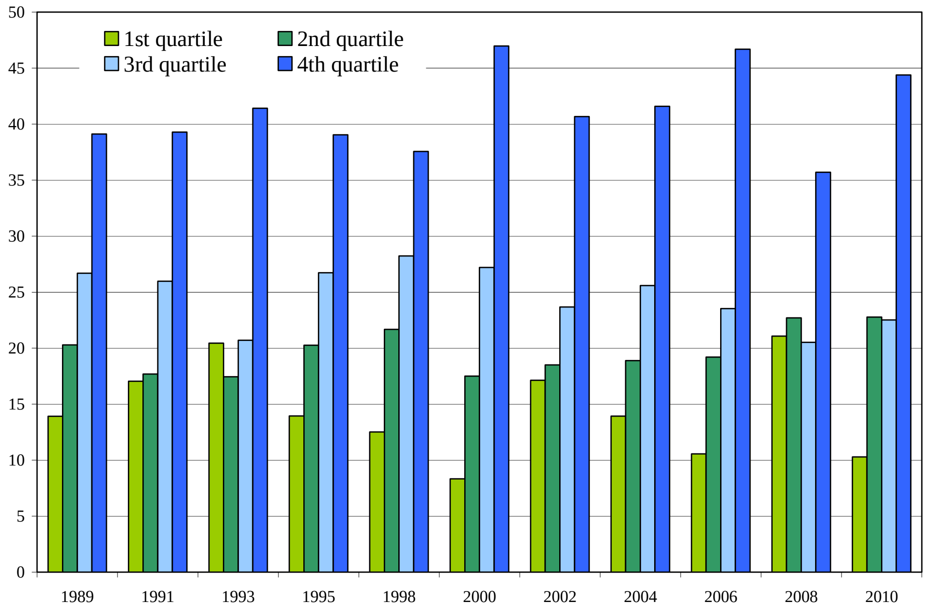
Source: Based on data from the Survey on Household Income and Wealth.

The growth in the average size of mortgage loans was limited to higher-income households. For households belonging to the first quartile of the income distribution, instead, there was a large decline (Figure 6, right-hand panel), reflecting a tightening of banks' mortgage supply conditions for low-income households, including as regards the amount granted.[17]

[17] This is consistent with the result reported by Felice, Manzoli and Pico (2012), who point out the particular contribution that large mortgages, chiefly within the reach of higher-income households, made to the growth in the average size of new mortgage loans in 2008-11 compared with 2004-07.

An examination of the shares of debt held by households belonging to the different income quartiles provides very similar indications. Between the two periods under review the share of debt held by the highest-income households rose from 36 to 44 per cent, while that held by the lowest-income households fell by about 11 percentage points to 10 per cent (Figure 7). In particular, households in the first income quartile saw their share of mortgage loans fall to one of the lowest levels since the start of the 2000s (9 per cent), whereas their share of consumer credit liabilities reached the historically very high level of 27 per cent.[18]

Figure 7: Distribution of total household debt by equivalent income quartile
(percentage shares)



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

Degree of indebtedness based on income

One of the indicators of debt sustainability most frequently analyzed is the ratio of debt to disposable income, which indicates the number of years of income necessary to pay down a loan. In 2010 this indicator was stable with respect to 2008, at around 50 per cent for the entire sample (Table A4).[19] Between 2008 and 2010, the ratio had nonetheless declined for households in the first income

[18] Similar trends were recorded for households headed by self-employed persons, whose share of total debt fell from 32 per cent in 2008 to 26 per cent. Here again, the fall was entirely due to mortgages, consistently with the markedly diminished use of this type of loan reported in the previous section.

[19] This differs from the percentage calculated based on macroeconomic data taken from the Financial Accounts for debt and from the National Accounts for income, equal to 65 per cent at the end of 2010. Various factors moving in different directions account for the difference. First, the indicator based on macroeconomic data is calculated as the ratio of total debts to total revenues, while in the survey reference is made to the median of the ratio. Moreover, using the macroeconomic data as denominator all households' income is considered, not just that of indebted ones. Finally, the debts of the Financial Accounts refer to consumer and producer households,

quartile, while it recorded an increase for households whose head is old (>=65 years), retired or had little formal education. The first trend is ascribable to developments in the mortgage sector, the second primarily to those in consumer credit.

From one survey to the next the median value of the ratio of house-purchase loans to households' disposable income also remained basically stable, albeit at above pre-crisis levels (slightly over 1.5 times annual income in 2010; less than one year's income in 2006; Table A5). For households in the lowest income class, both the lower average amount of the loan, and the decline in the frequency of borrowing for mortgages, which probably excluded from the market those who would have had high debt-to-income ratios, helped avoid a deterioration in the degree of sustainability of this type of loan. In this income class the ratio shows a decline (from over 3 times annual income in 2008 to 2.7 times annual income in 2010), while it shows an increase for the most affluent households, in line with the increase in the average amount of their mortgage loans.[20] These trends, in particular the improved sustainability of mortgages for the least well-off households, are confirmed by econometric estimates.

Between the 2008 and 2010 surveys, the ratio of consumer credit liabilities to household income remained unchanged for the median household at around 16-17 per cent (Table A6). However, calculated as a proportion of income, consumer credit almost doubled for older people (>=65 years), rising to around 20 per cent. The ratio also reached a markedly high level for households that have great difficulty making ends meet on their disposable income (36 per cent, double the value for 2008 and that of the indicator for the entire sample); these households hold one fifth of the consumer credit granted to the sector, a record high since the beginning of the last decade. Econometric estimates confirm these trends, pointing in particular to a deterioration in the degree of sustainability for households that experience great difficulty reaching the end of the month.

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therefore they include debts incurred for work-related reasons and are expressed gross of bad debts; in the survey only debts incurred for household-related reasons are considered and it is highly likely that households do not report bad debts they are unable to repay. An attempt to make the data as homogenous as possible by calculating a ratio of total debt to total income for all the households on which data are available in the survey, and considering an aggregate of similar debts, gives a value of around 30 per cent, which is in any event lower than that which can be obtained from the macroeconomic data (49 per cent). This is because in the survey the under-reporting of debt items exceeds that of revenue items. Household-related debts amount to just under 50 per cent of the corresponding macroeconomic aggregate, above all owing to the marked under-reporting of consumer debt; total revenues in the survey amount to around 75 per cent of those in the National Accounts. When the ratio of total debt to total income in the survey is calculated based only on the revenues of indebted households, the indicator is just above 100 per cent; between the 2008 and 2010 surveys this ratio also declined for households in the first income quartile while it increased for those in the highest income bracket.

[20] In particular, the ratio of debt to income fell significantly when the head of family has a temporary employment contract (for the definition see Methodological Notes).

Degree of indebtedness based on assets

The ratio of debt to total assets (leverage) indicates the share of assets that would need to be sold to settle a debt. In 2010 the median value of this indicator was stable with respect to 2008, at 14 per cent (Table A7). Nor were there any especially marked variations among the various categories of household, if not for an increase in the ratio for older households, and, in particular, for those hard put to reach the end of the month on their disposable income. These trends are mainly attributable to consumer credit, confirming the greater difficulties faced by these households in this sector.

Regarding mortgage loans only, between 2008 and 2010 the median value of leverage remained practically unchanged at around 22 per cent, compared with 13 per cent in 2006 (Table A8). A significant increase in the ratio of mortgage loans to total assets was confirmed for the highest-income households (from 11 to 15 per cent). Controlling for the various household characteristics, econometric estimates suggest that the level of leverage for mortgage loans declined for households with income below the median value, in particular for the least well-off ones (those in the first income quartile). The improvement in the degree of sustainability of mortgage loans for these households is accordingly confirmed, whose debt-to-assets ratio in 2010 stood at just over 30 per cent: this is a higher percentage than that recorded before the crisis (in 2006 it was 14 per cent), but still in line with that of the other euro-area countries (European Central Bank, 2009).

Debt service as a share of income

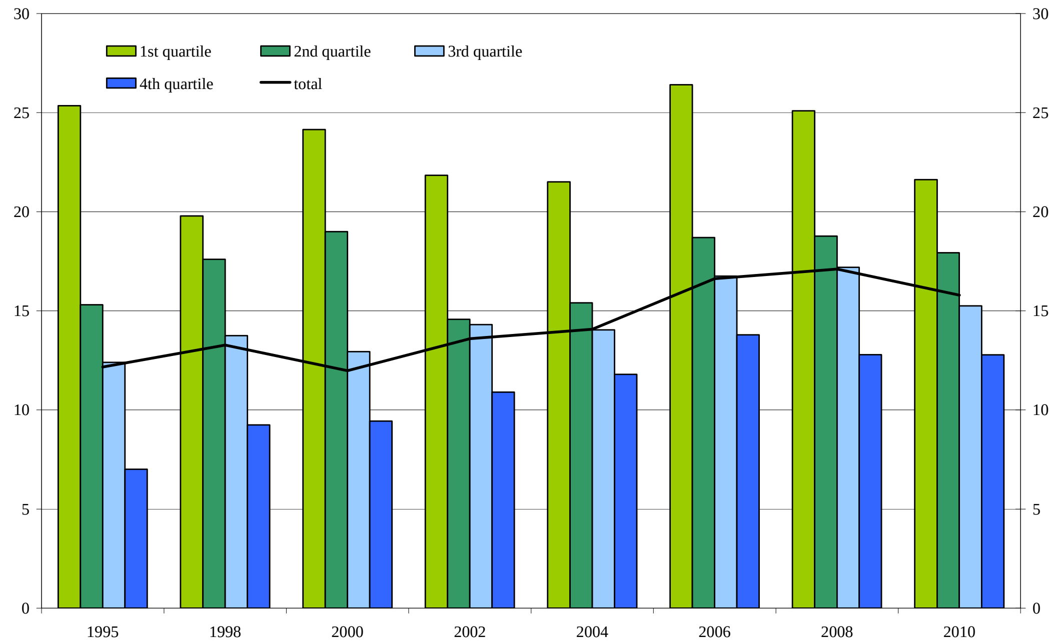
Another important indicator of short-term debt sustainability is the ratio of debt service to income. Between 2008 and 2010, for indebted households as a whole the average value of the instalment of total loans in proportion to income was basically unchanged at around 12 per cent; 15 per cent if the denominator used is monetary income, which excludes imputed rents.[21]

Considering only households with a mortgage loan for the purchase of their principal residence, the debt service ratio for the average household actually declined by over 1 percentage point, from 17.1 to 15.8 per cent (Table A9), owing to the reduction in the interest rates that more than

[21] For the definition of imputed rent see the Methodological Notes. Income gross of imputed rents is consistent with the definition in the National Accounts. However, in order to favour a comparison with the microeconomic data collected in the other countries' surveys, which generally consider monetary income, it is useful to focus on the indicator calculated on the income that excludes imputed rents.

offset the drop in disposable income recorded in the two years 2009-10.[22] A similar pattern can be observed for the indicator built using monetary income, whose median value in 2010 was 20 per cent (Table A10 and Figure 8).

Figure 8: Debt service by equivalent income quartiles
(percentages)



Source: Based on data from the Survey on Household Income and Wealth. The denominator considered is monetary income, which excludes imputed rents and includes interest paid on loans.

Between 2008 and 2010 the decline in the ratio of mortgage loan instalments to income was especially pronounced for households in the lowest income quartile, from 34.0 to 29.2 per cent (Figure 8 and Table A10). This trend is also widely confirmed by econometric estimates that control for the different household characteristics. It is plausible that the households in this income class benefited more from the mortgage loan moratorium. This provision was, in fact, limited to mortgage holders who had suffered events such as the loss of their job, a reduction in working hours (or death). There was no specific question in the survey on recourse to the moratorium. However, the proportion of households in 2010 with a mortgage loan for their principal residence reporting an unusually low income with respect to a given normal year, is particularly high among those in the first income quartile (34 per cent, as against 24 per cent in the second quartile and 21 per cent for all households

[22] Around 70 per cent of existing mortgage loans are granted at a variable rate and are accordingly indexed to the (mainly 3-month) Euribor rate. This interest rate, after peaking at around 5 per cent in the autumn of 2008, fell by around 4 percentage points to 1 per cent in December 2010. The consumer credit sector, in which the share of variable-rate contracts is much lower, was less strongly affected by the drop in interest rates. The question on mortgage instalments was added to the survey in 1995, facilitating long-term analyses.

with a mortgage). It is therefore probable that for households in the lowest income bracket events such as job loss and a reduction in working hours were more frequent, and recourse to the moratorium accordingly greater.[23] The other possible reasons for the fall can be found in recourse to subrogated mortgages, which was high in the two years 2009-10, above all by the lowest income households seeking better contractual conditions (Nomisma, 2010); the reduction in the average amount of mortgage contracts may also have been a factor.

For households in the lowest income quartile debt service for mortgage loans in 2010 was closer to the levels seen in the first part of the last decade, after the marked increase recorded between 2004 and 2008, when over one third of monetary income of the average household was allocated to paying down the mortgage (Figure 8). The ratio of mortgage loan instalment to income for the least well-off households is in line with that of other countries for which the data are available.[24]

4. Vulnerability indicators of indebted households and delayed repayments

The share of households with a high total debt service

Households with debt service costs of over 30 per cent of income are more vulnerable to variations in interest rates and income.

[23] For a description of the moratorium provision see the Methodological Notes. Considering unemployment only for the household head, who is more likely to be the mortgage loan holder, between 2008 and 2010 the data show an increase in the frequency of unemployment exclusively for households in the lowest income quartile. The fall in the ratio of mortgage loan instalments to income was, finally, pronounced for households whose heads were non-EU citizens, hardest hit by the fallout from the crisis in terms of job loss (between 2007 and 2010 the unemployment rate among foreigners rose by over 3 percentage points compared with 2 per cent for Italians); it is also likely that these households availed of the moratorium more frequently. By contrast, the sharp decline in the ratio of debt service to income cannot be attributed to more widespread recourse in this income bracket as opposed to others to variable-rate mortgage contracts, indexed to the Euribor rate, which, as has been seen, fell markedly in the period under consideration.

[24] Comparative data are available in *European Central Bank* (2009). Considering the households broken down based on (non-equivalent) household income, in the years leading up to the crisis, also in Greece, the Netherlands and Spain, as well as in Italy, the households in the lowest income quartile reported a median value for the ratio of mortgage loan instalments to income of over 30 per cent. More up-to-date comparative data will become available as part of the ECB project *Household Finance Consumption Survey*, which aims to harmonize the surveys on household income and wealth in the euro-area countries.

Table 1: Vulnerability indicators for indebtded households (1)
(with income gross of imputed rents)

	Households whose debt service exceeds 30% (2)		*Households whose debt service exceeds 30% (3)*		*Proportion of mortgage loans of households whose debt service exceeds 30% (4)*	
	2008	2010	2008	2010	2008	2010
1st quartile	5.6	4.1	28.4	23.1	11.7	4.5
2nd quartile	1.9	2.7	7.9	13.6	5.2	7.7
3rd quartile	1.2	0.6	5.2	2.8	3.2	1.9
4th quartile	1.0	1.2	3.8	5.0	3.3	5.6
Total	2.4	2.2	10.3	10.3	23.4	19.8

Source: Bank of Italy "Survey on Household Income and Wealth".
(1) The income quartiles are calculated on the basis of equivalent income. The income denominator of the ratio includes imputed rents and financial costs. (2) Proportion calculated with reference to all households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (3) Proportion calculated with reference exclusively to indebted households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (4) The sum of the proportions of mortgages loans in the various quartiles is equal to the proportion of total mortgage loans held by vulnerable households.

In 2010 one in every ten vulnerable households found themselves in this condition, 2.2 per cent of total households. The situation was very similar to that observed at the end of 2008 (Table 1). If the calculation of the debt service considers monetary income, which excludes imputed rents and is therefore genuinely available to cover expenses, the proportion of vulnerable households increases to 3.6 per cent of the total and to 17.2 per cent of total indebted households (Table 2).[25]

Table 2: Vulnerability indicators for indebtded households (1)
(with income net of imputed rents)

	Households whose debt service exceeds 30% (2)		*Households whose debt service exceeds 30% (3)*		*Proportion of mortgage loans of households whose debt service exceeds 30% (4)*	
	2008	2010	2008	2010	2008	2010
1st quartile	7.7	5.6	39.4	31.4	14.4	6.1
2nd quartile	4.3	4.1	18.0	20.0	10.2	10.2
3rd quartile	2.9	2.6	11.8	11.8	5.8	7.3
4th quartile	2.4	2.2	9.1	9.2	6.6	13.2
Total	4.3	3.6	18.4	17.2	37.1	36.8

Source: Bank of Italy "Survey on Household Income and Wealth".
(1) The income quartiles are calculated on the basis of equivalent income. The income denominator of the ratio excludes imputed rents and includes financial costs. (2) Proportion calculated with reference to all households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (3) Proportion calculated with reference exclusively to indebted households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (4) The sum of the proportions of mortgage loans in the various quartiles is equal to the proportion of total mortgage loans held by vulnerable households.

[25] For comparing these results with data from surveys of the United States and Spain, a higher threshold for debt service was considered, equal to 40 per cent of income. The proportion of vulnerable indebted households calculated on the basis of monetary income falls to 11 per cent, around two thirds the level found in the surveys on households in Spain (in 2008) and around three quarters that found for the United States (2010). It should, however, be borne in mind that the data on Spain and the United States are calculated based on income gross of taxes, while those for Italy are calculated on the basis of net income; if measured according to income net of taxes, the figures for Spain and the United States would be even higher.

Between the 2008 and 2010 surveys the share of low-income households with high debt service also fell considerably, from 39.4 to 31.4 per cent (Table 2). This trend is attributable to the decline in households with a mortgage loan in that income bracket, the reduction in the average amount of their mortgage loan, as well as in the ratio of debt service to income. The lesser frequency of low-income vulnerable households and the more general fall in the proportion of mortgage loans held by the least well-off households, discussed in the previous section, translated into a marked reduction in the share of debt held by low-income vulnerable households (from 14.4 per cent in 2008 to 6.1 per cent in 2010) which are potentially those most at risk. This had positive consequences for banking intermediaries: the flow of new bad debts on an annual basis as a share of loans to households stabilized at around 1.4 per cent in 2010, before slowing slightly during the first part of 2012.

The appendix to this paper contains two analogous tables (A12 and A13) in which vulnerable households were calculated with sole reference to mortgage loans for principal residences. Considering the indicator calculated on the basis of monetary income, in 2010 twenty-three per cent of households with a mortgage paid an instalment in excess of 30 per cent of income, in decline with respect to 2008 (26 per cent). The reduction is especially marked in the first income quartile: in 2010 around half of these households were vulnerable compared with 56 per cent in 2008 and an even larger share in 2006 (over 65 per cent). As has been seen, greater selectivity of banks in granting loans to low-income households and the reduction in the ratio of mortgage loan instalments to income helped bring the data back in line with the levels seen at the beginning of the last decade.

Delays in reimbursement

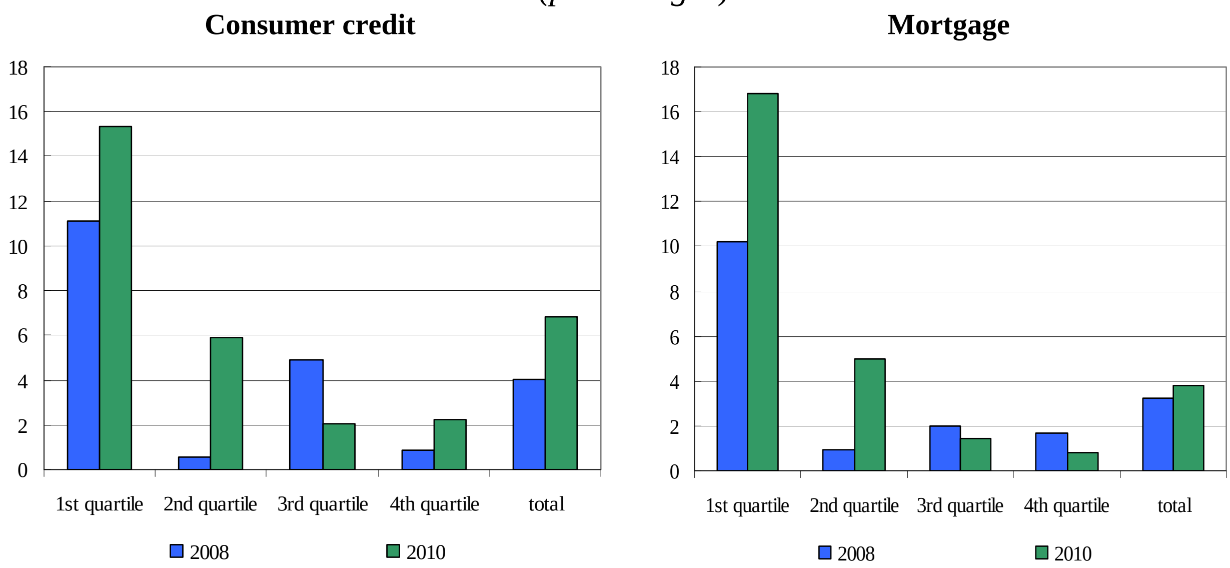
Another indicator of the difficulties faced by households in honouring their obligations relative to loans is delays in repayments. Between 2008 and 2010 the share of households that delayed the reimbursement of a loan instalment by over 90 days increased: in 2010 over 5 per cent of households with a loan matched this description, compared with 3.8 per cent in 2008.[26]

The frequency of delays increased exclusively for consumer credit liabilities (from 4 to 7 per cent), remaining at around 4 per cent for mortgage loans (Figure 9). This trend is in line with the findings on the deterioration in the degree of sustainability of debt for consumption purposes for some categories of households. A high frequency of delay in the reimbursement of consumer credit loans was observed for households hard put to reach the end of the month (23 per cent were late), which

[26] The question on delayed repayments is available from the 2008 survey.

were among those for which debt sustainability was deteriorating. Moreover, the increase in consumer credit repayment delays is concentrated in households in the second income quartile (Figure 9; left-hand panel). This trend can be attributed to the fact that in this quartile households with old and retired heads are over-represented, the same households for which an increase in the ratio of consumer debt to income was observed (Section 3).

Figure 9: Share of households with delays longer than 90 days in repayment
(percentages)



Source: Based on data from the Survey on Household Income and Wealth

The lower frequency of the delays for mortgage contracts can be ascribed to the mortgage moratorium (Bartiloro, Carpinelli, Finaldi Russo and Pastorelli, 2012). Disaggregating the delays on mortgage repayments by income category, it is possible to observe a significant deterioration in the ability to reimburse mortgage loans by households in the second quartile (with an increase in the frequency of households late in repayments of 1 to 5 per cent), while for those in the first quartile the increase is not statistically significant. As has been seen previously, this trend is ascribable to the fact that households in the first income quartile recorded a marked reduction in the share of mortgage instalments on income, also favoured by recourse to the moratorium provision, which attenuated the growth in delayed payments.

5. The over-indebtedness of Italian households

The condition of vulnerability discussed in the previous section also applies to many households that are wholly capable of fulfilling their contractual obligations, in particular those with a medium-to-high income. By contrast, households which are over-indebted are no longer able to meet regularly the obligations deriving from a debt they have incurred. In various European and Anglo-Saxon countries there are laws enabling private debtors, who have become indebted for reasons unrelated to a business activity and who are in a situation of over-indebtedness, to request the restructuring or partial or total cancellation of the debts incurred.

Italy was among the few countries in which this option was not envisaged under law. At the beginning of 2012 Parliament approved Law 3/2012, enabling households that are no longer able to repay their debts to draw up a restructuring agreement based on a plan that ensures the regular payment of creditors who are not party to the agreement. The agreements excluded preferential claims, unless such preferential rights are waived; accordingly these tend to exclude mortgage loans that are guaranteed by property. Several aspects of this law are currently being amended in a Government bill.[27]

The laws recently introduced have fuelled a debate on the estimated number of over-indebted Italian households, whose identification is no easy task. Several papers on the issue cite the criteria generally adopted by the majority of legislative systems in force in other countries to identify situations of over-indebtedness: that of income, wealth, or delays in the reimbursement of a loan (for the data on several European countries, see the *European Commission* (2008) and *Eurostat* (2010); for the UK, Disney Bridges and Gathergood (2008); for Germany, Haas (2006); and for Italy, D'Alessio and Iezzi (2012) and Milani (2012)).

One crucial aspect in the analysis is the definition of over-indebtedness. This paper's contribution with respect to the existing literature consists in taking as its starting point the definition given in Italian law, which has a very precise orientation. Law 3/2012 defines an over-indebted consumer as someone who exhibits: a) a persistent mismatch between the obligations entered into and assets capable of being liquidated rapidly, and b) a permanent inability on the part of the debtor to regularly meet his obligations. The first characteristic is closely linked to an analysis of the various items comprising the household budget. The second is vaguer, but can be ascribed to prolonged delays in reimbursing the debt.

In order to identify a group of over-indebted households in Italy, we initially considered those that were over 90 days late in reimbursing a loan (Table 3). This criterion served to define the household units that were objectively incapable of honouring their obligations. The second

[27] Various aspects of the provision are being debated. There are strong doubts that the same instrument can be used by consumers and commercial debtors i.e. business owners who cannot file for bankruptcy. The proposed law seeks to allow the possibility of filing for bankruptcy, and therefore of the debts being cancelled, in the event that the restructuring agreements prove impossible to implement, a possibility already contemplated in several European countries.

qualification of over-indebted borrowers contained in the law was accordingly satisfied. In 2010 around 300,000 units or 5.5 per cent of indebted households found themselves in this situation (1.2 per cent of total households).

Table 3: The identification of over-indebted households

	Total households	*(1) Households over 90 days late in reimbursing a loan*	*(2) Households over 90 days late in reimbursing a loan, whose liabilities exceed their assets*
	%	%	%
Share of total households	100	1.2	0.6
			Real assets are valued at 50%. Financial assets are put equal to current accounts.

Source: Bank of Italy "Survey on Household Income and Wealth".

Within this group of households, which reported a lengthy delay in the reimbursement of a loan, we then identified those with a lasting mismatch between the obligations entered into and assets that can be rapidly liquidated, satisfying the first criterion for defining over-indebtedness contained in the law. These households had more liabilities than assets, which were duly written down to take account of the scant liquidity of several assets on the balance sheet. Following the diagram in Table 3 the value of the real assets, primarily principal residences, was lowered by 50 per cent.[28] As regards financial assets, only deposits on current account were considered; as for real assets, the criterion adopted was particularly restrictive since debtors could have potentially liquidated other financial assets held on the balance sheet without incurring losses.

[28] This percentage is obtained on the basis of the following hypotheses linked to the procedures for the recovery of property-related debts by banks. The average loss sustained by banks in credit recovery procedures regarding mortgage loans, known as the loss given default, is 18 per cent of the loan (Cannata, 2006); this is confirmed by the recent data taken from a questionnaire, to which some 400 banks responded, covering 90 per cent of loans to households. Bearing in mind that the ratio of loans for home purchases to the value of the home was equal to 60 per cent in 2011, this implies a recovery of the value of the property, in the event of the borrower's default, of close to 50 per cent (60 is the value of the loan –60*18 per cent gives a loss on the loan=49, the value recovered on a house valued at 100, from which the share applied in the calculation is derived). It should also be recalled that the reduction in value is so substantial because it is linked to executive judicial procedures; it is possible that the sale of a property, even if this must be accomplished in a short time, enables a higher percentage to be obtained. The criterion adopted for assessing net worth was therefore particularly severe.

The proportion of households over 90 days late in reimbursing a loan and with a lasting mismatch between the obligations entered into and assets that can be rapidly liquidated numbers almost 159,000, equal to 3 per cent of indebted households or 0.6 per cent of the total (Tables 3 and 4).[29] The majority of these household units (over 90 per cent or 148,000 households) have a medium-to-low income, below the median value; more than three quarters (126,000) are in the first income quartile. In the lowest income bracket over one tenth of indebted households qualify as over-indebted. The estimated number of over-indebted households is lower compared with the figure indicated in other research on Italy (D'Alessio and Iezzi, 2012; Milani, 2012).

Table 4: Over-indebted households: repayment delays and liquid assets lower than debt (1)

	Share of total households		*Share of total indebted households, by income quartiles*	*Share of households with high debt service*	*Share of households with great difficulty making ends meet on available*	*Share of households with some difficulty making ends meet on available income*	*Share of households with consumer credit liabilities or with mortgages*
	%	Number of households	%	%	%	%	%
Total	0.63	158,607	3.0	37.6	86.2	13.8	70.5
1° income quartile	0.50	125,879	11.2	27.3	84.1	15.9	71.7
1° and 2° income quartile	0.59	148,537	6.2	35.1	85.4	14.7	73.5

Source: Bank of Italy "Survey on Household Income and Wealth".
(1) The real assets are valued at 50 per cent; financial assets are put equal to current accounts.

All over-indebted households have difficulty reaching the end of the month on their disposable income; around 85 per cent of these have great difficulty and 15 per cent some difficulty. The majority – around 70 per cent – of households become over-indebted after signing a credit agreement or taking out a mortgage and consumer loan. In particular, in the lowest income quartile two thirds of over-indebted households have a consumer loan only. Less than 40 per cent of over-indebted households have a high ratio of debt service to income: this is indicative of the fact that for many low-income households even a debt service charge of less than 30 per cent of monetary income can be a problem.[30]

[29] The results of Table 3 are consistent with the data on the number of households that invoked the moratorium on mortgages for their principal residence, equal to around 68,000, a provision that was exclusively concerned with the mortgages of households that suffered adverse events such as job loss, a reduction in working hours, or the death of the mortgage holder. Moreover, the provision proved costly for borrowers given that for the year in which the reimbursement of instalments was suspended, interest continued to accrue on the residual debt.

The proportion of over-indebted households is also slightly below that found in the United States: based on the *Survey of Consumer Finance* in 2007, around 1.1 per cent of US households filed for bankruptcy (Diaz-Gimenez, Glover, and Rios-Rull, 2011).

[30] In the section, monetary income was always used for calculating the ratio of debt service to income.

This last figure provides further confirmation that the group of households with high debt service, which we have identified as vulnerable to upside interest rate risk or an income shock, is made up of households with very different characteristics. In some cases, these are low-income household units for which high debt service is a problem and could lead to a situation of over-indebtedness for the debtor; in many other cases, these are households that despite paying a large share of their income to reimburse the loan succeed in repaying it without problems. However, the criteria of high debt service, used to identify vulnerable households, fails to consider that low-income households can have serious difficulty making regular loan repayments even when the debt service ratio is below 30 per cent of income. Vulnerability and over-indebtedness are therefore two conditions that overlap only in part.

The analysis could also be extended to households that report lengthy delays, for example, in the payment of bills or rent, but which continue to reimburse loans, a condition that can also indicate the impossibility of regularly fulfilling debt obligations (*European Commission*, 2008). This information, however, is not available in the Survey on Household Income and Wealth.[31] To ensure the proper functioning of the credit market, in particular of consumer credit, it is nevertheless crucial that the legislation confine itself to indentifying only households that have objective and significant difficulties reimbursing their loans, as indicated in Italian law. This is in order to avoid creating risks of opportunistic behaviour by debtors seen in other countries where bankruptcy procedures and restructuring agreements have long been in use. The risk of moral hazard should encourage a highly selective approach by financial intermediaries when it comes to granting consumer credit to households.

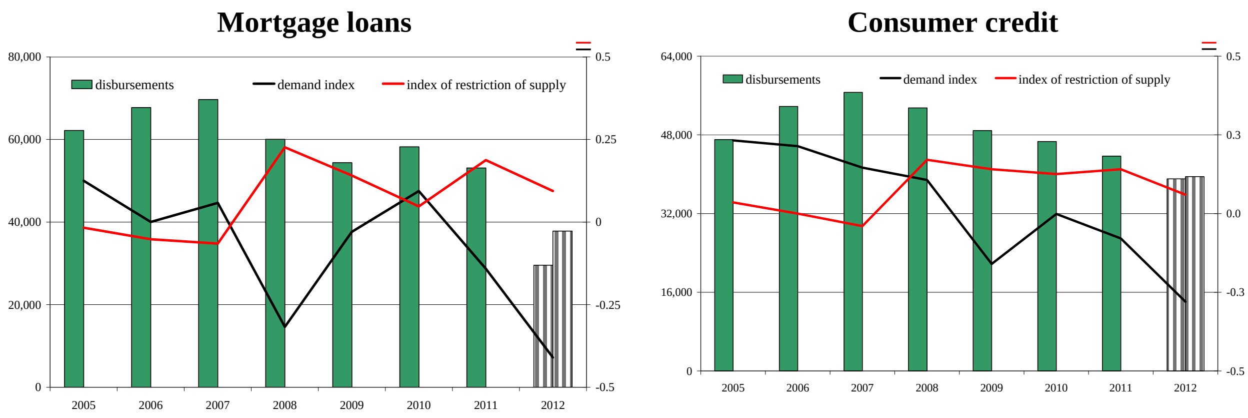
6. Trends in 2011 and 2012

The most recent information in the Survey on Household Income and Wealth refers to 2010. In this section we present several data enabling us to identify trends in 2011-12 in connection with lending to households and the vulnerability of indebted households. The data are taken from the supervisory reports on lending and interest rates that financial intermediaries transmit to the Bank of

[31] Using an alternative criterion based on including 1) *all* the households that have great difficulty reaching the end of the month on the income available to them and 2) which have a lasting mismatch between the obligations entered into and assets that can be liquidated rapidly, then according to the definitions indicated previously, 1.3 per cent of total households are over-indebted (more than 320,000 households) or 6.4 per cent of the indebted ones. These data tends to overestimate the condition of over-indebtedness given that many households can have great difficulty in making ends meet with the income available to them but these turn out to be temporary. The characteristics highlighted above remain in this broader group. Over 80 per cent of these households are indebted, of which 69 per cent for consumer credit and 13 per cent for both categories of debt.

Italy and from the Bank Lending Survey, a quarterly survey of the eight major credit groups, which examines supply conditions and trends in demand for loans.

Figure 10: Demand and supply of loans to households



(*) The trends in supply and demand are from the Bank Lending Survey; the data on 2012 is an average of the first two quarters of the year. The demand index>0 indicates an expansion and the index of restriction of supply>0 a tightening; these indices are reported on the right-hand scale. The disbursements, expressed in millions of euros, are from the Supervisory Reports; the data for 2012 is estimated on the basis of the reports on the first quarter of the year (see the Methodological Notes).

From Figure 10 it emerges that in 2011 the number of mortgage loans disbursed was still low compared with the period leading up to the crisis; the annualized data on disbursements in the first half of 2012 point to a new and much sharper decline, also with respect to 2011. After the first modest signs of expansion in 2010 (positive values on the index), during 2011 and in the early months of 2012 demand changed course abruptly. At the same time banking intermediaries tightened supply conditions further, with generalized effects, since the banks declared that they had increased the margins applied to average loans and not just to the riskier ones. It is highly probable that this tightening continued to affect households with low incomes, which in previous years had already been subject to more selective lending standards.[32]

In the consumer credit sector the trends in demand and supply that emerge from the Bank Lending Survey in 2011 closely resemble those for the period 2008-10; accordingly, no significant changes are expected in relation to the situation described in this paper. In particular, during 2011, no further tightening of lending standards for this category of loan was observed. However, in the early part of 2012, the decline in demand stemming from the marked deterioration in the economic outlook

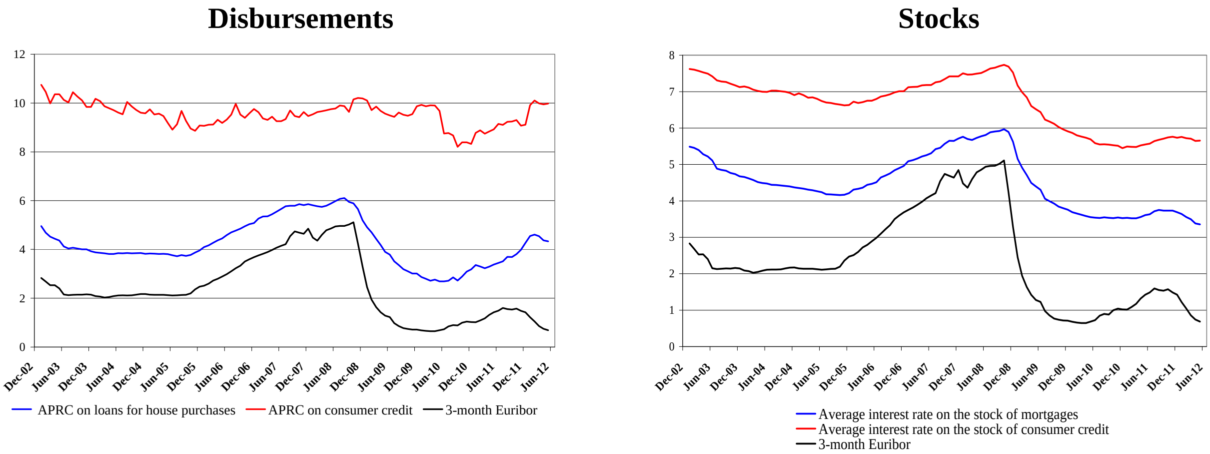
[32] From the paper by Felici, Manzoli and Pico (2012), it emerges that in the course of 2011, the increase in the margins on variable-rate loans, the most common in Italy, was higher for loans of a lower amount, which are a good proxy for the mortgage loans contracted by households with medium-to-low incomes.

led to a further significant fall in disbursements, despite the improvement in supply conditions signalled by the intermediaries.

Turning to the vulnerable condition of indebted households, we present an estimate for 2011 and 2012 on the basis of trends in income and interest rates, effective for the year 2011 and estimated for 2012 (see the Methodological Notes). In 2011 the interest rates on new lending operations increased, above all in the second half of the year as a result of the sovereign debt tensions (Figure 11, left-hand panel). By contrast, the interest rates on existing transactions, in particular those relative to lending for house purchases (70 per cent of which are indexed to Euribor), increased by much less; in the early months of 2012 they fell slightly, reaching the lowest level since the series began (Figure 11, right-hand panel).

Figure 11: Interest rates on lending to households

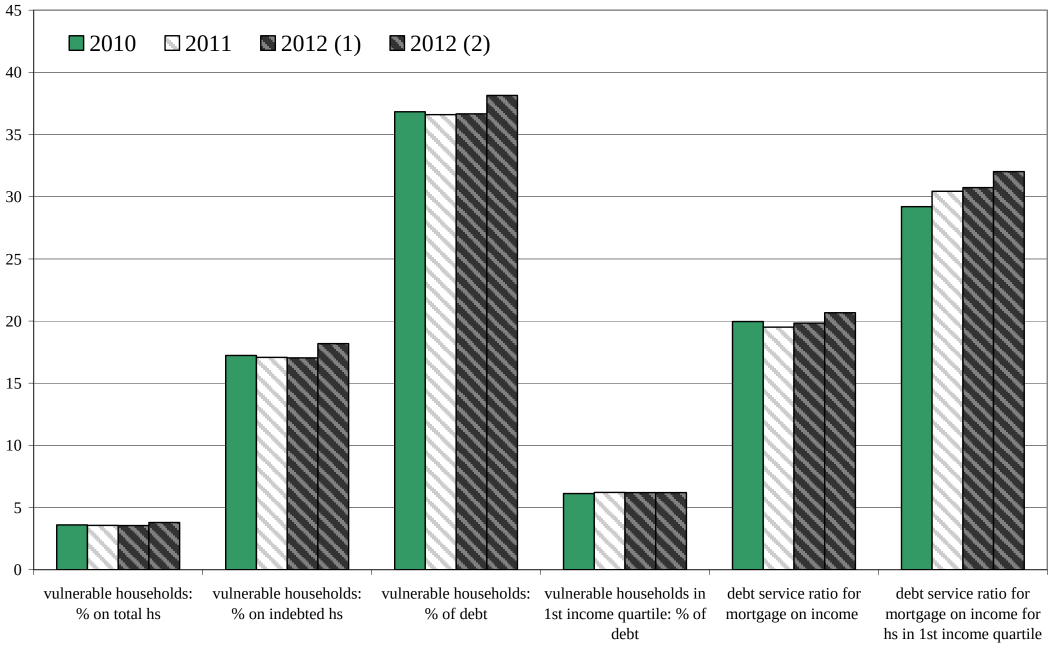
(per cent)



Source: Supervisory reports.

Taking account of these trends in interest rates and in households' disposable income, which in 2011 rose by 2 per cent in nominal terms, the debt service for mortgage loans remained stable in 2011, while the proportion of vulnerable households was also basically unchanged. In a conservative scenario that predicts yield spreads between Italian BTPs and German Bunds to remain high, in 2012 the estimates suggest disposable income declined by just under 2 per cent in nominal terms, while interest rates increased slightly. For the current year too, there are no signs of any substantial changes in the conditions of vulnerability of indebted households (Figure 12).

Figure 12: Indicators of vulnerability – simulations for 2011 and 2012
(per cent)



Source: based on data from the Survey on Household Income and Wealth. The vulnerability indicators are calculated using monetary income as the denominator. In simulating the scenario for 2012 (2), we assume a higher rate of reimbursement with respect to the alternative hypothesis for 2012 (1), which assumes that the lower reimbursement rate observed at the end of 2011 would continue into 2012 (see the Methodological Notes).

7. Conclusions and discussion of the results

In this paper we have examined the consequences of the 2008-09 economic and financial crisis for Italian households' debt, distinguishing between mortgage loans and consumer credit.

Between 2008 and 2010 there was a fall in the percentage of indebted households that was restricted entirely to mortgage loans. The reduction in the credit market participation rate was due both to a fall in the demand for financing and to a tightening of credit supply conditions. These trends were already under way at the time of the 2006 Survey on Household Income and Wealth and became much more pronounced as the crisis intensified. The greater selectivity in granting credit concerned every income class except for the highest and was especially true for the self-employed. For households with a head aged less than 35, there was a substantial increase in the percentage of those that were "discouraged", i.e. households that had considered applying for a loan but subsequently decided not to, believing that their application would be turned down.

The decrease in the proportion of households with a mortgage loan mainly concerned those with a low income (the first quartile) and the self-employed. By contrast the decrease in the proportion of indebted households was not significant for consumer credit, use of which increased among low-income households. Recourse to this type of credit was also particularly pronounced among those who in 2010 declared incomes that were unusually low. At least until 2010, consumer credit thus allowed numerous households to isolate the swings in their consumption expenditure from those in their incomes. The reduced demand for financing was reflected instead in a fall in the use of consumer credit by pensioners, after it had risen in the preceding years, above all as a consequence of the introduction of loans secured by pledge of one fifth of the borrower's pension. These trends appear to have continued in 2011; in the first part of 2012 there was a new and more pronounced downturn in lending to households, especially mortgage loans.

Between 2008 and 2010 the average amount of debt increased exclusively for mortgage loans and the wealthiest households. The share of mortgage loans held by the latter consequently grew, while the share held by households with a low income (the first quartile) declined to a historical low; the average amount of mortgage loans consequently decreased. Overall, the sustainability of loans did not change: it improved for mortgage loans granted to less well-off households, while it deteriorated for consumer credit granted to households whose head was old and those hard put to arrive at the end of the month on their incomes. For holders of mortgage loans, the average ratio of instalments to income declined: the fall in interest rates in 2009 more than offset the contraction in income caused by the recession.

Between 2008 and 2010 the proportion of households with high debt service in relation to their incomes did not change materially. The indicator improved for low-income households, which are those that benefited from a reduction in the ratio of mortgage loan instalments to income. These are the households that made the most use of subrogation, in the search for better contractual conditions, and suffered events, such as the loss of their job, that allowed them to invoke the loan moratorium provisions. These also contributed to stabilizing the frequency of delayed repayments, which increased, instead, for consumer credit. Simulations for 2011 and 2012 indicate that there were only small changes in the vulnerability of indebted households.

Lastly, in this paper we have estimated the number of over-indebted households in Italy, i.e. those that are definitively unable to fulfil the obligations deriving from the signing of a debt contract. There were found to be about 160,000 over-indebted households, equivalent to 0.6 per cent of all households and to 3.0 per cent of indebted households. Some 90 per cent of over-indebted households had a medium-to-low income, below the median value, and more than three quarters were in the first income quartile.

One of the most important effects of the 2008-09 crisis is that it interrupted the growth in the credit market for households, which had been a feature of the preceding years, especially as regards mortgage loans, and which had narrowed the gap with other countries. Low interest rates, the growth of the property market and, above all, the increase in the competition among banks had contributed to easing the criteria for granting house-purchase loans. The loan-to-value ratio rose to nearly 70 per cent in 2006, there was an increase in the number of banks offering mortgage loans with a maturity of more than 30 years and a loan-to-value ratio of more than 80 per cent (Rossi, 2008). The growth in the mortgage loan market mainly involved less wealthy households in the first income quartile. As pointed out earlier, the proportion of such households with a mortgage loan has contracted sharply since 2008, returning to the level at the beginning of the last decade. The result of this scenario, which has had positive effects on banks' accounts in relation to their bad debts, is that more and more often low-income households have to rent their house of residence. In defining policy interventions, it needs to be remembered that, following the crisis, the financial position of households that rent the property they live in, mostly young people and persons with low incomes, has deteriorated significantly (Bartiloro and Rampazzi, 2012). They have not benefited from the large reduction in interest rates brought on by the crisis or from the moratorium measure that allowed low-income households with mortgage loans to avoid a worsening in their situations.

During the crisis consumer credit played its shock-absorber role, thereby allowing – albeit at much higher interest rates than those in the euro area – some households that had suffered large reductions in their incomes to limit the effects on their consumption. The significant contraction in disbursements in the early part of 2012 was due more to a pronounced fall in demand, at a time when the major banks had announced an easing of the selectiveness of their criteria for granting consumer credit. In the discussion on the legislation that introduced a procedure in Italy for the restructuring of loans of this type, it was noted that the law had given an accurate definition of the condition of over-indebtedness permitting recourse to the procedure. This is important for preventing opportunistic behaviour by debtors that could lead financial intermediaries to be more selective when granting consumer credit.

Owing to the lack of updated microeconomic data on households' accounts, there are not many studies with which to compare the results of this paper. To the best of our knowledge, recent analyses exist only for the United States (Brown et al, 2010; Chakrabarti et al, 2011), where, in contrast with Italy, household indebtedness had risen to a very high level by international standards and consequently underwent a large reduction in the years following the crisis. Data from the 2010 Survey of Consumer Finance compared with those for 2007 show a fall in the proportion of indebted US households, especially for credit card debt, that was reflected in a reduction in the percentage of households with a high debt service (*Federal Reserve Bulletin*, 2012). The large fall in loans other than mortgage loans was concentrated .among households with a low creditworthiness, pointing to a considerable tightening of lending conditions (Krainer, 2012).

The analysis of the relationship between supply and demand factors in explaining the slowdown in credit to households is also important in order to understand the types of policy intervention most appropriate for reviving economic activity (*International Monetary Fund*, 2012). This paper provides some analytical inputs that will be studied further, with attention focused in particular on the mortgage-loan market, which is much smaller in Italy than in the other main European countries.

Table A1

Proportion of indebted households

(per cent)

	2006	2008	2010	2010 (†)	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	22.2	23.6	20.9	24.1	-1.3	-2.7 (*)	1515
Age							
<35	29.9	31.2	28.5	30.4	-1.4	-2.7	169
35-44	36.3	37.6	33.0	38.0	-3.3	-4.6 (*)	394
45-54	26.1	33.7	31.8	36.1	5.7 (*)	-2.0	480
55-64	22.8	22.2	19.4	23.0	-3.4	-2.8	307
>=65	6.3	6.3	5.2	6.9	-1.1	-1.0	165
Educational qualifications							
none or primary school certificate	9.0	9.0	7.6	8.6	-1.4	-1.4	157
lower secondary school certificate	24.2	26.8	23.4	26.4	-0.8	-3.4 (*)	593
upper secondary school certificate	30.8	31.2	26.6	31.8	-4.3 (*)	-4.6 (*)	525
university degree	27.1	29.2	27.5	31.2	0.3	-1.8	240
Country of origin							
European Union	22.4	23.7	20.8	24.0	-1.6	-2.9 (*)	1433
other	18.1	22.3	22.7	27.2	4.6	0.4	82
Equivalent income quartiles (2)							
1	15.8	19.6	17.8	20.2	2.0	-1.8	319
2	19.1	24.1	20.2	22.5	1.1	-3.9 (*)	354
3	25.1	24.1	21.8	24.9	-3.3 (*)	-2.3	422
4	28.9	26.7	23.9	29.1	-5.0 (*)	-2.7	420
Equivalent net wealth quartiles (2)							
1	18.5	19.8	19.2	21.7	0.7	-0.6	315
2	23.8	31.8	27.9	30.7	4.1 (*)	-3.9 (*)	492
3	23.4	22.8	18.5	21.1	-4.9 (*)	-4.4 (*)	387
4	23.2	20.0	18.1	23.1	-5.1 (*)	-1.9	321
Work status							
employee	31.5	34.0	33.5	36.5	2.1	-0.5	985
self-employed	29.4	31.4	21.5	30.3	-7.9 (*)	-9.9 (*)	218
not employed	9.4	9.6	7.9	9.1	-1.5	-1.7 (*)	312
of which: pensioners	*9.3*	*9.6*	*7.7*	*8.8*	*-1.6*	*-1.9* (*)	*284*
Reaches the end of the month							
with great difficulty	19.0	25.5	21.0	23.8	2.0	-4.5 (*)	236
with difficulty	20.0	25.6	20.9	24.0	0.9	-4.7 (*)	257
with some difficulty	23.9	25.3	23.5	25.9	-0.5	-1.9	487
fairly easily	23.4	21.5	19.8	23.3	-3.6 (*)	-1.7	387
easily	22.2	19.7	18.2	23.2	-4.0	-1.5	115
very easily	17.2	14.5	12.2	17.8	-5.0	-2.3	33
Type of contract (3)							
temporary	28.4	25.3	17.8	21.2	-10.6 (*)	-7.5 (*)	64
not temporary	31.1	34.0	31.2	36.0	0.1	-2.8 (*)	1139
Area of residence							
North	24.8	26.9	21.1	24.6	-3.7 (*)	-5.8 (*)	657
Centre	24.7	19.6	24.9	28.6	0.2	5.3 (*)	417
South and Islands	16.7	21.3	18.2	20.6	1.5	-3.0 (*)	441
Size of the municipality of residence							
< 20,000 inhabitants	23.3	24.9	20.4	23.8	-2.9 (*)	-4.5 (*)	395
from 20,000 to 40,000 inhabitants	19.3	20.4	20.3	23.6	0.9	-0.1	288
from 40,000 to 500,000 inhabitants	20.4	22.8	19.5	22.5	-0.9	-3.2 (*)	685
> 500,000 inhabitants (metropolitan area)	25.3	24.5	26.6	29.8	1.3	2.1	147

(†) Based on the definition of debt that includes current account overdrafts and credit cards; data available from 2008.

(*) Significant changes with a confidence level up to 10 per cent.

Table A2

Proportion of households with a mortgage loan
(per cent)

	2006	2008	2010	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	11.9	12.6	11.0	-0.9	-1.7 (*)	781
Age						
<35	14.1	16.1	14.0	-0.1	-2.2	79
35-44	20.5	23.3	18.0	-2.5	-5.2 (*)	216
45-54	14.5	19.1	17.9	3.4 (*)	-1.2	267
55-64	11.5	8.9	10.2	-1.3	1.3	159
>=65	3.4	2.2	1.8	-1.6 (*)	-0.4	60
Educational qualifications						
none or primary school certificate	4.4	2.7	2.1	-2.3 (*)	-0.5	56
lower secondary school certificate	10.9	13.2	9.5	-1.4	-3.7 (*)	253
upper secondary school certificate	18.5	18.1	16.6	-1.9	-1.6	305
university degree	17.6	21.0	20.4	2.8	-0.6	167
Country of origin						
European Union	12.1	12.5	11.0	-1.1	-1.6 (*)	741
other	7.2	14.6	10.8	3.6	-3.8	40
Equivalent income quartiles (2)						
1	6.2	10.1	4.8	-1.4	-5.2 (*)	107
2	10.5	11.7	11.4	1.0	-0.3	174
3	11.6	10.9	11.5	-0.1	0.6	240
4	19.3	17.9	16.0	-3.2	-1.8	260
Equivalent net wealth quartiles (2)						
1	3.1	3.5	2.8	-0.4	-0.8	42
2	13.5	21.3	18.7	5.2 (*)	-2.6	319
3	15.0	12.4	10.9	-4.1 (*)	-1.5	226
4	16.0	13.3	11.5	-4.5 (*)	-1.8	194
Work status						
employee	16.8	18.3	18.3	1.5	0.0	533
self-employed	17.4	20.5	11.5	-5.9 (*)	-9.0 (*)	119
not employed	4.4	3.5	3.3	-1.1	-0.2	129
of which: pensioners	*4.4*	*3.3*	*3.1*	*-1.3* (*)	-0.2	*116*
Reaches the end of the month						
with great difficulty	9.0	12.0	7.3	-1.7	-4.6 (*)	92
with difficulty	10.0	8.5	6.5	-3.4 (*)	-1.9	104
with some difficulty	11.8	13.8	12.9	1.2	-0.9	262
fairly easily	13.9	14.3	12.5	-1.4	-1.8	229
easily	14.4	12.3	13.5	-0.9	1.2	71
very easily	11.1	9.7	8.6	-2.5	-1.2	23
Type of contract (3)						
temporary	10.0	12.0	5.9	-4.1	-6.1 (*)	24
not temporary	17.6	19.6	17.3	-0.3	-2.3 (*)	628
Area of residence						
North	12.8	14.4	11.9	-0.9	-2.5 (*)	366
Centre	15.3	11.3	13.3	-2.0	2.1	216
South and Islands	8.3	10.8	8.0	-0.3	-2.8 (*)	199
Size of the municipality of residence						
< 20,000 inhabitants	12.6	13.7	10.5	-2.1	-3.1 (*)	211
from 20,000 to 40,000 inhabitants	9.6	9.6	10.4	0.8	0.8	143
from 40,000 to 500,000 inhabitants	10.1	11.1	9.9	-0.1	-1.2	341
> 500,000 inhabitants (metropolitan area	15.7	15.6	15.3	-0.3	-0.3	86

(*) Significant changes with a confidence level up to 10 per cent.

Table A3

Proportion of households with consumer credit liabilities

(per cent)

	2006	2008	2010	2010 (†)	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	12.8	13.1	12.3	16.8	-0.5	-0.9	914
Age							
<35	20.6	18.0	17.9	21.7	-2.7	-0.1	114
35-44	20.2	17.9	18.8	25.8	-1.4	0.9	224
45-54	15.0	18.1	18.3	24.8	3.3 (*)	0.2	283
55-64	12.4	15.2	10.7	15.2	-1.8	-4.6 (*)	180
>=65	3.2	4.3	3.6	5.4	0.4	-0.7	113
Educational qualifications							
none or primary school certificate	5.2	6.9	6.0	7.3	0.8	-0.9	113
lower secondary school certificate	15.9	15.5	15.8	19.9	0.0	0.3	397
upper secondary school certificate	16.1	16.5	13.6	20.5	-2.5	-2.9 (*)	297
university degree	13.2	11.7	11.2	17.6	-2.0	-0.5	107
Country of origin							
European Union	12.8	13.3	12.2	16.5	-0.6	-1.1	866
other	12.0	10.7	13.3	20.1	1.4	2.7	48
Equivalent income quartiles (2)							
1	10.6	10.6	14.2	16.9	3.5 (*)	3.5 (*)	237
2	11.1	15.1	11.8	15.4	0.7	-3.3 (*)	227
3	16.0	15.5	12.7	17.0	-3.3 (*)	-2.8 (*)	240
4	13.4	11.3	10.4	17.7	-3.0 (*)	-0.9	210
Equivalent net wealth quartiles (2)							
1	16.1	16.8	16.9	19.4	0.8	0.1	279
2	13.3	15.3	13.9	18.7	0.6	-1.4	259
3	11.8	11.9	9.8	13.9	-2.0	-2.1	210
4	10.0	8.6	8.4	14.9	-1.6	-0.1	166
Work status							
employee	18.5	19.0	19.3	24.3	0.8	0.3	589
self-employed	15.7	14.3	12.2	22.6	-3.5	-2.1	118
not employed	5.4	6.5	5.1	6.6	-0.3	-1.4 (*)	207
of which: pensioners	*5.3*	*6.7*	*5.1*	6.5	-0.2	*-1.6* (*)	*191*
Reaches the end of the month							
with great difficulty	12.7	15.3	15.8	20.0	3.1	0.6	171
with difficulty	11.9	18.3	15.3	19.4	3.4	-3.0	178
with some difficulty	14.8	14.9	14.2	17.4	-0.6	-0.7	291
fairly easily	11.9	9.2	8.9	14.3	-3.0 (*)	-0.3	204
easily	10.8	8.6	7.5	13.7	-3.3	-1.1	56
very easily	7.7	4.8	4.5	11.2	-3.2	-0.3	14
Type of contract (3)							
temporary	20.4	16.5	14.0	18.0	-6.5	-2.6	46
not temporary	17.5	17.8	17.6	24.4	0.1	-0.2	661
Area of residence							
North	14.4	14.8	10.9	16.0	-3.5 (*)	-3.8 (*)	353
Centre	12.8	9.9	15.1	19.9	2.4	5.3 (*)	266
South and Islands	10.3	12.8	12.5	15.8	2.2	-0.3	295
Size of the municipality of residence							
< 20,000 inhabitants	12.9	13.3	11.6	16.6	-1.3	-1.7	225
from 20,000 to 40,000 inhabitants	11.6	12.6	12.7	16.9	1.1	0.1	180
from 40,000 to 500,000 inhabitants	13.2	13.9	12.3	16.0	-0.9	-1.6	431
> 500,000 inhabitants (metropolitan area	13.1	11.7	14.4	18.8	1.2	2.7	78

(†) Based on the definition of debt that includes current account overdrafts and credit cards; data available from 2008.

(*) Significant changes with a confidence level up to 10 per cent.

Table A4

Ratio of debt to income

(median values)

	2006	2008	2010	2010 (†)	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	36.6	49.0	49.1	36.9	12.5 *	0.1 *	1490
Age							
<35	54.3	74.6	58.7	41.6	4.4	-15.9	162
35-44	46.6	90.8	74.5	54.0	27.8 *	-21.4	388
45-54	33.1	44.8	52.6	37.7	19.5 *	7.8	470
55-64	20.9	24.5	30.7	25.9	9.8 *	6.3	307
>=65	23.3	16.5	26.2	23.0	2.9	9.7 *	163
Educational qualifications							
none or primary school certificate	21.6	20.3	24.3	24.3	2.7	4.0 *	156
lower secondary school certificate	35.9	45.3	36.0	31.5	0.2	-9.3	581
upper secondary school certificate	42.0	58.1	70.0	49.1	28.1	12.0	517
university degree	46.6	66.0	88.7	81.7	42.1	22.7	236
Country of origin							
European Union	35.8	47.8	48.8	36.0	13.0 *	0.9 *	1411
other	42.0	68.8	51.5	48.9	9.5	-17.3	79
Equivalent income quartiles (2)							
1	32.7	82.6	48.4	43.9	15.7	-34.2 *	313
2	37.9	47.8	56.4	39.0	18.4	8.6	347
3	31.7	28.9	34.7	26.4	3.0 *	5.8 *	416
4	39.2	49.0	63.8	37.1	24.6	14.9	414
Equivalent net wealth quartiles (2)							
1	25.7	23.1	27.5	26.0	1.8	4.3	306
2	44.6	106.1	125.5	94.5	80.9 *	19.4	485
3	44.9	48.9	36.4	29.8	-8.6	-12.6	383
4	40.1	34.0	43.5	29.3	3.4	9.4	316
Work status							
employee	37.3	55.0	56.4	43.0	19.1	1.4	967
self-employed	46.3	74.6	53.1	35.5	6.7	-21.5	216
not employed	23.2	20.3	29.2	26.2	6.0	8.5 *	307
of which: pensioners	*23.1*	*17.8*	*26.2*	*24.6*	3.1	8.5 *	*282*
Reaches the end of the month							
with great difficulty	44.7	58.6	54.9	51.4	10.3	-5.2 *	231
with difficulty	31.7	25.0	33.7	28.7	2.0	8.7	249
with some difficulty	32.1	47.3	43.5	34.5	11.4	-3.8	481
fairly easily	39.7	62.0	59.5	36.9	19.8	-2.4	384
easily	39.2	34.0	94.5	52.1	55.4	60.5	114
very easily	18.3	74.6	56.8	23.8	38.5 *	-17.8	31
Type of contract (3)							
temporary	28.4	63.8	60.4	52.6	32.0 *	-3.4	1120
not temporary	39.2	56.0	56.3	39.4	17.2	0.3	63
Area of residence							
North	35.3	44.4	49.9	33.5	14.6	5.5 *	643
Centre	45.4	54.4	48.2	39.4	2.8	-6.2	410
South and Islands	33.2	54.6	48.4	38.6	15.3	-6.1	437
Size of the municipality of residence							
< 20,000 inhabitants	35.3	50.7	43.5	33.0	8.1	-7.3	388
from 20,000 to 40,000 inhabitants	30.0	38.7	55.0	42.4	25.1	14.0	285
from 40,000 to 500,000 inhabitants	39.8	39.3	46.8	36.8	7.0	7.5 *	672
> 500,000 inhabitants (metropolitan area	53.0	73.0	76.3	56.3	23.3 *	3.2	145

(†) Based on the definition of debt that includes current account overdrafts and credit cards; data available from 2008.

(*) Significant changes with a confidence level up to 10 per cent.

Table A5

Ratio of mortgage loan for house purchase to income

(median values)

	2006	2008	2010	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	89.8	147.0	159.8	70.0 (*)	12.8	767
Age						
<35	167.1	236.3	271.3	104.2 (*)	35.0	76
35-44	114.4	192.0	204.3	89.9 (*)	12.3	212
45-54	76.8	113.9	138.4	61.6 (*)	24.5	265
55-64	36.0	74.4	68.7	32.7	-5.7	157
>=65	32.8	49.4	91.6	58.7 (*)	42.2 (*)	57
Educational qualifications						
none or primary school certificate	31.8	102.1	49.4	17.6	-52.7	54
lower secondary school certificate	85.9	149.8	169.2	83.3 (*)	19.4	249
upper secondary school certificate	96.0	160.7	153.6	57.6	-7.2	300
university degree	102.4	115.6	170.2	67.8	54.7	164
Country of origin						
European Union	87.8	144.9	149.8	61.9 (*)	4.8	727
other	197.7	298.4	265.3	67.6	-33.1	40
Equivalent income quartiles (2)						
1	113.8	305.6	271.1	157.3	-34.5	103
2	109.7	205.6	199.2	89.5 (*)	-6.4	170
3	99.6	131.2	132.1	32.5 (*)	0.9 (*)	239
4	76.2	98.3	130.7	54.5 (*)	32.5 (*)	255
Equivalent net wealth quartiles (2)						
1	59.7	355.2	323.0	263.3 (*)	-32.3	40
2	148.1	192.5	204.3	56.3	11.8	315
3	88.0	135.2	117.3	29.4	-17.9	220
4	62.9	83.3	104.8	41.9	21.6	192
Work status						
employee	98.8	155.1	168.6	69.8 (*)	13.5	527
self-employed	105.2	160.7	181.0	75.9 (*)	20.3	116
not employed	42.2	64.3	59.5	17.4	-4.7	124
of which: pensioners	*38.2*	*57.5*	*54.0*	15.8	*-7.8*	*114*
Reaches the end of the month						
with great difficulty	81.2	246.1	265.9	184.8 (*)	19.8	89
with difficulty	62.9	174.3	223.1	160.2 (*)	48.8	102
with some difficulty	112.0	160.7	135.8	23.9	-24.9	260
fairly easily	90.2	124.7	153.6	63.4 (*)	28.9	226
easily	78.0	77.3	182.3	104.4	105.1 (*)	68
very easily	17.6	74.6	102.6	85.0 (*)	28.0	22
Type of contract (3)						
temporary	173.3	305.3	265.3	92.1 (*)	-40.0 (*)	23
not temporary	99.6	158.2	173.6	73.9 (*)	15.4	620
Area of residence						
North	93.4	177.1	181.0	87.6 (*)	3.9 (*)	361
Centre	105.2	140.2	126.4	21.2	-13.9	213
South and Islands	74.0	127.5	129.9	55.9 (*)	2.4	193
Size of the municipality of residence						
< 20,000 inhabitants	70.6	187.6	159.8	89.2 (*)	-27.8	208
from 20,000 to 40,000 inhabitants	90.7	133.1	201.0	110.2 (*)	67.9	142
from 40,000 to 500,000 inhabitants	127.5	113.0	140.5	13.0	27.5 (*)	333
> 500,000 inhabitants (metropolitan area	110.5	154.5	143.5	33.0	-11.0	84

(*) Significant changes with a confidence level up to 10 per cent.

Table A6

Ratio of consumer credit liabilities to income

(median values)

	2006	2008	2010	2010 (†)	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	18.6	15.5	17.1	12.7	-1.5 (*)	1.6	902
Age							
<35	25.7	21.4	11.8	10.9	-13.9 (*)	-9.6 (*)	113
35-44	19.2	15.5	17.6	12.8	-1.5	2.1	223
45-54	16.9	15.3	18.2	13.9	1.3	2.9	277
55-64	14.0	13.2	16.2	10.0	2.2	3.1	179
>=65	18.3	10.6	19.5	14.7	1.2	8.9 (*)	110
Educational qualifications							
none or primary school certificate	16.7	15.0	22.8	20.2	6.1	7.7 (*)	110
lower secondary school certificate	23.2	15.4	17.1	14.0	-6.1 (*)	1.7	391
upper secondary school certificate	15.3	15.8	16.3	11.1	1.1	0.6	295
university degree	11.3	15.3	11.2	9.1	-0.1	-4.1	106
Country of origin							
European Union	18.6	15.3	16.2	12.2	-2.4 (*)	0.9	855
other	19.8	19.4	23.0	21.4	3.2	3.6	47
Equivalent income quartiles (2)							
1	20.3	29.3	32.6	29.2	12.3	3.3	234
2	19.8	18.7	15.6	13.8	-4.1 (*)	-3.1	225
3	20.5	13.0	12.7	10.0	-7.9 (*)	-0.4	236
4	13.2	10.8	10.3	6.4	-2.9 (*)	-0.5	207
Equivalent net wealth quartiles (2)							
1	24.3	17.4	22.0	21.3	-2.3	4.6	276
2	18.6	18.8	18.0	15.5	-0.6	-0.9	256
3	18.5	12.2	11.8	9.1	-6.7	-0.4	207
4	15.1	10.1	9.8	*6.6*	-5.3 (*)	-0.3	163
Work status							
employee	18.6	16.8	14.7	11.2	-3.9 (*)	-2.1 (*)	583
self-employed	24.8	11.5	19.5	15.6	-5.3	8.0	117
not employed	15.6	12.2	17.1	14.7	1.5	4.9 (*)	202
of which: pensioners	*14.8*	*11.5*	17.1	*14.5*	2.3	5.6	*186*
Reaches the end of the month							
with great difficulty	28.8	17.5	36.0	30.6	7.2	18.5 (*)	169
with difficulty	18.6	13.3	14.4	11.3	-4.2 (*)	1.0	174
with some difficulty	18.1	18.6	16.3	11.3	-1.8 (*)	-2.3	288
fairly easily	18.5	12.7	14.1	9.8	-4.5	1.4	202
easily	10.7	10.8	7.8	7.0	-2.9 (*)	-3.0 (*)	56
very easily	18.3	11.1	8.7	7.5	-9.7 (*)	-2.4	13
Type of contract (3)							
temporary	25.4	20.6	29.3	29.8	4.0	8.8	46
not temporary	18.8	16.3	15.1	11.1	-3.7 (*)	-1.2 (*)	654
Area of residence							
North	17.1	13.4	12.1	9.0	-5.0 (*)	-1.3 (*)	349
Centre	19.7	16.3	16.4	13.8	-3.4	0.0	262
South and Islands	20.0	19.7	21.7	17.5	1.7	2.0	291
Size of the municipality of residence							
< 20,000 inhabitants	20.0	15.2	17.1	11.1	-2.9 (*)	1.9	222
from 20,000 to 40,000 inhabitants	18.1	14.9	11.6	10.4	-6.5 (*)	-3.2 (*)	179
from 40,000 to 500,000 inhabitants	18.5	15.9	16.3	14.7	-2.2	0.5	425
> 500,000 inhabitants (metropolitan area	11.3	19.2	21.4	15.7	10.1 (*)	2.2	76

(†) Based on the definition of debt that includes current account overdrafts and credit cards; data available from 2008.
(*) Significant changes with a confidence level up to 10 per cent.

Table A7

Ratio of debt to total assets
(median values)

	2006	2008	2010	2010 (†)	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	9.6	12.2	14.0	10.1	4.4	1.8	1490
Age							
<35	28.2	28.6	31.7	28.9	3.5	3.1	167
35-44	11.5	22.6	21.2	16.6	9.7 *	-1.4	386
45-54	7.4	9.0	12.5	8.7	5.2	3.5	470
55-64	4.7	5.2	4.9	4.0	0.2	-0.3	306
>=65	3.8	2.9	7.7	5.1	3.9	4.8 *	161
Educational qualifications							
none or primary school certificate	5.8	6.8	9.4	6.5	3.6	2.6	155
lower secondary school certificate	10.3	15.1	13.7	9.9	3.4	-1.4	580
upper secondary school certificate	9.7	12.8	15.3	10.1	5.6	2.5	516
university degree	10.4	11.5	13.9	11.9	3.5	2.4	239
Country of origin							
European Union	9.4	11.1	12.2	8.7	2.9	1.1	1410
other	50.0	50.0	54.4	54.4	4.4	4.4	80
Equivalent income quartiles (2)							
1	15.9	31.4	29.9	29.4	14.0	-1.5	309
2	16.4	22.1	21.5	18.1	5.2	-0.6	350
3	8.5	8.5	8.0	6.3	-0.4	-0.5 *	417
4	7.5	6.7	7.9	4.8	0.4	1.2	414
Equivalent net wealth quartiles (2)							
1	66.7	70.8	73.8	66.7	7.1	3.0	305
2	12.4	21.5	25.8	21.4	13.4 *	4.4 *	489
3	6.6	6.8	4.7	3.8	-1.9	-2.1	383
4	3.3	3.5	4.0	1.9	0.8	0.5	313
Work status							
employee	12.9	18.6	17.6	15.6	4.6	-1.1	968
self-employed	8.7	9.3	10.1	4.9	1.4	0.8	216
not employed	4.7	4.7	4.9	4.9	0.2	0.2	306
of which: pensioners	*4.4*	*3.9*	*4.5*	*3.8*	0.1	0.6	*279*
Reaches the end of the month							
with great difficulty	18.8	18.8	33.2	30.0	14.5	14.4 *	227
with difficulty	7.3	11.9	12.5	11.6	5.2	0.7	252
with some difficulty	11.4	15.3	13.0	9.3	1.6	-2.4	482
fairly easily	8.1	10.2	11.9	6.4	3.8	1.7	383
easily	7.7	5.0	10.2	6.7	2.6	5.2	115
very easily	2.8	6.6	8.6	8.6	5.7 *	1.9	31
Type of contract (3)							
temporary	17.9	24.3	37.6	40.0	19.7	13.3	63
not temporary	11.0	15.6	15.6	11.6	4.6	0.0	1121
Area of residence							
North	9.8	12.1	14.1	10.3	4.3	2.0	648
Centre	10.0	10.7	12.9	9.1	3.0	2.2	411
South and Islands	7.7	14.5	15.9	11.7	8.2 *	1.5	431
Size of the municipality of residence							
< 20,000 inhabitants	8.1	13.3	12.5	7.7	4.4	-0.8	389
from 20,000 to 40,000 inhabitants	9.1	9.0	13.8	11.9	4.7	4.8	285
from 40,000 to 500,000 inhabitants	9.4	10.5	14.0	11.2	4.6	3.5	670
> 500,000 inhabitants (metropolitan area	14.2	19.8	17.3	11.8	3.1	-2.5	146

(†) Based on the definition of debt that includes current account overdrafts and credit cards; data available from 2008.
(*) Significant changes with a confidence level up to 10 per cent.

Table A8

Ratio of mortgage loan for house purchase to total assets
(median values)

	2006	2008	2010	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	12.9	21.4	21.5	8.6 (*)	0.1	765
Age						
<35	20.4	36.2	38.0	17.6 (*)	1.8	77
35-44	14.9	25.5	27.5	12.5 (*)	1.9	213
45-54	9.3	14.8	17.7	8.5 (*)	2.9	262
55-64	6.6	10.0	8.5	1.9	-1.5	157
>=65	5.1	6.1	9.9	4.8	3.9	56
Educational qualifications						
none or primary school certificate	5.8	15.5	9.9	4.2	-5.6	53
lower secondary school certificate	12.9	24.5	29.9	17.0 (*)	5.4	248
upper secondary school certificate	13.4	22.2	22.6	9.2 (*)	0.4	301
university degree	15.9	13.7	18.0	2.1	4.3	163
Country of origin						
European Union	12.8	19.6	19.8	7.0 (*)	0.2	726
other	52.6	57.1	48.5	-4.2	-8.7	39
Equivalent income quartiles (2)						
1	14.2	31.4	34.0	19.9	2.6	104
2	19.8	26.7	31.8	12.0 (*)	5.1	168
3	15.0	20.1	20.7	5.7 (*)	0.6 (*)	239
4	9.7	10.5	14.7	5.0 (*)	4.2 (*)	254
Equivalent net wealth quartiles (2)						
1	78.5	88.5	78.8	0.2	-9.8 (*)	37
2	24.8	33.2	38.0	13.2 (*)	4.9	318
3	11.5	17.9	15.0	3.6	-2.8	220
4	5.6	6.6	8.4	2.9 (*)	1.8 (*)	190
Work status						
employee	16.4	24.2	24.8	8.4 (*)	0.6	524
self-employed	11.0	18.6	19.7	8.7 (*)	1.1	116
not employed	6.5	9.8	7.2	0.7	-2.7	125
of which: pensioners	*5.5*	*8.6*	*4.8*	-0.7	-3.7	*112*
Reaches the end of the month						
with great difficulty	10.5	26.7	36.1	25.6 (*)	9.5	89
with difficulty	9.6	31.4	24.4	14.8 (*)	-7.0	101
with some difficulty	16.4	23.8	22.1	5.7	-1.8	259
fairly easily	13.7	16.7	22.6	8.9 (*)	5.9	225
easily	16.8	7.1	17.3	0.6	10.2 (*)	69
very easily	0.8	16.6	14.3	13.5 (*)	-2.3	22
Type of contract (3)						
temporary	20.6	28.5	35.8	15.3 (*)	7.4 (*)	22
not temporary	14.1	22.6	24.3	10.2 (*)	1.7	618
Area of residence						
North	13.1	24.2	26.0	12.9 (*)	1.8 (*)	359
Centre	14.9	15.3	19.6	4.7	4.3	213
South and Islands	9.9	19.6	16.7	6.7 (*)	-2.9	193
Size of the municipality of residence						
< 20,000 inhabitants	11.0	24.9	23.8	12.9 (*)	-1.1	209
from 20,000 to 40,000 inhabitants	14.2	17.8	19.7	5.5 (*)	1.9	142
from 40,000 to 500,000 inhabitants	16.1	14.9	21.5	5.4	6.6 (*)	332
> 500,000 inhabitants (metropolitan area	15.4	16.8	18.6	3.2	1.8	82

(*) Significant changes with a confidence level up to 10 per cent.

Table A9

Ratio of mortgage loan instalment to income (1)
(median values)

	2006	2008	2010	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	16.6	17.1	15.8	-0.8 (*)	-1.3 (*)	682
Age						
<35	20.2	20.1	17.3	-2.9	-2.8 (*)	71
35-44	17.1	19.0	17.4	0.4	-1.5	195
45-54	13.5	14.2	14.5	1.0	0.3	240
55-64	12.6	12.0	13.4	0.8 (*)	1.5	125
>=65	9.9	12.3	15.7	5.8	3.4	51
Educational qualifications						
none or primary school certificate	22.4	19.0	14.3	-8.1	-4.7	48
lower secondary school certificate	15.9	18.8	17.8	1.9	-1.0	225
upper secondary school certificate	17.1	16.3	15.7	-1.4 (*)	-0.6 (*)	268
university degree	13.3	12.8	13.5	0.2	0.7	141
Country of origin						
European Union	16.4	16.4	15.4	-1.1 (*)	-1.0 (*)	644
other	18.7	31.0	17.4	-1.2	-13.5 (*)	38
Equivalent income quartiles (2)						
1	26.4	24.6	20.9	-5.5 (*)	-3.7 (*)	100
2	18.6	18.8	17.9	-0.7	-0.9	164
3	16.8	17.3	15.3	-1.5 (*)	-2.0	215
4	13.7	12.8	12.9	-0.8	0.1	203
Equivalent net wealth quartiles (2)						
1	24.5	27.8	20.4	-4.1 (*)	-7.5 (*)	34
2	17.6	19.2	17.4	-0.2	-1.7	299
3	16.0	15.7	14.1	-1.9 (*)	-1.7	199
4	15.1	12.6	12.2	-3.0 (*)	-0.4	150
Work status						
employee	16.8	17.9	16.4	-0.4 (*)	-1.5 (*)	477
self-employed	15.9	14.3	16.5	0.6	2.2	100
not employed	12.6	13.2	14.1	1.5	0.9	105
of which: pensioners	*11.5*	*12.1*	*14.1*	*2.6*	*2.0*	*95*
Reaches the end of the month						
with great difficulty	19.7	21.8	24.1	4.4	2.4 (*)	85
with difficulty	20.2	17.1	16.9	-3.4 (*)	-0.3	99
with some difficulty	17.1	18.3	16.2	-0.8 (*)	-2.1 (*)	233
fairly easily	15.5	14.8	14.3	-1.2	-0.5	187
easily	10.8	12.3	12.8	2.0	0.5	59
very easily	8.3	8.9	9.9	1.6	1.0	19
Type of contract (3)						
temporary	19.7	18.4	15.9	-3.8	-2.5	21
not temporary	16.7	17.2	16.4	-0.3 (*)	-0.8 (*)	556
Area of residence						
North	14.8	17.9	15.4	0.5	-2.6 (*)	329
Centre	17.2	15.2	13.9	-3.3 (*)	-1.3	184
South and Islands	19.6	16.8	17.4	-2.2 (*)	0.6	169
Size of the municipality of residence						
< 20,000 inhabitants	16.4	17.9	16.4	0.0	-1.5 (*)	185
from 20,000 to 40,000 inhabitants	18.2	15.7	16.4	-1.8	0.7	123
from 40,000 to 500,000 inhabitants	16.5	15.7	15.8	-0.8 (*)	0.1 (*)	296
> 500,000 inhabitants (metropolitan area)	16.3	17.1	13.2	-3.1	-3.9	78

(1) The income denominator includes financial costs and imputed rents.
(*) Significant changes with a confidence level up to 10 per cent.

Table A10

Ratio of mortgage loan instalment to monetary income (1)
(median values)

	2006	2008	2010	difference 2006-2010	difference 2008-2010	number in the class (1)
Total sample	21.4	21.8	20.0	-1.4 *	-1.9 *	683
Age						
<35	27.4	25.5	20.8	-6.6	-4.7 *	70
35-44	22.2	23.9	22.5	0.4	-1.4	196
45-54	16.2	16.9	19.2	2.9	2.2	239
55-64	15.4	14.8	17.1	1.8	2.4	125
>=65	12.0	17.2	20.1	8.1	2.9	53
Educational qualifications						
none or primary school certificate	31.1	25.4	18.6	-12.5	-6.8	50
lower secondary school certificate	20.9	23.7	22.5	1.7	-1.2	225
upper secondary school certificate	22.2	21.0	19.9	-2.3 *	-1.1 *	269
university degree	18.1	16.7	16.4	-1.8	-0.3	139
Country of origin						
European Union	21.3	21.0	19.7	-1.6 *	-1.3	645
other	28.1	35.8	25.6	-2.4	-10.1 *	38
Equivalent income quartiles (2)						
1	31.5	34.0	29.2	-2.4 *	-4.8 *	100
2	25.0	23.9	22.5	-2.5	-1.4	165
3	21.2	22.0	19.8	-1.4 *	-2.2	216
4	18.5	16.0	16.0	-2.6	0.0	202
Equivalent net wealth quartiles (2)						
1	30.9	34.1	25.8	-5.1 *	-8.3	35
2	22.4	24.0	21.1	-1.3	-2.9	299
3	20.8	20.6	18.6	-2.2	-2.0	200
4	20.9	16.8	16.4	-4.5 *	-0.4	149
Work status						
employee	21.8	23.3	20.0	-1.7 *	-3.2 *	476
self-employed	21.7	16.9	22.7	1.0	5.7	100
not employed	15.4	17.7	17.7	2.4	0.0	107
of which: pensioners	*14.4*	*15.3*	*17.1*	*2.8*	*1.8*	*97*
Reaches the end of the month						
with great difficulty	27.4	30.0	31.8	4.4	1.9	86
with difficulty	27.7	22.9	23.0	-4.7 *	0.1	98
with some difficulty	22.2	23.3	20.3	-1.8 *	-2.9 *	235
fairly easily	19.7	18.1	18.9	-0.9	0.7	186
easily	14.4	15.0	16.2	1.7	1.2	59
very easily	9.7	11.1	11.6	1.9	0.5	19
Type of contract (3)						
temporary	29.4	23.9	19.9	-9.5	-4.1	20
not temporary	21.7	21.8	20.3	-1.4 *	-1.5 *	556
Area of residence						
North	19.2	22.6	19.8	0.6	-2.8	328
Centre	22.6	18.7	19.5	-3.2 *	0.8	186
South and Islands	27.0	21.1	21.1	-5.9 *	0.1	169
Size of the municipality of residence						
< 20,000 inhabitants	19.8	22.5	20.1	0.4	-2.4	186
from 20,000 to 40,000 inhabitants	23.7	20.0	20.8	-2.9	0.8	124
from 40,000 to 500,000 inhabitants	21.8	20.6	20.0	-1.8 *	-0.6	296
> 500,000 inhabitants (metropolitan area)	25.0	23.4	18.5	-6.5	-4.9	77

(1) The income denominator includes financial costs and imputed rents.
(*) Significant changes with a confidence level up to 10 per cent.

Table A11

Composition of households by equivalent income quartiles
(2010 survey data)

	1st quartile	2nd quartile	3rd quartile	4th quartile	total
Age					
<35	13.6	9.0	9.8	8.5	10.2
35-44	21.8	20.4	20.5	18.7	20.4
45-54	21.0	19.0	20.9	19.4	20.1
55-64	12.7	12.5	16.9	24.1	16.5
>=65	30.9	39.2	31.9	29.4	32.8
Educational qualifications					
none or primary school certificate	35.6	34.6	20.5	6.0	24.2
lower secondary school certificate	44.9	38.1	39.0	25.0	36.8
upper secondary school certificate	16.2	22.7	29.2	38.0	26.5
university degree	3.4	4.6	11.3	31.0	12.6
Country of origin					
European Union	90.0	91.9	96.1	98.5	94.1
other	10.0	8.1	3.9	1.5	5.9
Equivalent net wealth quartiles (2)					
1	55.6	27.7	13.5	3.4	25.0
2	30.1	32.9	26.5	10.5	25.0
3	11.3	30.7	37.1	21.0	25.0
4	3.0	8.7	23.0	65.2	24.9
Work status					
employee	42.0	43.4	46.5	36.5	42.1
self-employed	11.6	10.5	13.5	30.9	16.6
not employed	46.4	46.1	40.1	32.7	41.3
of which: pensioners	*36.2*	*44.9*	*39.1*	*31.8*	*38.0*
of which: unemployed	*6.1*	*0.2*	*0.3*	*0.0*	*1.7*
Reaches the end of the month					
with great difficulty	41.8	10.9	2.8	1.1	14.2
with difficulty	27.4	20.7	10.3	2.5	15.2
with some difficulty	24.7	44.2	39.0	17.2	31.3
fairly easily	5.4	20.5	38.5	49.6	28.5
easily	0.7	3.2	7.7	20.4	8.0
very easily	0.0	0.6	1.8	9.2	2.9
Type of contract (3)					
temporary	18.9	9.8	4.4	2.7	8.5
not temporary	81.1	90.2	95.6	97.3	91.5
Area of residence					
North	27.5	48.0	57.5	60.9	48.4
Centre	12.9	16.3	24.8	25.6	19.9
South and Islands	59.7	35.8	17.7	13.5	31.7
Size of the municipality of residence					
< 20,000 inhabitants	43.9	52.6	49.1	41.8	46.9
from 20,000 to 40,000 inhabitants	15.8	12.4	13.7	11.8	13.4
from 40,000 to 500,000 inhabitants	28.1	26.4	26.7	27.2	27.1
> 500,000 inhabitants (metropolitan area)	12.3	8.5	10.5	19.1	12.6

Table A12

Vulnerability indicators for households with a mortgage loan for the purchase of their principal residence (1)
(with income gross of imputed rents)

	Households whose debt service exceeds 30% (2)		*Households whose debt service exceeds 30% (3)*		*Proportion of mortgage loans of households whose debt service exceeds 30% (4)*	
	2008	2010	2008	2010	2008	2010
1st quartile	3.1	1.6	39.5	35.1	10.7	4.0
2nd quartile	1.1	2.2	10.0	20.0	3.7	7.7
3rd quartile	0.7	0.3	7.6	3.2	3.2	1.3
4th quartile	0.9	0.8	5.7	6.0	3.9	5.1
Total	1.4	1.2	13.3	12.4	21.5	18.1

Source: Bank of Italy "Survey on Household Income and Wealth".
(1) The income quartiles are calculated on the basis of equivalent income. The income denominator of the ratio includes imputed rents and financial costs. (2) Proportion calculated with reference to all households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (3) Proportion calculated with reference exclusively to indebted households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (4) The sum of the proportions of mortgage loans in the various quartiles is equal to the proportion of total mortgage loans held by vulnerable households.

Table A13

Vulnerability indicators for households with a mortgage loan for the purchase of their principal residence (1)
(with income net of imputed rents)

	Households whose debt service exceeds 30% (2)		*Households whose debt service exceeds 30% (3)*		*Proportion of mortgage loans of households whose debt service exceeds 30% (4)*	
	2008	2010	2008	2010	2008	2010
1st quartile	4.4	2.2	55.8	49.8	13.3	5.3
2nd quartile	3.2	3.5	29.8	31.9	9.8	11.5
3rd quartile	1.7	1.8	18.5	17.4	5.5	6.7
4th quartile	2.0	1.6	12.4	11.5	6.5	11.3
Total	2.8	2.3	25.8	23.0	35.0	34.9

Source: Bank of Italy "Survey on Household Income and Wealth".
(1) The income quartiles are calculated on the basis of equivalent income. The income denominator of the ratio includes financial costs and excludes imputed rents. (2) Proportion calculated with reference to all households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (3) Proportion calculated with reference exclusively to indebted households. The proportions for the income quartiles refer to the proportion of vulnerable households in each quartile. (4) The sum of the proportions of mortgage loans in the various quartiles is equal to the proportion of total mortgage loans held by vulnerable households.

Methodological notes

The Survey on Household Income and Wealth

The microeconomic data are taken from the Survey on Household Income and Wealth, which is carried out every two years on a sample of about 8,000 households. The analysis refers to the surveys carried out from 1989 to 2010. The data are taken from the historical database released in January 2012 (version 7.0); for just a few variables not present in that database, reference was made to the annual database. In the calculations the sample weights are always used to relate the figures obtained on the basis of the sample of households to the universe; the weights used were those recommended for longitudinal analyses which include several years' observations.

The household debt analyzed is only that incurred for household-related reasons; debt incurred for professional reasons is excluded, unless indicated otherwise. Since 2008 the survey has also covered current account overdrafts and credit cards; for the sake of comparability these two types of debt are excluded when the analysis extends to earlier years.

The demographic characteristics of households are those of the household head, taken to be the member of the household receiving the most income.

Income and the division of households into income quartiles

The household income considered to divide households into income categories is net of taxation and financial costs and gross of imputed rents for the owners of properties, in line with the methodology of the national accounts. Imputed rents are estimated by the owners of properties on the basis of the rents they believe third parties should pay to live in them. Monetary income excludes imputed rents. The income denominator for the calculation of the debt service ratio always includes financial costs.

Equivalent income and wealth are measures of income and wealth that take account of the number of members in each household. They are calculated using the modified OECD scale of equivalence, which assigns a coefficient of 1 to the head of household, 0.5 to other household members aged 14 or more, and 0.3 to those younger than 14. For each household the number of "equivalent adults" is calculated by summing the coefficients assigned to the various members. Household income and wealth are then divided by that coefficient.

For 2010 the values corresponding to the quartiles of the household income distribution were as follows: first quartile €17,700, second quartile €27,346, third quartile €42,008. For equivalent incomes the corresponding values were: first quartile €11,881, second quartile €17,507, third quartile €24,936.

To improve the characterization of households according to the equivalent income quartiles they belong to, with special reference to the first and second quartiles, in Table A11 we have analyzed the composition of the households in each income quartile on the basis of the main household characteristics. In the first quartile there is a high frequency of households with a head who is young (<35), is unemployed or has an employment contract marked by pronounced economic uncertainty (precarious), is resident in the South and Islands, has very little net wealth and reaches the end of the month with great difficulty on his or her income. The households of the second income quartile are marked instead by a large number whose head was old (>65) and therefore a pensioner; these are households that reach the end of the month with some difficulty more often than is found for the population as a whole. Below the median in both these income quartiles there are more household heads with a low level of schooling and of non-EU nationality.

Mortgage loan moratoria

In 2010, households with a mortgage loan which had undergone an event after January 2009 that significantly reduced their income were able to apply for the suspension of their instalment payments for at least twelve months under an initiative promoted by the Italian Banking Association in agreement with the main consumer associations. The eligible events were loss of job, layoff with wage supplementation, death or ceasing to be self-sufficient. The moratoria applied to mortgage loans of not more than €150,000 for principal residences and granted to borrowers with an annual income of less than €40,000. The period originally fixed for the submission of applications was one year from February 2010; it was subsequently extended to July 2011, January 2012, July 2012 and recently January 2013.

Simulation of debt service for 2011 and 2012

The simulation starts from the calculation of a dynamic of the total loan instalment according to the amount of outstanding loans to which interest rates and repayment rates are applied, reported for 2011 and forecast for 2012. The loan instalment dynamic is divided between mortgage loans and other loans and subsequently applied to the instalment of every indebted household, for mortgage loans or consumer credit, covered by the survey. The income of each household is presumed to increase uniformly for all the households covered by the survey.

The hypotheses underlying the simulation are as follows: in 2011 the disposable income of consumer households at current prices increased by 2 per cent according to the national accounts; on the basis of supervisory reports interest rates on the stocks of mortgage loans and other loans rose by 20/30 basis points; outstanding mortgage loans expanded by 3.6 per cent, while the stock of consumer credit remained unchanged.

In 2012 households' disposable income will contract by just under 2 per cent in nominal terms according to forecasts based on the Bank of Italy's econometric model; interest rates on the stocks of mortgage loans and consumer credit are expected to rise by another 80 basis points, with a lag with respect to the increase in the interest rates on ten-year government securities recorded in recent months; outstanding mortgage loans are expected to expand by 3 per cent, with a slowdown compared with 2011, while consumer credit is expected to continue to stagnate. The spread between BTPs and Bunds is forecast to settle at about 450 basis points.

Notes to the figures and tables

Figure 1

Loans are granted by banks and financial companies and exclude bad debts and repos. Growth rates are calculated over twelve months and adjusted to take account of the effect of securitizations and reclassifications.

The purchasing power index numbers (gross disposable income at constant prices), with Q1 2005 = 1, are moving averages of the four quarters ending in the reference quarter.

Figure 10

The disbursements of mortgage loans and consumer credit are taken from supervisory reports. The figures for 2012 are estimated in two ways: the left-hand column shows the projection for the entire year of the flows observed up to the first half of 2012; the right-hand column shows the sum of the disbursements up to June 2012 and those of the second half of 2011.

Table A1

1) The number of indebted households in the 2010 survey.

The significance of the differences is verified using a t-test on the difference of the averages.

Table A2

1) The number of households with a house-purchase or restructuring loan in the 2010 survey.

The significance of the differences is verified using a t-test on the difference of the averages.

Table A3

1) The number of households with consumer credit liabilities in the 2010 survey.

The significance of the differences is verified using a t-test on the difference of the averages.

Tables A4 and A7

1) The number of indebted households in the 2010 survey for which the ratio of debt to income (Table A4) or to total assets (Table A7) is not missing.

Tables A5 and A8

1) The number of households with a house-purchase or restructuring loan in the 2010 survey for which the ratio of this debt to income (Table A5) or to total assets (Table A8) is not missing.

Table A6

1) The number of households with consumer credit liabilities in the 2010 survey for which the ratio of this debt to income is not missing.

Table A9

1) The number of households with a mortgage loan for the purchase of the principal residence in the 2010 survey for which the ratio of instalments to income is not missing.

The income denominator of the ratio includes financial costs and imputed rents.

Instalments include interest and the repayment of the principal of mortgage loans for the purchase of the households' principal residence.

Table A10

1) The number of households with a mortgage loan for the purchase of the principal residence in the 2010 survey for which the ratio of instalments to income is not missing.

The income denominator of the ratio includes financial costs and excludes imputed rents.

Instalments include interest and the repayment of the principal of mortgage loans for the purchase of the households' principal residence.

Tables A4-A10

The significance of the differences is verified using the Wilcoxon test, a non-parametric test on the similarity of two distributions. In the test the null hypothesis is that the two samples are extracted from the same population. Fairly similar results are obtained with a test on the differences of the medians, which, however, is considered less robust.

Tables A1-A11

2) Equivalent income and wealth take account of the number of members in each household using the modified OECD scale of equivalence.

3) This variable is defined only when the household head was in work. Temporary employment contracts are those of fixed-term employees and temps, atypical self-employed workers (coordinated and continuous collaboration contracts, occasional collaboration contracts, project contracts)

Tables A4-A8

When calculating the ratios of debt to income and total assets, values above the 99^{th} percentile and below the 1^{st} percentile were eliminated; the results of the calculation including these outliers were very similar. Households with missing or negative values as a consequence of a zero or negative income or zero assets were assigned a value of the ratio equal to the 99^{th} percentile of the distribution; the phenomenon is of marginal importance.

Tables A9-A10

When calculating the ratio of debt service to income, values above the 99^{th} percentile and below the 1^{st} percentile were eliminated; the results of the calculation including these outliers were very similar. Households with missing or negative values as a consequence of a zero or negative income were assigned a value of the ratio equal to the 99^{th} percentile of the distribution; the phenomenon is of marginal importance.

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