THE DETERMINANTS OF HOUSEHOLD'S BANK SWITCHING

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Abstract. Using a unique panel dataset from 2006-2012 Bank of Italy Survey on Household Income and Wealth that links households to their main bank, we are able to investigate the determinants of bank switching by households. Household-bank relationship matters crucially in terms of exclusivity (using a single bank), intensity (number of services used), and scope (type of services used) of the relationship. Specifically, we find that what really drives switching is mortgage, both taking out and paying off. In addition we find that switching costs reduce the probability of switching. We also find robust evidence that risk preferences, mobility and economic condition of the household do not play any role, while education and financial literacy do matter, albeit with opposite effects. Last but not least, changing bank is less frequent for cooperative bank and more frequent for listed banks, after controlling for bank competition.

Keywords: *household-bank relationship, switching, bank specialization, mortgage*

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1. Introduction

Customers are becoming less loyal and increasing the number of banks they use. The overall proportion of customers planning to change banks is 12% at world level in 2012 (Ernst and Young, 2012), with sensitivity to fees and charges that lead the change. The effective share of bank switches by Italian households reaches 20% in the same year. Customers are increasingly taking control of their banking relationships. In response, banks need to embrace this trend and give to their customers greater flexibility, choice and control. As Ernst and Young (2012) put it: "Giving more power to customers may feel uncomfortable, but in the long run banks that do so will position themselves for success in the future".

Despite this, the household-bank relationship has not been deeply investigated, although it actually deserves great attention since its implications are of uttermost importance for both agents involved. The households have to optimally allocate their resources taking into account both short and long-term horizons. This requires the household to balance between having enough liquidity to finance short-term consumption and allocating their savings in appropriate investments tailored based on their potential future needs. In doing so, households start a relationship with a bank and eventually switch to a more suitable one that can better satisfy their needs. In this framework, banks are subject to households' decision to switch to another bank, this affects bank's liability side, thereby undermining the stability of their funds. Not surprisingly, Basel III liquidity requirements now discriminate between "stable" and "unstable" customer relationship (BIS, 2013).[1]

Isolating the determinants of household decision to switch bank requires taking into account the characteristics of both the agents involved and their relationship, which evolves over time. In other words, the peculiarities of the household-bank relationship, as well as those of the household and of the bank itself might all retain an independent role in leading the household to change its bank.

In this paper, we exploit a unique dataset matching household level information from the Bank of Italy Survey on Household Income and Wealth (SHIW) to bank level information from BankScope (BS). To the best of our knowledge this is the first attempt in literature to directly trace the link between a household and its main bank over time using a population-representative sample.

More precisely, for each household in each wave our dataset exactly traces the household's main bank and the related set of bank services used. Since some households are present in more

[1]Specifically, a condition for a deposit to be considered stable is that "the depositors have other established relationships with the bank that make deposit withdrawal highly unlikely" (see paragraphs 74 and 75, BIS, 2013).

than one wave, we are able to identify the decision of those households to stay or switch to another bank and/or to change the set of services used. For instance, a household observed at the end of 2006 uses bank A as its principal bank to manage its payment of utilities. The same household observed at the end of 2008 decides to switch from bank A to bank B, to manage a new mortgage instead of or in addition to its payment of utilities. Finally, the household observed at the end of 2010 and at the end of 2012 is still using bank B with its mortgage. Based on the above described dataset, we assess the relative importance of household-bank relationship, household's and bank's characteristics as determinants of household's decision to switch bank.

The firm-bank relationship has been extensively investigated over the last decades covering, among other topics, the importance of deposit relationships in traditional lending (Hodgman, 1961; Kane and Malkiel, 1965; Puri and Rocholl, 2008; Iyer *et al.*, 2013 and Santikian, forthcoming), relationship duration (Ongena and Smith, 1998, 2001), the uniqueness of bank-firm relationship (Fama, 1985; James, 1987; and Lummer and McConnell, 1989; Detragiache *et al.*, 2000; Ongena and Smith, 2000; and Farinha and Santos, 2002), the dynamics of consumer relationship in bank loan market (Sharpe, 1990), the importance of competition in credit markets (Petersen and Rajan, 1995), and firm's decision to switch bank (Sharpe, 1997; Gopalan *et al.*, 2011; Degryse *et al.*, 2011 and Biglaiser *et al.*, 2014).

Our study takes inspiration from this bank-firm relationship literature and adapt it to a household-bank relationship in which the household has the upper hand.

In fact, with the notable exception of literature on bank runs (see e.g. Diamond and Dybvig, 1983, Iyer and Puri, 2012, and Iyer *et al.*, 2013) little has been done to date in investigating the household-bank relationship and its scope. Nevertheless, this literature focuses on herding behavior, caused by panic, where households fear that the bank will fail so they run to get their money out before the money is gone. So determinant of leaving the bank is the belief that the bank might fail and is the same across all agents. In our research, we investigate the independent, heterogenous decisions of households to leave their bank, regardless for the bank to be in distress. It may simply be that the households find some better alternative offer for the bank product they need at the moment.

An increasing number of papers have contributed to the (positive) household finance literature, which investigates how households actually make financial choices, ranging from consumption and saving (see e.g. Browning and Lusardi, 1996 and references therein), payment and borrowing, (see Cox and Jappelli, 1990, 1993 and Crook, 2001), insurance (Lin and Grace, 2007,

Goldman and Maestas, 2013), and especially portfolio choices (Flavin and Yamashita, 2002, Guiso *et al.*, 2002, Cocco, 2004, Battu *et al.*, 2008 and Guiso and Sodini, 2012).

Yet, to the best of our knowledge, very few contributions have focused on the decisions concerning households' relationship with the banks, in particular over time.

Notable exceptions are Kiser (2002), Brown and Hoffmann (2013), and Brown *et al.* (2013). The former empirically investigates the determinants and switching costs of client switching banks using a sample of 1500 US households drawn from the 1999 Michigan Surveys of Consumers. The author looks at household socio-economic observables and self-reported reasons for remaining with their first ever bank, finding a positive and significant role for income, age and especially homeownership, which might produce a "lock-in" effect and guarantee a long-term bank relationship.

Brown and Hoffmann (2013) and Brown *et al.* (2013) rely on a telephone-based survey conducted in 2011 by GfK and covering around 1500 Swiss households. In the former, the authors focus on 470 mortgage holders with multiple bank relationships to compare mortgage and non-mortgage relations for the same household. They find that mortgage relations are used within a broader scope of services, are more recently established, and are held with banks closer to the household. They also find a role for financially literacy, as more literate borrowers are less likely to hold a mortgage with a local bank. Brown *et al.* (2013) focus instead on the financial crisis period (2008-2009) and highlight the effect of the distress status of the bank on the depositors' decision to even close their accounts.

We contribute to this scant stream of literature adding the direct link between a household and a bank to study why household decides to switch or to stay with its main bank. The research question is also timely in the light of the great attention is being devoted to bank switching by housedhold. Ernst and Young (2012) stresses the reduced loyalty and the increasing power in bank relationship by customers.

Our dataset is unique on several grounds. First, it observes households and their main bank relationship over time. This means that the households' decision to switch or stay is timely observed rather then measured with retrospective (i. e. Brown *et al.*, 2013) or intention question (Ernst and Young, 2012). Second, it also gives the information on which services are added or dropped to the relationship, i. e. taking out a mortgage or starting a portfolio management. Third, it relies on a survey which is representative of the entire population. Forth, it refers to the 2006-2012 period and to the Italian market, which particularly lends itself to this kind of analysis since: (i) as much as one out of four of the households do change their main bank; and

(ii) it is highly representative of the world's bank specialization distribution allowing us to gauge differences in switching vulnerability of different types of banks.

The main findings can be summarized as follows. The probability of switching is strongly associated with the household-bank relationship features in terms of exclusivity (using a single bank), intensity (number of services used), and scope (type of services used) of the relationship. More specifically, what really drives the decision to change bank is mortgage, both taking out and paying off. Besides, household characteristics which are traditionally identified as being associated with personal financial decisions (marital status, education and financial literacy) appear to matter, while no role for the overall economic condition of the household is found. Finally, banks switches are less frequent from cooperative banks while more frequent from listed ones.

The rest of the paper is organized as follows. The next Section sketches a conceptual framework which motivates the choice and the expectations about the main drivers of the switching decision. Section 3 formalizes the estimation strategy, while Section 4 describes the dataset and Section 5 presents the main results. Finally, Section 6 concludes.

2. Conceptual Framework

In this section, we set the conceptual framework that drives the selection of controls we include in our empirical model specification. We start from the fact that household-bank relationship derives from a complex dynamics between the features of both the agents and those of their evolving over time relationship. For this reason, the decision to change the main bank is here modeled as a function of four sets of controls: household-bank relationship, household controls, bank controls and background controls.

For the household-bank relationship, we expect a determinant role for: i) "exclusivity", occurring when a household has one single bank relationship; "intensity", capturing the degree of the interplay; and "scope" of the relationship, representing the actual use in terms of services of that particular bank. As for the former, households holding multiple bank relationships are expected to be more active in monitoring the market, and hence having a higher propensity to switch. As for intensity, based on the switching cost theory (Sharpe, 1997 and Biglaiser *et al.*, 2014), we expect households using several services to be less likely to change due to the higher difficulty in gauging the total cost of switching. Finally, the specific scope of the relationship also matters: for instance, for households using their bank for trading we expect a reduction in switching, due to the possible capital losses due to an untimely asset liquidation, while for those

using credit services the overall effect might be ambiguous. In fact, household holding a mortgage or a consumer credit line might on the one hand be more fidelized customers (as in Sharpe, 1990), while on the other hand be more able to quantify the final costs of switching, which might actually end up favoring the eventual shift toward an alternative financial intermediary.

Most of the household controls are derived from the standard household portfolio choice theory since the decision to change the main bank belongs to the set of financial and economic choices that households are required to take during their lives. For instance, consistently with the life-cycle theory (on which e.g. Gollier (2002), Ameriks and Zeldes (2004) and Brandt (2009) provide excellent explorations) we assume the decision to switch bank to be function of age. More specifically, we expect a humped-shape effect, so that the probability of switching bank should be increasing at younger ages, highest at middle-age - when most of the consumption and investment decisions are taken - and decreasing at older ages.

For other demographic characteristics such as gender and marital status, we expect a higher propensity to switch for male while a lower one for married, based on the fact that couples might need more time and effort to take the decision and eventually move all their financial activities to a different bank, besides having to face the additive effect of the total cost of switching. Education and financial literacy should entail a better understanding of the disclosed bank information. This leads to a reduction in ex-ante asymmetric information, driving the household toward the bank that better fits its needs since the very beginning, thereby reducing a need to change the bank in the future. On the other hand, for financial literacy a positive effect could be observed, since financially literate individuals might favor switches in presence of a more convenient offer at an alternative bank (see Devlin, 2002). So that the final effect might be ambiguous.

Moving to economic condition, if a more prosperous economic status entails a more active interplay with other economic agents, it should also imply a higher propensity to change financial intermediary. The degree of risk aversion might have an ambiguous effect: on the one hand it might reduce the propensity to move from an existing situation, while on the other it might push customers to change their bank looking for a safer settle. Finally, mobility might well positively impact the decision to switch bank. For this reason, we expect a positive effect for having changed municipality of residence, while a negative one for homeownership which might entail a "lock-in" effect (see e.g. Kiser, 2002).

From the bank perspective, we rely on the banking theory (see e.g. Sharpe, 1990 and Petersen and Rajan, 1995) and we assume that size, specialization and listing status all move

in the same direction. More specifically, we expect that households with bigger and listed commercial banks are more likely to leave their bank.

Last, we expect background to play a role. A higher level of bank competition and of information circulation might be associated with a higher share of bank switches but also with a lower one, since they enable households to better choose their bank since the beginning.

3. Estimation Strategy

In order to investigate the determinants of bank switching, we estimate the following probit model specification:

$$\Pr(S_{it}=1) = \Phi(\alpha + \mathbf{R}_{it-1}\beta + \mathbf{H}_{it-1}\gamma + \mathbf{B}_{it-1}\delta + \mathbf{X}_{it-1}\theta) \tag{3.1}$$

where $S_{i,t}$ (Switch) is a binary variable taking value 1 if household i changes its main bank between $t-1$ and t, and 0 otherwise. Φ represents the cumulative distribution function of a standard normal distribution, matrices $\mathbf{R}$, $\mathbf{H}$ and $\mathbf{B}$ represent household-bank relationship characteristics, household characteristics and bank characteristics respectively, while matrix $\mathbf{X}$ includes additional background controls, such as regional and time dummies, size of the city of residence and bank competition measure. All regressors are lagged one period. This choice is driven by a twofold advantage. First, it assures model predetermination. Using controls in t would in fact be correct if and only if the switch from one bank to another occurred exactly in t. Yet, while our dependent variable captures whether a bank switch has occurred at some point in time between $t-1$ and t, the exact timing of the switch remains unknown. Hence, entering the regressors at t would introduce the risk of modeling a choice as a function of controls actually located in a future point in time. Second, it allows to highlight which are the characteristics of the discarded bank, which provide more ready-to-use implications for the banks aimed at stabilizing their relationships with households. In line with the above cited literature and with the conceptual framework sketched in Section 2, in the empirical counterparts of equation (3.1) we include the following sets of controls:

R, household-bank relationship characteristics, namely exclusivity, intensity and scope. Exclusivity is captured by means of a dummy for the households having more than one bank, while intensity with a set of categorical variables counting the number of services used. The scope of the relationship is instead captured differently: in the first empirical specification, we include dichotomic variables for each single service used by the household in $t-1$, thereby denoting the scope of the relationship with the starting bank. In the second empirical specification of equation (3.1), we instead include a set of dummy variables isolating each service added or dropped by the

household between $t-1$ and t. More precisely, these dummies take value 1 when the household does not use (uses) a specific service in $t-1$ but uses (does not use) it in t, thereby capturing the change in the scope of the household-bank relationship. In this way, we link the (potential) decision of the household to change its main bank to the (potential) change in the bank services required by the household.

H, household characteristics: household size, age (both in linear and in quadratic terms) of the household head,[2] as well as a dummy for male and one for being married, set of dummies for the maximum level of education achieved and the level of financial literacy and risk aversion. The overall economic condition of the household is captured by the main professional occupation of the household head, and by the quintiles of household net disposable income and net wealth. Finally, mobility is measured by means of two dummies: one for having changed municipality of residence between $t-1$ and t, and one for owning the residential house.

B, bank characteristics: bank size, merger & acquisition, specialization, market status. The bank size is measured with the total assets (in log). Merger and Acquisition (*M&A*) is defined as a dummy taking value 1 if the bank was involved in a M&A process between $t-1$ and t. Bank specialization is entered with a set of dummies for the bank being cooperative, saving or commercial (the last being the reference category). The bank listing status is captured by a dummy taking value 1 if the bank is listed, and 0 otherwise.

For a detailed definition of all the variables used in the analysis, see Table A.1. in the Appendix.

Notice that, since probit is a nonlinear model, the estimated coefficients are not directly interpretable as marginal effects.[3] Thus, in order to ease interpretation, we will present in the Tables the average marginal effects, computed as the average change in predicted probability due to a change in the independent variable,[4] i.e.:

$$\frac{\Delta Pr(y=1|x)}{\Delta x_k}$$

Finally, the model is estimated using robust standard errors, clustered at household level.

[2]The head of the household in the SHIW is defined as the person in charge of taking the economic and financial choices of the household.

[3]In fact, $\frac{\partial \mathbb{P}[Y_i=1|X_{1i},\ \ldots\ldots X_{Ki};;\ \ \beta_0,\ldots,\beta_K]}{\partial X_{ki}} = \beta_k(\beta_0 + \sum_{k=1}^{K} \beta_k X_{ki})$

[4]The marginal effects are computed as the (sample weighted) average of the marginal change in each household's probability when each of the explanatory variables changes from 0 to 1, if dichotomic, or by a marginal amount, if continuous.

4. Dataset and Descriptive Statistics

We mainly draw from the Bank of Italy Survey of Household Income and Wealth (SHIW), which provides plenty of information about socio-economic condition of a representative sample of Italian households. Using the specific variable "Bank ID", we are able to complete the information at the household level with detailed information about its main bank available in BankScope (BS). Our final dataset thus contains all the relevant household's characteristics fully integrated with a set of bank objective indicators, providing an unprecedently complete picture of the household bank relationship.

SHIW is a biannual survey, which interviews in each wave around 8,000 households, almost half of them panel. The survey encompasses plenty of information ranging from basic demographic to various economic variables, including detailed information on household-bank relationship(s).

The core information on household-bank relationship relies on two questions. The first concerns which bank(s) the household uses and which among those they consider as the main bank.We thus exactly identify the main bank of each household in each wave. On the one hand, this allows us to match the household-level information to the bank-level information from BankScope, as described later in this Section. On the other hand, following the same household over time, this allows us to objectively locate those households that switched from one bank to another between wave $t-1$ and wave t. In doing so, we took into account possible restructuring and associated name changes at the national level.[5] The second question is: "Apart from your account, what other financial products/services of your main bank do you use?". Households might indicate one or more among the following: payments of utilities, rent or other expenses; mortgage; consumer credit and personal loans; securities custody, administration and management; and insurance payments. We group these potential services into three homogeneous categories to better capture the scope of the household-bank relationship:

(1) pure services, including payment of all utilities, rent or other expenses and insurances instalments;
(2) crediting services, including consumer credit and personal loans as well as mortgages; and
(3) trading services, including securities custody, administration and management.

BankScope reports, on a yearly basis, information from bank balance sheet and income statement, as well as static information on bank characteristics. For our analysis, we use information

[5]The lists of banks are exhaustive and not coherent across waves – that is, a bank included in wave in t is not necessarily included in the previous or following waves. We harmonize the banks across waves accounting for possible restructuring (mergers, acquisitions, takeovers) according to the bank history as reported in BankScope.

on bank size in terms of total assets, bank specialization (commercial, saving and cooperative), and market status (listed vs non listed).

For a detailed definition of all the variables used in the analysis, see Table A.1. in the Appendix.

The estimation sample, covering the 2006-2012 period, consists of an unbalanced panel of 5,081 household-level observations.[6] There are overall 85 unique banks, 53 of them are commercial, 17 saving, and 15 cooperative banks. These banks are highly representative of the Italian banking industry, as the commercial banks in our sample account for 97% in terms of total assets of all the commercial banks in the market. Similarly, these shares are 51%, and 46% for cooperative and saving banks respectively.[7] Our dataset also mimics the world' s bank distribution in terms of total assets by specialization, since the commercial banks in our sample hold around 80.04% in terms of total assets of all the banks in our sample, saving banks hold the 5.61%, and the cooperative ones the 14.36% which is very much aligned with the value of cooperative banks at world level that Hesse and Čihák (2007) report to be slightly above 14%.

Table 1 reports descriptive statistics of the estimation sample. Looking at the dependent variable, around one out of four households in our sample changes its main bank. Almost all of them do actually switch to a new bank (*Switch New*). These are striking results if we think at the high level of inertia that characterizes household choices (see e.g. Haliassos and Bertaut, 1995). Looking at the time break-down, the share of households changing their main bank starts from a 30% in 2008, while afterward the path remains stable around 20%. At the beginning of 2007 the Law 40/2007, also known as "Bersani's Decree", came into force increasing the flexibility in Italian mortgage market by introducing, among other things, the "subrogation" of initial creditor, which *de facto* swept out any switching cost to move the original loan from one bank to another. As the Law came into force between two SHIW waves, we cannot precisely assess its total impact on the switching decision. However, part of the higher share we observe in 2008 with respect to a more stable path we observe in the following years (from 2008 onward) might well be ascribed to this change in legislation.

As for the household-bank relationship, 80% of households have only one bank and the median household uses only 1 service in addition to bank account. Almost all households (91%) use at

[6]We exclude households with household head (defined in the SHIW as the person in charge of taking the economic and financial choices of the household) aged over 91 or below 19, as well as households which possess neither financial nor real assets, or that report negative total consumption. Our final sample counts 3,128 unique households.

[7]The shares of cooperative and saving banks are indeed quite high in relative terms, due to the high level of parcellisation and territoriality of these types of banks.

least one additional *pure service* on top of a bank account, at least one *crediting service* is used by 18% of the households and *trading services* are used by 20% of the households. Changes in services is more frequent for payments (around 11% of households in the sample add this service), mortgages (around 6% add it and 7% drop it) and portfolio management (9% add and 7% leave it).

Across the four waves, the median household counts 2 household members. Household head is male with probability of 66% and married with probability of 69%. The median household head is 43 years old and has a middle school diploma. The average financial literacy is quite good, as the number of correct answers to questions concerning financial literacy are 0 with probability 9%, 1 with probability 33% and 2 with probability 58%. The average risk aversion in our sample is 3.24 on 1 to 4 scale, where 1 represents risk-lover and 4 risk-averse profile. Around 41% of household heads are employees, 17% are self-employed, while the rest are not employed. The household has median annual net disposable income of slightly more than €25,000 and net wealth of around €88,000. When it comes to homeownership, around 76% of the households in our estimation sample do own their residential home, while only 2% of households move from one municipality to another between two waves, meaning that the degree of mobility is quite low.

Banks used by households are commercial with probability 84%, saving with probability 7% and cooperative with probability of almost 10%.

[Table 1 about here]

Descriptive statistics for the unique bank-year observations included in our sample are reported in Table 2. As already stressed, the distribution of the banks in our sample in terms of specialization highly reflects the Italian as well as the world wide banking sector. More than 26% of the banks are listed. In terms of total assets, which we use as a proxy for size, the median bank has 11.84 billion euros. Notably, the size of cooperative banks is quite similar to commercial ones and very much aligned to the overall bank size, meaning that bank size is not necessarily associated to bank specialization.

[Table 2 about here]

5. Results

Table 3 reports the estimation output of the first empirical counterpart of equation (3.1). Remarkably, all the variables concerning the household-bank relationship are statistically significant. Consistently with our expectations, having more than one bank increases the probability

of switching in all specifications while the number of services used at the main bank has the opposite effect (see Column (1), Table 3). Since the latter is a well recognized measure of cost of switching, this result is consistent with the existing literature (Brown *et al.*, 2013). In order to further investigate this issue, Columns (2) and (3) take into account the scope of the relationship, showing that households using pure services and/or trade services are those that leave the bank with lower probability. In the last specification (Column (4)), we include each service separately in order to disentangle the role of each service on the overall cost of switching. We find that the decision to change bank is less frequent when the household uses services of payments, consumer credit and portfolio management, suggesting that those are the services for which the assessment of the total cost of switching is more difficult.

As for the household controls, Table 3 shows that household size slightly increases the probability of changing bank, while age does not affect it. Marital status seems to matter in the expected direction: married households are less likely to change bank. The possible interpretation goes through intra-household bargaining, since the decision to switch in a couple implies the two partners converging on the decision (see e.g. Bertocchi *et al.*, 2014 and references therein).[8] An interesting result is that while education has a positive gradient, a higher level of financial literacy is strongly and negatively associated with bank switch. This might mean that households with better financial comprehension are more able to choose the bank that better fits their needs since the very beginning of the relationship. Based on our evidence, age, gender, working status and risk aversion do not play a determinant role for switching, and interestingly even income and wealth do not affect this decision. Additionally, both proxies for mobility - namely, homeownership and municipality mobility - seem not to matter. To sum up, what really seems to shape the switching decision in terms of household characteristics are household size, marital status, education and financial literacy, rather than mobility or the overall economic condition of the household.

Turning to bank's characteristics all estimated specifications in Table 3 show that while size or merger & acquisition (M&A) do not play any role, the bank specialization is crucial. This result, coupled with the descriptive evidence reported in the Table 2, leads to the possible interpretation that households tend to leave their bank considering its specialization, rather than its size or its recent history in terms of merges and acquisitions. In fact, the coefficients in Table 3 show that cooperative banks are considerably less likely (almost 10%) to be discarded with respect to commercial banks, while this is not true for saving banks. This result can be extended to the

[8]This interpretation stems from our starting point being the collective household model in which the final decision of the household is the results of complex bargaining among all household members (and not the idea that only the breadwinner takes all the decisions).

entire banking sector since, as previously highlighted, our sample reflects the Italian as well as the worldwide market distribution (see e.g. Hesse and Čihák, 2007) in terms of bank specialization. On the other hand, household are more prone to leave a listed bank (*listed*). Our evidence, thus, might be suggestive of the fact that banks might actually play an active role in discouraging their clients to switch, thereby achieving the stability of customer's deposits, not only through the scope of the relationship, as suggested by Basel III liquidity requirement, but also by means of targeted strategies toward a specific bank specialization and/or market status.

[Table 3 about here]

Table 4 reports the estimation output of a second empirical counterpart of equation (3.1), in which we take into account the dynamics of the household-bank relationship via a set of dummies capturing the adding and leaving of each single banking services used.

The results show that evidence referring to multiple bank relationship and to the cost of switching is confirmed. Yet, new insights can be obtained on which services shifts are more associated with a bank switch. Remarkably, in all specifications from Column (1) to (3), what really drives bank switching is mortgage, both taking out and paying off (also known as mortgage shopping). In fact, among all banking services, mortgages are those for which the households are more able to assess the total cost, given by the interest rate, and hence the advantages of switching bank. In terms of magnitude, the mortgage effect is around 14% in both taking it out or paying it off. The marginal effect of the cost of switching, measured by the overall number of banking services used, is around 5%. This clearly shows that the decision to switch bank is mainly driven by mortgage.

[Table 4 about here]

In both Tables the time dummies suggest a lower probability of changing the bank with respect to 2008. This is consistent with the descriptive statistics in Table 1 that show a drop from the initial 30% to a stabilized 20% in the following waves. This temporal dynamics might be in part ascribed to the "Bersani's Decree". The high share of switches at the beginning of our sample period could be the expression of an initial backlog of households locked with their bank, which took advantage of the new mortgage subrogation opportunity as soon as the new legislation came into force. Afterward, the increased level of competition induced in the banking market by the "Bersani's Decree" led to more favorable conditions for households, i.e. more transparent banking information. Households are now more able to choose the right bank since the very beginning, thereby reducing the probability of bank switching over time, as captured

by the negative sign in the time dummies benchmarked to 2008. All our results are robust to an alternative and more restrictive measure of switching ($Switch\ New_{i,t}$), defined as a dummy being 1 if the household switches to a banks with which it did not have any previous relationship, and 0 otherwise (see Table 5). Similarly, our main results are found when focusing on multiple switches ($MultipleSwitch\ _{i,t}$), defined as a dummy being 1 if the household switches more than once during the sample period, and 0 otherwise (see Table 6) or focusing on the balanced panel (see Table 7).

To conclude, we provide robust evidence that households' decision to change their main bank is strongly affected by the specific features of their relationship (**R**) in terms of exclusivity, intensity and scope, even after controlling for the characteristics of both the agents involved (**H** and **B**), and for the background conditions (**X**).

6. Conclusion

In this paper, we investigate the determinats of the decision of households to change their main bank. To the best of our knowledge this study provides an original contribution to relevant streams of literature in both household finance and banking.

We argue that household-bank relationship matters crucially in terms of exclusivity, intensity and scope, even after controlling for household's and bank's characteristics, for all of which we can control exploiting the richness of our dataset.

We find that long-term credit services such as mortgages are the main drivers of household's decision to switch bank, both in taking out and paying off. This might be due to the fact that the main cost of this type of services is mostly represented by the interest rate, so that the households are more able to identify both the benefits and the costs of switching. Besides, according to our expectations, switching is found to be more frequent for households using more than one bank. Consistently with the existing literature, we also recognize a role for the costs of switching: the higher the number of overall services used, the more difficult is for the household to precisely assess the total cost of switching, the lower the probability of switching bank.

We also find that household size, marital status, education and financial literacy are strongly associated with the decision to change the main bank, while mobility and the overall economic condition of the household are not. Some of the characteristics of the discarded bank also matter, with cooperative banks being significantly less likely to be abandoned. This result frames into the recently increasing attention devoted to cooperative banks from academics, politicians and the public opinion, who have wondered whether their specific characteristics have provided them with a safer shelter against the propagation of the global financial crisis. In fact, Hesse and Ćihák

(2007) find that, even though cooperative banks account for a relevant and increasing share of bank total assets at world level (above 14 percent) and even higher share in terms of bank branches, they are far under-represented in terms of investigation as evidenced by the 0.1 percent share of Econlit banking-related entries.

Our results on bank's specialization might also be suggestive of a possible policy recommendation. So far, Basel III liquidity requirements strongly discriminate between "stable" and "unstable" customer deposits. More specifically, the regulation assumes that customer deposits which are embedded in a well established bank-client relationship are less subject to withdrawal risk, thereby shaping liquidity requirements only on scope of the relationship. Based on our evidence we can add that liquidity requirements should discriminate the stability of the relationship not only based on its scope but also on bank's specialization.

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Tables

Table 1. Descriptives statistics at the household level

Variables	N	Mean	Median	Min	Max	Std. Dev.
Dependent Variables: *Full Sample*						
Switch	5,081	0.23	0	0	1	0.42
Switch New	5,081	0.22	0	0	1	0.41
Dependent Variables: *2008*						
Switch	1,010	0.31	0	0	1	0.46
Switch New	1,010	0.30	0	0	1	0.46
Dependent Variables: *2010*						
Switch	2,207	0.21	0	0	1	0.41
Switch New	2,207	0.21	0	0	1	0.41
Dependent Variables: *2012*						
Switch	1,864	0.20	0	0	1	0.40
Switch New	1,864	0.18	0	0	1	0.39
R: *Household-Bank Relationship*						
Has a single bank	5,081	0.80	1	0	1	1
Has additional banks	5,081	0.20	0	0	1	0
Nr. services Overall	5,081	1.37	1	0	5	1
Nr. Pure services	5,081	0.98	1	0	3	1
Nr. Credit services	5,081	0.19	0	0	2	0
Use (Nr.) Trade services	5,081	0.20	0	0	1	0
Use Pure services	5,081	0.91	1	0	1	1
Use Credit services	5,081	0.18	0	0	1	0
Payments	5,081	0.90	1	0	1	1
Insurance	5,081	0.04	0	0	1	0
Mortgage	5,081	0.15	0	0	1	0
Consumer Credit	5,081	0.04	0	0	1	0
Portfolio Mgmt	5,081	0.20	0	0	1	0
Add Payments	3,850	0.11	0	0	1	0
Leave Payments	3,850	0.05	0	0	1	0
Add Insurance	3,744	0.02	0	0	1	0
Leave Insurance	3,744	0.02	0	0	1	0
Add Mortgage	3,744	0.06	0	0	1	0
Leave Mortgage	3,744	0.07	0	0	1	0
Add Consumer Credit	3,744	0.03	0	0	1	0
Leave Consumer Credit	3,744	0.03	0	0	1	0
Add Portfolio Mgmt	3,850	0.09	0	0	1	0
Leave Portfolio Mgmt	3,850	0.07	0	0	1	0
H: *Household*						
Household size	5,081	2.63	2	1	8	2
Male	5,081	0.66	0	0	1	1
Married	5,081	0.69	0	0	1	1
Age	5,081	54.31	43	20	90	54
Education	5,081	3.47	3	1	6	3
Intermediate Financial Literacy	5,081	0.33	0	0	1	0
Good Financial Literacy	5,081	0.58	0	0	1	1
Risk Aversion	5,081	3.24	3	1	4	3
Employee	5,081	0.41	0	0	1	0
Self Employed	5,081	0.17	0	0	1	0
Income	5,081	43.01	25	0	427.9	36.2
Net Wealth	5,081	356.50	88	-875	30,933.8	229.1
Homeowner	5,081	0.76	1	0	1	1
Mobility	5,081	0.02	0	0	1	0
B: *Bank*						
Ln(Total Assets)	5,081	11.04	10.00	8	13.94831	11.09189
Listed	5,081	0.41	0	0	1	0
Commercial bank	5,081	0.84	1	0	1	1
Saving bank	5,081	0.07	0	0	1	0
Cooperative bank	5,081	0.09	0	0	1	0
Has M&A	5,081	0.13	0	0	1	0

TABLE 2. Descriptives statistics at the bank level

Variable	**N**	**Mean**	**Median**	**Min**	**Max**	**SD**
Commercial	238	0.61	1	0	1	0.49
Saving	238	0.21	0	0	1	0.41
Coop	238	0.18	0	0	1	0.39
Listed	238	0.26	0	0	1	0.44
Total Assets (billions €)	238	50.76	11.84	2.39	1142.03	153.19
- Commercial	146	71.20	14.92	2.76	1,142.03	192.15
- Saving	49	11.29	5.67	2.39	50.80	11.75
- Cooperative	43	26.32	11.89	2.81	135.79	30.18

TABLE 3. The determinants of banks switching: Single-use specification

VARIABLES	(1)	(2)	(3)	(4)
R: *Household-Bank Relationship*				
Has additional bank(s)	0.088***	0.089***	0.087***	0.088***
	(0.023)	*(0.023)*	*(0.022)*	*(0.022)*
Nr. services Overall	-0.036***		0.006	
	(0.011)		*(0.028)*	
Nr. Pure services		-0.031		
		(0.021)		
Nr. Credit services		-0.028		
		(0.019)		
Use (Nr.) Trade services		-0.054**	-0.061	
		(0.023)	*(0.038)*	
Use Pure services			-0.077*	
			(0.040)	
Use Credit services			-0.031	
			(0.039)	
Use Payments				-0.059**
				(0.029)
Use Insurances				-0.042
				(0.037)
Use Mortgages				-0.004
				(0.023)
Use Consumer Credit				-0.088***
				(0.030)
Use Portfolio Mgmt				-0.048**
				(0.021)
Use Other Services				0.047
				(0.040)
H: *Household Controls*				
Household Size	0.019**	0.019**	0.017*	0.019**
	(0.010)	*(0.010)*	*(0.010)*	*(0.009)*
Age	0.003	0.003	0.003	0.003
	(0.004)	*(0.004)*	*(0.004)*	*(0.004)*
Age^2	-0.002	-0.002	-0.002	-0.002
	(0.004)	*(0.004)*	*(0.004)*	*(0.004)*
Male	-0.011	-0.010	-0.011	-0.009
	(0.020)	*(0.020)*	*(0.020)*	*(0.020)*
Married	-0.076***	-0.077***	-0.076***	-0.080***
	(0.027)	*(0.027)*	*(0.027)*	*(0.027)*
Employee	-0.005	-0.006	-0.007	-0.005
	(0.024)	*(0.024)*	*(0.024)*	*(0.024)*
Self-employed	-0.013	-0.015	-0.018	-0.019
	(0.031)	*(0.031)*	*(0.031)*	*(0.031)*
Medium Education	0.088***	0.089***	0.089***	0.089***
	(0.023)	*(0.023)*	*(0.023)*	*(0.023)*
High Education	0.117***	0.119***	0.119***	0.119***
	(0.040)	*(0.040)*	*(0.040)*	*(0.040)*
Intermediate Financial Literacy	-0.065**	-0.065**	-0.061**	-0.060**
	(0.026)	*(0.026)*	*(0.026)*	*(0.026)*
Good Financial Literacy	-0.100***	-0.099***	-0.095***	-0.096***
	(0.028)	*(0.028)*	*(0.028)*	*(0.027)*
Risk Averse	-0.014	-0.014	-0.014	-0.014
	(0.016)	*(0.016)*	*(0.016)*	*(0.016)*
Mobility	-0.058	-0.058	-0.059	-0.062
	(0.050)	*(0.050)*	*(0.049)*	*(0.049)*
Homeowner	-0.005	-0.008	-0.009	-0.014
	(0.028)	*(0.028)*	*(0.028)*	*(0.028)*
B: *Bank Controls*				
Bank Size	0.011	0.011	0.011	0.011
	(0.007)	*(0.007)*	*(0.007)*	*(0.007)*
Listed	0.090***	0.091***	0.088***	0.090***
	(0.021)	*(0.021)*	*(0.021)*	*(0.021)*
Cooperative	-0.097***	-0.097***	-0.096***	-0.098***
	(0.025)	*(0.025)*	*(0.025)*	*(0.025)*
Saving	-0.000	-0.002	-0.001	-0.004
	(0.035)	*(0.035)*	*(0.035)*	*(0.035)*
M&A	0.006	0.006	0.005	0.006
	(0.025)	*(0.025)*	*(0.025)*	*(0.025)*
X: *Background Controls*				
2010	-0.066***	-0.066***	-0.065***	-0.065***
	(0.018)	*(0.018)*	*(0.018)*	*(0.018)*
2012	-0.077***	-0.077***	-0.074***	-0.072***
	(0.021)	*(0.021)*	*(0.021)*	*(0.021)*
Regional Dummies: North-West, Centre, South	YES	YES	YES	YES
Municipality size: (2)-(5)	YES	YES	YES	YES
Observations	5,081	5,081	5,081	5,081
Pseudo - R^2	0.0615	0.0617	0.063	0.0645

Notes: Each specification also includes income and wealth quintiles dummies. The Table reports marginal effects of probit estimates with robust standard errors clustered at the household level (in parenthesis).
* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01.

TABLE 4. The determinants of banks switching: Change-use specification

VARIABLES	(1)	(2)	(3)
R: *Household-Bank Relationship*			
Has additional bank(s)	0.084***	0.085***	0.085***
	(0.022)	*(0.022)*	*(0.022)*
Nr. Services Overall	-0.048***		0.015
	(0.017)		*(0.038)*
Nr. Pure services		-0.014	
		(0.032)	
Nr. Credit services		-0.043	
		(0.027)	
Use (Nr.) Trade services		-0.081***	-0.097*
		(0.031)	*(0.052)*
Use Pure services			-0.061
			(0.051)
Use Credit services			-0.055
			(0.053)
Add Payments	0.058	0.091*	0.065
	(0.038)	*(0.047)*	*(0.046)*
Leave Payments	-0.002	-0.006	-0.004
	(0.027)	*(0.027)*	*(0.027)*
Add Insurance	-0.026	-0.020	-0.019
	(0.051)	*(0.051)*	*(0.051)*
Leave Insurance	0.024	-0.003	-0.027
	(0.055)	*(0.056)*	*(0.055)*
Add Mortgage	0.146***	0.146***	0.147***
	(0.040)	*(0.040)*	*(0.040)*
Leave Mortgage	0.140***	0.135***	0.133***
	(0.042)	*(0.047)*	*(0.048)*
Add Consumer Credit	-0.017	-0.019	-0.018
	(0.036)	*(0.035)*	*(0.035)*
Leave Consumer Credit	-0.043	-0.048	-0.066
	(0.046)	*(0.048)*	*(0.044)*
Add Portfolio Mgmt	-0.004	-0.010	-0.009
	(0.029)	*(0.029)*	*(0.029)*
Leave Portfolio Mgmt	0.039	0.069*	0.070*
	(0.032)	*(0.041)*	*(0.041)*
Add Other Services	-0.039	-0.036	-0.037
	(0.031)	*(0.031)*	*(0.031)*
Leave Other Services	0.092*	0.053	0.036
	(0.052)	*(0.058)*	*(0.055)*
H: *Household Controls*			
Household Size	0.018**	0.019**	0.018*
	(0.009)	*(0.009)*	*(0.009)*
Age	0.002	0.003	0.003
	(0.004)	*(0.004)*	*(0.004)*
Age^2	-0.002	-0.002	-0.002
	(0.004)	*(0.004)*	*(0.004)*
Male	-0.014	-0.013	-0.014
	(0.020)	*(0.020)*	*(0.020)*
Married	-0.080***	-0.081***	-0.080***
	(0.027)	*(0.027)*	*(0.027)*
Employee	-0.011	-0.012	-0.012
	(0.024)	*(0.024)*	*(0.024)*
Self-employed	-0.026	-0.026	-0.027
	(0.030)	*(0.031)*	*(0.030)*
Medium Education	0.090***	0.090***	0.090***
	(0.023)	*(0.023)*	*(0.023)*
High Education	0.117***	0.119***	0.120***
	(0.039)	*(0.039)*	*(0.039)*
Intermediate Financial Literacy	-0.054**	-0.056**	-0.053**
	(0.026)	*(0.025)*	*(0.026)*
Good Financial Literacy	-0.090***	-0.091***	-0.088***
	(0.027)	*(0.027)*	*(0.027)*
Risk Averse	-0.014	-0.015	-0.015
	(0.016)	*(0.016)*	*(0.016)*
Mobility	-0.063	-0.065	-0.065
	(0.049)	*(0.048)*	*(0.048)*
Homeowner	-0.015	-0.017	-0.019
	(0.028)	*(0.028)*	*(0.028)*
B: *Bank Controls*			
Bank Size	0.010	0.010	0.010
	(0.007)	*(0.007)*	*(0.007)*
Listed	0.094***	0.096***	0.094***
	(0.021)	*(0.021)*	*(0.021)*
Cooperative	-0.102***	-0.102***	-0.102***
	(0.025)	*(0.025)*	*(0.025)*
Saving	-0.001	-0.003	-0.003
	(0.035)	*(0.035)*	*(0.035)*
M&A	0.002	0.003	0.002
	(0.025)	*(0.025)*	*(0.025)*
X: *Background Controls*			
2010	-0.060***	-0.061***	-0.060***
	(0.018)	*(0.018)*	*(0.018)*
2012	-0.069***	-0.068***	-0.068***
	(0.022)	*(0.022)*	*(0.022)*
Regional Dummies: North-West, Centre, South	YES	YES	YES
Municipality size: (2)-(5)	YES	YES	YES
Observations	5,081	5,081	5,081
Pseudo - R^2	0.0746	0.0754	0.0756

Notes: Each specification also includes income and wealth quintiles dummies. The Table reports marginal effects of probit estimates with robust standard errors clustered at the household level (in parenthesis).
* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01.

TABLE 5. Robustness: Switch New as dependent variable

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
R: *Household-Bank Relationship*							
Has additional bank(s)	0.030	0.031	0.029	0.030	0.027	0.029	0.028
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.021)	(0.021)
Nr. Services Overall	-0.035***		0.000		-0.042**		0.013
	(0.011)		(0.028)		(0.017)		(0.038)
Nr. Pure Services		-0.034				-0.010	
		(0.021)				(0.031)	
Nr. Credit Services		-0.033*				-0.049*	
		(0.019)				(0.026)	
Use (Nr.) Trade Services		-0.038*	-0.040			-0.062**	-0.076
		(0.023)	(0.039)			(0.031)	(0.052)
Use Pure Services			-0.070*				-0.052
			(0.039)				(0.050)
Use Credit Services			-0.031				-0.060
			(0.039)				(0.052)
Use Payments				-0.061**			
				(0.028)			
Use Insurance				-0.032			
				(0.038)			
Use Mortgage				-0.011			
				(0.023)			
Use Consumer Credit				-0.086***			
				(0.029)			
Use Portfolio mgmt				-0.036*			
				(0.021)			
Use Other services				0.027			
				(0.040)			
Add Payments					0.064*	0.096**	0.071
					(0.037)	(0.047)	(0.046)
Leave Payments					-0.012	-0.015	-0.013
					(0.026)	(0.026)	(0.026)
Add Insurance					-0.026	-0.023	-0.022
					(0.050)	(0.051)	(0.051)
Leave Insurance					0.031	0.001	-0.018
					(0.057)	(0.057)	(0.056)
Add Mortgage					0.134***	0.132***	0.134***
					(0.039)	(0.039)	(0.040)
Leave Mortgage					0.119***	0.127***	0.124***
					(0.040)	(0.045)	(0.046)
Add Consumer Credit					-0.021	-0.023	-0.022
					(0.035)	(0.035)	(0.035)
Leave Consumer Credit					-0.039	-0.032	-0.051
					(0.047)	(0.050)	(0.046)
Add Portfolio Mgmt					0.003	-0.001	0.000
					(0.029)	(0.029)	(0.029)
Leave Portfolio Mgmt					0.040	0.058	0.058
					(0.032)	(0.040)	(0.040)
Add Other Services					-0.036	-0.034	-0.035
					(0.030)	(0.030)	(0.030)
Leave Other Services					0.059	0.024	0.012
					(0.049)	(0.053)	(0.050)
B: *Bank Controls*							
Bank Size	0.012*	0.012*	0.013*	0.012*	0.011	0.011	0.011
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Listed	0.084***	0.084***	0.081***	0.084***	0.087***	0.089***	0.087***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Cooperative	-0.088***	-0.088***	-0.088***	-0.090***	-0.093***	-0.093***	-0.093***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Saving	0.005	0.004	0.005	0.003	0.006	0.004	0.004
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
M&A	0.007	0.007	0.006	0.007	0.004	0.004	0.003
	(0.025)	(0.025)	(0.025)	(0.025)	(0.024)	(0.024)	(0.024)
X: *Background Controls*							
2010	-0.061***	-0.061***	-0.060***	-0.060***	-0.056***	-0.056***	-0.056***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
2012	-0.079***	-0.079***	-0.076***	-0.075***	-0.069***	-0.068***	-0.068***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.022)	(0.022)	(0.022)
Regional Dummies: North-West, Centre, South	YES	YES	YES	YES	YES	YES	YES
Municipality size: (2)-(5)	YES	YES	YES	YES	YES	YES	YES
H: *Household Controls*	YES	YES	YES	YES	YES	YES	YES
Observations	5,081	5,081	5,081	5,081	5,081	5,081	5,081
Pseudo R2	0.0587	0.0587	0.0597	0.0608	0.0699	0.0704	0.0705

Notes: Each specification contains the full set of household controls (including income and wealth quintiles dummies), not reported for reasons of space. The Table reports marginal effects of probit estimates with robust standard errors clustered at the household level (in parenthesis).
* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01.

TABLE 6. Robustness: Mutliple Switch as dependent variable

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
R: *Household-Bank Relationship*							
Has additional bank(s)	0.090***	0.091***	0.089***	0.090***	0.085***	0.087***	0.086***
	(0.030)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Nr. Services Overall	-0.042***		0.000		-0.049**		0.022
	(0.015)		(0.032)		(0.021)		(0.049)
Nr. Pure Services		-0.033				-0.011	
		(0.026)				(0.046)	
Nr. Credit Services		-0.028				-0.036	
		(0.026)				(0.038)	
Use (Nr.) Trade Services		-0.072**	-0.074			-0.092**	-0.116*
		(0.029)	(0.046)			(0.041)	(0.068)
Use Pure Services			-0.070				-0.062
			(0.049)				(0.068)
Use Credit Services			-0.027				-0.062
			(0.045)				(0.066)
Use Payments				-0.060*			
				(0.036)			
Use Insurance				-0.109**			
				(0.045)			
Use Mortgage				0.012			
				(0.032)			
Use Consumer Credit				-0.124***			
				(0.038)			
Use Portfolio mgmt				-0.061**			
				(0.028)			
Use Other services				0.107**			
				(0.048)			
Add Payments					0.066	0.100*	0.079
					(0.043)	(0.056)	(0.058)
Leave Payments					0.006	0.001	0.003
					(0.029)	(0.029)	(0.029)
Add Insurance					-0.057	-0.049	-0.048
					(0.054)	(0.055)	(0.056)
Leave Insurance					-0.040	-0.068	-0.094
					(0.057)	(0.063)	(0.061)
Add Mortgage					0.148***	0.149***	0.150***
					(0.042)	(0.042)	(0.042)
Leave Mortgage					0.137***	0.126**	0.128***
					(0.041)	(0.049)	(0.049)
Add Consumer Credit					-0.032	-0.034	-0.033
					(0.040)	(0.040)	(0.040)
Leave Consumer Credit					-0.060	-0.072	-0.086
					(0.054)	(0.060)	(0.055)
Add Portfolio Mgmt					-0.063**	-0.071**	-0.071**
					(0.032)	(0.033)	(0.033)
Leave Portfolio Mgmt					0.005	0.040	0.041
					(0.035)	(0.044)	(0.044)
Add Other Services					-0.051	-0.048	-0.048
					(0.037)	(0.037)	(0.037)
Leave Other Services					0.122**	0.081	0.061
					(0.051)	(0.065)	(0.064)
B: *Bank Controls*							
Bank Size	0.006	0.006	0.006	0.005	0.005	0.004	0.004
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Listed	0.142***	0.144***	0.142***	0.145***	0.149***	0.152***	0.151***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Cooperative	-0.190***	-0.190***	-0.190***	-0.193***	-0.197***	-0.197***	-0.197***
	(0.035)	(0.035)	(0.035)	(0.035)	(0.034)	(0.034)	(0.034)
Saving	0.047	0.045	0.045	0.039	0.041	0.039	0.038
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)
M&A	0.005	0.005	0.004	0.005	-0.000	0.001	-0.000
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
X: *Background Controls*							
2010	-0.000	-0.001	0.000	0.000	0.005	0.004	0.005
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
2012	-0.023	-0.023	-0.020	-0.016	-0.015	-0.014	-0.014
	(0.022)	(0.022)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Regional Dummies: North-West, Centre, South	YES	YES	YES	YES	YES	YES	YES
Municipality size: (2)-(5)	YES	YES	YES	YES	YES	YES	YES
H: *Household Controls*	YES	YES	YES	YES	YES	YES	YES
Observations	5,081	5,081	5,081	5,081	5,081	5,081	5,081
Pseudo R^2	0.0548	0.0553	0.0559	0.0603	0.0657	0.0664	0.0667

Notes: Each specification contains the full set of household controls (including income and wealth quintiles dummies), not reported for reasons of space. The Table reports marginal effects of probit estimates with robust standard errors clustered at the household level (in parenthesis).
* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01.

TABLE 7. Robustness: Balanced panel subsample

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
R: *Household-Bank Relationship*							
Has additional bank(s)	0.089***	0.089***	0.087***	0.087***	0.082***	0.083***	0.082***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Nr. Services Overall	-0.006		0.042		-0.035*		0.024
	(0.013)		(0.033)		(0.020)		(0.044)
Nr. Pure Services		-0.008				-0.005	
		(0.026)				(0.037)	
Nr. Credit Services		-0.001				-0.064*	
		(0.023)				(0.033)	
Use (Nr.) Trade Services		-0.010	-0.056			-0.031	-0.059
		(0.026)	(0.046)			(0.037)	(0.063)
Use Pure Services			-0.105**				-0.067
			(0.047)				(0.058)
Use Credit Services			-0.041				-0.087
			(0.045)				(0.062)
Use Payments				-0.051			
				(0.035)			
Use Insurance				0.002			
				(0.047)			
Use Mortgage				0.012			
				(0.029)			
Use Consumer Credit				-0.039			
				(0.042)			
Use Portfolio mgmt				-0.009			
				(0.026)			
Use Other services				0.087*			
				(0.051)			
Add Payments					0.070	0.100*	0.068
					(0.048)	(0.057)	(0.055)
Leave Payments					0.030	0.027	0.029
					(0.034)	(0.035)	(0.035)
Add Insurance					-0.037	-0.036	-0.035
					(0.058)	(0.058)	(0.058)
Leave Insurance					0.064	0.033	0.006
					(0.070)	(0.070)	(0.069)
Add Mortgage					0.112**	0.107**	0.109**
					(0.045)	(0.045)	(0.045)
Leave Mortgage					0.189***	0.221***	0.221***
					(0.052)	(0.061)	(0.063)
Add Consumer Credit					-0.019	-0.020	-0.020
					(0.043)	(0.042)	(0.042)
Leave Consumer Credit					0.039	0.070	0.043
					(0.066)	(0.076)	(0.071)
Add Portfolio Mgmt					-0.019	-0.018	-0.018
					(0.031)	(0.032)	(0.032)
Leave Portfolio Mgmt					0.065	0.063	0.065
					(0.040)	(0.049)	(0.049)
Add Other Services					0.003	0.002	0.001
					(0.041)	(0.041)	(0.041)
Leave Other Services					0.135**	0.099	0.084
					(0.069)	(0.075)	(0.071)
B: *Bank Controls*							
Bank Size	0.016*	0.016*	0.016**	0.016*	0.015*	0.016*	0.016*
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Listed	0.086***	0.086***	0.083***	0.083***	0.089***	0.089***	0.088***
	(0.025)	(0.025)	(0.025)	(0.026)	(0.025)	(0.025)	(0.025)
Cooperative	-0.102***	-0.102***	-0.100***	-0.100***	-0.105***	-0.104***	-0.104***
	(0.031)	(0.031)	(0.031)	(0.032)	(0.031)	(0.031)	(0.031)
Saving	-0.027	-0.027	-0.027	-0.028	-0.024	-0.023	-0.025
	(0.038)	(0.038)	(0.037)	(0.037)	(0.037)	(0.038)	(0.037)
M&A	0.019	0.019	0.019	0.021	0.014	0.014	0.013
	(0.031)	(0.031)	(0.031)	(0.031)	(0.030)	(0.030)	(0.030)
X: *Background Controls*							
2010	-0.037*	-0.037*	-0.035*	-0.035*	-0.029	-0.029	-0.028
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
2012	-0.073***	-0.073***	-0.068***	-0.067***	-0.065**	-0.063**	-0.063**
	(0.025)	(0.025)	(0.025)	(0.025)	(0.026)	(0.026)	(0.026)
Regional Dummies: North-West, Centre, South	YES	YES	YES	YES	YES	YES	YES
Municipality size: (2)-(5)	YES	YES	YES	YES	YES	YES	YES
H: *Household Controls*	YES	YES	YES	YES	YES	YES	YES
Observations	3,120	3,120	3,120	3,120	3,120	3,120	3,120
Pseudo R2	0.0824	0.0824	0.0850	0.0860	0.1006	0.1013	0.1015

Notes: Each specification contains the full set of household controls (including income and wealth quintiles dummies), not reported for reasons of space. The Table reports marginal effects of probit estimates with robust standard errors clustered at the household level (in parenthesis).
* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01.

APPENDIX

Table A.1.: Variable Description.

VARIABLE	DESCRIPTION
	Survey on Household Income and Wealth (SHIW) DATA
Dependent Variables	
Switch	Binary variable taking value 1 if the household changes its main bank, 0 otherwise
Switch new	Binary variable taking value 1 if the household switches to a bank with which it did not have any previous relationship, 0 otherwise
Control Variables	
R: Household-bank relationship controls	
Has additional bank(s)	Binary variable taking value 1 if the household has more than one bank, 0 otherwise
Nr. Services Overall	Number of banking services used overall by the household
Nr. Pure services	Number of pure services (listed below) used by the household
Nr. Credit services	Number of credit services (listed below) used by the household
Use Pure services	Binary variable taking value 1 if the household uses at least one of the following banking services: payment of utilities, rent, insurance and other expenses
Use Credit services	Binary variable taking value 1 if the household uses at least one of the following services: mortgage, consumer credit and personal loans
Use Trade services	Binary variable taking value 1 if the household uses the bank for securities custody, administration and management. This variables coincides with Nr. Trade as the number of services in this category is only 1.
Use Payments	Binary variable taking value 1 if the household uses the bank for the payment of utilities, rent and other expense
Use Insurance	Binary variable taking value 1 if the household uses the bank for the payment of insurance
Use Mortgage	Binary variable taking value 1 if the household uses the bank for mortgage
Use Consumer Credit	Binary variable taking value 1 if the household uses the bank for consumer credit and personal loans
Use Portfolio Mgmt	Binary variable taking value 1 if the household uses the bank for securities custody, administration and management. This variables coincides with Nr. Trade as well as Use Trade services as defined above.
Use Other services	Binary variable taking value 1 if the household uses the bank for other services besides those described above.
Add [Specific Service]	Binary variable taking value 1 if the household does not use the specific service in $t-1$ but uses it in t, i.e. if the household adds the specific service
Leave [Specific Service]	Binary variable taking value 1 if the household uses a specific service in $t-1$ but does not use it in t, i.e. if the household drops the specific service
H: Household Controls	
Household size	Number of household components. In the Bank of Italy SHIW the household is defined as "a group of cohabiting people who, regardless for their relationships, satisfy their needs by pooling all or part of their incomes"
Age, Age^2	Age of the head of the household, in linear and quadratic terms respectively
Male	Binary variable taking value 1 for male, 0 for female
Married	Binary variable taking value 1 for married head of the household, 0 otherwise
Employee	Binary variable taking value 1 if the head of the household is employee, 0 otherwise
Self-employed	Binary variable taking value 1 if the head of the household is self-employed, 0 otherwise
Education	Categorical variable representing the highest education level achieved: 1 = no education 2 = primary school 3 = secondary school 4 = college 5= graduate level 6 = post-graduate level. The model specifications include two dummies, one for having achived Secondary School or College (Medium Education) and one for having achieved Graduate or Post-graduate levels (High Education), i.e. the reference category is Low education (either no education or primary school)
Financial literacy	Number of correct answers to 2 questions on financial literacy. The model specifications include two dummies, one for having answered correctly only one question (Intermediate Financial Literacy) and one for having answered correctly both questions (Good Financial Literacy), i.e. the reference category is no correct answer (No Financial Literacy)
Risk averse	Binary variable taking value 1 if risk averse, 0 otherwise. This variable is defined based on the degree of Risk aversion, captured on a 1-4 scale where 1 represents risk-love and 4 risk-aversion
Mobility	Binary variable taking value 1 if the household has moved from one municipality to another municipality between $t-1$ and t
Homeowner	Binary variable taking value 1 if the household owns his primary residence, 0 otherwise
Income quintiles	Categorical variable indicating the quintile of household's yearly disposable income. The model specifications include the dummies for 2nd to 5th quintile, i.e. the reference category is 1st quintile
Wealth quintiles	Binary variables indicating the quintile of household's net wealth (real & financial activities net of liabilities). The model specifications include the dummies for 2nd to 5th quintile, i.e. the reference category is 1st quintile
	Bankscope (BS) DATA
B: Bank controls	
Bank Size	Natural logarithm of bank's total assets
Listed	Binary variable taking value 1 if the bank is listed, 0 otherwise
Specialization	Categorical variable representing the bank specialization among Commercial, Saving or Cooperative. The model specifications include the dummies for Saving or Cooperative, i.e. the reference category is Commercial bank
M&A	Dummy variable taking value 1 if the bank underwent a process of Merge & Acquisition between $t-1$ and t, 0 otherwise
X: Background Controls	
2010, 2012	Dummy variables taking value 1 in the relevant year, 0 otherwise, i.e. the reference category is 2008
Regional dummies	Dummy variables taking value 1 for the relevant macroregion (North-West, Centre, South), and 0 otherwise, i.e. the reference category is North-East
Municipality size	Categorical variable representing the size of the residential municipality: 1 = less 5,000 2 = [5,000-20,000] 3 = [20,000-50,000] 4 = [50,000-200,000] 5 = more than 200,000 The model specifications include four dummies for municipality size from 2 to 5, i.e. the reference category is 1 (municipality size less than 5,000)
Bank competition	Discrete variable representing the total number of ATM points in the residential municipality