Austerity and Households Expenditure[☆,☆☆]

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Abstract

A sudden change of national government in Italy at the peak of the sovereign crisis in December 2011 brought about a sizable fiscal consolidation that unexpectedly re-designed the municipal tax on residential and non-residential properties: the "IMU" tax. We exploit municipal variation (unrelated to the local business cycle) in the amount of IMU tax paid across respondents of the Survey on Household Income and Wealth (SHIW) to identify the causal effect of austerity on consumption over a range of specifications that control for demographics, income, house price, property characteristics and regional fixed effects. The marginal propensity to consume out of the overall IMU tax change is about 0.25 but the average effect masks significant heterogeneity. One euro of tax paid on the *main* dwelling led to a significant reduction in household expenditure of about 90 cents while taxes on *other* residential properties (whose revenues almost tripled those on the main dwellings) triggered a small and insignificant decline. The contraction was far more pronounced among home-owners with low liquid wealth, and was concentrated on the purchase of vehicles. The direct contribution of the IMU reform on residential properties to the aggregate economy in 2012 was around -0.3% of GDP (or -9.3% of vehicles sales) against the backdrop of a tax revenue increase close to 1.2% of GDP.

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1. Introduction

The depth of the Great Recession of 2007-09 has triggered an unprecedented wave of fiscal stimulus interventions that have deteriorated significantly the fiscal position of most advanced economies. The expansion of government balance sheets has led to growing concerns on the sustainability of public debt, which in turn have sparkled an intense (and still unsettled) debate among academics and policy makers about the effects of consolidation plans. While an important strand of recent empirical research has made significant contribution on the effects of tax rebates, little is still known about the impact of fiscal austerity on household expenditure and, more importantly, whether some groups of society disproportionally bear the costs of any possible adjustment in standards of living.

This paper fills this important gap in the literature exploiting a tax reform which took place in Italy at the very end of 2011. A newly appointed national government led by Mr. Mario Monti swiftly legislated a fiscal consolidation plan meant to alleviate sovereign concerns in international markets about the sustainability of Italian public debt by raising further taxes worth some 1.9 percent of GDP. The bulk of the intervention was a re-design of the municipal tax (the so-called "Imposta Municipal Unica" or simply "IMU") paid on the main dwelling (raising 4.0bn Euros in tax revenues) and on other residential properties (raising 10.1bn Euros). The IMU affected 25.8 millions of tax payers (or around 70 percent of households) with an average contribution per tax-paying household of 1359.6 Euros. The average payment on the main dwelling was about 357.2 Euros while the average payment on other residential properties was 904.8 Euros.

Four features of the tax reform are crucial for our identification strategy and interpretations of results. First, the timing and the depth of the legislated changes were largely unanticipated. Second, while the decision was taken by the national government in response to national economic conditions, municipal

governments were allowed to unilaterally revise the basic marginal rate proposed by Monti's government. Third, as shown in Section 2, the geographical variation in municipal IMU tax rates was large and mostly driven by ideological motives, thereby being unrelated to local economic conditions. Fourth, the IMU tax was announced as an experiment, whose possible extension would have been subject to government revision. As such, the vast majority of respondents in the biannual Survey of Household Income and Wealth (SHIW) conducted by the Bank of Italy reported not to expect the tax to be permanent.

Using information on the amount of IMU taxes paid across SHIW respondents surveyed in both 2010 and 2012, we identify the causal effect of fiscal austerity on household expenditure using a difference-in-difference approach that compares the expenditure change for IMU tax payers to the expenditure change for non-IMU tax payers, netting out the effect of demographics, income, house price, property characteristics and regional fixed effects. In the most restrictive specification, we only focus on IMU tax payers only and, through the use of the rich set of covariates above, we compare the expenditure adjustment of groups of home-owners facing similar demographics, owning the same typology of residential properties but living in different municipalities.

Our analysis isolates four major empirical patterns. First, the average marginal propensity to consume (MPC) out of the overall IMU tax change on residential properties is 0.25. Second, the average treatment effect blurs significant heterogeneity across residential properties, with the MPC associated with the taxes paid on the main dwelling around 0.9 and the MPC for other residential properties about 0.09. Third, the significant response to the main dwelling IMU tax is far more pronounced for low liquid wealth-to-income home-owners, who mostly reduced their vehicles expenditure. Fourth, the direct negative consequences of the IMU tax on residential properties are estimated around 0.3 percent of GDP in 2012 vis-a-vis an

increase in tax revenues below 1.2 percent of GDP (or 1.9 percent of personal consumption expenditure). While this suggests a small recessionary effect on the aggregate economy relative to the taxes raised, the direct impact of fiscal austerity on the car industry was large, around -9.3 percent of the market size in 2011.

Related literature. Our analysis makes contacts with at least five strands of empirical research. First, an important set of studies pioneered by Johnson et al. [16], and investigated further by Parker et al. [23], Agarwal and Qian [3] and Misra and Surico [20] on income tax rebates and Mian and Sufi [18] on the CARS program, has investigated household expenditure responses to fiscal stimuli whereas the present analysis focuses on fiscal austerity. Second, a small empirical literature exemplified by Guajardo et al. [11] and Alesina et al. [4] has studied the impact of consolidation plans on the aggregate economy using the narrative identification proposed by Romer and Romer [26]. With these papers, we share the emphasis on fiscal austerity but we employ a different identification strategy and, more importantly, we use household survey data to explore relevant sources of heterogeneity in the transmission mechanism. Third, a burgeoning line of research has exploited geographical variation to identify the causal effect of government spending on the local business cycle. Selected examples include Nakamura and Steinsson [21], Acconcia et al. [1], Acconcia et al. [2], Serrato and Wingender [27], Porcelli and Trezzi [24] and Corbi et al. [9]. We complement the evidence in these earlier studies by looking at taxes rather than public spending. Fourth, a vast number of contributions, including Campbell and Cocco [7], Attanasio et al. [5], Mian and Sufi [19], and Paiella and Pistaferri [22] have looked at the statistical association between consumption and house prices. While these earlier studies have exploited variation in regional house price indexes, our evidence is based on perceived house price changes as self-reported by each household, which arguably may

capture better (than an aggregate index) a behavioral motive in expenditure decisions. Finally, Jappelli and Pistaferri [15] report MPC heterogeneity using a newly added question to the SHIW 2010 wave about the expenditure response to an hypothetical increase of 10% in household income. While their average MPC is higher than our baseline estimate based on a decrease in disposable income, the bi-modality of either zero or one responses to the hypothetical question is consistent with our findings on the MPCs out of the IMU tax on other residential properties and on the main dwelling respectively.

Structure of the paper. Section 2 describes the institutional design and the historical context in which the IMU tax was set. Section 3 details the empirical specification and the exogenous variation across similar households in municipalities with different tax rates that we exploit for identification. The main results on the IMU tax paid on the main dwelling and other residential properties as well as the heterogeneity across spending categories and liquid wealth-to-income ratios are presented in Section 4. An extensive sensitivity analysis is offered in Section 5 before concluding with some back of the envelope calculations that quantify the direct impact of the IMU tax reform on the Italian economy.

2. Institutional design

In this section, we first outline a brief history of the property tax in Italy. We then describe the specific context in which the IMU tax was introduced and finally we describe the exogenous variation in IMU rates we rely on in our econometric analysis.

2.1. A brief history of the property tax in Italy

The "Municipal Tax on Properties" (in Italian "Imposta Comunale sugli Immobili", or simply "ICI")

was introduced in the Italian legislation by the law by decree number 333 on July 11^{th}, 1992 and subsequently transformed into law on December 30^{th}, 1992.[1] The ICI tax base included three main cathegories: buildings, building plots, and farmlands. For what concerns this paper we only consider the "buildings" cathegory.[2] Under the ICI system the tax base for "buildings" was the cadastral rental value, defined as an estimate of what the rental value of the property would have been in 1988-1989 which was used as a base biennium. This (rough) estimate, that the owner self-reported to the municipal registry when buying a house, was based on the location and building type but did not account for other important dimensions such as the type of construction, the age of the building, or more in general the building conditions. Not surprisingly, the system became obsolete soon after its introduction but was left essentially unchanged in the following two decades. As a side effect, the average self-reported cadastral values remained constant over time and progressively became lower than the growing market values. We estimate (see figure B.1 in AppendixB) that the ratio between the (average) market value and the (average) cadastral value at the end of the ICI system was around 3.6 although the aggregate figure masked significant heterogeneity at the local level.[3] The marginal tax rates were set freely by municipal governments within the range of 0.4-0.7 percent according to local preferences and the regime allowed for a basic deduction.[4]

The ICI tax remained substantially unchanged till the end of 2007. On December 21^{st}, 2007 the government led by Mr. Romano Prodi approved an increase of the basic deduction of 0.133 percent.[5] The

[1] Respectively: "decreto legislativo 11 luglio 1992, n.333" and "decreto legislativo 30 dicembre 1992, n. 504".

[2] The regime on the other two remained substantially unchanged since its introduction. The "buildings" category included residential as well as non reisdential buildings.

[3] The 3.6 ratio refers to 2009, similar values can be obtained considering the following years. For other evidence on this point see Bocci et al. [6] or IMF [12].

[4] The 2007 value of the basic deduction was 103.29 (nominal) Euros.

[5] The law was officially passed on December 24^{th} ("Legge 24 Dicembre, 2007 n. 244") and published on the "Gazzetta Ufficiale" on December 28^{th} ("Gazzetta Ufficiale 28 Dicembre 2007").

policy change applied only to the tax on the main dwelling up to 200 (nominal) Euro cap. Finally, on March 27^{th}, 2008 the subsequent government led by Mr. Berlusconi abolished the ICI tax on the main dwellings with the law by decree number 93/2008 while the ICI tax remained unchanged for the other properties.[6]

2.2. The 2012 "IMU" tax

On December 4^{th} 2011 the newly appointed Italian government led by Mr. Mario Monti announced a law by decree which was meant to "ensure fiscal stability, growth and equity".[7] The decree was transformed into a law on December 22^{nd}, 2011 and included several policy measures with immediate effect.[8] Among the most relevant ones, the government reformed the property system, abolished the ICI tax and introduced the "Municipal Property Tax", in Italian "Imposta Municipale Unica" (or simply "IMU").[9]

The introduction of the IMU tax significantly reformed the property tax regime in three dimentions. First, it included the cadastral value of the main dwelling in the tax base, previously excluded. Second, the cadastral values (for both, main dwellings and other properties) were scaled up by an exogenous factor (homogeneous across all municipalities) and increased by an average of 49 percent (see IMF [12]).[10] Finally, the IMU system set the basic tax rate on the primary (other) residences at 0.4 (0.76) percent and

[6] The 2008 policy change on the main dwellings excluded three cadastral categories: "A/1", "A/8", and "A/9" respectively corresponding to "luxury houses", "villas" and "castles". These three categories represented a trivial share of the existing stock of residential houses.

[7] Mr. Mario Monti was appointed prime minister by the head of the country on November 16^{th} 2011 following Mr. Silvio Berlusconi's resignation.

[8] Law 22 December 2011, n. 24 (published on the "Gazzetta Ufficiale" on December 27^{th} 2011, n. 300).

[9] The introduction of the IMU tax was originally planned by the 4^{th} Berlusconi's government (law by decree n. 23 of March 14^{th} 2001 published on the "Gazzetta Ufficiale" on December 6^{th} 2011, n.284.) and was expected to start in January 2014. However, because of a voluntary lack of clarity in communication, virtually the entire population was unaware of the upcoming 2014 schedule and perceived Monti's government decision as unanticipated. The IMU reform was perceived as a significant reform and tax increase (to use the IMF [12] words: "The introduction of the IMU tax at the beginning of 2012 "fundamentally reformed, and increased, property taxation").

[10] For residential houses the scaling factor was set at 1.6.

allowed municipalities to alter the rate within +/- 0.2 (+/- 0.3) percent. Nevertheless, the government set the basic deduction at 200 Euros plus an additional 50 Euro deduction per children under the age of 26 years old. Each municipality was allowed to freely modify the deduction although around 98 percent of the municipalities chose the basic 200 Euros.[11] The IMU system determined a sharp increase in property taxation: the revenues on the main properties increased from 0.0bn Euros in 2011 to 4.0bn Euros in 2012 while those on other properties increased from 7.8bn in 2011 to 17.9bn in 2012.[12] Overall, in between 2011 and 2012 total tax revenues on residential properties increased by 14.1bn Euros corresponding to around 1.2 percent of Gross Domestic Product (GDP).[13]

Relying on the 2012 'Survey on Households Income and Wealth' (SHIW) conducted by the Bank of Italy in figure 1 we plot the distribution of IMU payments per household distinguishing between the amount of IMU tax paid for the main dwelling and on other residential properties.[14] Because of the deductions, 21.6 percent of owners did not pay the IMU tax on the main dwelling and 13.2 percent of owners of two or more properties did not pay the IMU tax on other properties. The IMU affected 25.8 millions of tax payers (or around 70 percent of households) with an average contribution per tax-paying household of 1359.6 Euros. The average payment on the main dwelling was about 357.2 Euros while the average payment on other residential properties was 904.8 Euros.

[11] This figure has been calculated using the "IFEL" ("Institute for Local Economics and Finance" - "Istituto per la Finanza e l'Economia Locale") database. The database is accessible at: www.webifel.it/ICI/AliquoteIMU.cfm.

[12] All figures are nominal.

[13] In 2012 the IMU revenues totaled at 23.7bn Euros including the revenues from "lands, building plots, and rural and farms buildings" (1.8bn Euros). However, because this component of the IMU tax was unchanged with respect to the previous ICI system and no questions about it were asked in the SHIW survey, we exclude it from the analysis. For a full analysis of IMU revenues see chapter 13 of the "Annual Report" by the Bank of Italy (several years, available at: www.bancaditalia.it/pubblicazioni/relann;internal&action=_setlanguage.action?LANGUAGE=en).

[14] Specifically, we rely on questions D33, D34, D35, and D36 of the 2012 SHIW survey. See section 3.1 for details on the survey and section AppendixA for the exact questions asked in the survey.

2.3. IMU rate variation and local business cycle

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3. Empirical Framework and Identification

3.1. Data

Our dataset is based on the 'Survey on Households Income and Wealth' (SHIW) conducted by the Italian central bank (Bank of Italy - "Banca d'Italia"). The survey is run every two years and covers around 8,000 households distributed over about 3,000 Italian municipalities.[15] The data are available in anonymous form.[16] Each survey is conducted at the end of the respective year during the last few weeks of December. On average, less than half of the households that appear in one survey overlap in the following wave. Given that sampling design involves unequal stratum sampling fractions, the use of sampling weights is required to obtain unbiased estimates of the corresponding aggregates, if necessary. Weights are given at the households level since all members of the household have the same weight.[17]

Each survey is split in six main sections: (A) "composition of household at 31 December", (B) "employment and incomes", (C) "payment instruments and forms of saving", (D) "principal residence, other property and debts", (E) "household expenditure", and (F) "supplementary pension plans and insurance

[15] At the time this paper has been drafted, the latest available survey is the one of 2012.

[16] To ensure anonymity the place of residency is dropped from the answers. All data are publicly available and can be accessed at https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro.

[17] As weights we rely on the variable "pesofit" in the datasets "pesoXX.dta" (where the suffix "XX" refers to the year of the survey wave). For the first two surveys in cronological order we rely on the variable "pesofl".

policies". On top of these sections, the survey asks a number of complementary and control questions.[18] While the exact number of questions vary according to the survey, in 2012 the six main sections of the survey included 215 questions. Most of the questions in the main sections overlap across surveys allowing for comparison across time. The data are released by the Bank of Italy in two forms: the "aggregate data" (adding up the answers of all individuals belonging to the same household) which are disseminated in 17 databases covering different sections of the surveys and can be used to compare aggregate figures across years, and the "disaggregated data" (disseminated in 28 databases) which provide the answers at the individual level. If a question is common across all individuals within the same household only the answer of the head of the family is reported in the survey.[19]

In our econometric analysis we rely on two consecutive surveys (the 2010 and the 2012), although figure 3 considers all surveys from 2002 to 2012.[20] The 2010 survey covers 19,836 individuals in 7,951 households and the 2012 survey covers 20,022 individuals in 8,151 households. Our model is run using households level data. In order to construct the dataset we proceed as follows. First, we drop the households that do not overlap between 2010 and 2012 (56 percent of the households of the 2012 survey appear in the 2010 survey).[21] Second, we drop all the unusable observations due to missing values (typically the market value

[18] The complementary questions are organized in 8 categories: (B1) "information on payroll employees", (B2) "members of a profession, individual entrepreneurs, self-employed workers, workers on atypical contracts (collaboration, occasional and project contracts, etc.)", (B3) "employees family business", (B4) "employees family business working shareholder/partner", (B5) "pensioners", (B6) "other income, such as scholarships, alimony, etc..", (D1) "property owned at the end of the year (dwellings other than the princial residence, buildings, agricultural and non-agricultural land)", and (D2) "loans".

[19] As an example of such questions we report questions E01 and E02 of the 2012 survey. E01: 'Did you or members of the household buy any of the following items in 2012?' (the items are: 'valuable', 'cars', 'other means of transports', and 'furniture, furnishing, households appliances, sundry equipment'). E02: 'If 'yes', what is the total value of the objects bought?'. In this case, only the answer of the head of the family is reported in the survey. Table C.2 in AppendixC summarizes all variables that are included in our final dataset.

[20] As already mentioned, the 2012 survey covers 8,151 households and the 2010 survey covers 7,951 households. Also, the 2008 survey covers 7,977 households, the 2006 survey 7,768 households, the 2004 survey 8,012, and the 2002 survey 8,011 households.

[21] Considering also previous surveys would reduce significantly the number of observations. For this reason, we limit the analysis only to 2012 and 2010.

or the surface of the main dwelling for households that appear to be owners). Third, in order to reduce the huge heterogeneity of the dataset and eliminate additional compiling errors and outliers we trim the distribution of ΔC (change in consumption) by 10 percent (5 percent per tail). At the end, we can rely on 3,756 observations which we identify as "SHIW" sample. Finally, in order to identify the effect of the IMU tax we isolate the households that neither bought or sold a property (crucially the main dwelling) between the two waves. While our choice lowers the number of observations to 2,474, it provides a sharper identification.

Table 1 shows the descriptive statistics of the "SHIW" sample.[22] Relying on the 2012 survey, we estimate that the percentage of owners among households is 67.2 percent and the share of mortgagors is 16.5 percent of the total (or 24.5 percent of the owners).[23] The net wealth of Italian households averages around 250 thousand Euros (see table C.4) with a low debt to income ratio as compared to other advanced economies.[24] Around 90 percent of households' net wealth is represented by real assets (housing) while financial assets and financial liabilities account for less than 10 percent. Furthermore, as shown in both, table 1 and table C.4, between 2010 and 2012 households contracted their consumption by 7.4 percent in real terms (figure 4 reproduces a similar evidence using ISTAT aggregate data). The contraction was deeper for durable goods, particularly for vehicles: on average households contracted the expenditure on

[22] Table C.4 in AppendixC shows the respective aggregates for 2010 and 2012 using the 'pesofit' as weights.

[23] In order to establish the list of "owners" we use the dataset named "immp2012.dta" (which specifies the characteristics of all properties owned by each household) and include all households listed in it. The same figures in 2010 are estimated to be 68.6 percent and 17.3 percent. The corresponding unweighted averages (meaning the share of households estimated without weighting the observations using the 'pesofit' variable) is 71.3 and 15.4 percent in 2012, and 70.8 and 15.7 percent in 2010. Finally, in order to establish the list of "mortgagors" we rely on a question in the complementary set of questions at the end of the survey. Specifically, we rely on question 3 in part D2 (the question asks "What was the amount of outstanding of debt on 31 December 2012 (How much would you have had to repay to extinguish the mortgage)?") and assign a value of 1 in the correspondent dummy if the answer is greater than zero.

[24] In 2010 the median net wealth of italian households was well above the Euro area average and almost the double then the median in Germany - see IMF [13]. Also, the proportion of households with debt in Italy was less than half with respect to Spain, Germany, and France (see IMF [13], page 5). Full International Monetary Fund (IMF) report available at: http://www.imf.org/external/pubs/ft/scr/2013/cr13348.pdf.

vehicles by 40 percent (from 1 thousand Euros - weighted average - per household in 2010 to 0.6 thousand Euros in 2012).

3.2. Empirical framework

We identify the causal effect of the introduction of the IMU property tax on household consumption by regressing the change in consumption level of household i on three variables: a dummy which takes the value of 1 for the owners and zero otherwise, a variable which captures the total amount of IMU tax paid, and the change in reported market value of the property owned. We then proceed to distinguish between the amount paid on IMU tax for the main dwelling and for other properties. Because the variable $IMUm_i$ equals zero for all households in 2010 we run the regressions in first differences.[25] Our empirical model can be formally expressed as

$$\triangle C_i = \alpha + \beta \cdot Owner_i + \gamma \cdot IMUtotal_i + \delta \cdot \triangle HP_i + \boldsymbol{\theta}' \mathbf{X}_i + \varepsilon_i, \tag{1}$$

where $\triangle C_i$ indicates the difference in consumption of household i between 2010 and 2012 ($\triangle C_i = C_{i,2012} - C_{i,2010}$), α is a constant, the variable $Owner_i$ is a dummy variable that takes the value of 1 if household i owns the main dwelling in year 2012, $IMUtotal_i$ is the amount of IMU tax paid by household i in 2012 defined as the sum of the IMU tax on the main dwelling ($IMUmain_i$) and the IMU tax on other properties ($IMUother_i$), HP_i is the (self)reported change in house price ($\triangle HP_i = HP_{i,2012} - HP_{i,2010}$), $\boldsymbol{\theta}'$ is a vector of coefficients, $\mathbf{X}_i$ contains a set of controls, and ε_i is an idiosyncratic shock. As controls in matrix $\mathbf{X}_i$

[25] The 2010 survey does not contain information on the IMU paid on other properties because the question was not asked in that wave.

we include 4 sets of variables: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located (city center, suburbs, etc..) and (iv) expectations about future income.[26] The complete list of variables employed as controls and their definitions is reported in tables C.2 and C.3 in AppendixC.

Because the marginal IMU tax rate is exogenous to households consumption decisions and to local economic activity (see table 2 for evidence in this direction), the variable $IMUtotal_i$ is exogenous in model (1) and we can therefore estimate it using OLS. The model is run five times. As a first step we run model (1) on the "SHIW" sample (see section 3.1 for details on the regression samples) and then we restrict the attention to a "stable" sample exploring the within etherogeneity across home owners. The two coefficients of interest in model (1) are γ and δ identifying the impact of the IMU tax and house price changes on households consumption behavior respectively.

Main dwelling versus other properties. We allow the model to distinguish between the two components of $IMUtotal_i$: $IMUmain_i$ and $IMUother_i$. For this reason we rewrite model (1) as follows

$$\triangle C_i = \alpha + \beta \cdot Owner_i + \gamma_1 \cdot IMUmain_i + \gamma_2 \cdot IMUother_i + \delta \cdot \triangle HP_i + \boldsymbol{\theta}' \mathbf{X}_i + \varepsilon_i. \tag{2}$$

In this case, the coefficients of interest are γ_1 and γ_2 representing the impact of the IMU tax on the main dwelling and the IMU tax on other properties on households consumption, while δ represents as in model (1) the impact of house prices changes on households consumption behavior. As for model (1), we run the regressions four times following the same specifications.

[26] We also allow for a dummy variable that takes the value of 1 for mortgagors.

3.3. Confounding factors

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3.4. Placebo test

Placebo test. As a further check to assess the extent to which our estimates capture a genuine causality from IMU tax paid to household expenditure, we use the models (model (1) and model (2)) to run a placebo test that correlate the change in household consumption between 2008 and 2010 and the IMU tax paid by that very household in 2012. If the unanticipated IMU fiscal shock announced in December 2011 was really the trigger of the significant expenditure decline in 2012, we would expect it to have no effect on the consumption change before that. All variables on the right hand side (including $\triangle HP_i$) of our model are specified as first difference between 2008 and 2010 while we attribute the 2012 $IMUmain_i$ and $IMUother_i$ to each household in 2010. Put it differently, we simulate the 2012 IMU shock in 2010 and test its significance. For simplicity in the analysis, we run this placebo experiment only on households appearing in the three survey (2008, 2010, and 2012) such that the observations used in this check are a subsample of the baseline. This choice reduces the number of observations from 3,757 to 2,856 (and from 2,474 to 1,879 in the "stable sample") but guarantees easy comparability. We show the results of this placebo test in table 3. Both variables, $IMUmain_i$ and $IMUother_i$ enter insignificantly in the model and half of the estimated coefficients have the wrong sign. On the other hand, the wealth effect of house prices remain highly significant and the magnitude of the coefficients is around 30 percent higher than the baseline.

4. Results

We present the main results of our analysis in this section while complementary tables and charts are reported in AppendixD. We start with the baseline results in table 4 which correlate the change in a measure of household expenditure to the amount of IMU tax paid. Then, we consider heterogeneity across spending categories and, most importantly, liquid wealth. In the next section, we present a sensitivity analysis using other more traditional dimensions, including age and income. Each table has two panels reporting four columns. In panel A, we show the results of model (1) while in panel B the results of model (2). The first column refers to the "SHIW" sample relying on 3,757 observations. Columns 2 to 4 refer instead to the "stable sample": column 2 shows the results by running the model on all observations (2,474), column 3 restricts to owners only (1,811 observations), and column 4 focuses on IMU payers (1,454 observations).

4.1. Baseline Estimates

The baseline results are reported in table 4. In panel A the coefficient of $IMUtotal_i$ is not significant and the magnitude averages around 0.3. The coefficient of $\triangle HP_i$ is highly significant in all columns (at five percent in the first one, at one percent in the remaining). If we take as reference column 4 (IMU payers), $\widehat{\gamma}$ implies that consumption dropped by 0.36 Euros every Euro of IMU tax paid (although on average we cannot reject the null of an insignificant effect). The coefficient of $\triangle HP_i$ implies that

consumption increased by 6.13 Euros every thousand Euros of increase in the value of the property.[27] To further investigate the effects of the IMU tax on consumption behaviors in panel B we run the model splitting $IMUtotal_i$ in its two components, $IMUmain_i$ and $IMUother_i$ in order to disentangle any possible heterogeneity. The coefficient of $IMUother_i$ is not significant in any column; however, the coefficient of $IMUmain_i$ is highly significant (at 5 percent level in column 1, 2, and 3 and at 1 percent level in column 4). Again, taking column 4 as a reference point the coefficient of $IMUmain_i$ implies that consumption dropped by 1.06 Euros every Euro of IMU tax paid. Furthermore, the coefficient of $\triangle HP_i$ remains highly significant in all columns and the magnitude of $\hat{\delta}$ is little changed compared to panel A.[28]

4.2. Spending Categories

After identifying the impact of the IMU tax on overall households' consumption we further investigate our research question by changing the dependent variable. Given the evidence emerging from the baseline, we concentrate on model (2) which appears more indicative. We start by splitting overall consumption in its two main components: non durable and durable goods. As such, we replace $\triangle C_i$ in model (1) with $\triangle CND_i$ and $\triangle CD_i$, respectively indicating the change in consumption of household i on non durable and durable goods. Our results are presented in table 5. Panel A of table 5 presents the results for non durable goods while panel B presents the results for durable goods. The main result emerging from table 5 is that the overall variation in households' consumption is driven by durable goods. The estimated $\widehat{\gamma}_1$ is not significant in any column in panel A but it is at 5 percent level in all columns in panel B (in column 4 the

[27] In our regression sample the mean of HP_i is -8.34 for owners and -11.86 for IMU payers.
[28] All these results are robust to the drop of $IMUother_i$. See table D.1 for a regression using only $IMUmain_i$.

coefficient is significant at 1 percent). Taking column 4 in panel B as a reference point, our results suggest that expenditure on durable goods dropped by 0.98 Euro every Euro of IMU tax paid on the main dwelling. The coefficient of the IMU tax paid on other residential properties is not significant in any column, neither in panel A nor in panel B. Also, $\hat{\delta}$ is significant at one percent level (with similar magnitude compared to the baseline) but only in panel A, meaning that house prices movements translated in an increase in consumption but only on non durable goods.

As a further step, in table 6 we show the results by running model (2) specifying as a dependent variable $\triangle CV_i$ - the change in households' consumption on vehicles - and $\triangle CNV_i$, the change in households' overall consumption excluding vehicles.[29] We show our results in panel A and B respectively for $\triangle CV_i$ and $\triangle CNV_i$. The evidence suggests that the variation in households' consumption on durable goods is driven by consumption on vehicles. Once again referring to column 4 in panel A, our results suggest that consumption on vehicles contracted by 0.87 Euro every Euro paid on the IMU tax. Not surprisingly, the coefficient of $IMUother_i$ is insignificant as well as the one of $\triangle HP_i$. As regard to panel B, the results are in line with the ones emerging from tables 4 and 5 with $\hat{\delta}$ being significant at 1 percent level.

4.3. Liquid Wealth

As a final step, we split the regression sample in two subgroups according to the level of liquid wealth as a ratio to income. We define liquid wealth as the difference between financial assets and financial liabilities

[29] The SHIW survey splits consumption on durable goods in two components: consumption on "vehicles" (essentially cars), and "non vehicles durable goods" consumption.

as a ratio to households' disposable income.[30] In order to guarantee a similar number of observations in the two groups, we use the median value of the "full sample" (equal to 0.2) as a splitting threshold which also splits evenly the remaining columns.[31] Our results are reported in table 7, splitting between "low liquid wealth to income ratio" (panel A), and "high liquid wealth to income ratio" (panel B). The main result we get from this exercise is that the baseline results are driven by the "low liquid wealth" to income households. The coefficient of $IMUmain_i$ is significant at 5 percent level in all columns for the stable sample (at 1 percent in column 4) but only in panel A, while in panel B the coefficient is insignificant in all columns. Finally, the wealth effect coming from house prices is apparent in both panels with the coefficient of $\triangle HP_i$ being significant at 5 percent level in panel A and at 1 percent level in panel B.

5. Sensitivity analysis

In this section, we describe further results and explore other dimension of heterogeneity to assess the robustness of our main findings. In particular, we ask the extent to which the effects of the IMU tax paid on expenditure depend on the perceived duration of the tax, the average age of the members of the family or the household income.

[30] Specifically, we rely on the variables "AF" (financial assets) and "PF" (financial liabilities) reported in the database "ricf2012.dta" (dataset available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

[31] The only exception is column 5. However, choosing a different threshold would produce very similar results.

5.1. Age

In this case we split the sample according to the average age of households' components choosing as a splitting threshold the median age among owners (column 3).[32] The results of these regressions are reported in table 8: panel A shows the results of the younger cohorts while panel B the results of older cohorts.

5.2. Income

We also investigate any income effect by splitting the regression sample between higher income and lower income households. Table 9 shows the results of these regressions.

5.3. Other Robustness Checks

As a robustness check of our results we run a set of complementary regressions. We report the results of these regressions in AppendixD while here we discuss the main evidences emerging from our checks.

Elasticity As a first check we run model (2) normalizing the dependent variable and the main regressor to declared personal income. Formally, we transform model (2) as follows

[32] Almost identical results emerge when choosing other thresholds.

$$\widetilde{C}_i = \alpha + \beta \cdot Owner_i + \gamma_1 \cdot \widetilde{IMUmain}_i + \gamma_2 \cdot \widetilde{IMUother}_i + \delta \cdot \widetilde{HP}_i + \boldsymbol{\theta}' \mathbf{X}_i + \varepsilon_i, \tag{3}$$

where $\widetilde{C}_i = \frac{C_{i,2012} - C_{i,2010}}{Y_{i,2010}}$, $\widetilde{IMUmain}_i = \frac{IMUmain_{i,2012}}{Y_{i,2010}}$, $\widetilde{IMUother}_i = \frac{IMUother_{i,2012}}{Y_{i,2010}}$, and $\widetilde{HP}_i = \frac{HP_{i,2012} - HP_{i,2010}}{Y_{i,2010}}$. Therefore γ_1, γ_2, and δ can be interpreted as elasticities. The results of these regressions are reported in table D.2. This first check largely confirm the baseline results. All variables keep the expected sign and mimic the same magnitude as in table 4. The coefficient of $\widetilde{IMUmain}_i$ is significant in columns 3 and 4. Once again taking column 4 as a reference, the estimated $\widehat{\gamma}_1$ implies that every percentage point of IMU tax shock as a share of personal income resulted in a contraction of households' consumption of 0.95 percentage points (as a share of income). Also, the estimates of $\widehat{\delta}$ implies that consumption reacts less than proportionally to changes in house prices (normalized to households' income) with elasticity equals to 0.47.

IV As a second check we specify a linear regression model as in model (2) estimated using an instrumental variables (IV) approach in order to check the exogeneity of IMU regressors. Given the evidence from previous regressions, we run model (2) excluding $IMUother_i$ because of the absence of significance. Our choice allows us to use one instrument only (the endogenous variable being $IMUmain_i$) and estimate $\widehat{\gamma}_1$ with a typical two stages least squares approach. Our instrument is the IMU marginal rate which we assume as strictly exogenous. Because the "SHIW" data are anonymous and the place of residency is dropped from the available dataset, we construct the IMU rate by dividing the

amount of tax paid in 2012 (net deductions) by the market value of the house.[33] Also, in order to account for possible measurement errors in the self-reported value of the property we construct an IMU rate proxy by dividing the IMU paid by the surface of the dwelling. The results of this check are reported in table D.3. The evidence of table D.3 largely supports the baseline results. The variable $IMUmain_i$ enters in both panels with the expected coefficient and remains significant in seven out of 10 columns (highly significant in column 4 in both panels). Finally, the variable $\triangle HP_i$ remains highly significant in all columns.

Residuals As a third check we tackle the possible endogeneity issue of IMU regressors with respect to income. In this case we first regress $IMUmain_i$ on personal income (and a set of demographic controls and geographical dummies) on personal declared income and use the residuals of this regression as regressors in model (2). As for the placebo exercise, we allow only $IMUmain_i$ to enter in model (2). The results of this check are reported in table 10. The variable $IMUmain_i$ enters with the expected sign. The estimated coefficient are highly significant in all columns (excluding column 1) and the coefficients are extremely close to the baseline. We take these results as an additional strong confirmation of the baseline.

[33] The "ordinary deduction" which applied to the universe of owners was fixed at 200 Euros. On top of this, owners could claim a 50 Euro deduction per children (below 26 years old). Also, because the IMU tax was calculated using the cadastral value of the house rather than the market value, we divide the market value by 3.5 which previous studies (see for instance Bocci et al. [6]) have indicated as a reasonable ratio.

6. Final Remarks

This paper offers an unprecedented evaluation of the heterogeneous effects of fiscal austerity on household expenditure using an unanticipated change on residential property taxes during the Italian sovereign crisis of 2011 coupled with the responses from the Survey of Household Income and Wealth. Our analysis uncovers that every euro of taxed paid on the main dwelling has triggered an average decline in household expenditure of about 90 cents whereas taxes paid on other residential properties have caused a small and statistically insignificant change of 9 cents. The adjustment was concentrated on vehicles purchases and was mostly beard by home-owners with low liquid wealth.

While the IMU reform may have also generated non-negligible general equilibrium effects, we can use the estimates in the present analysis together with data from national statistics reported in Figure 3 to offer some back of the envelope calculations for the direct effect of the tax reform on the aggregate economy along the lines of Johnson et al. [16]. The tax revenues on the main dwelling (other residential properties) for 2012 totaled 4.0bn (10.7) Euros or 0.32 (0.85) percent of GDP. Bearing in mind an average marginal propensity to consume of 0.9 for the main dwelling and a coefficient statistically indistinguishable from zero for other properties (see column 3 of Table 4), the direct recessionary effect of the IMU reform on the Italian economy in 2012 was about 0.29 percent of GDP (or 0.52 percent of personal consumption expenditure) vis-a-vis a tax revenue expansion around 1.17 percent of GDP (or 1.93 percent of personal consumption expenditure).

As for the specific categories driving the household response, the estimates in column 3 of Tables 5 and 6 suggest a drop in durables expenditure and vehicle purchases around 77 cents for every euro of IMU tax paid, implying a decline of 3.1bn Euros. The time series of car sales records an average drop around

265,304 units per year between 2008 to 2011. But during 2012, car sales plumed by 633,497 units: an extra fall of 368,193, representing about 9.3 percent of the 2011 market size. Assuming an average cost of purchase of vehicles (estimated using the 2012 wave of the SHIW) of 9,715 Euros, the direct loss was as large as 3.5bn Euros. We conclude that while the direct cost of the IMU reform for the Italian economy was small in comparison to the amount of extra taxes raised, the negative consequences on the car industry were large and significant.

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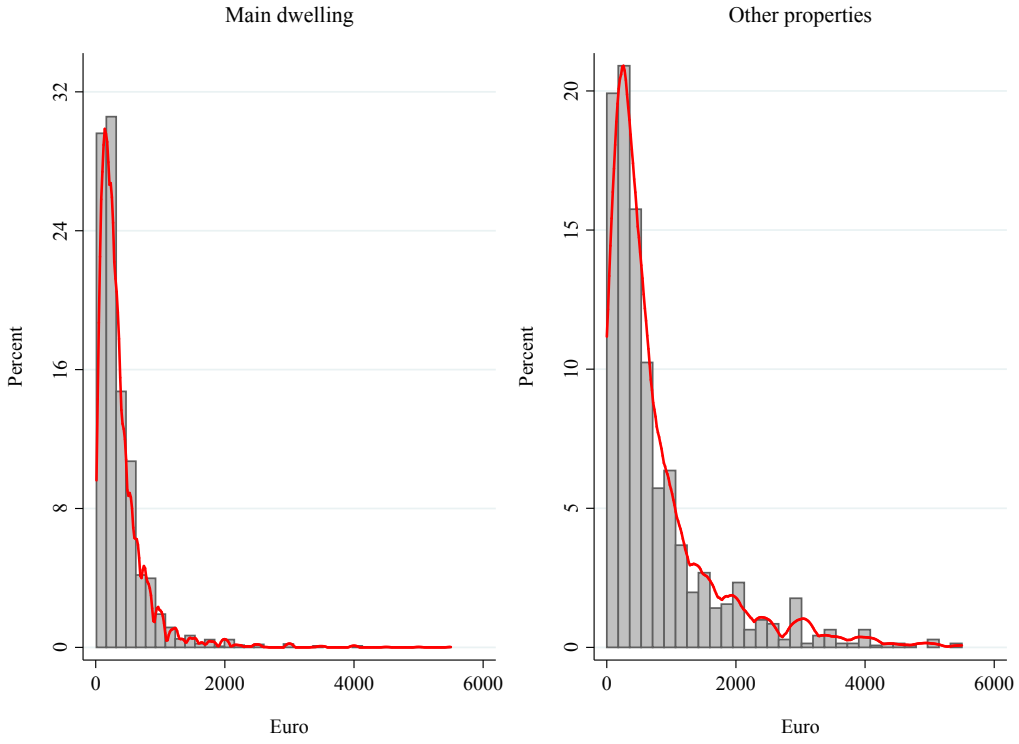
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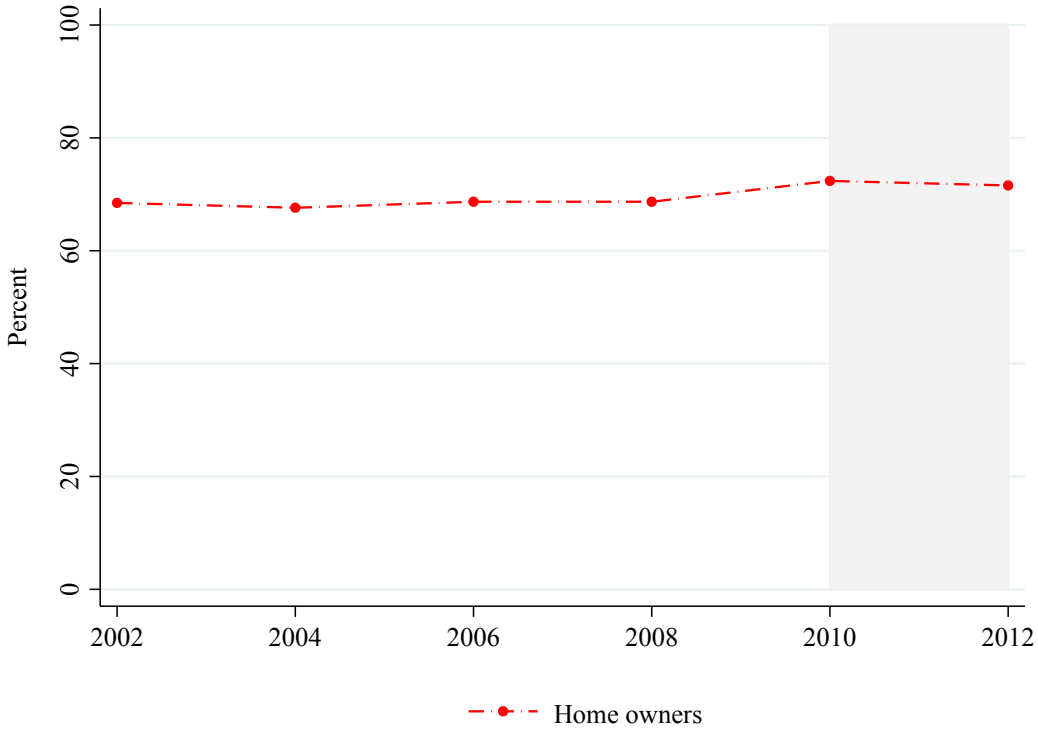
Tables and Figures

Figure 1: IMU - Tax burden per household.



Note: The figures refer to owners, IMU tax payers only. The figures exclude one observation higher than 6,000 Euros (equal to 10,000 Euros) in the left panel and 33 observations higher than 10,000 Euros (maximum value in the distribution is 95,000 Euros) in the right panel. The red line plots the Epanechnikov kernel density with a bandwidth of 40.0682 for the left panel and of 102.7892 for the right panel. Source: authors' calculations on question D33 and question D34 of the 2012 SHIW survey data conducted by the Bank of Italy (dataset available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure 2: Share of home-owners households over time.



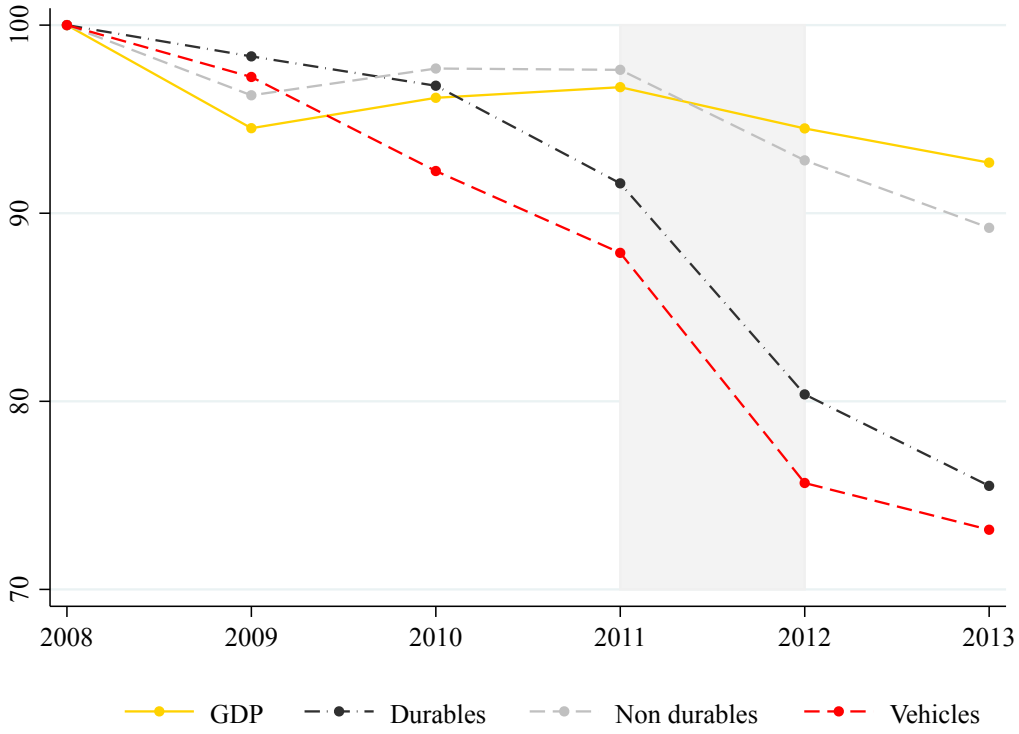
Note: The figure shows the percentage of households that own at least one property in each year. To determine the home-owner households we rely on the database "qXXd.dta" (where the letters "XX" indicates the year of the SHIW survey) and include all households listed in it. All observations are weighted averages calculated using the "pesofit" variable (or the "pesofl" for the 2002 survey) contained in the "carcomXX.dta" databases. Source: authors' calculations on Bank of Italy (SHIW surveys, several years) data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure 3: Percent of car buyers per year.



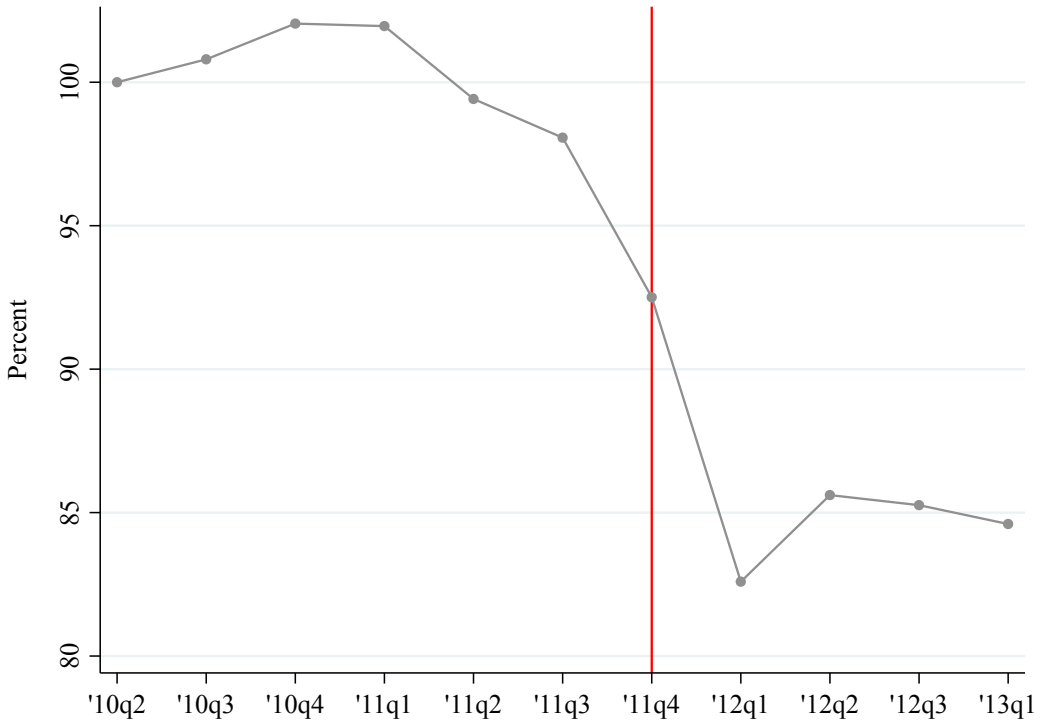
Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the unweighted averages in each group. The threshold to split between LLW and HLW owners is the same for all years and reflects the same threshold used in the regressions (very similar results are obtained when considering the median value in each year as a threshold). Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure 4: Evolution over time of key variables.



Note: The series 'GDP' refers to real Gross Domestic Product estimated by ISTAT (Italian National Institute of STATistics). The series 'Durable' and 'Non durable' refer to real households consumption of durable and non durable goods estimated by ISTAT. Finally, the series 'Vehicles' refers to the total number of cars (new and used) and motorbikes (new and used) sold. Source: authors' own calculations on ISTAT data (available at www.istat.it), and ACI ("Automobile Club d'Italia") data (available at: http://www.aci.it/laci/studi-e-ricerche/dati-e-statistiche/auto-trend.html).

Figure 5: Quarterly sales of (new and used) vehicles.



Note: The figure shows the evolution of quarterly sales of cars (new and used vehicles). The series refers to the seasonally adjusted sales as a share of the 2011 average level. The seasonal adjustment has been performed using an unobserved component model casted in the state-space (the Kalman filter has been initiated using a diffuse prior). The vertical red line indicates the quarter when the IMU tax was announced. Source: authors' own calculations on ACI ("Automobile Club d'Italia") data (available at: http://www.aci.it/laci/studi-e-ricerche/dati-e-statistiche/auto-trend.html) and ANCMA ("Associazione Nazionale Ciclo Motociclo e Accessori") data (available at: http://www.ancma.it/uploads/Statistiche/Immatricolazioni/andamento-trimestrale-immatricolazioni.pdf).

Table 1: Summary statistics, stable sample.

		Full sample				**Home owners**			
Variable	**Unit**	*Mean*	*St. Dev.*	*25%*	*75%*	*Mean*	*St. Dev.*	*25%*	*75%*
Education	Index	3.0	0.9	2.3	3.6	3.0	0.9	2.5	3.6
# components	Units	2.4	1.2	1.0	3.0	2.4	1.2	2.0	3.0
Age	Years	55.0	19.1	39.0	71.0	56.1	18.7	40.0	72.2
Children	Units	0.5	0.8	0.0	1.0	0.5	0.8	0.0	1.0
△ Y	Euro ('000)	-1.0	12.0	-4.7	3.5	-1.0	13.0	-5.0	3.8
△ C	Euro ('000)	0.1	7.2	-3.6	4.5	0.2	7.5	-3.6	4.9
△ CD	Euro ('000)	-0.5	4.0	-0.4	0.0	-0.5	4.2	-0.4	0.0
△ CV	Euro ('000)	-0.3	3.7	0.0	0.0	-0.3	3.9	0.0	0.0
△ CND	Euro ('000)	0.6	6.7	-2.8	4.6	0.6	7.0	-2.9	4.8
Net wealth	Euro ('000)	251.8	334.8	60.0	327.5	320.8	349.8	149.7	387.4
Fin. assets	Euro ('000)	25.9	77.9	1.0	22.8	31.3	87.1	2.0	30.0
Real assets	Euro ('000)	234.6	301.5	61.0	303.0	300.0	311.9	150.0	355.0
Fin. liabilities	Euro ('000)	8.6	38.5	0.0	0.0	10.6	43.1	0.0	0.0
IMU main	Euro	-	-	-	-	343.5	323.2	145.0	450.0
IMU other	Euro	-	-	-	-	826.2	1,409.8	200.0	900.0
△ HP	Euro ('000)	-	-	-	-	-10.7	111.6	-50.0	20.0
# properties	Units	1.2	1.1	1.0	2.0	1.6	1.1	1.0	2.0
Exp. inc shock	Dummy	0.6	0.4	0.0	1.0	0.6	0.4	0.0	1.0
# of obs.		**3,756**				**-**			

Note: All variables are unweighted averages per household.

Some figures might not add up due to rounding. IMU total (main - other) refer to the IMU tax paid for all (main dwelling - other) properties.

"Education" refers to the average education level of all components of households (1 = elementary or lower, 6 = post-graduate degree).

"Y" refers to the change of household disposable income. "C" refers to the change of household consumption.

"Exp. inc shock" is a dummy variable that equals 1 if the head of the household expect a negative income shock (in real terms) within the next five years.

Table 2: Correlation between IMU rates and local economic activity.

Variable	**Year**	**IMU rate on main dwelling***	**IMU rate on other properties***
Personal income	2012	0.1504	0.1200
Personal income	2011	0.1535	0.1257
Personal income	2010	0.1433	0.1229
Personal income	Δ '10 - '12	-0.0262	-0.0161
Business income	2012	0.0844	0.0333
Business income	2011	0.0458	-0.0738
Business income	2010	0.0531	-0.0294
Business income	Δ '10 - '12	-0.0328	0.0083
Rental income	2012	0.0522	0.1867
Rental income	2011	0.0399	0.2163
Rental income	2010	0.0442	0.1922
Rental income	Δ '10 - '12	0.0543	0.1476
Night lights density	2012	0.1356	0.2090
Night lights density	2011	0.1264	0.2158
Night lights density	2010	0.1372	0.2106
Night lights density	Δ '10 - '12	0.0046	0.0032
IMU rate on other properties	2012	0.3257	

* IMU rates (both, main and other) refer to 2012.

Table 3: Placebo results.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**0.165**	**-0.049**	**-0.089**	**-0.324**
	[0.277]	[0.335]	[0.343]	[0.373]
△ HP ('000 €)	**9.323*** **	**9.243** **	**9.245** **	**8.118** **
	[2.432]	[3.262]	[3.355]	[3.112]
Observations	2,855	1,879	1,406	1,123
R^2	0.088	0.068	0.077	0.089

Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.518**	**-0.006**	**-0.013**	**-0.562**
	[0.681]	[1.097]	[1.035]	[1.093]
IMU other	**0.090**	**-0.072**	**-0.128**	**-0.209**
	[0.330]	[0.532]	[0.534]	[0.684]
△ HP ('000 €)	**9.312*** **	**9.250** **	**9.258** **	**8.068** **
	[2.437]	[3.343]	[3.428]	[3.215]
Observations	2,855	1,879	1,406	1,123
R^2	0.088	0.068	0.077	0.089

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 4: Baseline results.

Panel A		Stable sample			
	SHIW sample	Full sample	Homeowners	IMU payers	IMU payers PSM
IMU total	**-0.347**	**-0.217**	**-0.244**	**-0.368**	**-687.5**
	[0.204]	[0.340]	[0.339]	[0.411]	[663.0]
△ HP ('000 €)	**3.065****	**5.798*****	**5.922*****	**6.136*****	-
	[1.273]	[1.007]	[0.999]	[1.015]	-
Observations	3,756	2,474	1,811	1,454	1,454
R^2	0.108	0.045	0.048	0.052	-

Panel B		Stable sample			
	SHIW sample	Full sample	Homeowners	IMU payers	IMU payers PSM
IMU main	**-0.740****	**-0.836****	**-0.900****	**-1.064*****	**-623.9****
	[0.343]	[0.356]	[0.321]	[0.291]	[316.7]
IMU other	**-0.266**	**0.101**	**0.086**	**-0.024**	**1019.9**
	[0.257]	[0.484]	[0.480]	[0.564]	[1034.9]
△ HP ('000 €)	**3.077****	**6.017*****	**6.157*****	**6.379*****	-
	[1.292]	[1.079]	[1.067]	[1.084]	-
Observations	3,756	2,474	1,811	1,454	1,454
R^2	0.108	0.046	0.049	0.053	-

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 5: Durable vs. non durable goods.

Panel A: Non durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.141**	**-0.086**	**-0.131**	**-0.079**
	[0.319]	[0.399]	[0.376]	[0.460]
IMU other	**-0.281**	**0.156**	**0.184**	**0.058**
	[0.260]	[0.336]	[0.349]	[0.440]
△ HP ('000 €)	**4.046*** **	**6.957*** **	**7.024*** **	**7.244*** **
	[1.386]	[1.238]	[1.213]	[1.243]
Observations	3,756	2,474	1,811	1,454
R^2	0.110	0.050	0.055	0.058

Panel B: Durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.599** **	**-0.750***	**-0.768** **	**-0.985*** **
	[0.255]	[0.359]	[0.339]	[0.343]
IMU other	**0.014**	**-0.054**	**-0.061**	**-0.082**
	[0.158]	[0.393]	[0.395]	[0.473]
△ HP ('000 €)	**-0.969** **	**-0.941**	**-0.867**	**-0.865**
	[0.456]	[0.876]	[0.861]	[0.922]
Observations	3,756	2,474	1,811	1,454
R^2	0.016	0.018	0.023	0.031

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 6: Vehicles vs. total excluding vehicles.

Panel A: Vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.617****	**-0.773***	**-0.777****	**-0.870****
	[0.247]	[0.380]	[0.360]	[0.360]
IMU other	**0.044**	**-0.224**	**-0.225**	**-0.269**
	[0.126]	[0.404]	[0.402]	[0.476]
△ HP ('000 €)	**-0.908****	**-0.829**	**-0.781**	**-0.919**
	[0.362]	[0.802]	[0.784]	[0.859]
Observations	3,756	2,474	1,811	1,454
R^2	0.015	0.020	0.027	0.033
Panel B: Total excluding vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.124**	**-0.062**	**-0.123**	**-0.194**
	[0.327]	[0.467]	[0.434]	[0.499]
IMU other	**-0.311**	**0.326**	**0.331**	**0.244**
	[0.274]	[0.380]	[0.391]	[0.500]
△ HP ('000 €)	**3.985*****	**6.846*****	**6.938*****	**7.298*****
	[1.308]	[1.177]	[1.147]	[1.167]
Observations	3,756	2,474	1,811	1,454
R^2	0.110	0.049	0.053	0.055

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 7: Liquid wealth to income ratio.

Panel A: Low liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.418***	**-1.825*****	**-1.575****	**-1.622*****
	[0.799]	[0.618]	[0.612]	[0.512]
IMU other	**-1.042**	**0.764**	**0.736**	**0.982**
	[0.741]	[0.844]	[0.824]	[0.936]
△ HP ('000 €)	**2.778**	**7.848*****	**7.726*****	**7.764*****
	[2.183]	[2.390]	[2.269]	[1.924]
Observations	1,883	1,303	853	767
R^2	0.119	0.075	0.088	0.081

Panel B: High liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.551**	**-0.390**	**-0.550**	**-0.405**
	[0.349]	[0.624]	[0.589]	[0.679]
IMU other	**0.051**	**-0.427**	**-0.475**	**-0.796**
	[0.206]	[0.465]	[0.451]	[0.654]
△ HP ('000 €)	**3.974****	**5.189*****	**5.193*****	**4.937*****
	[1.664]	[0.855]	[0.868]	[1.270]
Observations	1,873	1,171	958	687
R^2	0.127	0.066	0.067	0.073

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 8: Age groups.

Younger cohorts		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.926****	**-1.299*****	**-1.337*****	**-1.508*****
	[0.433]	[0.422]	[0.428]	[0.398]
IMU other	**-0.373**	**-0.171**	**-0.137**	**-0.324**
	[0.557]	[0.622]	[0.648]	[0.900]
△ HP ('000 €)	**2.713**	**2.907**	**3.483***	**3.595**
	[1.675]	[2.039]	[1.980]	[2.473]
Observations	2,082	1,316	895	708
R^2	0.103	0.051	0.058	0.063
Older cohorts		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.544**	**-0.378**	**-0.470**	**-0.474**
	[0.501]	[0.730]	[0.720]	[0.693]
IMU other	**-0.244**	**-0.358**	**0.309**	**0.233**
	[0.269]	[0.533]	[0.522]	[0.538]
△ HP ('000 €)	**3.645***	**8.523*****	**8.396*****	**8.845*****
	[1.983]	[2.217]	[1.253]	[1.064]
Observations	1,635	1,131	916	746
R^2	0.134	0.068	0.077	0.087

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 9: Income groups.

Lower Income		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.788**	**0.040**	**-0.138**	**0.561**
	[0.725]	[0.641]	[0.656]	[0.799]
IMU other	**0.589**	**0.607**	**0.653**	**0.321**
	[1.054]	[1.140]	[1.171]	[1.425]
△ HP ('000 €)	**6.864*** **	**5.343** **	**5.398** **	**6.061** **
	[2.298]	[2.018]	[2.095]	[2.625]
Observations	1,794	1,313	785	558
R^2	0.130	0.052	0.056	0.075
Higher Income		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.379*** **	**-1.573*** **	**-1.565*** **	**-2.028*** **
	[0.371]	[0.403]	[0.380]	[0.399]
IMU other	**-0.305**	**-0.176**	**-0.184**	**-0.215**
	[0.257]	[0.580]	[0.564]	[0.641]
△ HP ('000 €)	**2.601** *	**5.928*** **	**6.085*** **	**6.102*** **
	[1.309]	[1.073]	[1.035]	[1.034]
Observations	1,962	1,161	1,026	896
R^2	0.113	0.067	0.070	0.076

Note: robust standard errors clustered by regions in brackets.
*** *indicates significance at 1% level,* ** *at 5%* * *at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ *HP refers to the change of (self-reported) market value of all properties owned.*
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table 10: Residuals.

		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.153**	**-1.043****	**-1.049*****	**-1.252*****
	[0.378]	[0.381]	[0.343]	[0.340]
△ HP ('000 €)	**2.849***	**6.025*****	**6.175*****	**6.526*****
	[1.373]	[1.056]	[1.055]	[1.037]
Observations	3,756	2,474	1,811	1,454
R^2	0.107	0.046	0.050	0.054

Note: robust standard errors clustered by regions in brackets.

**** indicates significance at 1% level, ** at 5% * at 10%.*

"Stable sample" includes households with a stable number of properties between 2010 and 2012.

IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.

△ HP refers to the change of (self-reported) market value of all properties owned.

Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Appendix

AppendixA. 2012 SHIW questions about IMU tax

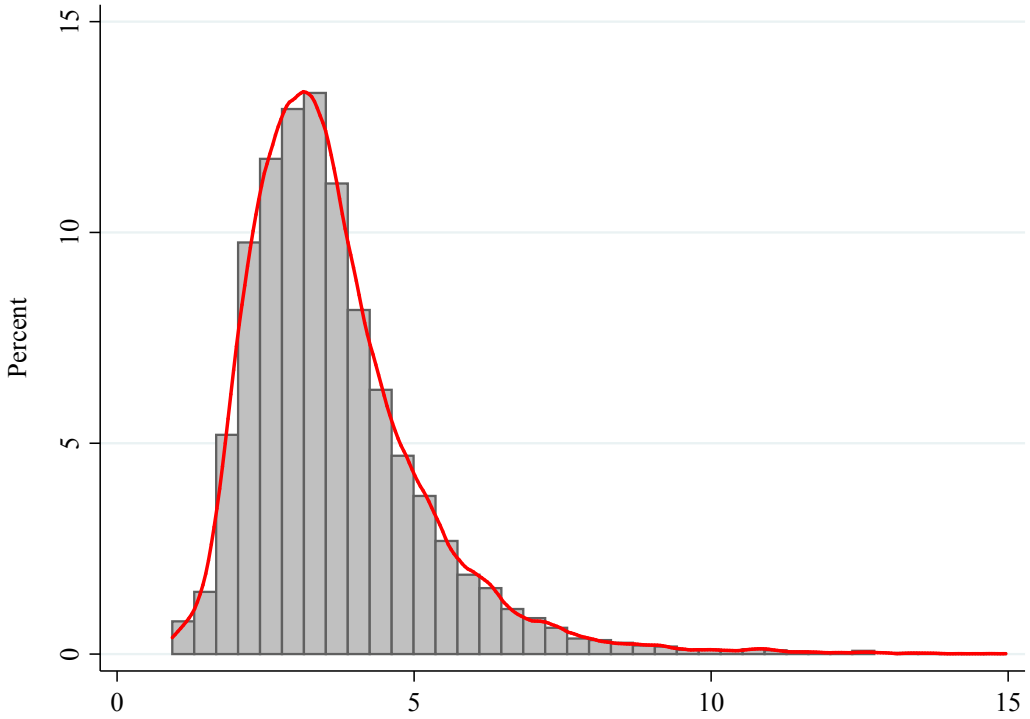
We rely on questions D33, D34, D35, and D36 of the 2012 survey.[34] The questions ask the following.

- **Question D33:** *"In 2012 , did you or a member of your household have to pay the Municipal Property Tax (IMU) for principal residence?".*
- **Question D34:** *"What was the total amount paid in 2012?".*
- **Question D35:** *"During 2012 did you or a member of your household have to pay the Municipal Property Tax on other properties (if they are co-owned with non-members of your household, please consider only your own portion)?".*
- **Question D36:** *"What was the total amount you paid in 2012?".* Finally, in order to capture the expectations about future IMU shocks we rely on question
- **Question D37:** *"In your opinion, which is the probability that the Municipal Property Tax (IMU) will be abolished within the next five years and not replaced by another similar tax? On a scale of 0 to 100, assign a low number if there is little chance of this happening and a high one if there is a good chance".*

[34] The answers are reported in the "q12d.dta" dataset (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

AppendixB. House cadastral and market values

Figure B.1: Ratio between house market values and cadastral values.



Note: The figure plots the distribution of the ratio between house market values and cadastral values (averages in each municipality for a total of 7,867 observations). The mean of the distribution is 3.64 and the standard deviation is 1.48. The figure refers to 2009, average of all types of residential houses. Cadastral values are essentially stable over time because of their nature while market values are time dependent. The red line plots the Epanechnikov kernel density with a bandwidth of 0.2350. Source: authors' own calculation on Ministery of Economics and Finance data. Specifically, we rely on the data of the fiscal department ("Agenzia delle Entrate"), database "OMI" ("quotazioni immobiliari dell'Osservatorio del Mercato Immobiliare dell'Agenzia delle Entrate").

AppendixC. Variable descriptions

Table C.2: Variables in dataset - Dependent variables and main regressors.

Variable	Name in dataset	Unit	Description
Dependent			
△ C	'dc'	Euro	Change in overall household consumption
△ CD	'dcd'	Euro	Change in household consumption on durable goods
△ CV	'dcd1'	Euro	Change in household consumption on vehicles
△ CN	'dcn'	Euro	Change in household consumption on non durable goods
△ CNV	'dcn'	Euro	Change in overall household consumption excluding vehicles
△ HP	'dvalabit'	Euro ('000)	Self reported change in (owned) market house price
Regressors			
Owner	'owner'	Dummy	Dummy variable: 1 for owners, 0 for renters
IMU total	'IMUtotal'	Euro	Total IMU property tax
IMU main	'IMU'	Euro	IMU property tax on main dwelling
IMU other	'IMUsecond'	Euro	IMU property tax on other residential properties

Table C.3: Variables in dataset - Controls and other variables.

Variable	**Name in dataset**	**Unit**	**Description**
Education	'studio'	Units	Average number of years of education of all households members
Components	'ncomp'	Units	Number of household members
Age	'eta'	Units	Average age of all households members
Children	'figli'	Units	Number of household members less than 21 years old
Income	'y2'	Euro	Net disposable income including income from financial assets
Net wealth	'w'	Euro	Net wealth (w = ar + af - pf)
Financial assets	'af'	Euro	Financial assets
Real assets	'ar'	Euro	Real assets
Financial liabilities	'pf'	Euro	Financial liabilities
Mortgagors	'mortgagors'	Dummy	1 for mortgagors, 0 otherwise
Properties	'properties'	Units	Number of residential properties owned by the household
Employment	'head_unemp'	Dummy	1 if head is unemployed either in '10 or '12
Income shock	'neg_income_shock'	Dummy	1 if head reports a negative income shock between '10 and '12
Expected shock	'exp_income_shock'	Dummy	1 if head expects a negative income shock in the future
Geographic	'darea5'	Dummy	Regional dummies (5 macro regions)
Geograpic	'i.ireg'	Dummy	Regional dummies (20 greographical regions)
Area	'dacom5'	Dummy	Commercial area (center, suborbn, etc..) of main dwelling

Table C.4: Summary statistics - Full SHIW sample.

			Full sample				**Home owners**			
Variable	**Unit**	**Year**	*Mean*	*StD*	*25%*	*75%*	*Mean*	*StD*	*25%*	*75%*
Education	Index	2012	3.0	3.3	0.9	3.7	2.8	3.1	0.9	3.6
# components	Units	2012	2.4	3.1	0.6	2.9	2.3	2.9	0.6	2.8
Age	Years	2012	49.5	52.1	16.2	62.8	48.8	51.4	15.9	61.9
Income	Euro ('000)	2012	30.4	40.7	7.8	36.3	33.5	43.9	8.9	40.0
C	Euro ('000)	2012	24.7	30.5	6.9	29.8	26.8	32.2	7.3	31.1
CD	Euro ('000)	2012	1.0	5.3	0.0	0.1	1.1	5.7	0.0	0.2
CV	Euro ('000)	2012	0.6	4.7	0.0	0.0	0.7	5.1	0.0	0.0
CND	Euro ('000)	2012	23.7	28.5	6.8	28.7	24.9	30.0	7.2	30.0
C	Euro ('000)	2010	26.7	36.2	7.1	31.8	28.6	38.8	7.6	33.8
CD	Euro ('000)	2010	1.7	7.7	0.0	0.4	1.8	8.1	0.0	0.5
CV	Euro ('000)	2010	1.0	6.6	0.0	0.0	1.1	6.9	0.0	0.0
CND	Euro ('000)	2010	25.0	33.0	6.8	29.9	26.7	35.5	7.3	31.9
Net wealth	Euro ('000)	2012	244.7	810.3	20.1	235.3	325.6	933.5	65.9	319.2
Real assets	Euro ('000)	2012	233.6	809.4	15.6	225.7	312.3	928.2	65.5	309.3
Fin. assets	Euro ('000)	2012	24.2	104.1	0.3	15.2	29.5	118.9	0.9	19.8
Fin. liabilities	Euro ('000)	2012	13.1	101.7	0.0	0.0	16.2	110.0	0.0	0.0
HP	Euro ('000)	2012	-	-	-	-	233.4	177.3	130.0	300.0
HP	Euro ('000)	2010	-	-	-	-	264.8	225.8	154.1	318.9
IMU main	Euro	2012	-	-	-	-	355.3	764.6	65.1	362.4
IMU other	Euro	2012	-	-	-	-	898.6	3,032.5	94.0	751.4

Note: All variables are weighted averages per household (in real 2012 Euros).

AppendixD. Further results

Table D.1: Baseline with IMU main only.

		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.857****	**-0.821****	**-0.888****	**-1.068*****
	[0.342]	[0.351]	[0.317]	[0.309]
△ HP ('000 €)	**2.960****	**5.945*****	**6.097*****	**6.396*****
	[1.380]	[1.016]	[1.018]	[0.997]
Observations	3,756	2,474	1,811	1,454
R^2	0.107	0.046	0.049	0.053

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table D.2: Share of income.

		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.650**	**-0.833**	**-0.957***	**-0.952***
	[0.810]	[0.589]	[0.541]	[0.519]
IMU other	**-0.363**	**-0.289**	**-0.233**	**-0.575**
	[0.398]	[0.710]	[0.723]	[0.834]
△ HP ('000 €)	**0.666*****	**0.403****	**0.409****	**0.479*****
	[0.145]	[0.153]	[0.155]	[0.162]
Observations	3,752	2,474	1,811	1,454
R^2	0.073	0.034	0.034	0.037

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

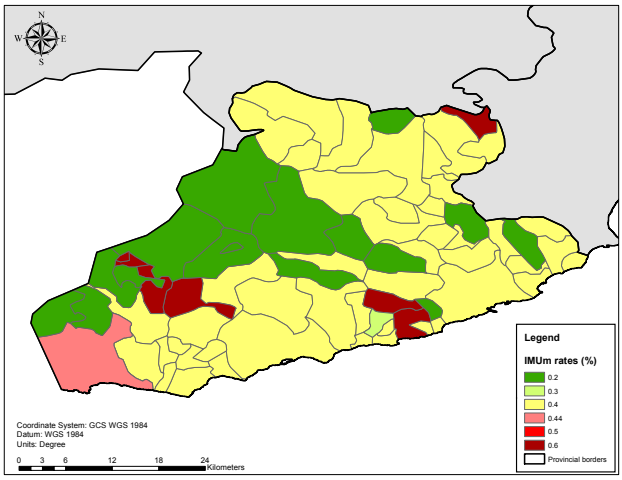
Table D.3: Instrumental variable results.

Panel A: surface		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.421**	**-1.143***	**-1.127***	**-1.670*****
	[0.617]	[0.581]	[0.539]	[0.547]
△ HP ('000 €)	**2.902***	**5.942*****	**6.099*****	**6.398*****
	[1.400]	[1.009]	[1.015]	[0.984]
Observations	3,756	2,474	1,811	1,454
R^2	0.107	0.046	0.049	0.052
Panel B: market value		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.204**	**-0.936**	**-1.238****	**-1.852****
	[0.761]	[0.604]	[0.580]	[0.772]
△ HP ('000 €)	**2.817***	**5.944*****	**6.099*****	**6.398*****
	[1.362]	[1.014]	[1.012]	[0.981]
Observations	3,756	2,474	1,811	1,454
R^2	0.106	0.046	0.049	0.052

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

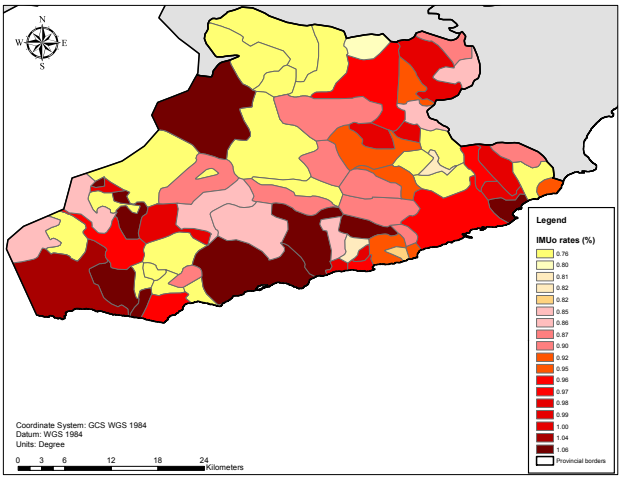
AppendixE. IMU tax rate heat maps

Figure C.1: **(A)** IMU main rates - Province "Imperia".



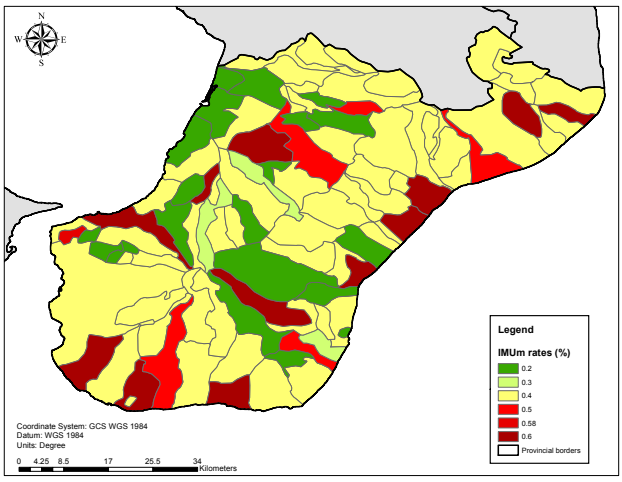
Source: authors' calculations on IFEL data.

Figure C.1: **(B)** IMU other rates - Province "Imperia"



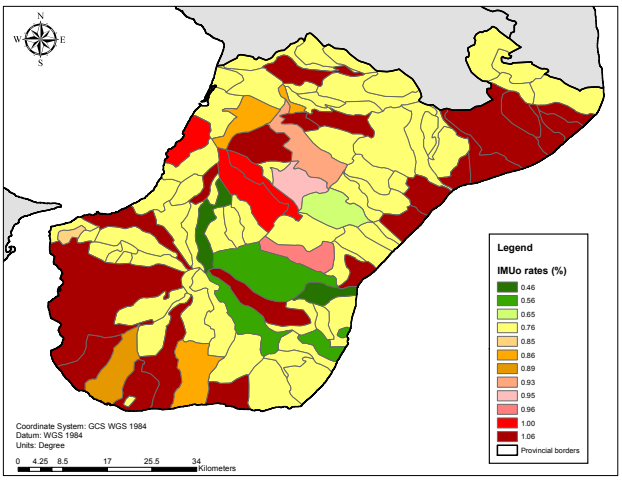
Source: authors' calculations on IFEL data.

Figure C.1: **(C)** IMU main rates - "Reggio Calabria"



Source: authors' calculations on IFEL data.

Figure C.1: **(D)** IMU other rates - "Reggio Calabria"



Source: authors' calculations on IFEL data.

Supplementary Appendix

AppendixF. Age and income groups by liquid wealth

Table F.1: Age groups - Low liquid wealth.

Younger cohorts		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.052****	**-2.029****	**-1.774****	**-1.966****
	[0.426]	[0.788]	[0.748]	[0.841]
IMU other	**0.404**	**-1.156**	**-1.102**	**-0.574**
	[0.416]	[1.185]	[1.146]	[1.203]
△ HP ('000 €)	**4.291*****	**7.495*****	**7.402*****	**7.587****
	[1.439]	[2.583]	[2.349]	[3.057]
Observations	848	839	527	453
R^2	0.138	0.081	0.102	0.110
Older cohorts		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.442**	**-1.293**	**-0.925**	**-0.595**
	[1.208]	[1.673]	[1.462]	[1.020]
IMU other	**-0.623**	**1.667***	**1.570**	**1.986****
	[0.846]	[0.931]	[0.918]	[0.856]
△ HP ('000 €)	**4.009**	**8.391****	**8.028****	**7.919*****
	[2.717]	[3.903]	[3.769]	[2.235]
Observations	633	452	326	314
R^2	0.171	0.131	0.142	0.130

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table F.2: Age groups - High liquid wealth.

Younger cohorts		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.599**	**-0.819**	**-1.297**	**-0.997**
	[1.023]	[1.003]	[0.924]	[0.988]
IMU other	**-1.177**	**-0.285**	**-0.370**	**-0.693**
	[0.963]	[0.516]	[0.560]	[0.954]
△ HP ('000 €)	**2.546**	**1.002**	**2.116**	**0.724**
	[2.823]	[2.263]	[2.258]	[2.785]
Observations	1,234	477	368	255
R^2	0.120	0.124	0.140	0.140
Older cohorts		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.338**	**-0.102**	**-0.248**	**-0.205**
	[0.576]	[0.794]	[0.818]	[0.893]
IMU other	**-0.133**	**-0.378**	**-0.515**	**-0.700**
	[0.322]	[0.606]	[0.606]	[0.684]
△ HP ('000 €)	**3.954**	**8.361*** **	**8.227*** **	**8.486*** **
	[2.901]	[1.435]	[1.532]	[1.840]
Observations	1,002	679	590	432
R^2	0.154	0.083	0.100	0.112

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table F.3: Income groups - Low liquid wealth.

Lower Income		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**1.589***	**0.593**	**0.631**	**1.993**
	[0.877]	[1.131]	[1.202]	[1.201]
IMU other	**0.319**	**2.230***	**2.525****	**2.749****
	[1.589]	[1.067]	[0.975]	[1.113]
△ HP ('000 €)	**7.279****	**6.534***	**5.877**	**7.891***
	[3.249]	[3.422]	[3.446]	[4.224]
Observations	1,060	782	405	323
R^2	0.134	0.070	0.100	0.129
Higher Income		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-2.724****	**-3.078*****	**-2.826*****	**-3.403*****
	[0.957]	[0.793]	[0.747]	[0.872]
IMU other	**-1.145**	**-0.107**	**-0.199**	**0.215**
	[0.791]	[1.026]	[0.935]	[1.146]
△ HP ('000 €)	**2.042**	**8.699*****	**8.260*****	**7.608*****
	[2.158]	[2.422]	[2.455]	[2.266]
Observations	823	521	448	444
R^2	0.148	0.120	0.131	0.127

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table F.4: Income groups - High liquid wealth.

Lower Income		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.057**	**-0.498**	**-0.658**	**-0.956**
	[0.954]	[0.714]	[0.738]	[0.970]
IMU other	**0.996**	**-0.229**	**-0.309**	**-1.130**
	[0.864]	[0.801]	[0.858]	[1.231]
△ HP ('000 €)	**8.463*** **	**4.188*** **	**4.041*** **	**2.866**
	[2.031]	[1.449]	[1.289]	[2.598]
Observations	734	531	380	235
R^2	0.134	0.070	0.100	0.129
Higher Income		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.826***	**-0.606**	**-0.714**	**-0.489**
	[0.401]	[0.835]	[0.760]	[0.905]
IMU other	**0.000**	**-0.556**	**-0.590**	**-0.758**
	[0.223]	[0.565]	[0.550]	[0.729]
△ HP ('000 €)	**3.574***	**5.502*** **	**5.387*** **	**5.091*** **
	[1.854]	[1.020]	[0.955]	[1.326]
Observations	1,139	640	578	452
R^2	0.125	0.088	0.081	0.087

Note: robust standard errors clustered by regions in brackets.

**** indicates significance at 1% level, ** at 5% * at 10%.*

"Stable sample" includes households with a stable number of properties between 2010 and 2012.

IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.

△ HP refers to the change of (self-reported) market value of all properties owned.

Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixG. Dropping IMU other regressor (spending categories and liquid wealth)

Table G.1: Durable vs. non durable goods - IMU main only.

Panel A: Non durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.264**	**-0.063**	**-0.112**	**-0.070**
	[0.374]	[0.420]	[0.397]	[0.488]
△ HP ('000 €)	**3.922****	**6.847*****	**6.921*****	**7.203*****
	[1.506]	[1.201]	[1.182]	[1.184]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.050	0.055	0.058
Panel B: Durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.593****	**-0.758****	**-0.777****	**-0.997*****
	[0.273]	[0.353]	[0.334]	[0.337]
△ HP ('000 €)	**-0.962****	**-0.902**	**-0.824**	**-0.806**
	[0.443]	[0.770]	[0.767]	[0.791]
Observations	3,756	2,474	1,811	1,454
R^2	0.016	0.018	0.022	0.031

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table G.2: Vehicles vs. total excluding vehicles - IMU main only.

Panel A: Vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.597****	**-0.806****	**-0.806****	**-0.911****
	[0.257]	[0.377]	[0.357]	[0.358]
△ HP ('000 €)	**-0.888****	**-0.671**	**-0.625**	**-0.730**
	[0.376]	[0.640]	[0.629]	[0.655]
Observations	3,756	2,474	1,811	1,454
R^2	0.014	0.019	0.026	0.032
Panel B: Total excluding vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.260**	**-0.015**	**-0.081**	**-0.157**
	[0.372]	[0.471]	[0.439]	[0.515]
△ HP ('000 €)	**3.848****	**6.616*****	**6.722*****	**7.126*****
	[1.432]	[1.134]	[1.110]	[1.091]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.049	0.053	0.055

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table G.3: Liquid wealth to income ratio - IMU main only.

Panel A: Low liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.650****	**-1.725****	**-1.487****	**-1.499*****
	[0.758]	[0.614]	[0.610]	[0.482]
△ HP ('000 €)	**1.936**	**7.798*****	**7.692*****	**7.723*****
	[2.591]	[2.371]	[2.263]	[1.879]
Observations	1,883	1,303	853	767
R^2	0.113	0.074	0.086	0.078
Panel B: High liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.523**	**-0.439**	**-0.600**	**-0.536**
	[0.360]	[0.626]	[0.597]	[0.675]
△ HP ('000 €)	**3.986****	**5.649*****	**5.705*****	**5.897*****
	[1.655]	[0.836]	[0.864]	[1.178]
Observations	1,873	1,171	958	687
R^2	0.127	0.065	0.065	0.069

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixH. Conditional on expectations of transitory IMU tax

Table H.1: Baseline results.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**-0.853*** **	**-0.591**	**-0.589**	**-0.830**
	[0.258]	[0.454]	[0.474]	[0.593]
△ HP ('000 €)	**4.378*** **	**5.738*** **	**5.885*** **	**6.153*** **
	[1.393]	[1.412]	[1.379]	[1.429]
Observations	2,563	1,721	1,249	985
R^2	0.121	0.053	0.057	0.067
Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.486**	**-1.145** **	**-1.206** **	**-1.489*** **
	[0.297]	[0.422]	[0.430]	[0.473]
IMU other	**-0.948*** **	**-0.231**	**-0.194**	**-0.438**
	[0.326]	[0.699]	[0.705]	[0.803]
△ HP ('000 €)	**4.367*** **	**6.108*** **	**6.302*** **	**6.577*** **
	[1.362]	[1.709]	[1.663]	[1.659]
Observations	2,563	1,721	1,249	985
R^2	0.121	0.054	0.058	0.069

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixI. Using residuals (spending categories and liquid wealth)

Table I.1: Durable vs. non durable goods.

Panel A: Non durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.311**	**-0.359**	**-0.328**	**-0.286**
	[0.385]	[0.421]	[0.381]	[0.467]
△ HP ('000 €)	**3.877*** **	**6.873*** **	**6.947*** **	**7.233*** **
	[1.489]	[1.231]	[1.206]	[1.201]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.050	0.055	0.058
Panel B: Durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.464** **	**-0.684** *	**-0.721** **	**-0.967*** **
	[0.220]	[0.333]	[0.324]	[0.312]
△ HP ('000 €)	**-1.028** **	**-0.847**	**-0.772**	**-0.706**
	[0.447]	[0.742]	[0.733]	[0.742]
Observations	3,756	2,474	1,811	1,454
R^2	0.015	0.017	0.022	0.030

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table I.2: Vehicles vs. total excluding vehicles.

Panel A: Vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.483***	**-0.695****	**-0.712****	**-0.812*****
	[0.248]	[0.322]	[0.302]	[0.284]
△ HP ('000 €)	**-0.954****	**-0.615**	**-0.573**	**-0.646**
	[0.383]	[0.644]	[0.630]	[0.658]
Observations	3,756	2,474	1,811	1,454
R^2	0.014	0.018	0.025	0.031
Panel B: Total excluding vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.330**	**-0.348**	**-0.337**	**-0.440**
	[0.430]	[0.509]	[0.465]	[0.513]
△ HP ('000 €)	**3.803****	**6.640*****	**6.749*****	**7.172*****
	[1.415]	[1.174]	[1.144]	[1.129]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.049	0.053	0.055

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table I.3: Liquid wealth to income ratio.

Panel A: Low liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.056**	**-2.228*** **	**-1.913** **	**-1.995*** **
	[0.805]	[0.695]	[0.679]	[0.606]
△ HP ('000 €)	**2.612**	**7.595*** **	**7.504*** **	**7.547*** **
	[2.175]	[2.374]	[2.245]	[1.921]
Observations	1,883	1,303	853	767
R^2	0.118	0.076	0.089	0.082
Panel B: High liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.304**	**-0.366**	**-0.451**	**-0.404**
	[0.432]	[0.558]	[0.514]	[0.609]
△ HP ('000 €)	**3.893** **	**5.224*** **	**5.240*** **	**4.988*** **
	[1.653]	[0.885]	[0.897]	[1.280]
Observations	1,873	1,171	958	687
R^2	0.127	0.066	0.067	0.073

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixJ. Controlling for personal income

Table J.1: Baseline results - controlling for personal income.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**-0.463****	**-0.618***	**-0.599***	**-0.821****
	[0.220]	[0.343]	[0.336]	[0.386]
△ HP ('000 €)	**2.975****	**5.753*****	**5.882*****	**6.173*****
	[1.274]	[1.022]	[1.004]	[1.041]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.058	0.060	0.067
Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.946****	**-1.158*****	**-1.172*****	**-1.344*****
	[0.401]	[0.395]	[0.364]	[0.302]
IMU other	**-0.368**	**-0.336**	**-0.304**	**-0.553**
	[0.264]	[0.465]	[0.456]	[0.528]
△ HP ('000 €)	**2.987****	**5.946*****	**6.089*****	**6.358*****
	[1.293]	[1.098]	[1.077]	[1.111]
Observations	3,756	2,474	1,811	1,454
R^2	0.110	0.058	0.061	0.068

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table J.2: Durable vs. non durable goods - controlling for personal income.

Panel A: Non durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.395**	**-0.445**	**-0.441**	**-0.367**
	[0.390]	[0.390]	[0.373]	[0.420]
IMU other	**-0.407**	**-0.332**	**-0.296**	**-0.484**
	[0.268]	[0.345]	[0.353]	[0.420]
△ HP ('000 €)	**3.935*** **	**6.878*** **	**6.947*** **	**7.222*** **
	[1.372]	[1.298]	[1.260]	[1.280]
Observations	3,756	2,474	1,811	1,454
R^2	0.112	0.067	0.070	0.075
Panel B: Durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.551** **	**-0.712** **	**-0.731** **	**-0.977*** **
	[0.223]	[0.339]	[0.325]	[0.325]
IMU other	**0.038**	**-0.003**	**-0.007**	**-0.068**
	[0.147]	[0.412]	[0.410]	[0.503]
△ HP ('000 €)	**-0.948***	**-0.932**	**-0.858**	**-0.864**
	[0.454]	[0.881]	[0.865]	[0.923]
Observations	3,756	2,474	1,811	1,454
R^2	0.016	0.019	0.023	0.031

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table J.3: Vehicles vs. total excluding vehicles - controlling for personal income.

Panel A: Vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.574****	**-0.741***	**-0.737****	**-0.856****
	[0.223]	[0.360]	[0.340]	[0.334]
IMU other	**0.065**	**-0.181**	**-0.169**	**-0.243**
	[0.118]	[0.413]	[0.412]	[0.501]
△ HP ('000 €)	**-0.889****	**-0.822**	**-0.772**	**-0.918**
	[0.359]	[0.802]	[0.785]	[0.859]
Observations	3,756	2,474	1,811	1,454
R^2	0.015	0.020	0.028	0.033
Panel B: Total excluding vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.372**	**-0.417**	**-0.435**	**-0.487**
	[0.394]	[0.457]	[0.434]	[0.461]
IMU other	**-0.433**	**-0.155**	**-0.135**	**-0.310**
	[0.286]	[0.369]	[0.386]	[0.476]
△ HP ('000 €)	**3.876*****	**6.768*****	**6.861*****	**7.275*****
	[1.300]	[1.220]	[1.177]	[1.190]
Observations	3,756	2,474	1,811	1,454
R^2	0.112	0.065	0.068	0.072

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table J.4: Liquid wealth to income ratio - controlling for personal income.

Panel A: Low liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.650***	**-2.129*****	**-1.813****	**-1.921*****
	[0.841]	[0.668]	[0.645]	[0.565]
IMU other	**-1.163**	**0.252**	**0.305**	**0.453**
	[0.765]	[0.908]	[0.882]	[1.033]
△ HP ('000 €)	**2.641**	**7.332*****	**7.222*****	**7.280*****
	[2.187]	[2.357]	[2.189]	[1.874]
Observations	1,883	1,303	853	767
R^2	0.124	0.089	0.099	0.097

Panel B: High liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.582**	**-0.602**	**-0.716**	**-0.585**
	[0.425]	[0.629]	[0.589]	[0.667]
IMU other	**0.035**	**-0.682**	**-0.685**	**-1.138***
	[0.226]	[0.420]	[0.413]	[0.636]
△ HP ('000 €)	**3.958****	**5.337*****	**5.330*****	**5.132*****
	[1.674]	[0.883]	[0.885]	[1.290]
Observations	1,873	1,171	958	687
R^2	0.127	0.072	0.071	0.082

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixK. Instrumental variables (spending categories and liquid wealth)

Table K.1: Instrumental variable results - Non durable goods.

Panel A: surface		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.060**	**-0.594**	**-0.571**	**-0.772**
	[0.536]	[0.563]	[0.510]	[0.652]
△ HP ('000 €)	**3.879****	**6.842*****	**6.925*****	**7.204*****
	[1.530]	[1.193]	[1.178]	[1.175]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.049	0.054	0.057
Panel B: market value		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.110**	**-0.887**	**-1.195***	**-1.611**
	[0.870]	[0.613]	[0.577]	[0.954]
△ HP ('000 €)	**3.872****	**6.840*****	**6.930*****	**7.206*****
	[1.477]	[1.193]	[1.171]	[1.170]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.049	0.052	0.053

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table K.2: Instrumental variable results - Durable goods.

Panel A: surface		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.481**	**-0.549**	**-0.556**	**-0.898***
	[0.313]	[0.370]	[0.352]	[0.430]
△ HP ('000 €)	**-0.977****	**-0.900**	**-0.826**	**-0.807**
	[0.458]	[0.770]	[0.769]	[0.792]
Observations	3,756	2,474	1,811	1,454
R^2	0.016	0.018	0.022	0.031
Panel B: market value		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.094**	**-0.048**	**-0.043**	**-0.241**
	[0.380]	[0.333]	[0.368]	[0.485]
△ HP ('000 €)	**-1.055****	**-0.895**	**-0.830**	**-0.808**
	[0.472]	[0.778]	[0.772]	[0.800]
Observations	3,756	2,474	1,811	1,454
R^2	0.014	0.016	0.019	0.027

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table K.3: Instrumental variable results - Vehicles.

Panel A: surface		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.561****	**-0.782****	**-0.758****	**-0.917*****
	[0.262]	[0.344]	[0.319]	[0.295]
△ HP ('000 €)	**-0.893****	**-0.670**	**-0.625**	**-0.730**
	[0.384]	[0.639]	[0.631]	[0.655]
Observations	3,756	2,474	1,811	1,454
R^2	0.014	0.019	0.026	0.032

Panel B: market value		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.012**	**-0.311**	**-0.332**	**-0.339**
	[0.279]	[0.353]	[0.353]	[0.447]
△ HP ('000 €)	**-0.967****	**-0.666**	**-0.629**	**-0.731**
	[0.387]	[0.654]	[0.641]	[0.675]
Observations	3,756	2,474	1,811	1,454
R^2	0.013	0.018	0.024	0.030

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table K.4: Instrumental variable results - Total consumption excluding vehicles.

Panel A: surface		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.139**	**-0.360**	**-0.369**	**-0.752**
	[0.582]	[0.649]	[0.584]	[0.649]
△ HP ('000 €)	**3.795****	**6.613*****	**6.724*****	**7.127*****
	[1.454]	[1.131]	[1.111]	[1.091]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.049	0.053	0.054
Panel B: market value		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.216**	**-0.625**	**-0.906**	**-1.513**
	[0.880]	[0.609]	[0.608]	[0.979]
△ HP ('000 €)	**3.784****	**6.610*****	**6.728*****	**7.129*****
	[1.408]	[1.133]	[1.110]	[1.095]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.084	0.052	0.051

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixL. Robustness checks on liquid wealth to income

Table L.1: Liquid wealth to income ratio - sample means as thresholds.

Panel A: Low liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.230*** **	**-1.083** **	**-1.032** **	**-1.629*** **
	[0.412]	[0.472]	[0.460]	[0.470]
IMU other	**0.098**	**0.407**	**0.426**	**0.407**
	[0.274]	[0.819]	[0.840]	[1.029]
△ HP ('000 €)	**3.446***	**7.135*** **	**7.248*** **	**7.594*** **
	[1.960]	[1.925]	[1.863]	[1.913]
Observations	1,366	1,636	1,111	851
R^2	0.134	0.056	0.061	0.070
Panel B: High liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.544**	**-0.855**	**-0.920**	**-0.485**
	[0.509]	[0.785]	[0.714]	[0.690]
IMU other	**-0.936**	**-0.400**	**-0.402**	**-0.536**
	[0.634]	[0.546]	[0.506]	[0.593]
△ HP ('000 €)	**3.380***	**5.080*** **	**5.154*** **	**5.125*** **
	[1.733]	[1.595]	[1.578]	[1.642]
Observations	2,390	838	700	603
R^2	0.105	0.084	0.083	0.093

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table L.2: Cash on hand to income ratio - mean as threshold.

Panel A: Low cash on hand		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.418***	**-1.825*****	**-1.575****	**-1.622*****
	[0.799]	[0.618]	[0.612]	[0.512]
IMU other	**-1.042**	**0.764**	**0.736**	**0.982**
	[0.741]	[0.844]	[0.824]	[0.936]
△ HP ('000 €)	**2.778**	**7.848*****	**7.726*****	**7.764*****
	[2.183]	[2.390]	[2.269]	[1.924]
Observations	1,883	1,303	853	767
R^2	0.119	0.075	0.088	0.081

Panel B: High cash on hand		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.551**	**-0.390**	**-0.550**	**-0.405**
	[0.349]	[0.624]	[0.589]	[0.679]
IMU other	**0.051**	**-0.427**	**-0.475**	**-0.796**
	[0.206]	[0.465]	[0.451]	[0.654]
△ HP ('000 €)	**3.974****	**5.189*****	**5.193*****	**4.937*****
	[1.664]	[0.855]	[0.868]	[1.270]
Observations	1,873	1,171	958	687
R^2	0.127	0.066	0.067	0.073

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table L.3: Cash on hand to income ratio - median as threshold.

Panel A: Low cash on hand		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.230****	**-1.083****	**-1.032****	**-1.629*****
	[0.412]	[0.472]	[0.460]	[0.470]
IMU other	**0.098**	**0.407**	**0.426**	**0.407**
	[0.274]	[0.819]	[0.840]	[1.029]
△ HP ('000 €)	**3.446***	**7.135*****	**7.248*****	**7.594*****
	[1.960]	[1.925]	[1.863]	[1.913]
Observations	1,366	1,636	1,111	851
R^2	0.134	0.056	0.061	0.070

Panel B: High cash on hand		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.544**	**-0.855**	**-0.920**	**-0.485**
	[0.509]	[0.785]	[0.714]	[0.690]
IMU other	**-0.936**	**-0.400**	**-0.402**	**-0.536**
	[0.634]	[0.546]	[0.506]	[0.593]
△ HP ('000 €)	**3.380***	**5.080*****	**5.154*****	**5.125*****
	[1.733]	[1.595]	[1.578]	[1.642]
Observations	1,873	1,171	958	687
R^2	0.127	0.066	0.067	0.073

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixM. Adding regional dummies

Table M.2: Durable vs. non durable goods - regional dummies.

Panel A: Non durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.005**	**0.004**	**0.058**	**0.105**
	[0.323]	[0.458]	[0.467]	[0.589]
IMU other	**-0.299**	**0.179**	**0.119**	**0.032**
	[0.259]	[0.369]	[0.381]	[0.477]
△ HP ('000 €)	**4.103*** **	**7.031*** **	**7.109*** **	**7.188*** **
	[1.430]	[1.304]	[1.301]	[1.313]
Observations	3,756	2,474	1,811	1,454
R^2	0.121	0.074	0.083	0.086
Panel B: Durable goods		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.525** **	**-0.702***	**-0.680***	**-0.918** **
	[0.237]	[0.358]	[0.333]	[0.335]
IMU other	**0.009**	**-0.076**	**-0.080**	**-0.078**
	[0.160]	[0.410]	[0.416]	[0.496]
△ HP ('000 €)	**-1.015** **	**-0.924**	**-0.893**	**-0.942**
	[0.446]	[0.887]	[0.876]	[0.933]
Observations	3,756	2,474	1,811	1,454
R^2	0.020	0.026	0.033	0.042

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table M.3: Vehicles vs. total excluding vehicles - regional dummies.

Panel A: Vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.565****	**-0.756***	**-0.731***	**-0.855****
	[0.224]	[0.388]	[0.374]	[0.382]
IMU other	**0.043**	**-0.228**	**-0.224**	**-0.247**
	[0.128]	[0.416]	[0.418]	[0.492]
△ HP ('000 €)	**-0.953****	**-0.848**	**-0.842**	**-1.030**
	[0.348]	[0.800]	[0.784]	[0.845]
Observations	3,756	2,474	1,811	1,454
R^2	0.019	0.027	0.035	0.040
Panel B: Total excluding vehicles		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.034**	**0.066**	**0.109**	**0.041**
	[0.325]	[0.518]	[0.510]	[0.632]
IMU other	**-0.333**	**0.330**	**0.263**	**0.201**
	[0.271]	[0.401]	[0.408]	[0.513]
△ HP ('000 €)	**4.041*****	**6.955*****	**7.058*****	**7.277*****
	[1.344]	[1.227]	[1.211]	[1.218]
Observations	3,756	2,474	1,811	1,454
R^2	0.120	0.074	0.082	0.083

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table M.4: Liquid wealth to income ratio - regional dummies.

Panel A: Low liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-1.114**	**-1.408****	**-0.871**	**-1.365****
	[0.746]	[0.556]	[0.520]	[0.556]
IMU other	**-1.061**	**0.809**	**0.722**	**1.043**
	[0.738]	[0.874]	[0.832]	[0.914]
△ HP ('000 €)	**2.786**	**7.780*****	**7.592*****	**7.353*****
	[2.143]	[2.363]	[2.305]	[1.920]
Observations	1,883	1,303	853	767
R^2	0.136	0.103	0.125	0.105
Panel B: High liquid wealth		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.416**	**-0.492**	**-0.622**	**-0.383**
	[0.332]	[0.594]	[0.562]	[0.738]
IMU other	**0.046**	**-0.324**	**-0.392**	**-0.673**
	[0.206]	[0.477]	[0.476]	[0.691]
△ HP ('000 €)	**4.018****	**5.601*****	**5.590*****	**5.127*****
	[1.666]	[0.839]	[0.882]	[1.313]
Observations	1,873	1,171	958	687
R^2	0.141	0.097	0.099	0.112

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

AppendixN. Alternative LHS variable

Table N.1: Baseline results - hours worked as LHS variable.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**-0.000**	**-0.000**	**-0.000**	**-0.001***
	[0.000]	[0.000]	[0.000]	[0.000]
△ HP ('000 €)	**0.001**	**-0.001**	**-0.002**	**-0.001**
	[0.001]	[0.003]	[0.003]	[0.003]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.047	0.038	0.042
Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.000**	**-0.001**	**-0.001**	**-0.001**
	[0.001]	[0.001]	[0.001]	[0.000]
IMU other	**-0.000**	**-0.000**	**0.000**	**-0.000**
	[0.000]	[0.001]	[0.001]	[0.000]
△ HP ('000 €)	**0.001**	**-0.001**	**-0.002**	**-0.001**
	[0.001]	[0.003]	[0.003]	[0.003]
Observations	3,756	2,474	1,811	1,454
R^2	0.109	0.047	0.039	0.043

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies,
(iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table N.2: Baseline results - financial assets as LHS variable.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**1.128**	**7.013**	**5.881**	**7.056**
	[2.762]	[6.664]	[5.850]	[6.061]
△ HP ('000 €)	**-9.063**	**-49.700**	**-50.950**	**-59.280**
	[25.820]	[53.630]	[53.770]	[57.010]
Observations	3,756	2,474	1,811	1,454
R^2	0.031	0.077	0.089	0.100
Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**0.356**	**1.578**	**0.587**	**2.006**
	[5.510]	[4.248]	[4.095]	[4.244]
IMU other	**1.279**	**9.850**	**8.602**	**9.652**
	[3.152]	[9.372]	[8.380]	[8.634]
△ HP ('000 €)	**-9.044**	**-47.760**	**-49.040**	**-57.490**
	[25.830]	[51.730]	[51.950]	[55.390]
Observations	3,756	2,474	1,811	1,454
R^2	0.031	0.077	0.090	0.101

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table N.3: Baseline results - liquid wealth as LHS variable.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**-4.219****	**8.934**	**7.892**	**8.152**
	[1.964]	[7.227]	[6.451]	[6.859]
△ HP ('000 €)	**-35.170**	**-59.210**	**-60.200**	**-70.690**
	[29.090]	[49.710]	[49.700]	[52.300]
Observations	3,756	2,474	1,811	1,454
R^2	0.037	0.075	0.086	0.100

Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**3.551**	**5.510**	**4.904**	**4.174**
	[5.173]	[5.251]	[5.201]	[5.126]
IMU other	**-5.742****	**10.720**	**9.428**	**10.200**
	[2.368]	[10.440]	[9.529]	[10.000]
△ HP ('000 €)	**-35.350**	**-57.990**	**-59.120**	**-69.280**
	[28.950]	[48.030]	[48.100]	[50.930]
Observations	3,756	2,474	1,811	1,454
R^2	0.038	0.075	0.086	0.100

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table N.4: Baseline results - cash on hand as LHS variable.

Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**-6.200****	**5.882**	**4.863**	**5.253**
	[2.240]	[7.381]	[6.585]	[6.996]
△ HP ('000 €)	**-19.880**	**-45.170**	**-46.130**	**-54.980**
	[26.570]	[52.310]	[52.310]	[55.670]
Observations	3,756	2,474	1,811	1,454
R^2	0.054	0.087	0.098	0.108

Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.415**	**2.285**	**1.835**	**1.934**
	[5.179]	[5.384]	[5.298]	[5.407]
IMU other	**-7.334****	**7.669**	**6.420**	**6.959**
	[2.785]	[10.440]	[9.482]	[9.977]
△ HP ('000 €)	**-20.020**	**-43.910**	**-45.040**	**-53.810**
	[26.430]	[50.700]	[50.780]	[54.340]
Observations	3,756	2,474	1,811	1,454
R^2	0.054	0.087	0.098	0.109

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

Table M.1: Baseline results - regional dummies.

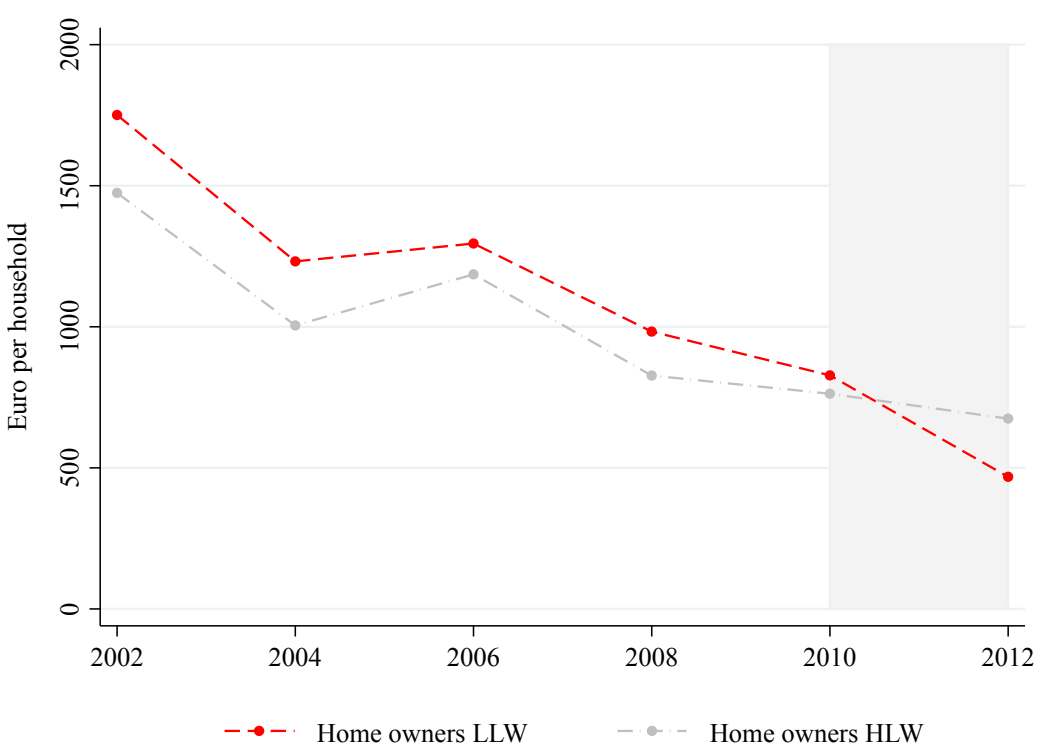
Panel A		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU total	**-0.330**	**-0.167**	**-0.180**	**-0.298**
	[0.201]	[0.360]	[0.362]	[0.428]
△ HP ('000 €)	**3.082****	**5.927*****	**6.066*****	**6.077*****
	[1.285]	[1.052]	[1.050]	[1.042]
Observations	3,756	2,474	1,811	1,454
R^2	0.119	0.069	0.076	0.077

Panel B		Stable sample		
	SHIW sample	Full sample	Homeowners	IMU payers
IMU main	**-0.530**	**-0.698****	**-0.622****	**-0.813****
	[0.326]	[0.331]	[0.295]	[0.348]
IMU other	**-0.289**	**0.103**	**0.038**	**-0.046**
	[0.251]	[0.493]	[0.489]	[0.565]
△ HP ('000 €)	**3.088****	**6.107*****	**6.216*****	**6.247*****
	[1.297]	[1.090]	[1.080]	[1.074]
Observations	3,756	2,474	1,811	1,454
R^2	0.119	0.069	0.076	0.078

Note: robust standard errors clustered by regions in brackets.
**** indicates significance at 1% level, ** at 5% * at 10%.*
"Stable sample" includes households with a stable number of properties between 2010 and 2012.
IMU "main" and "other" refer to the IMU tax paid for the main dwelling and other properties respectively.
△ HP refers to the change of (self-reported) market value of all properties owned.
Control variables (omitted for brevity) include: (i) households demographics, (ii) geographical dummies, (iii) dummies for the commercial area where the main dwelling is located and (iv) expectations about future income.

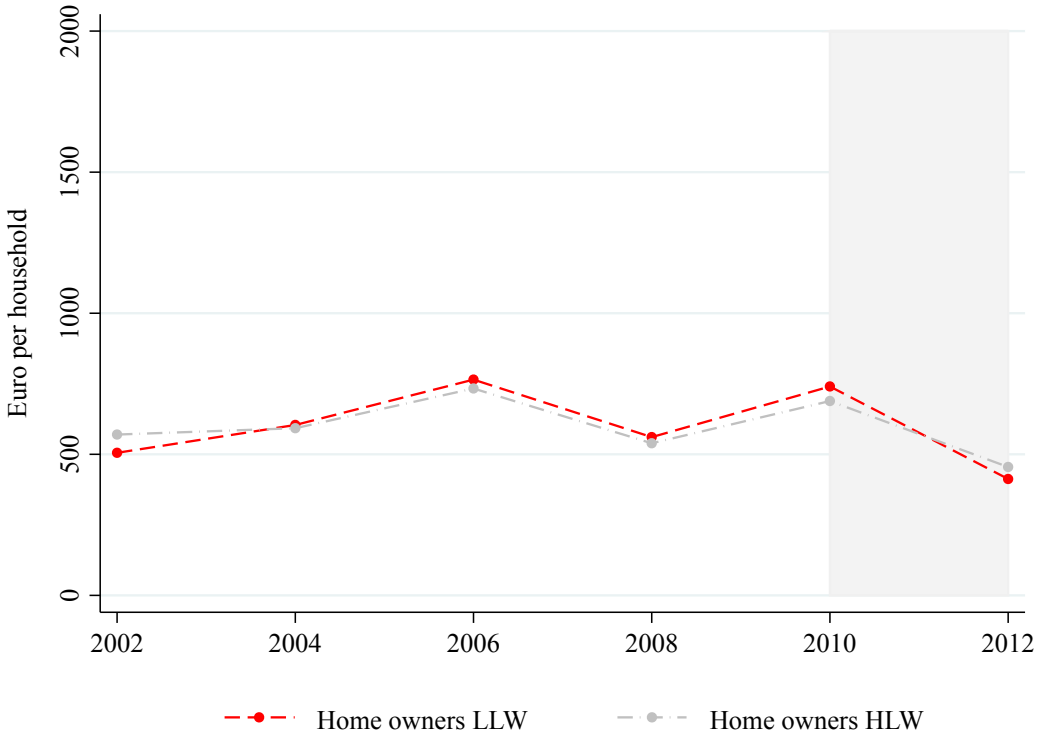
AppendixO. Additional complementary figures

Figure L.1: Expenditure on vehicles per year.



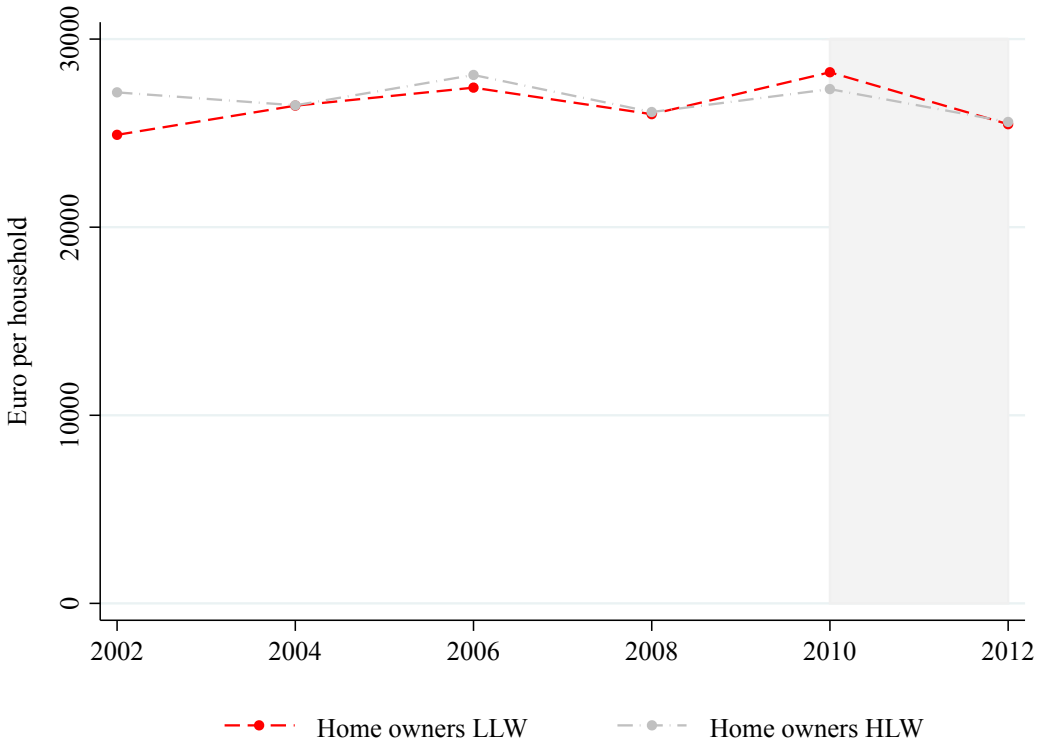
Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the weighted averages in each group using the 'pesofit' variable provided by the Bank of Italy's surveys. All figures are real in 2012 Euros.We rely on the variable "CD1" ("consumption of transport equipment net of sales earnings") in dataset "CONSXX.dta" (where the suffix "XX" indicates the year of the survey). The chart includes sales of vehicles which are negative entries in the dataset; excluding these observations or replacing them with zeros makes virtually no difference on our results. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.1: Expenditure on other durable goods per year.



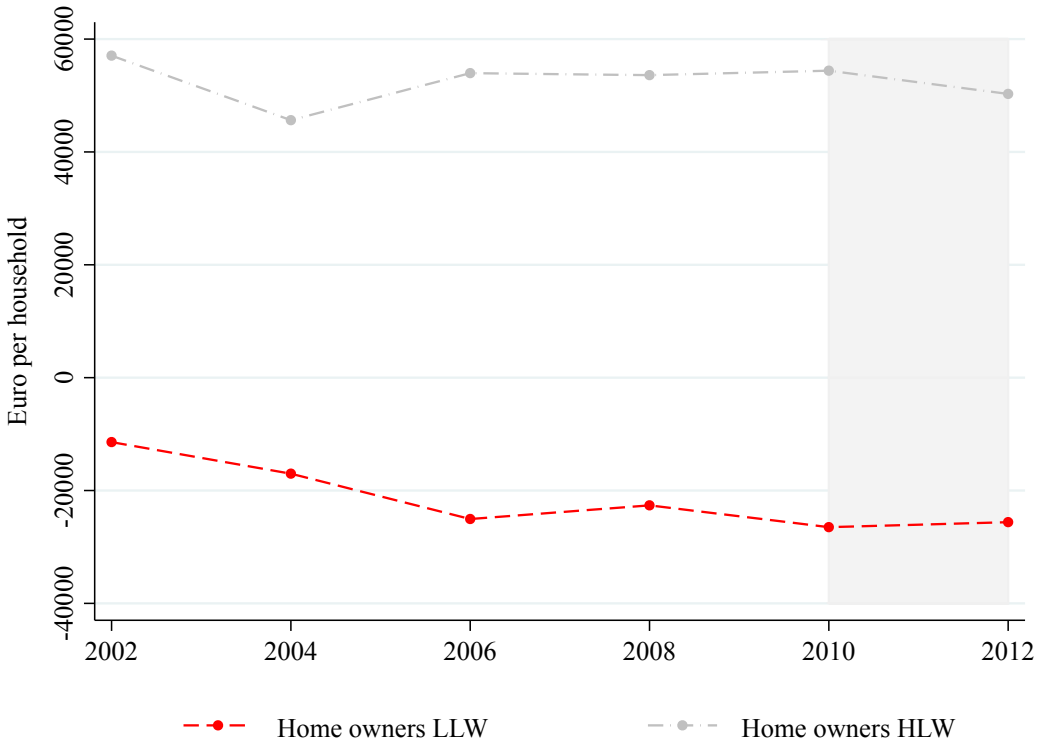
Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the weighted averages in each group using the 'pesofit' variable provided by the Bank of Italy's surveys. All figures are real in 2012 Euros.We rely on the variable "CD2" ("consumption on other durable goods") in dataset "CONSXX.dta" (where the suffix "XX" indicates the year of the survey). The chart includes sales of other durable goods which are negative entries in the dataset; excluding these observations or replacing them with zeros makes virtually no difference on our results. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.1: Total household expenditure excluding vehicles per year.



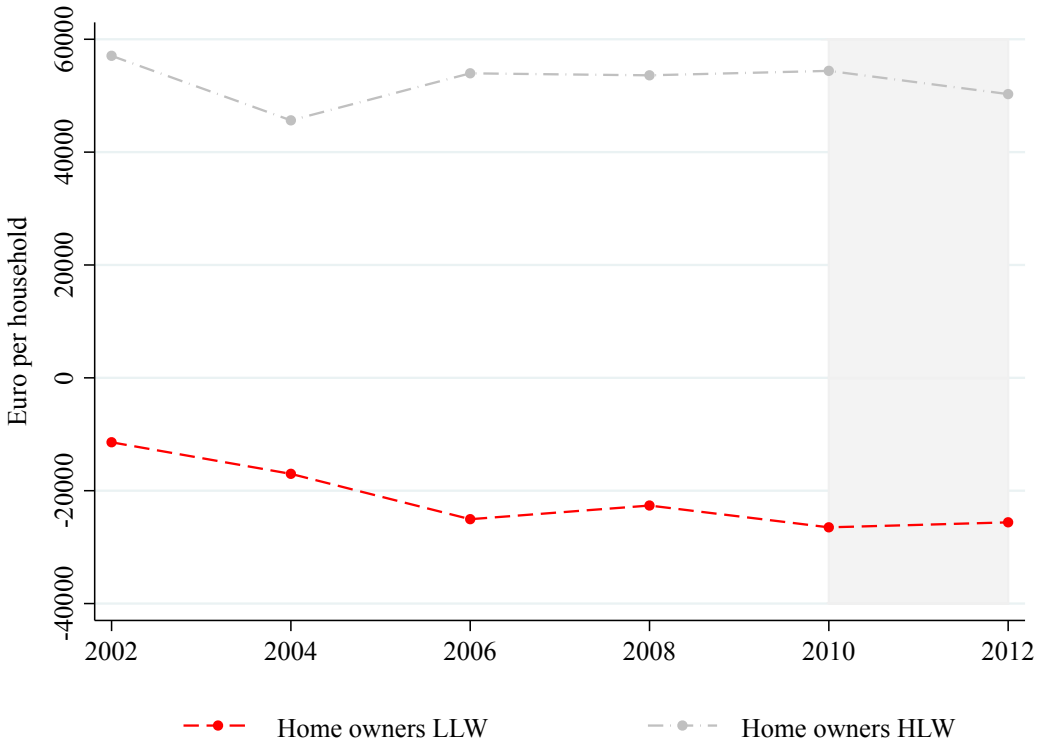
Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the weighted averages in each group using the 'pesofit' variable provided by the Bank of Italy's surveys. All figures are real in 2012 Euros.We rely on the variable "C" ("total consumption") and on "CD1" ("consumption on vehicle goods") in dataset "CONSXX.dta" (where the suffix "XX" indicates the year of the survey). The chart includes sales of vehicle goods which are negative entries in the dataset; excluding these observations or replacing them with zeros makes virtually no difference on our results. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.1: Evolution over time of net liquid wealth per household.



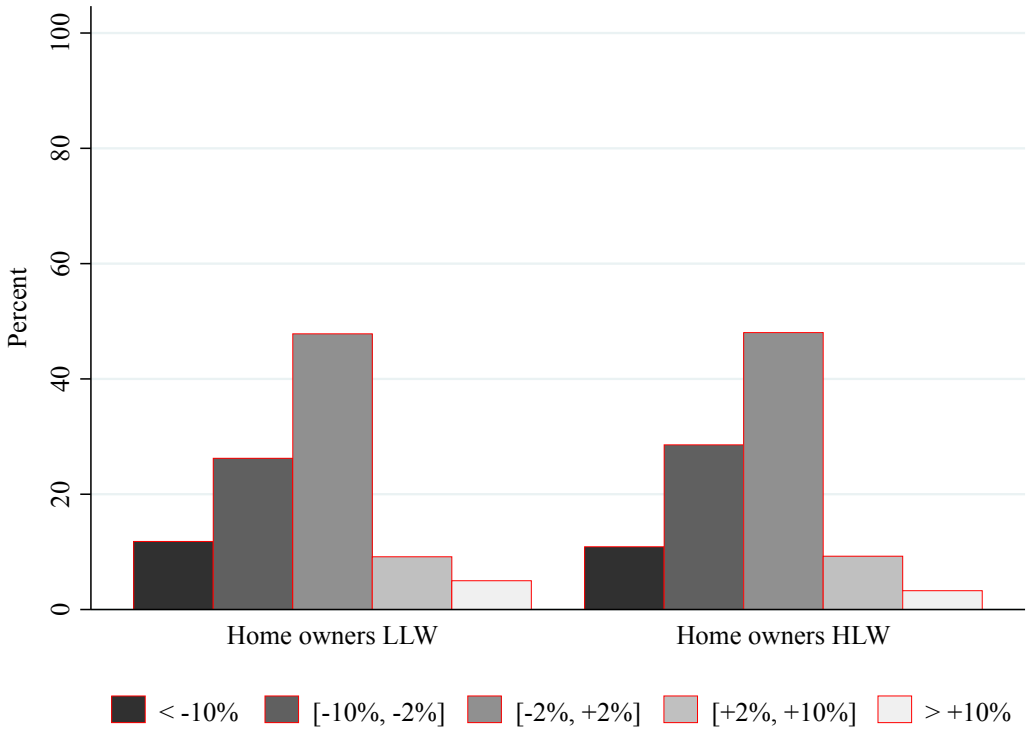
Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the weighted averages in each group using the 'pesofit' variable provided by the Bank of Italy's surveys. All figures are real in 2012 Euros.We rely on the variable "af" ("financial assets") and on "pf" ("financial liabilities") in dataset "RICFXX.dta" (where the suffix "XX" indicates the year of the survey). Net liquid wealth defined as total financial assets minus total financial liabilities. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.1: Evolution over time of (self-reported) house market values.



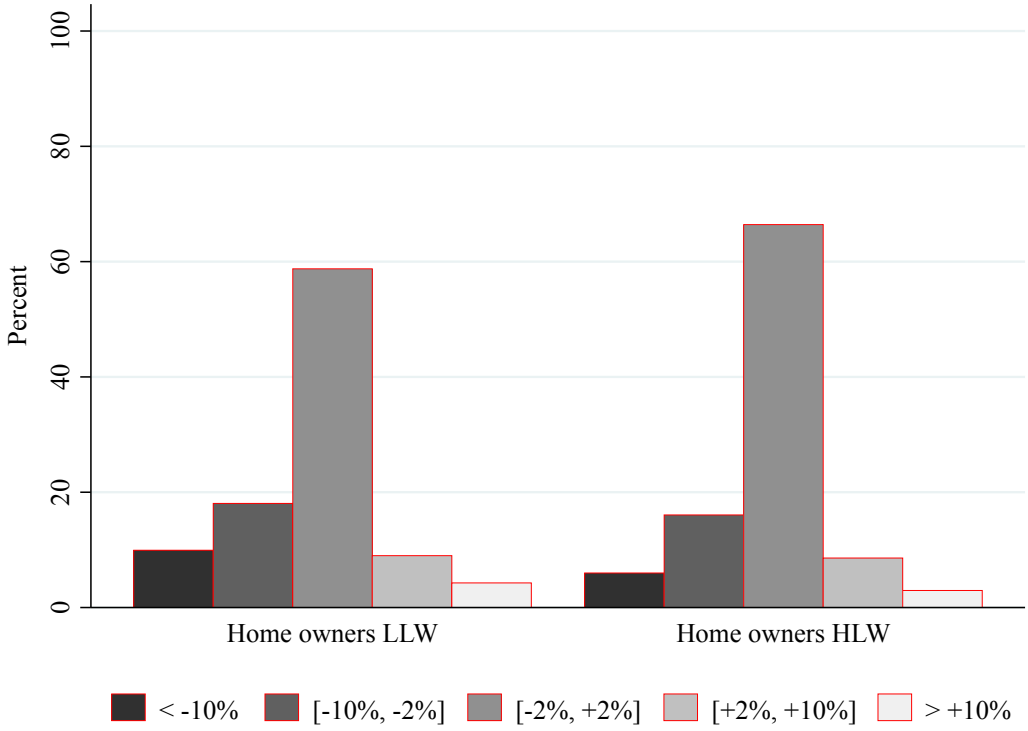
Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the weighted averages in each group using the 'pesofit' variable provided by the Bank of Italy's surveys. All figures are real in 2012 Euros.We rely on the variable "ar11" ("real assets - residential properties") in dataset "RICFXX.dta" (where the suffix "XX" indicates the year of the survey). The chart shows the sum of all properties values per household. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.1: Expectations of future home market value changes.



Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the unweighted averages in each group. All figures refer to 2012 for the following 12 months. We rely on question "C48" of the 2012 survey; the question asks the following: "Twelve months from now, the price of a house in your neighborhood will be (distribute 100 points)..". A basic t-test fails to reject the null of equal mean between the two distributions. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.1: Expectations of future income.



Note: 'HLW' stands for 'High Liquid Wealth' and 'LLW' stands for 'Low Liquid Wealth'. The chart shows the unweighted averages in each group. All figures refer to 2012 for the following 12 months. We rely on question "C47" of the 2012 survey; the question asks the following: "Twelve months from now, your household's income will be (please distribute 100 points)..". A basic t-test fails to reject the null of equal mean between the two distributions. Source: authors' calculations on Bank of Italy SHIW surveys data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.4: **(A)** IMU main - municipal rates.

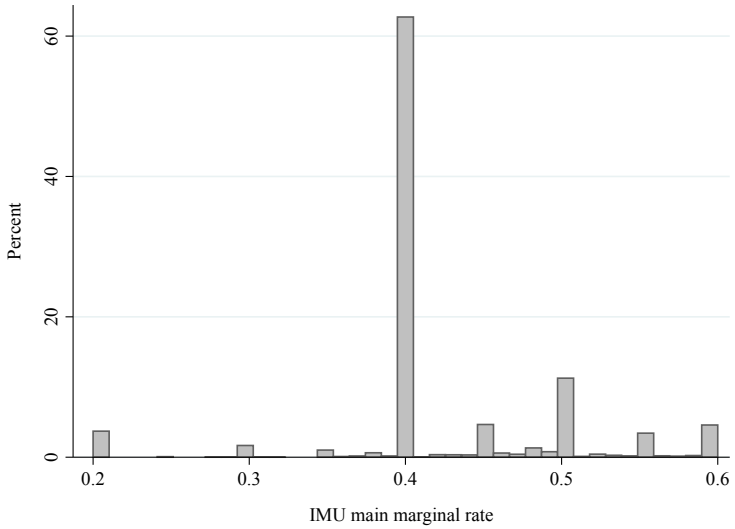
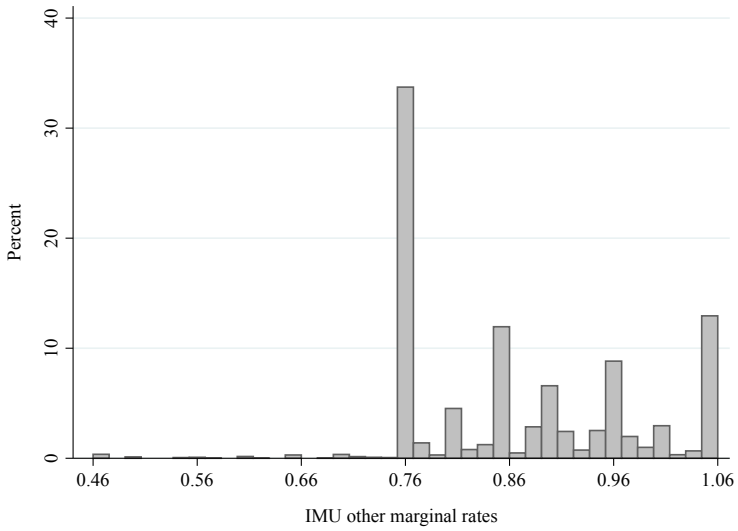
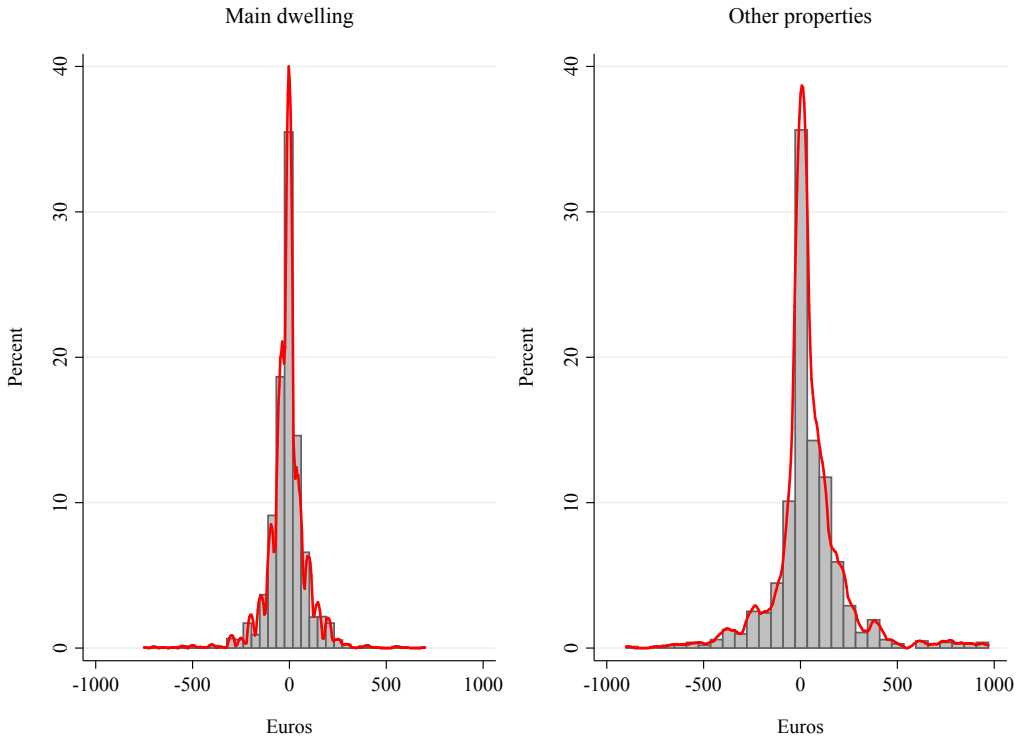


Figure L.4: **(B)** IMU other - municipal rates.



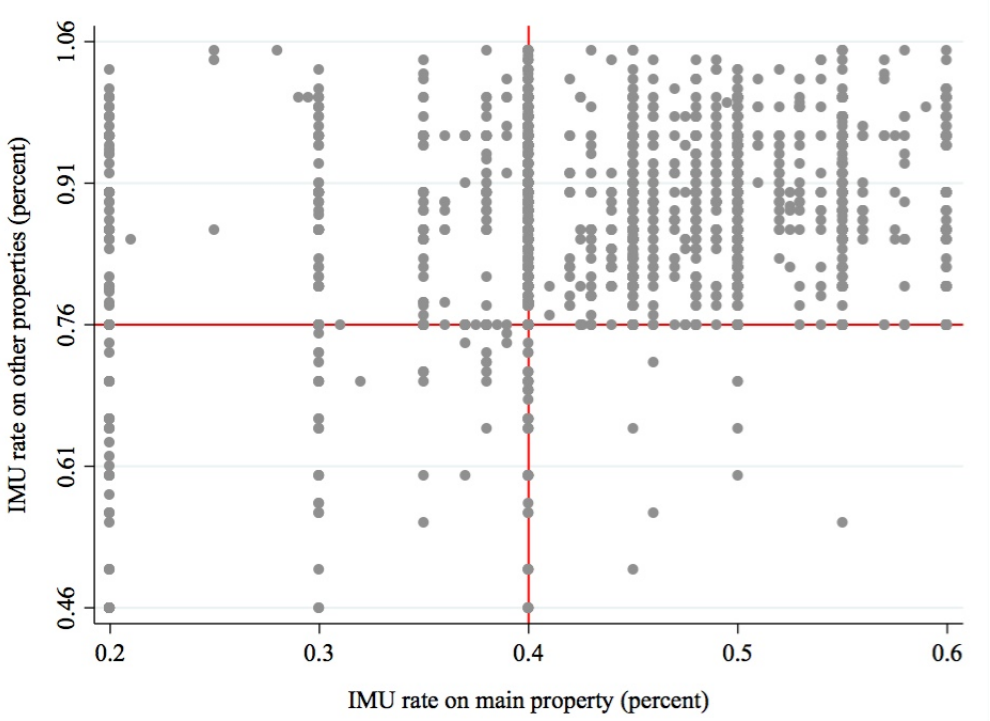
Note. Panel **(A)**: The figure plots the distribution of the marginal rates on the main dwelling (IMU tax) set by the Italian municipalities. More than half of the municipalities left the "ordinary" 0.4 percent rate unchanged and less than 10 percent decreased the rate. Virtually all municipalities left the 200 Euros deduction on the main dwelling unchanged. Source: authors' calculations on IFEL ("Istituto per la Finanza e l'Economia Locale" - "Institute for Local Economics and Finance") data (available at: http://www.webifel.it/ICI/AliquoteIMU.cfm). Panel **(B)**: the figure plots the distribution of the marginal rates on the main dwelling (IMU tax) set by the Italian municipalities. More than half of the municipalities left the "ordinaray" 0.76 percent rate unchanged and virtually none decreased the rate. Source: authors' calculations on IFEL ("Istituto per la Finanza e l'Economia Locale" - "Institute for Local Economics and Finance") data (available at: http://www.webifel.it/ICI/AliquoteIMU.cfm).

Figure L.5: Change in (self reported) market value of owned dwelling(s).



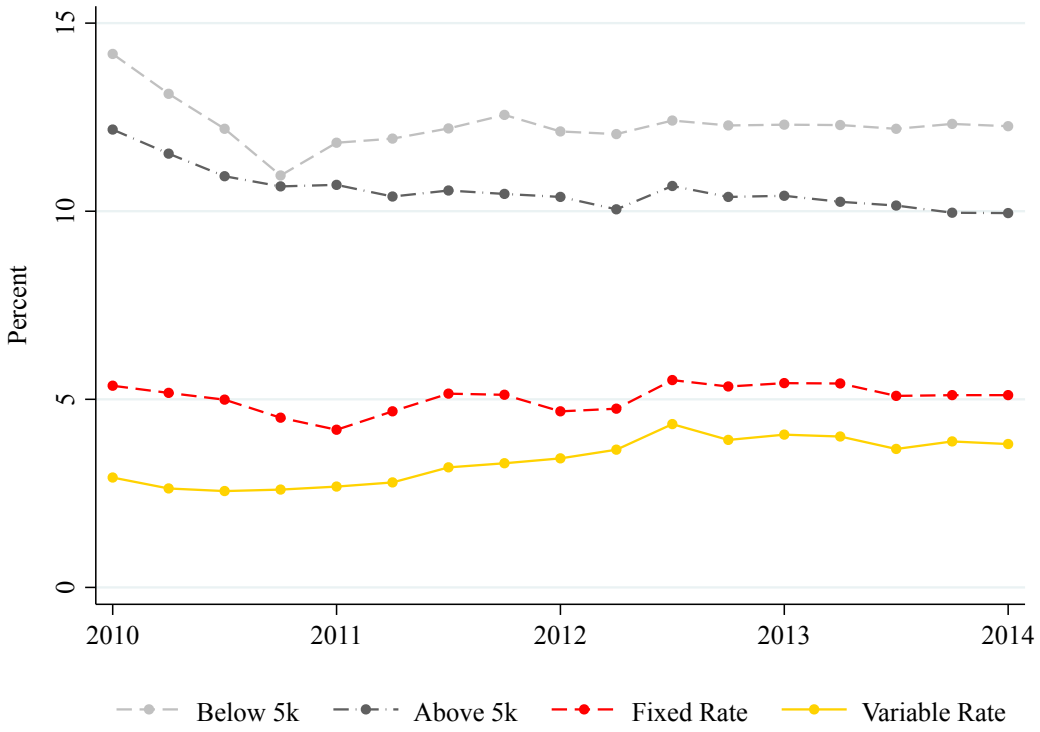
Note: the charts shows the distribution of (self reported) change in market values of dwellings splitting between main dwelling (left panel) and other properties (right panel). The figure consider home owners only. The left panel excludes eight observations lower than -1,000 Euros and four observations higher than 1,000 Euros (out of 2,918 in total). The right panel excludes five observations lower than -1,000 Euros and four observations higher than 1,000 Euros (out of 1,039 in total). Source: authors' calculations on Bank of Italy (2010 and 2012 SHIW surveys) data (available at: https://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro).

Figure L.6: Municipal IMU rates.



Note: The figure plots the municipal IMU rates on both, the main dwelling and other properties. Each point on the chart represents a municipality for a total of 8,067 observations. The correlation between the IMU rate set on the main dwelling and the IMU rate set on other properties is 0.3257. The vertical red line indicates the "ordinary IMU rate" on the main property (set by the central government), while the horizontal red line indicates the "ordinary IMU rate" on other properties (again, set by the central government). Source: authors' calculations on IFEL ("Istituto per la Finanza e l'Economia Locale" - "Institute for Local Economics and Finance") data (available at: http://www.webifel.it/ICI/AliquoteIMU.cfm).

Figure L.11: Commercial interest rates.



Note: TBC. Source: Bank of Italy (data available at: http://www.bancaditalia.it/compiti/vigilanza/compiti-vigilanza/tegm/index.html).