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TYPES OF CONSUMER CREDIT AND BANK DISTRIBUTION CHANNELS: INSIGHTS FROM ITALY

by Massimiliano Affinito*, Federica Sabbi*, Raffaele Santioni* and Francesco Santorelli*

Abstract

This paper contributes to filling two gaps in the literature on consumer credit. First, while this literature tends to overlook the specific types of credit we split the consumer credit into different components and compare their developments, focusing especially on two loan types – salary-backed loans (Cessioni del Quinto dello Stipendio, CQS) and revolving loans – which are considered particularly relevant in the debate on household over-indebtedness and bank customer protection. Second, while the literature has extensively analysed bank branches as the traditional bank loan distribution channel, and more recently has started to analyse digital channels, we extend the analysis to all alternative loan distribution channels (i.e. all channels other than bank branches): financial promoters, merchants (i.e. direct cash advances in shops), and all remote channels (e.g. internet, telephone and apps). Our results show that banks that are more active in consumer lending are often part of banking groups, and rely more heavily on wholesale and intragroup sources, especially for CQS and revolving loans. Banks with a larger base of retail customers are less reliant on external distribution channels. Larger banks have easier access to external and remote channels, and when they lend through merchants they use them even more. Banks that are more involved in consumer credit have significantly lower levels of bad loans, except for CQS and revolving loans, while banks that use alternative channels, except for merchants, often have lower asset quality levels. Banks that use alternative channels have higher operating costs, with the exception of those using remote channels. All in all, our results can be read as confirmation of the attention that banks using certain forms of credit and alternative distribution channels deserve from supervisors.

JEL Classification: G01, G21.

Keywords: household debt, consumer credit, over-indebtedness, revolving loans, salary-backed loans, CQS, fees and charges, financial promoters, merchants, remote channel, digital banking.

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1. Introduction [1]

The literature on household finance and consumer credit is extensive. Yet, it counts two relevant gaps: the analysis of specific types of consumer credit, and the analysis of "alternative" loan distribution channels. This paper aims to contribute to fill these two gaps by describing the evolution in Italy from 2010 to 2021 of different types of consumer credit and alternative distribution channels, that is, all channels different from traditional bank branches, which include financial promoters, merchants (namely, direct loans in shops), and all remote channels (e.g., internet, telephones, apps). The goal is to improve the understanding of these phenomena by describing market developments and the characteristics of the most involved banks.

First, we describe the evolution of consumer credit distinguishing between different types of consumer credit. The literature tends to overlook this distinction; only few papers have looked at specific technical forms of consumer credit, notably credit cards and car loans, and for reasons of data availability and as proxies for broader studies on households or consumer credit rather than for analysing features of specific credit segments. Instead, from both a financial stability and customer protection perspective, the institutional debate recognises the relevance of analysing credit types separately, as different contractual terms underlying different types of credit can have a substantial impact on the accessibility and availability of credit, the responsible use of resources by borrowers, and banks' conduct (FSB, 2011; Finconet, 2016 and 2019; OECD, 2022a; EBA, 2022 and 2023). The most evident case is the distinction of household debts between mortgages and consumer credit, which in fact are usually analysed separately (Magri, 2007; Magri et al., 2011; Affinito et al., 2023). For example, in Italy, the separate analysis of mortgages and consumer credit shows that household debt levels are historically low compared to international standards, both in terms of the percentage of indebted households and the ratio of debt to income, but this holds for the household debt as a whole and for mortgages; while, when examining consumer credit separately, Italy's household debt-to-income ratio associated with consumer credit exceeds the euro area average. Similarly, other specific patterns could emerge in a granular analysis of consumer credit types.

We focus in particular on two credit types – salary-backed loans and revolving loans – which are considered especially relevant in the debate on household over-indebtedness and bank customer protection. Salary-backed loans, known in Italy as "CQS" loans, have the peculiarity of being secured by the pledge of one-fifth of the salary or pension.[2] Revolving loans are flexible, indefinite-term credits that allow customers to use the loan amounts in one or more solutions, and replenish the available credit upon repayment, which in turn can be made through monthly instalments or a predetermined schedule. The two types of credit are considered to pose a higher risk of household over-indebtedness, as they may entail an inadequate assessment of borrowers, high prices, opaque contractual conditions, and difficult decision-making processes for consumers (Bank of Italy, 2011, 2018; EBA, 2022, 2023). In fact, the presence of the guarantee in the CQS loans may lead some households to underestimate the amounts to be repaid, and lenders to underestimate the credit risk (or to

[1] We thank, for the help and comments, Giorgio Albareto, Christopher Baum, Magda Bianco, Bruno Giannattasio, Massimiliano Stacchini, and all participants to the webinar held at the Bank of Italy. The usual disclaimer applies. The views expressed are those of the authors only and do not involve the responsibility of the Bank of Italy.

[2] CQS stands for "*Cessione del Quinto dello Stipendio o della pensione*", which means "transfer of one-fifth of the salary or pension."

regard the employer, rather than the employee, as guarantor of the loan), thereby contributing to excessive indebtedness (Bank of Italy, 2018 and 2022). Likewise, in the case of revolving loans, over-indebtedness can result from the complexity, high prices and incomplete assessment of creditworthiness (EBA, 2022; Bank of Italy, 2023). Also the literature on financial literacy indicates that individuals taking out consumer loans often possess limited financial knowledge and are more prone to excessive debt due to a lack of understanding of debt contracts' terms (e.g., Magri, 2002; Disney and Gathergood, 2013; Lusardi and Tufano, 2015). This is more likely with more complex types of loans. The relevance of these issues is all the greater as these types of loans are typically taken up by vulnerable people (Bank of Italy, 2009, 2011, 2018 and 2022).

Second, we describe the evolution of all "alternative" loan distribution channels (i.e., all channels different from bank branches), which include financial promoters, merchants, and remote channels. The literature on distribution channels has extensively analysed bank branches as the traditional bank loan distribution channel (e.g., Farabullini et al., 1998; De Bonis and Ferrando, 2000), and has more recently extended the analysis to the use of digital channels by banks, while we expand the existing literature by providing a comprehensive comparison of all "alternative" loan distribution channels.

Similar to the use of credit types, the use of alternative channels for loan distribution can, on the one hand, make it easier for borrowers to access credit and for lenders to lend, but, on the other, it can introduce challenges, for information and transparency, banking organization in terms of network management and control, reduced levels of customer support and service quality. The primary concern is again that the combination of insufficient information, commercial strategies of distribution networks, and expedited credit approval procedures may elevate the risk of over-indebtedness. European and Italian regulations actually impose strict limits and obligations on loan distribution to ensure consumer protection and financial stability. For example, the regulations require the application of prudential requirements in terms of capital adequacy and credit limits, as well as the performance of thorough assessments of customers' creditworthiness. Nevertheless, the EBA (2023) warns that alternative distribution channels entail additional and increased risks arising from the application of different interest rates and fees across channels, from poorer pre-contractual information, from the potential ease of combining loans with other products and from the lower accuracy of credit risk assessment.

This paper provides a comprehensive comparison of developments of the various consumer credit loan types and alternative distribution channels, and, in order to enhance the overall picture, investigates potential differences in banks' characteristics. The purpose of the analysis is eminently descriptive. We perform separate sets of regressions that utilize several features allowing for robust results, including lagged explanatory variables, large sets of fixed effects, and clustered standard errors. The goal however is not to detect causal effects, but to depict whether and to what extent the granting of different types of consumer credit, and the use of external and remote distribution channels for lending, are related to specific bank characteristics and business models. As mentioned, close to our work is the literature that analyses the use by banks of digital channels for the distribution of financial products (e.g. Arnaboldi and Clayes, 2010; Dandapani et al, 2018; Ehrentraud et al, 2020;

IMF, 2022; Bank of Italy, 2022; Arnaudo et al., 2022). This part of the literature describes the characteristics and operational choices of "digital banks," defined as banks that exclusively use digital channels (IMF, 2022; Ciocchetta and Magri, 2023). In particular, IMF (2022) analyses digital banks in 18 countries and concludes that digital banks target riskier customers, which risk is not always accurately reflected in interest rates, have higher costs and lower profits. We extend this type of analysis to all alternative channels utilized by banks, and to different types of credit. Also interesting to our purpose is the debate in this literature about whether digital channels and traditional branches are either complementary (Xue et al, 2011; Campbell and Frey, 2009; Ciciretti et al., 2009), or alternative and substitutive (Bonaccorsi di Patti et al., 2003; Carmignani et al. 2020; Galardo et al. 2021).[3] We complement and extend this debate by showing that signals of complementarity and substitutability also occur in relation to all channels and different types of loans.

Our analysis shows that in Italy between 2010 and 2021 CQS loans accounted for around 15 per cent of total consumer credit, and revolving loans only for less than 3 per cent, while more than 80 per cent of consumer credit represented "other types of consumer credit". These percentages point out that, in spite of the attention paid in the international debate by customer protection authorities, salary-backed loans and revolving loans are not very widespread, at least in Italy. However, this can be seen as a confirmation of the customer protection approach, where attention does not always depend on the size of the market segments, but also on the kind of instruments and their use by people most in need of public protection. Moreover, the number of active banks is not negligible. Among banks active in consumer credit, less than 15 per cent were active in CQS, while almost 30 per cent were involved in revolving loans. Therefore, revolving loans constituted a smaller share of consumer credit, but involving a large number of banks. *Significant* banks held a market share of around 40 per cent in consumer credit, slightly less than foreign banks, which are therefore the main category of operators, accounting for around 45 per cent of the market. Foreign banks dominated both CQS and other types of consumer credit, while *less significant* banks had a larger market share in revolving loans.

As for loan distribution channels, our analysis shows that throughout our decade period the overwhelming majority of banks in Italy (over 70 per cent) exclusively utilized their own branches as their sole loan distribution channel. However, almost 20 per cent of banks also utilized at least one external or remote distribution channel, and few banks lent exclusively through external and remote channels. In terms of the number of clients, the most significant alternative channels were remote (around 15 per cent) and merchants (almost 10 per cent). The decision to use and the intensity of use of each external and remote channel vary widely across banks, even within bank categories. This heterogeneity reinforces our choice to analyse individual bank characteristics. Specifically, we analyse four groups of regressors.

[3] Xue et al. (2011) and Campbell and Frey (2009), who analyse the demand side, and Ciciretti et al. (2009), who examine the supply side, come to the conclusion that bank branches and access to online services are complementary. In contrast, Bonaccorsi di Patti et al. (2003), Carmignani et al. (2020) and Galardo et al. (2021), who analyse supply and demand together, find the opposite relationship.

First, we estimate conditional correlations with a group of covariates capturing the category of banks and their specialization, such as, whether they are domestic or foreign banks, *significant* or *less significant*, their size, the membership in a banking group, the kind of funding source and the predominant activity. Our results show that banks more active in consumer lending are often part of banking groups (this is particularly the case for CQS and revolving loans), and rely more on wholesale and intra-group funding sources. Instead, being part of a banking group is positively related to the use of alternative distribution channels only for merchants. Banks more active in consumer credit and those utilizing alternative channels lend mainly to households and less to non-financial firms. However, credit through merchants is positively related to both household and corporate loans, suggesting a more integrated business model for banks using this channel. A larger bank size facilitates access to external and remote channels, while the intensity of use of these channels does not depend on bank size, with the exception of merchants, which therefore prove to pose challenges for smaller banks. Interestingly, banks with a larger retail customer base exhibit reduced reliance on external loan distribution channels.

Second, we analyse conditional correlations with two variables typically used to measure banks' health and soundness, that is, capital and the burden of bad loans. In this respect, our results show that banks more involved in consumer credit exhibit significantly lower levels of bad loans, although this is not true on average for banks primarily engaged in CQS and revolving loans. Banks utilizing as alternative channels promoters and remote channels have on average lower levels of asset quality. In the literature on digital banking, such a result is often associated to the use of innovative techniques of creditworthiness assessment (e.g., Moscatelli et al., 2019; Pierri and Timmer, 2022; Branzoli and Supino 2020; Di Maggio and Yao, 2021), which however are (still) little used by financial institutions in Italy (Bonaccorsi et al., 2022). In any case, the result could be read as a confirmation of the attention that banks using alternative distribution channels deserve from the supervisory authorities. Conversely, however, banks using merchants as a loan distribution channel show a significant negative burden of bad loans, which is a reassuring result as this channel is often considered particularly exposed to the risk of household over-indebtedness.

A third group of regressors measures each bank's income statement outcomes, specifically gross income, net interest income, fees and charges, and operating costs. The results show that banks active in consumer lending as a whole tend to have higher profitability in lending activity and liquidity management, while those involved in revolving loans rely more on bank fees as a source of income. This result seems to corroborate the concern that revolving loans are associated to higher prices, as pointed out for example by the EBA (2023). It is also interesting that banks utilizing alternative channels exhibit higher operating costs, which could be either due to banks with higher operating expenses opting for alternative channels or it could signal that these channels imply higher costs. In any case, also this result could be a confirmation of the attention that on average banks using alternative distribution channels deserve from the supervisory authorities. Consistently, this relationship does not hold for the remote channel, confirming its lower operational and brokerage costs.

Finally, in order to verify whether there is a relationship between certain forms of credit and distribution channels, and the evolution of litigation between banks and customers, we introduce in some specifications as a fourth group of regressors two variables that measure the number of *complaints* (submitted by customers to the respective bank's complaints office) and the number of *disputes* (submitted by customers to the ombudsman ABF). It is to remark that this type of analysis alone is unlikely to provide conclusive evidence, in either direction. However, the development of bank-to-customer litigation is used by several bank customer protection authorities to identify areas with higher rates of customer dissatisfaction and guide their efforts (EBA, 2021, 2023; Central Bank of Ireland, 2022; Banco de Portugal; 2022; OECD, 2022b and 2024). We find that even at the individual bank level (as suggested by aggregate statistics), and in a multivariate estimation, there is a positive and statistically significant relationship between the weight of consumer credit in bank business and the extent of complaints and legal disputes with customers, especially for CQS. By contrast, we find no strong relationship between the use of external and remote channels and litigation with customers.

The rest of the paper is organised as follows. Section 2 provides some institutional background information on CQS, revolving loans and rules on alternative loan distribution channels. Section 3 contains a brief overview of the related literature and clarifies our contribution. Section 4 describes our dataset and data sources. Section 5 provides a comprehensive analysis of the development of consumer credit types and distribution channels, distinguishing between bank categories. Section 6 describes our regression strategy. Sections 7 and 8 present the results of our estimates. Section 9 summarises the main conclusions.

2. Institutional background

This Section briefly summarizes some background information on consumer credit, CQS, revolving loans, and lending distribution channels.[4]

Consumer credit involves both banks and non-bank financial institutions granting credit to individuals for personal use, which means that loans are not related to business or professional activities. Consumer credit is broadly categorized into two categories: consumer credit for specific purchases (in Italian, "*credito finalizzato*"), and consumer credit for non-specific use ("*credito non finalizzato*"). The former includes loans where there is a close link between the purchase of a good or service and the granting of the credit, and the bank settles the credit fee directly to the merchant where the customer makes the purchase. This category of loans includes for example loans for the purchase of motor vehicles and other durable goods. The latter refers to loans that are not intended to the purchase of specific goods or services, but to finance general expenditure and needs of the customer. In this case thus customers can receive funds even if the bank is not informed on the use, or if funds are successively used for a purpose other than the planned or declared one. This category of

[4] For a more complete discussion, see the Italian Consolidated Banking Act (TUB; legislative decree no. 385 of 1993 and subsequent amendments); the Annual Reports of the Bank of Italy; Bank of Italy (2018; 2019; and 2023).

consumer credit includes the loans on which we focus: loans secured by a pledge of one-fifth of salary or pension (CQS), and revolving loans.

CQS loans are available to public and private employees and retirees. They are secured by pledging one-fifth of the salary or pension, with repayment instalments capped at this amount. Additionally, CQS loans come with compulsory insurance against job loss or premature death. The maximum term of a CQS is ten years. Revolving loans are flexible, indefinite-term credits that allow customers to use loan amounts in one or more solutions. The available loan amount is replenished upon repayment, and repayment can occur through monthly instalments or a predetermined schedule. Revolving loans can be linked to credit cards, providing additional flexibility in repayment methods.[5]

As mentioned in Introduction, CQS and revolving loans offer several advantages in terms of increasing access to credit, but also present risks, especially because they are used by vulnerable customers and often imply high levels of disputes (Bank of Italy, 2009; 2011; 2018; and 2022), or pose risks due to their complexity and high prices (Bank of Italy, 2023). Bank of Italy (2023) highlights that it is necessary to inform customers as much as possible about the characteristics and costs of loan types, and to reinforce the protective measures taken by financial institutions to minimise the risks of over-indebtedness and the sale of products inappropriate to the needs of the customer.

The other issue addressed by this work is the use by banks of alternative loan distribution channels. Bank as well as non-bank financial institutions can use (in addition to branches, which are the traditional channel) alternative channels, which include external and remote channels for the distribution of loans. In any case, lending promotion activities and the conclusion of contracts are reserved only to legally authorised persons. These include, in addition to bank employees, financial agents, credit brokers, other banks, non-bank financial institutions, post office giro institutions, and "credit intermediaries".[6] Also merchants, suppliers of goods and services, are allowed to promote and conclude financing contracts exclusively for the purchase of their goods and services, in this case they are said acting as

[5] The credit card can serve as the primary tool for utilizing credit, with the option for customers to use the installment repayment method, known as the "balance" or "charge" method. With this method, customers have the flexibility to repay all expenses incurred within a specific period, such as a month, in a single payment, with the repayment deferred and without incurring interest. If cards offer both utilization options, they are typically termed as "optional." When revolving loans are "optional", it is even more complex for customers to be fully informed about the reimbursement modalities and the associated costs; this is especially true if the choice of option is activated after the business relationship has been established (Bank of Italy, 2018 and 2023).

[6] In the EU Consumer Credit Directive, the term "credit intermediary" is defined as "the natural or legal person, other than the creditor, who, in the course of the trade, business or profession, for remuneration, which may take the form of a sum of money or any other agreed economic advantage, (*i*) introduces or proposes credit agreements to consumers; (*ii*) assists consumers by carrying out preparatory activities for the conclusion of credit agreements other than those referred to in point (*i*); or (*iii*) concludes credit agreements with consumers in the name and on behalf of the creditor". According to the provisions of art. 121, paragraph l, letter h), of the TUB, agents in the financial sector, credit brokers or entities other than the financier may be "credit intermediaries". On the basis of Legislative Decree. 141/2010, a credit intermediary is the entity who, also through counselling activities, brings together banks or financial intermediaries with potential clients for the granting of financing in any form. The credit broker can act completely independently, unlike the financial intermediary, another figure provided for in Legislative Decree. 141/2010 among credit intermediaries. The advantage that the customer has when turning to the credit intermediary is to receive advice aimed at finding the most suitable financial solution with the most competitive credit institution.

credit intermediaries in an ancillary capacity. In the CQS segment in particular, financial agents and credit brokers play an important role in the marketing process (Bank of Italy, 2018). In addition, financial institutions can use remote channels such as the Internet, smartphone or tablet apps, telephone, ATMs.

Even while using external or remote distribution channels, financial institutions remain fully subject to both prudential regulation and customer protection rules, regarding for example capital adequacy, loan limits and instructions. Financial institutions must carefully assess customers' creditworthiness, adopt mechanisms for reviewing distribution network quality, and comply with transparency and fairness rules. They are responsible for ensuring proper conduct towards customers, providing adequate information and support, and implementing effective remuneration policies and training programs for distribution network members.

In addition, based on European and national regulations, financial institutions must adopt appropriate mechanisms for reviewing the quality of their distribution networks, even when they use external or remote distribution channels, and they have to comply with the regulations on the offering policy, organisational structures and commercial agreements. In particular, financial institutions are responsible for ensuring that the distribution channels comply with the rules on transparency and fairness as well as for any damage caused to customers. Moreover, financial institutions must monitor risks of incorrect conducts, including those arising from employees of the distribution network, and set up organisational procedures that ensure that customers have the opportunity to adequately assess information documents before being bound by a contract or offer. Among the organisational requirements, financial institutions must ensure appropriate remuneration policies and practises for the distribution network; this is considered an essential safeguard to promote proper conduct towards customers. Moreover, the internal procedures must ensure adequate professional preparation of all members of the teams, and effective methods for their selection and monitoring; all members of the teams have to be able to ensure high quality customer relationships, also through adequate forms of training, and have to be able to provide adequate support to customers, also to verify the interest of customers in possible alternative products and at a lower overall cost.

3. The literature

This paper attempts to contribute to the understanding of the consumer credit market by filling two key gaps of the existing literature: the analysis of specific types of consumer credit, and the analysis of alternative loan distribution channels.

Regarding loan types, research has focused predominantly on total household indebtedness, or total consumer credit. Only few works have dealt with specific technical forms of consumer credit, in particular for example credit cards (e.g., Durkin, 2000; Bertaut et al., 2005) or automobile credit (e.g., Ludvigson et al., 1998; Enmelech et al., 2017). This is done mostly for reasons of data availability. Moreover, even in these cases, the literature

has used specific loan types as proxies for broader studies on households or consumer credit, rather than for analysing features of specific credit segments.

Another limitation of this literature is that it has only examined demand-side factors, such as socio-demographic and behavioural characteristics of borrowers, while it neglects the supply-side characteristics of banks that offer certain types of loans and operate in certain segments of the market. Cosma and Cotterli (2008), for example, point out that after the 2008 financial crisis, borrowers shifted to "open-end" financing, namely financing that is not tied to the purchase of a specific good or service. Hamilton and Khan (2010) identify characteristics of "active cardholders," i.e. borrowers who are more likely to debt rollover. Fulford and Schuh (2016) use data on US households to show that the use of credit cards is the preferred method of borrowing to satisfy short-term consumption.

Our paper aims to bridge these gaps of the literature by providing a nuanced understanding of different consumer credit loan types, particularly those crucial from a bank customer protection standpoint, along with an analysis of characteristics and business models of banks more active in these credit types.

Similarly, regarding bank loan distribution channels, as argued in Introduction, the literature has extensively analysed bank branches, namely the traditional distribution channel of bank loans (e.g., Farabullini et al., 1998; De Bonis and Ferrando, 2000), and more recently the literature has also analysed the digital channel (see below). Instead, the other non-traditional or alternative channels have been completely neglected.

The only partial exception are some studies on this topic stemming from the literature on the marketing of financial services, which focus on factors that influence consumers' channel preferences. Essentially, this literature sheds light on why certain channels succeed or fail due to ease of access, flexibility, or preference for human interactions, and in addition some works also address the organisational adaptations required to use certain distribution channels or the links between product types and channel choice (e.g., Hewer and Howcroft, 1999; Mols, 2001; Byers and Lederer, 2001; Black et al., 2002; Beena and Khosla, 2015; Bapat, 2017; Reydet and Carsana, 2017; Hamouda, 2019; Chan et al., 2023). In any case, to our knowledge, this is the first paper to provide a comprehensive analysis and comparison of all alternative loan distribution channels, and to address the characteristics of banks using certain distribution channels.

4. The data

The analysis employs various data sources.

First, data on different types of consumer credit are obtained from supervisory statistical reports that all banks based in Italy are required to submit monthly to the Bank of Italy. These data allow a breakdown, bank-by-bank, of total consumer credit outstanding amounts in three types: (i) consumer credit secured by pledge of 1/5 of the salary or pension (CQS); (ii) revolving loans; and (iii) other consumer credit types (i.e., different from the

other two), which include loans (personal loans, financial leasing and others) that are, or are not, for the purchase of specific goods and services.

Second, information on lending distribution channels of banks is retrieved from the supervisory statistics reports of the European Single Supervisory Mechanism (SSM). These reports are available since 2010. Granular data are aggregated to consider four external and remote distribution channels: (i) "promoters and insurance companies", (ii) "merchants"; (iii) "remote channels", and (iv) "other external channels". "Promoters" include different kinds of agents, such as credit intermediaries, financial agents, and credit brokers[7]; we consider "promoters and insurance companies" together as they have a strong financial component that differentiate this from the other channels. "Merchants" refer to direct lending to consumers in shops; as clarified in the previous Section, merchants are allowed to promote and conclude financing contracts exclusively for the purchase of the goods and services they offer. "Remote channels" include loans distributed via the Internet, telephone, smartphone or tablet apps. "Other external channels" correspond to the homonymous residual item of the supervisory reports.

Third, to carry out the analysis on the relationships between consumer credit loan types and distribution channels, on the one hand, and characteristics of banks' business models, on the other, we use individual bank data from different supervisory sources. Specifically, we draw from the EU-wide harmonised FINREP database (*Financial Reporting*) the main items of banks' income statements (profits and losses accounts), namely: gross income (intermediation margin); net interest income (interest margin); fees and charges; operating expenses (i.e., employment expenses plus other operating costs); other (different from interests and fees) income; net profits. From the EU-wide harmonised COREP database (*Common Reporting*), we draw the capital adequacy of banks, which is computed as the ratio between quality capital (Common Equity Tier 1, CET1) and risk-weighted assets (RWAs). From supervisory statistical reports, we draw the outstanding amounts of total loans to households, total loans to non-financial corporations, retail deposits, capital and reserves, bonds issued, total assets, and bad loans.

Fourth, in our analysis we also use data on *complaints* and *disputes*, which are different instruments of litigation between financial institutions and clients. Complaints (in Italian, "*reclami*") are submitted by customers to each bank's complaint office. Disputes ("*ricorsi*") are submitted by customers to the ABF (Arbitro Bancario Finanziario), which is the Italian banking and financial Ombudsman.[8] Complaints precede, logically and temporally, disputes. Before submitting a dispute, in fact, the customer needs to lodge a

[7] See institutional background in Section 2.

[8] The ABF (Arbitro Bancario Finanziario) is the Italian banking and financial Ombudsman, an out-of-court alternative dispute resolution (ADR) scheme for disputes, between customers and banks or other financial institutions, on banking and financial products, services ot transactions. The ADR represents a simpler, rapid and cheaper solution than that offered by the standard civil courts. The Bank of Italy has instituted the ABF in 2009. The ABF carries out its tasks and decides disputes as an independent and impartial body, assisted in its work by the Bank of Italy. The parties (customers and financial institutions) do not need to be assisted by lawyers. ABF decisions are not legal judgments and are not legally binding; however, if the financial institution does not comply with a decision, its non-compliance is made public on the ABF website for five years, and highlighted on the home page of the financial institution's website for six months.

complaint with the financial institution. If the financial institution does not answer to the complaint, or if the answer is unsatisfactory, the customer can submit the dispute to the ABF. Therefore, *disputes* are lower in number, and stronger in degree of litigation. We draw data on *complaints* from the supervisory statistical reports (as banks must report to the Bank of Italy information on the received complaints), while we obtain data on *disputes* from the ABF website.[9]

The analysis spans from June 2010 to December 2021, utilizing semi-annual data. Data on complaints and disputes are available annually.[10] Mergers and acquisitions are accounted for using the "pro forma" method, namely treating acquired banks as part of the acquiring entity from the beginning of the period.

In many parts of the analysis, we divide all banks in Italy into four categories: *significant* Italian banks, cooperative banks, foreign banks, and *less significant* Italian banks.[11] The distinction between *significant* and *less significant* banks may be relevant because larger and more complex banks tend to have different lending policies than smaller and more local banks; cooperative banks may be relevant because they are often peculiar institutions according to many profiles, including lending policy; the category of foreign banks may be useful to capture and verify specific behaviours of banks form abroad.

5. The evolution of consumer credit loan types and external and remote distribution channels over time and by bank category

a) Consumer credit loan types

Between 2010 and 2021 the outstanding amounts of consumer loans granted by banks to households in Italy surged from 81 to 120 billion euros (Table 1). The growth was especially substantial after 2015 (Bank of Italy, Annual Reports; Magri et al., 2021). The category of "other consumer credit types", which includes consumer loans other than CQS and revolving loans, dominated with an outstanding loan amount nearing 100 billion euros by the end of 2021, compared to 17.4 and 3.3 billion euros for CQS and revolving loans, respectively. Also the relevant growth post-2015 can be primarily attributed to "other types of consumer credit", while CQS loans, though nearly doubled between 2010 and 2021, still comprised less than 15 percent of total consumer credit in percentage terms. Revolving

[9] As the analysis aims at identifying the main characteristics of banks operating in the consumer credit market, we have selected only complaints and disputes relating to litigation on loans.

[10] Several data are available with a higher frequency; however, we use semi-annual data for consistency. Instead, regarding data on complaints and disputes, since these data are collected on an annual basis, in our estimations using semi-annual data, we allocate annual data to two six-month periods in order not to loose observations.

[11] We combine the distinction made by the SSM (between *significant* and *less significant* banks), with the distinction by nationality (between Italian and foreign banks), and with the identification of *cooperative* banks. More phormally, the four bank categories of our analysis are: "banks belonging to *significant* non-cooperative Italian banking groups"; "banks of significant cooperative groups"; "branches and subsidiaries of significant foreign banks"; and "banks belonging to *less significant* non-cooperative Italian banking groups or stand alone banks". The criteria used to determine whether banks are categorised as *significant* – and therefore subject to direct supervision by the ECB – or *less significant* are set out in the SSM regulations.

loans, on the other hand, constituted less than 3 percent of total consumer credit and experienced a decline both in amount and percentage terms between 2010 and 2021.

Figure 1 shows the evolution over time of the percentage shares of the different types of consumer credit in terms of total assets, for the entire Italian banking system and the various categories of banks (*significant*, cooperative, foreign, and *less significant*). The figure underscores the material growth of "other consumer credit types" since 2015. As a percentage of total assets, they rose from around 1.5 to 2.5 percent for the Italian banking system as a whole (panel *d*). Similarly, CQS loans experienced a remarkable growth, doubling from around 0.2 to 0.4 percent of total assets (panel *b*). Instead, revolving loans remained stable in terms of total assets, hovering around 0.1 percent (panel *c*).

Looking at bank categories, in all segments, the share of consumer loans to total assets was notably higher for foreign banks, being twice or thrice as high as the average value of the system (Figure 1, panels *a*–*d*). Particularly, in the "other consumer credit types" segment, foreign banks' share of total assets surged sharply since 2015, outpacing the general increase of the system and reaching three times the system average. Similarly, in CQS, foreign banks held a share of total assets twice as high as the system average, remaining constant over the sample period. In CQS, only *less significant* banks grew constantly and had a similar share of total assets in 2021. Conversely, foreign banks' share of revolving loans as a percentage of total assets declined, although it remained the highest.

Table 2 presents the number of banks operating in each consumer loan segment. The total number of banks in the Italian banking system has largely decreased since 2010 for the process of M&As. As of December 2021, out of a total of 462 resident banks in Italy, 394 offered consumer credit, with 391 active in other types of consumer credit, 60 in CQS, and 156 in revolving loans. Therefore, despite revolving loans constituting a smaller share of total assets, the number of active banks was larger in this segment. A significant portion of these banks were cooperative banks (121 in 2021), although they presented, on average, a very low share of total assets, close to 0.0 percent (Table 1 and Figure 1). In spite of their substantial share of total assets and market business, only 26 foreign banks offered consumer credit in Italy in 2021. Among these, only 10 provided revolving loans, and merely 6 offered CQS.

Table 3 shows the percentage shares of banks operating in different consumer credit segments simultaneously (including banks that are not active in consumer credit, which account for about 15 percent). Approximately 6 percent of banks operated in all three segments. The majority of banks (about 45 percent) were solely active in "other consumer credit types." Less than 30 percent of banks were also active in revolving credit, and fewer than 7 percent were active in CQS. There were no banks exclusively offering CQS, and only a few banks solely providing revolving loans.

Table 4 illustrates the percentage composition of consumer credit amounts for each bank category. "Other types of consumer credit" overwhelmingly constituted the largest part of consumer credit across all period and bank categories. For cooperative banks, these loans accounted for almost all consumer credit. Even for foreign banks, these loans were evidently prevalent, despite their significant role in CQS and revolving loans. Only for *less significant*

banks the "other types of consumer credit" decreased, while the weight of CQS surged strongly, rising from 15 to almost 40 percent of consumer credit between 2010 and 2021.

Table 5 reverses the perspective and provides the market share of each bank category in consumer credit segments. This perspective highlights the significant role of foreign banks in consumer credit, accounting for nearly half of the total banking consumer credit and almost two-thirds of CQS. In 2021, the market share of *significant* banks in consumer credit stood at around 40 percent, slightly less than that of foreign banks. Only in revolving loans did foreign banks reduce their market share due to the growing role of *less significant* banks, which increased from less than 10 to almost 40 percent between 2010 and 2021.

Figure 2 shows the evolution of the market shares of the top 5 (panel *a*) and top 10 (panel *b*) players in consumer credit in Italy over time. Given that this chart looks at the market shares, we included figures of both banks and non-bank financial institutions, and computed them on a consolidated basis. The degree of concentration was particularly pronounced for revolving loans (light blue histograms), with values ranging between 80 and 90 percent for the 5 largest groups, and well over 90 percent for the 10 largest groups. The degree of concentration of CQS (green histograms) was slightly lower than that of revolving loans at the beginning of the series in 2010 but decreased significantly over the years. By the end of the period, the values closely resembled those of the segment of other types of consumer credit (blue histograms), around 60 and 80 percent, respectively.

b) External and remote loan distribution channels

Table 6 shows the number of banks that use bank branches as their sole loan distribution channel, along with those utilizing (only or also) external or remote channels. The number of banks that only use their own branches is strongly predominant. However, almost 20 per cent of banks based in Italy also leverage at least one external or remote distribution channel (80 versus 341 in 2021). Notably, for some banks, external and remote channels constitute their exclusive means of lending (22 banks in 2021, about 5 per cent of total banks).

In 2021, over half of the banks utilizing external or remote channels employed only one channel. Nonetheless, the diversification of these channels has increased over time. The share of banks utilizing only one external or remote channel decreased from nearly 70 per cent in 2010 to around 56 per cent in 2021. Concurrently, the proportion of banks employing two channels increased from about 20 per cent to 32 per cent, and, to a lesser extent, the proportion of banks using more than two channels rose from around 7 per cent to 11 per cent.

Among banks using only one external channel, in 2021 less than 4 per cent of banks used "merchants" as their only alternative loan distribution channel, and this share has strongly decelerated from more than 8 per cent in 2010. A consistent percentage of banks use "promoters and insurance companies" to sell loans (15 per cent in 2021). Also in banks combining the use of multiple external or remote distribution channels there is a prevalent use of "promoters and insurance companies," mainly in conjunction with other external or

the remote channels. The combination of "merchants" and other external channels or the remote channels has also increased over time.

Table 7 depicts the proportions of banks utilizing various channels across different bank categories. The adoption of alternative channels is more prevalent among *significant* and foreign banks, with foreign banks, as expected, having a higher percentage of banks exclusively relying on external or remote channels (over 26 per cent in 2021, compared to the system average of about 5 per cent). The percentage of banks exclusively offering loans through their own branches has slightly decreased over time for *less significant* banks, while it has even increased for *significant* ones. The use of own branches is nearly exclusive among cooperative banks. Overall, the percentage of banks utilizing external or remote channels has remained relatively stable over the entire period, both for banks *exclusively* using alternative channels and those *also* utilizing alternative channels.

The evolution of the number of banks utilizing these alternative distribution channels represents the *extensive margin* of the phenomenon. Conversely, Figures 3 and 4 illustrate the evolution over time of the *intensive margin*, namely the intensity of channel usage. Specifically, Figure 3 depicts the development of the number of borrowers through each channel as a percentage of the total number of bank borrowers, while Figure 4 shows the development of the volumes of new loans granted through each channel as a percentage of total volumes of new loans to clients. The average percentage of clients borrowing through external and remote channels is higher than the percentage of banks using these channels (around 30 per cent versus around 20 per cent), while the percentage of volumes is much lower (less than 5 per cent on average). However, it is to remark, while the number of borrowing clients is well captured in our data, the volumes underestimate the weight of alternative channels in household lending.[12]

The percentages vary widely across bank categories and distribution channels. Alternative distribution channels play a particularly relevant role for *less significant* and foreign banks. On average, clients borrowing through external or remote distribution channels accounted for almost 70 per cent of total clients at foreign banks, and even more at *less significant* banks (Figure 3, panel *e*). Regarding loan volumes, in foreign banks loans through external or remote distribution channels accounted for more than 25 per cent of total loans, while in *less significant* banks represented almost 10 per cent of total loans (Figure 4,

[12] In fact, the underlying supervisory data on loan distribution channels are provided as total lending, and do not allow for a distinction of borrowing sectors (apart from interbank loans), which therefore in principle also include loans to sectors other than households. However, loans via alternative channels are likely to involve mainly households. In particular, "merchants" and "remote channels" are likely to be only attributable to lending to households, while loans via "promoters and insurance companies" may include a proportion of loans to small firms. Moreover, households are by far the most relevant sector in terms of the number of clients. Therefore, in the case of the number of clients (Figure 3), the ratios tend to reflect to a large extent the weight of each channel in household lending. We expected small firms to rise the role of loans via "promoters and insurance companies", but the weight of this channel is much lower (Figure 3, panel *a*), and therefore in any case the possible presence of firms does not overweight its role in lending to households. In contrast, in the case of volumes (Figure 4), loans to the other sectors significantly increase the denominators of the ratios (while still not significantly affecting the numerators), and therefore the ratios in Figure 4 underestimate the overall weight of the alternative channels in the household lending of banks (the relative role of the different channels remains instead well measured).

panel *e*). In terms of loan volumes, in 2021 the remote channels accounted for around 2 per cent of total loans, the other alternative channels for less than 1 per cent. However, in terms of the number of clients, the remote channels accounted for around 15 per cent and merchants for almost 10 per cent.

On the one hand, these developments support the thesis that there is an alternative relationship between the distribution channels (Bonaccorsi di Patti et al., 2003; Carmignani et al. 2020; Galardo et al. 2021), as the use of external and remote distribution channels tends to be more concentrated in some banks. On the one hand, however, the heterogeneous proportions of utilization support the thesis that there is often a complementary relationship between the distribution channels (Xue et al, 2011; Campbell and Frey, 2009; Ciciretti et al., 2009). Interestingly, these findings apply to all alternative channels, and not only to digital channels as claimed in the literature. It is also worth remarking that, since the weight of each external and remote channels varies widely across banks, even within bank categories, it is relevant to conduct econometric exercises that take into account the differing characteristics and business models of banks. Moreover, as the *extensive* and *intensive margin* often show different developments, we analyse both perspectives by adopting different regression models.

6. Empirical strategy

To examine whether and to what extent the granting of different types of consumer credit, and the use of external and remote distribution channels for lending, are related to specific bank characteristics and business models, we run two separate regression models.

The first regression model concerns the different types of consumer credit. In this case, we estimate the following Equation (1):

$$\begin{aligned} cons\_cred_{f,i,t} = {} & \alpha_0 + \beta_1 lo\_hh_{i,t-1} + \beta_2 lo\_nfc_{i,t-1} + \\ & \beta_3 retail\_dep_{i,t-1} + \beta_4 bonds_{i,t-1} + \beta_5 log\_ta_{i,t-1} + \\ & \beta_6 cap_{i,t-1} + \beta_7 bad_{lo\,i,t-1} + \beta_8 profits\_and\_losses_{i,t-1} + \\ & \varphi_c + \omega_g + \delta_r + \pi_t + \varepsilon_{i,t}\,, \end{aligned} \tag{1}$$

where the dependent variable $cons\_cred_{f,i,t}$ is the amount of consumer credit in each technical form *f* (total, CQS, revolving and other types) of bank *i* at time *t*, scaled by the total amount of loans to private sector. The list of covariates includes four groups of variables and four sets of fixed effects.

The first group of variables measures the kind of specialization of bank *i*. In particular, $lo\_hh_{i,t-1}$ and $lo\_nfc_{i,t-1}$ are, respectively, the ratio of total loans to households and to non-financial firms to total assets, and seize the nature of each bank's predominant activity; $retail\_dep_{i,t-1}$ and $bonds_{i,t-1}$ are the ratios of retail deposits and bonds to total assets, and serve to take into account the different bank funding sources; $log\_ta_{i,t-1}$ is the

natural logarithm of the bank's total assets, and is typically used as a proxy for bank size, which may be a relevant factor in banks' lending choices and policies.

The second group of variables includes two variables typically used to measure banks' health and soundness: $cap_{i,t-1}$ is the ratio between the bank's capital and total assets; $bad\_lo_{i,t-1}$ is the ratio between the amount of bad loans and total assets.

The third group of regressors is $profits\_and\_losses_{i,t-1}$, which include a set of variables (used alternatively to avoid multicollinearity) representing the main components of each bank's income statement (Affinito, D'Amato and Santioni, 2023). In detail, the regressors utilized in $profits\_and\_losses_{i,t-1}$ are the following: $roa_{i,t-1}$ corresponds to each bank's return on assets, and it is a standard indicator of banks' overall profitability; $gr\_inc_{i,t-1}$ is the ratio between gross income (intermediation margin) and total assets, and it is instead an indicator of the profitability of the bank core (intermediation) activities; $int\_inc_{i,t-1}$ is the ratio of net interest income (interest margin) to total assets, and represents the profitability related to loan and money management; $fees_{i,t-1}$ is the ratio of net-fees to total assets; $ot\_inc_{i,t-1}$ is the ratio between other types of income (other than interests and fees) and bank's total assets; and $op\_exp_{i,t-1}$ is the ratio of operating expenses (i.e., employment costs plus other operating expenses) to total assets, and can be read as an indicator of cost efficiency of each bank.

In order to account for the evolution of litigation with customers, we introduce in some specifications as a fourth group of regressors the variables $comp_{i,t-1}$ (representing the number of *complaints* submitted by customers to each bank's complaint office), and $disp_{i,t-1}$ (representing the number of *disputes* submitted by customers to the ombudsman ABF). The two variables are scaled in relation to the total assets of each bank.

The four sets of fixed effects in Equation (1) are: φ_c (which capture bank supervisory categories: *significant*, cooperative, foreign, and *less significant* banks); ω_g (which controls for bank affiliation in banking groups); δ_r (which account for the primary region of bank activity, considering prevalence from a deposit-funding perspective;[13] and π_t (which are time, semi-annual effects). The inclusion of these four groups of fixed effects enables us to control for various observable and unobservable factors reducing any bias associated with omitted variables, and to address individual and time heterogeneity across banks, time, and the Italian territory, which cannot be attributed to the variables of interest. To exemplify, these fixed effects control for macroeconomic features (e.g., economic trends or policies affecting all banks simultaneously, captured by time fixed effects), microeconomic factors (e.g., time-invariant characteristics of banks), and territorial factors (e.g., linked to the economic and social structure of the region where the bank operates predominantly). This approach of including different sets of fixed effects in an estimation where the dependent

[13] The regional fixed effects δ_r attribute to each bank *i* the region with the highest amount of deposits of the bank *i* in each time *t*; this effect is therefore time-varying by construction, althoug it is quite stable over time.

variable is constrained between zero and one is adopted for example by Santioni, Schiantarelli and Strahan (2019).[14]

The second regression model concerns the external and remote distribution channels of loans, and is based on the following Equation (2):

$$\begin{aligned} lo\_distr\_channel_{j,i,t} = {} & \alpha_0 + \beta_1 lo\_hh_{i,t-1} + \beta_2 lo\_nfc_{i,t-1} + \\ & \beta_3 retail\_dep_{i,t-1} + \beta_4 bonds_{i,t-1} + \beta_5 log\_ta_{i,t-1} + \\ & \beta_6 cap_{i,t-1} + \beta_7 bad_{lo\,i,t-1} + \beta_8 profits\_and\_losses_{i,t-1} + \\ & \varphi_c + \omega_g + \delta_r + \pi_t + \varepsilon_{i,t}\,, \end{aligned} \tag{2}$$

where the dependent variable $lo\_distr\_channel_{j,i,t}$ is alternatively defined in two ways: either it is a binary variable (which takes the value of 1 if bank *i* uses the specific external or remote distribution channel *j* at time *t*, and 0 otherwise), or it is a continuous ratio variable. In the latter case, the dependent variable is in turn alternatively computed either as the ratio between the number of clients borrowing through the channel *j* and the total number of clients borrowing at the bank *i* at time *t*, or as the ratio between the volumes of new loans granted by the bank *i* trough each channel *j* and the total loans of the same bank *i* at each time *t*. The other variables are defined as in Equation (1).

Our decision to analyse Equation (1) by both a binary 0-1 variable and a continuous ratio variable stems from the findings of our descriptive analysis in Section 5, which revealed a high concentration of the use of external and remote distribution channels among banks, and a heterogeneous intensity of the use by utilizing banks. Therefore, it seems appropriate, on the one hand, to conduct specific analyses regarding the dichotomous decision to use or not use a particular distribution channel. Additionally, from a methodological standpoint, analysing a binary variable is well-suited for cases where there is a large number of zeros (i.e., "inactive" banks), and it helps to avoid selection bias by accounting for the characteristics of these inactive banks. On the other hand, since each distribution channel is utilized with varying degrees of intensity by different banks, it is also valuable to investigate whether the intensity of channel usage is related to certain bank characteristics and whether this relationship differs from the binary case. In essence, the binary estimation examines the *extensive margin* of the phenomenon, while the estimations with continuous ratios explore the *intensive margin*.

The estimation models are different in Equation (1) and in the two versions of Equation (2). Since the dependent variables in Equation (1) and the *intensive margin* version of Equation (2) are continuous but constrained between zero and one, we employ fractional response regression models. These models are extensions of the generalized linear model introduced by Papke and Wooldridge (1996), specifically designed to address the limitations

[14] Santioni, Schiantarelli and Strahan (2019) estimate a logit model by saturating the regression with varying effects related to firms (size, location, sector of activity) rather than with a single firm fixed effect.

of the classical linear model (OLS) in such situations.[15] For this model, it is possible to use both a probit and a logit estimator, and with or without heteroscedasticity. We use a probit-type link function with heteroscedasticity. Finally, in the binary version of Equation (2), we use a non-linear probit model.

It is worth noting that while the estimations of both Equations (1) and (2) aim to estimate conditional correlations rather than identify causal relationships, our regressions incorporate features commonly used in the literature to address endogeneity issues and improve estimates (e.g., Jiménez et al., 2012; Bonaccorsi di Patti and Sette, 2012; Distinguin et al., 2013; Affinito et al., 2022). These features include lagging explanatory variables at time *t-1*, the inclusion of large sets of fixed effects in equations, and clustering of standard errors at the bank level to account for possible variation of regressors over time within the same bank. Table 8 provides descriptive statistics of the dependent variables and covariates. To mitigate the influence of outliers, the variables are truncated at the first and last percentile of the distribution.

7. Main results

a) Consumer credit loan types

Table 9 reports the estimates of Equation (1) for total consumer credit, and the three technical forms CQS, revolving loans, and other types of consumer credit. In our commentary on the results, we consider the four groups of regressors described in the previous Section.

The first group of regressors contains several variables measuring the kind of specialization of each bank. The variables total loans to households $lo\_hh_{i,t-1}$ and to non-financial firms $lo\_nfc_{i,t-1}$ are associated, respectively, positively and negatively with the various types of consumer credit. This implies that, as expected, banks specializing in consumer credit are more active in lending to households and less active in lending to firms. In terms of funding sources, the relationship between consumer credit loans and retail deposits is significantly negative, especially for CQS loans, and the relationship with bonds is significantly negative especially for the other types of consumer credit. This indicates that banks more specialized in consumer loans tend to finance themselves via wholesale and intra-group forms of financing. The positive sign of the banking group affiliation dummy ω_g confirms the relevant role of belonging to a banking group in the provision of consumer credit, especially for CQS and revolving loans. Bank size, measured by the logarithm of total assets $log\_ta_{i,t-1}$, is positively and significantly related to revolving loans.

The second group of variables includes two covariates that capture banks' health. The coefficient of the variable measuring credit quality $bad\_lo_{i,t-1}$ points out that a higher

[15] More specifically, when dependent variables are continuous and constrained between zero and one, the linear model can estimate predicted values outside the range of the dependent variable, and provide constant partial effects (while regressors' effects result typically non-constant, especially when dependent variables take values close to the lower or upper bound).

volume of consumer loans is on average negatively and significantly associated with the burden of bad debts, that is, the banks that are most involved in consumer lending are typically those that tend to have a lower overall level of defaults. The result is in line with the literature (e.g., Magri et al., 2021; Affinito et al., 2023). Our estimates show that the negative relationship between bad loans and consumer credit is driven by the other types of consumer credit, while it is not confirmed for CQS and revolving loans. In other words, the banks that are more active in CQS and revolving loans are not characterised on average by particularly low levels of bad debts like the other banks more active in the consumer credit business. Instead, the other variable of bank soundness $cap_{i,t-1}$ shows no significant relationship, neither with individual technical forms nor with total consumer credit.

The third group of regressors includes a set of indicators of each bank's income statement. In this case, for each loan type, the variables $gr\_inc_{i,t-1}$ and $roa_{i,t-1}$ are utilized alternatively, in columns (1) and (2), to avoid multicollinearity issues. The results show that, on average, banks with higher volumes of consumer credit tend to exhibit higher profitability in core intermediation activities, as measured by the gross income variable $gr\_inc_{i,t-1}$. The only exception are banks that are more active in CQS loans, which however present a positive and weakly significant relation with the coefficient of $roa_{i,t-1}$ indicating that these banks are characterised on average by higher overall profitability.

The estimates in Table 10 replace the compact profitability indicators ($gr\_inc_{i,t-1}$ and $roa_{i,t-1}$) with several variables representing single items of banks' income statements, while keeping the other covariates, whose estimates confirm the results of Table 9. Table 10 shows that the different types of consumer credit are positively and significantly associated with the net interest income $int\_inc_{i,t-1}$, with the exception of CQS. Thus, on average, banks most active in consumer lending tend to have higher profitability in lending activity and liquidity management. The coefficient of bank fees and charges $fees_{i,t-1}$ is positive and significant only in the case of revolving loans, indicating higher usage by banks relying more on bank fees as a source of income.

The relevance of some variables is also significant when measured in economic terms. Figure 5 shows the marginal effects (measured on estimates of Table 10) obtained by moving from the 25th to the 75th percentile of the variable's distribution while keeping the others constant. For revolving loans and other types of loans, the variable $int\_inc_{i,t-1}$ is associated with an increase of 0.08 and 1.1 percentage points of loans on total assets, respectively, indicating a substantial growth compared to the average value of the two dependent variables (respectively 0.15 and 4.4 per cent). For revolving loans, also the marginal effect of $fees_{i,t-1}$ is economically significant being associated with an increase of 0.03 percentage points. The variable $bad\_lo_{i,t-1}$ is associated to a decrease of 0.2 percentage points on the ratio of consumer credit to total asset, mainly led by other types of consumer loans.

Table 11 includes the fourth group of regressors, which measure the evolution of litigation with customers ($comp_{i,t-1}$ and $disp_{i,t-1}$).[16] In this estimation, the net interest

[16] Details on the computation and meaning of these variables are in Section 4.

income $int\_inc_{i,t-1}$ is positive and weakly significant also for CQS loans. Both variables measuring complaints and disputes with customers are positive and statistically significant for total consumer credit. This confirms that, even at single bank level, and in a multivariate estimation, there is a positive and statistically significant relationship between the weight of consumer credit in bank business and the extent of complaints and legal disputes with customers.[17] It is interesting to notice that by the statistical significance the relationship is not concentrated in a specific type of loan, which suggests that consumer credit is generally associated with more pronounced complaints from borrowers. An exception is $disp_{i,t-1}$, which is positively and significantly associated with CQS loans, which in fact is the consumer credit type with the highest number of complaints in aggregate terms (Bank of Italy, 2022).

b) External and remote loan distribution channels

As clarified above, the analysis of Equation (2) aims to explore the relationships between both the decision to use (extensive margin) and the intensity of use (intensive margin) of external and remote distribution channels, on the one hand, and certain characteristics and business models of banks, on the other. The results for the extensive margin are reported in Table 12, the results for the intensive margin are presented in Tables 13 (number of clients) and 14 (volumes of loans).[18] Our comments starts with the extensive margin, and refer again to the four groups of regressors described in Section 6.

First, regarding the group of regressors that capture banks' kind of specialization, the use of external and remote channels is positively associated with the ratio of household loans to total assets and negatively associated with the ratio of loans to firms, confirming that these credit distribution channels are preferred by banks specialised in loans to households. However, the use of merchants is positively related to both household and firm loans, which could suggest that these banks have a more integrated business, for example because they also lend to the merchants of the merchants.

The results also show that the decision to use external or remote distribution channels is positively and significantly associated with bank size (the variable $log\_ta_{i,t-1}$). The relationship is significant both for the totality and specifically for merchants and the remote channels. The size of the bank is therefore a relevant variable for the decision to make use of external and remote distribution channels. Also the affiliation to a banking group is positive and statistically significant in the decision, but only in the case of merchants.

Second, regarding the two variables measuring bank soundness, in the last column of Table 12, the covariates $cap_{i,t-1}$ and $bad\_lo_{i,t-1}$ are both statistically significant,

[17] We have carried out regressions including the two variables $comp_{i,t-1}$ and $disp_{i,t-1}$ both simultaneously and alternatively, and the results did not change. In Table 11 we chose to present the estimates that include both the variables as the two kinds of litigation imply largely different aspects, as argued in Section 4.

[18] Tables 12-14 report the results of the estimates both for each external and remote distribution channel, and (in the last column) for the totality of these channels. In the case of the extensive margin, the total captures the joint probability of using *at least one* external or remote distribution channel; in the case of the intensive margin, the total computes the ratios by summing together, respectively, all clients and all loans of the different channels.

respectively, negative and positive. These results suggest that the banks that use external and remote channels are on average characterized by lower levels of capital and asset quality. However, the results seem to be driven only by the banks using the channel of promoters and insurance companies, which is the only single channel to present statistically significant coefficients. Nevertheless, as we see below, the result is largely confirmed in the intensive margin, and therefore it could be read as a confirmation of the attention that banks using alternative distribution channels deserve from the supervisory authorities.

Third, in terms of banks' income statement items, there is a positive and significant relationship between the use of external distribution channels (except the remote channels) and the ability of banks to generate other income $ot\_inc_{i,t-1}$.[19] This result suggests that the use of external channels is preferred by banks that are more liable to obtain income from sources other than intermediation. The same finding is suggested by the coefficient of the variable $int\_inc_{i,t-1}$, which is not significantly correlated with the use of external and remote channels. However, interestingly, the net interest income is positively and significantly correlated to the use of merchants: thus the probability of selling consumer loans directly in shops increases for banks that are more reliant on interest income.

It is also interesting that the relationship between the use of external channels and the level of bank $fees_{i,t-1}$ tends to be negative, in particular for merchants. The result could be related to a mindful decision of clients, who choose to borrow in the shops only when lenders are characterised on average by lower levels of fees. Still, the result could have to do with commercial practices of banks, which access these segments if they are characterised by more competitive fee levels. In this sense, the results of $fees_{i,t-1}$ and $int\_inc_{i,t-1}$ could be read together. In particular, it is to notice that the banks lending through merchants are those with lower fees but higher interest margins.

The result of the variable $op\_exp_{i,t-1}$ is also compelling. There is a general positive and statistically significant relation between operating costs and the use of external channels. Again, the result is consistent with two different explanations. It could mean that the banks that predominantly opt for these alternative channels are those that are characterised by higher operating expenses, or it could mean that the use of these alternative channels implies higher costs of intermediation. From this point of view, the result of the remote channels is indicative: in fact, the relationship with costs is not statistically significant for this channel, which indeed is supposed to present less administrative, operating and brokerage costs than the other alternative channels.

Moving to the intensive margin (Tables 13 and 14), the results widely align with those of the extensive margin, which suggests that the same reasons drive the choice of banks whether using and to what extent the alternative channels. In particular, the coefficient of the variable $bad\_lo_{i,t-1}$ is again significantly positive for the channel of promoters and insurance companies, both as for the number of clients and volumes of loans; moreover, in the case of the number of clients, the coefficient is significantly positive also for the remote

[19] As in Equation (1), we have run also for Equation (2) estimates including compact profitability indicators (the variables $gr\_inc_{i,t-1}$ and $roa_{i,t-1}$) instead of the component items. Results were hardly significant, consistent with the fact that components often present opposite coefficients' signs.

channels. Likewise, the variable $cap_{i,t-1}$ is again significantly negative for the alternative channels as a whole, both for the number of clients and the volumes of loans, and specifically for the remote channels.

These results for the remote channels are particularly interesting. The remote channels, especially the digital component (i.e., the Internet and smartphone or tablet apps), are generally associated with the use of innovative techniques of creditworthiness assessment that allow a quick risk evaluation of the potential borrowers. A stream of the literature highlights that the use of these techniques can have an impact on loan risk and ultimately on the credit quality of balance sheets. Some studies show that innovative techniques improve the ability to predict corporate defaults (e.g., Moscatelli et al., 2019; Pierri and Timmer, 2022), while other studies suggest that the customers of institutions using digital platforms for lending tend to be riskier (e.g., Branzoli and Supino 2020; Di Maggio and Yao, 2021). Bonaccorsi et al. (2022) show that actually in Italy innovative techniques of credit risk assessment are (still) little used by financial institutions. Be that as it may, our results confirm that the attention to the issue is justified.

On the other hand, however, our results show that the variable $bad\_lo_{i,t-1}$ is significantly negative in the case of volumes in merchants (Table 14), which offers a reassuring insight as merchants are often regarded as a sensitive channel concerning customer protection and the risk of household over-indebtedness.

Also with regard to income statement variables, the results of the intensive margin largely match those of the extensive margin. Specifically, the results confirm that the relation with fees tends to be negative, and the relation with net interest income tends to be positive, both in the number of clients and in the volumes of loans, in particular in merchants. The estimates of the intensive margin show that also banks using more intensively the remote channels are characterized by a higher recourse to $int\_inc_{i,t-1}$. The results also confirm that the utilisation of alternative distribution channels tends to be associated with higher operating expenses, except for the remote channels.

The extensive and the intensive margin also show some notable differences. Apart from merchants, the variable $log\_ta_{i,t-1}$ is no longer statistically significant for the other channels, neither in terms of client numbers nor volumes. This suggests that while the larger size of the bank may facilitate access to external and remote channels, the intensity of their use, once accessed, does not necessarily correlate with bank size. The persistence of the positive coefficient for merchants (albeit only in Table 13) could indicate the particular challenges smaller banks face in entering this channel. Finally, the two variables $retail\_dep_{i,t-1}$ and $bonds_{i,t-1}$ tend to exhibit significant negative associations in the extensive margin, suggesting that banks with a larger retail client base have lesser need to resort to external loan distribution forms.

Figure 6 shows the marginal effects of some statistically significant variables (in relation to the result of Table 13). The relations are relevant also in economic terms. Moving from the 25th to the 75th percentile of the distribution of the variable $int\_inc_{i,t-1}$, the use of merchant and remote channels increase of 0.2 and 1.1, that of promoters and insurance companies decrease of 0.6, which are relevant changes compared with the average values of

the dependent variables (respectively 2.1, 1.7 and 1.9 per cent). Moving from the 25th to the 75th percentile of the variables $fees_{i,t-1}$ and $op\_exp_{i,t-1}$, the use of external or remote channels respectively decreases by 0.4 and increases by 1.6 percentage points (the average values being 9.3 per cent).

Like for Equation (1), we ran estimates of Equation (2) adding the variables complaints $comp_{i,t-1}$ and disputes $disp_{i,t-1}$. Broadly speaking, the relationship between the use of external and remote channels and the level of litigation with customers appear statistically weak.[20] For the extensive margin, complaints and disputes do not show significant relationships with any of the considered channels, even though the coefficient of $disp_{i,t-1}$ is significantly positive for alternative distribution channels as a whole. Similarly, the estimates from the intensive margin indicate that significant correlations only emerge for the channels of promoters and insurance companies and for merchants.

8. Other econometric exercises and robustness tests

We conducted several additional regressions to both expand upon the baseline analysis and validate the robustness of our findings.

First, to enhance the analytical depth of our estimates, we re-estimated Equations (1) and (2) with coefficients varying based on bank categories. While bank categories (*significant*, cooperative, foreign, and *less significant* banks) served as control variables in the baseline regressions, in these new exercises, we interacted each covariate with a dummy variable representing the specific bank category. This allowed us to investigate whether the relationship with each factor differs across categories. We repeated estimations of Equations (1) and (2) using the reference specifications from Tables 10 and 12, respectively.[21]

Regarding Equation (1), the results of these estimations reveal that the positive association between consumer credit and net interest income is primarily driven by *significant* and foreign banks. Meanwhile, the positive correlation with fees, observed only for revolving loans, is explained by *significant* and *less significant* banks. Cooperative banks primarily account for the negative relationship between consumer credit and bad debts, which becomes positive and significant for foreign banks in CQS, albeit at a statistical low level of significance. In *significant* banks, there is a positive and significant association between capital level and consumer credit.

Regarding Equation (2), the results on merchants indicate that the simultaneous positive relation with net interest income and negative relation with fees are driven by *less significant* banks. Conversely, the relation between channel usage and fee levels becomes positive for *significant* banks in merchants, and for *less significant* banks in the remote

[20] For this reason, for the sake of brevity, these results are not reported, but available from authors upon request as well as all unreported results. Also in this case, as in Equation (1), the data available on an annual basis were repeated for both semesters of the reference year.

[21] These results are not reported, also because they need very large tables (4 bank categories for 4 types of consumer credit and 5 distribution channels).

channels. Similarly, the positive relationship between alternative distribution channels and operating expenses is primarily explained by *less significant* banks.

Second, we conducted various robustness checks on the baseline results. For instance, we tested the stability of the findings by systematically removing covariates one by one and altering the definition of certain variables. Specifically, we measured bank capital alternatively using either the ratio of "capital and reserves" to total assets or the CET1 ratio (i.e., the ratio of Common Equity Tier 1 capital to risk-weighted assets). In all cases, the results remained consistent.[22] Furthermore, we varied the content of some fixed effects: while baseline estimations utilize territorial fixed effects at the regional level (the 20 administrative regions of Italy), we also conducted regressions with territorial fixed effects defined at the province level (approximately 100 provinces in Italy). The results remained unchanged. In the baseline estimations, we used the regional level, which is historically considered the reference market in Italy for bank funding. We also conducted separate regressions for the two distribution channels within the "promoters and insurance companies" category, and the results remained stable.

9. Conclusions

Consumer credit constitutes a pivotal market, not only for fostering economic growth and improving people's lives, but also for regulatory oversight concerning financial stability, prudential supervision, and customer protection. This paper provides a comprehensive analysis of the evolution of consumer credit in Italy broken down by loan type and distribution channel, for the period from 2010 to 2021, facing two issues that are generally overlooked by the literature, but that can be relevant to contribute to the knowledge and understanding of the consumer credit market.

The analysis of consumer credit by loan type and distribution channels can provide relevant insights as certain forms of credit (we focus on salary-based CQS loans and revolving loans) and "alternative" channels (promoters, merchants, remote) are considered to be riskier for household over-indebtedness, because they are often associated to inadequate borrower assessments, high prices, opaque contractual conditions and insufficient information, and lack of direct customer support, problems that are exacerbated by their popularity among financially vulnerable individuals with lower incomes and limited financial literacy.

We show that in our decade period, despite a substantial growth in consumer credit in Italy, CQS loans accounted for about 15 per cent of total consumer credit, and revolving loans less than 3 per cent. Less than 30 per cent of banks lending consumer credit were active in revolving credit, and less than 15 per cent in CQS. No bank offered CQS exclusively, while a few exclusively offered revolving loans. The concentration in consumer credit is

[22] The CET1 ratio is a standard measure of regulatory capital adequacy and therefore is best suited to capture the relationships between bank capital and decisions. On the other hand, using this measure reduces the number of our observations because the time series of the CET1 ratio is shorter and not available for all foreign banks, which instead (as described in Section 5) have a relevant role in consumer credit and alternative distribution channels.

strikingly high, which is particularly evident in revolving loans, where the 5 largest players dominate over 80 per cent of the market share. The market share of *significant* banks in consumer loans was below that of foreign banks, which account for around 45 per cent. Foreign banks dominated both CQS and other types of consumer credit, while *less significant* banks had a larger market share in revolving loans.

In our decade period, the overwhelming majority of banks in Italy (over 70 per cent) exclusively utilized their own branches as loan distribution channel. However, approximately 20 per cent of banks in Italy utilized at least one external or remote distribution channel, with some banks exclusively lending through external and remote channels. In terms of the number of clients, the most relevant channels were remote (around 15 per cent in 2021) and merchants (almost 10 per cent). More than half of banks using external or remote channels utilized only one channel, although the diversification of external and remote channels has increased over time. Foreign and *less significant* banks have significantly higher shares of clients through alternative channels.

To enhance the overall picture, we also use regressions to analyse the characteristics of the banks that make greater use of the different types and channels of credit. Although we run estimations that allow for robust results, including lagged explanatory variables, large sets of fixed effects, and clustered standard errors, the purpose of these regressions is eminently descriptive and aims to illustrate whether and to what extent the use of different types of consumer credit and distribution channels is related to specific bank characteristics and business models. The estimates provide four main results.

First, in terms of bank specialization indicators, our results show that banks more active in consumer credit and those utilizing external and remote loan distribution channels lend predominantly to households and less to non-financial firms. However, merchants are positively related to both household and corporate loans, suggesting a more integrated business model for banks using this channel. Moreover, banks engaged in consumer lending are often part of banking groups, particularly in the case of CQS and revolving loans, and thus act as specialized banks within these groups. Consequently, these banks are more reliant on wholesale and intra-group funding sources than on retail sources. Being part of a banking group is also positively associated to the decision to use alternative distribution channels, but only for merchants. Larger banks are more likely to access external and remote channels, while the intensity of use of these channels does not depend on bank size, except for merchants, which therefore prove to be a challenge for smaller banks. Furthermore, banks with a larger base of retail clients exhibit reduced reliance on external loan distribution channels.

Second, in terms of indicators of bank health and soundness, banks heavily involved in consumer lending exhibit significantly lower levels of bad loans, although this is not the case on average for banks primarily engaged in CQS and revolving loans. Banks utilizing alternative channels often have lower levels of capital and asset quality, including those making more intensive use of remote channels. In the literature on digital banking, such a result is often associated with the use of innovative credit scoring techniques, which however are not (yet) widely used by financial institutions in Italy. We argue that the result confirms that banks using alternative distribution channels deserve attention from supervisors.

Conversely, banks using merchants as a loan distribution channel show a negative relationship with bad loans, which is a reassuring result as this channel is often considered particularly sensitive from the point of view of customer protection and household over-indebtedness risk.

Third, in terms of bank profit and loss indicators, banks active in consumer lending tend to have higher profitability in lending and liquidity management, while those involved in revolving loans rely more on bank fees and charges as a source of income, which confirms a concern often raised in the institutional debate. The relationship between external and remote channels and fees tends to be negative, while the relationship with interest income tends to be positive, especially for merchants. These results could have two explanations. They suggest that either clients are aware agents, who decide to borrow through alternative channels only from banks that are on average less reliant on fees, or they could have to do with commercial practices of banks, tapping into these segments when they are characterised by more competitive fees but setting higher interest rates. Banks utilizing alternative channels also have higher operating costs, which could either be due to banks with higher operating expenses opting for alternative channels or due to the fact that these channels are inherently associated with higher costs. Consistently, this relationship does not hold for remote channels, confirming the lower costs associated to the use of remote lending.

Finally, concerning litigation between banks and clients, we find that, even at the individual bank level, and in a multivariate estimation, there is a positive and statistically significant relationship between the weight of consumer credit in bank business and the extent of complaints and legal disputes with customers, especially for CQS. By contrast, we do not find a relationship between the use of external and remote channels and litigation with customers.

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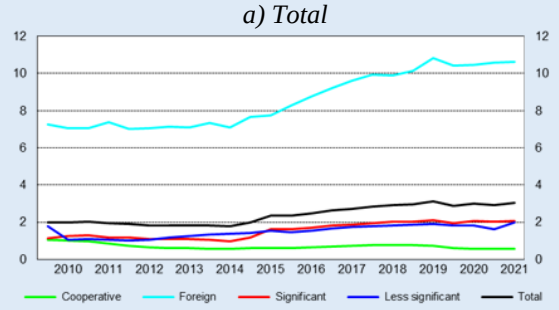
Figures and Tables

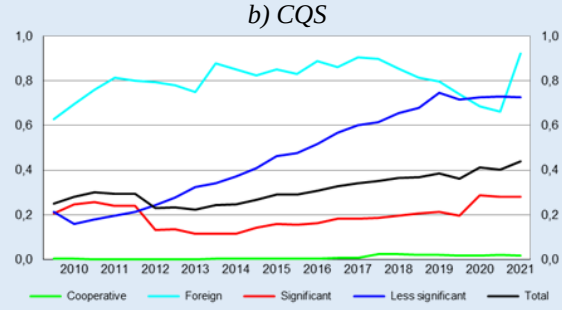
Figure 1

Consumer credit loan types as ratios to total assets by loan type and bank category (1)

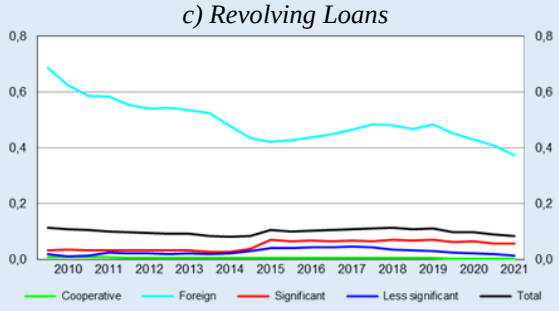
a) Total



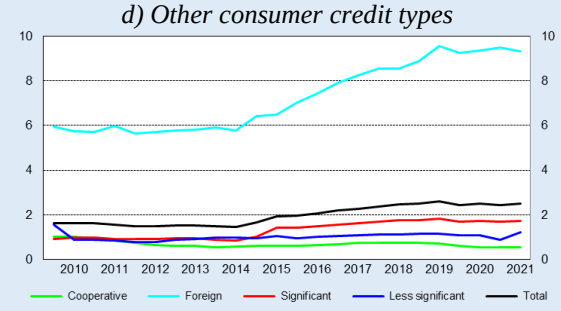
b) CQS



c) Revolving Loans



d) Other consumer credit types

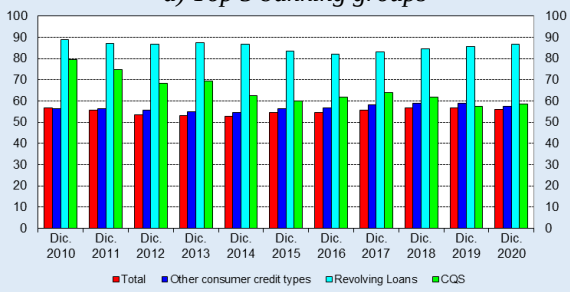


Source: Supervisory reports.
(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.

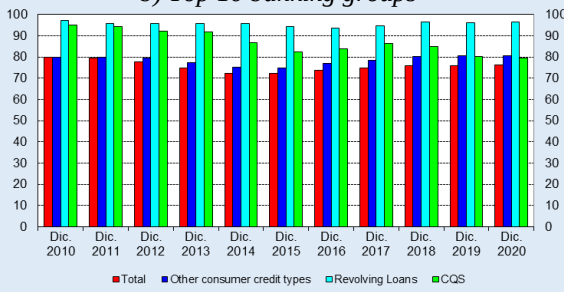
Figure 2

Market shares in consumer credit loan types (1)

a) Top 5 banking groups



b) Top 10 banking groups



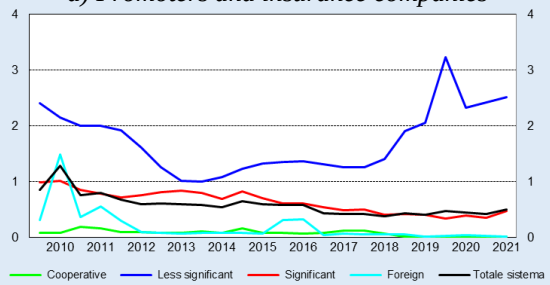
Source: Supervisory reports.
(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period – (2) Data of this figure include non-bank financial institutions and are consolidated for banking groups.

Figure 3

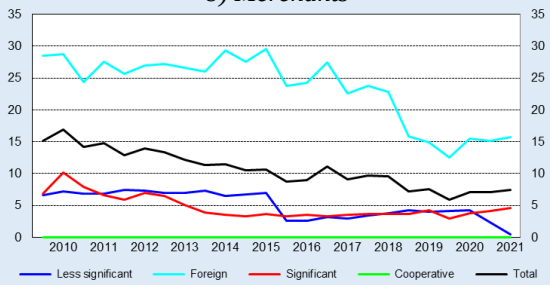
Number of new bank clients borrowing through external and remote channels as percentages of total number of new borrowing clients (1) (2)

(percentages)

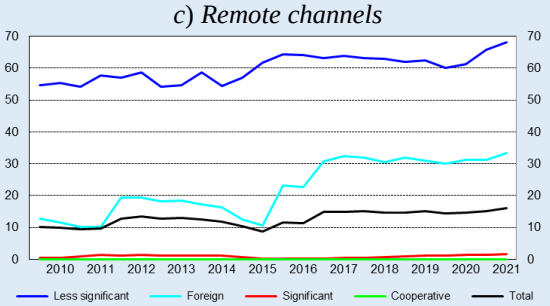
a) Promoters and insurance companies



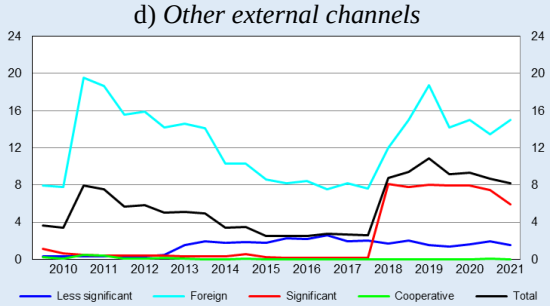
b) Merchants



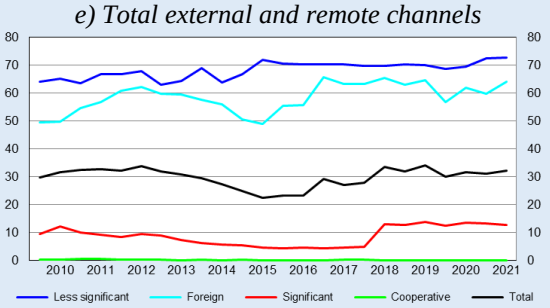
c) Remote channels



d) *Other external channels*



e) Total external and remote channels



Source: Supervisory reports.

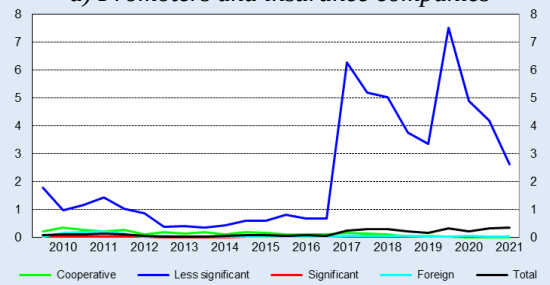
(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.- (2) Promoters include credit intermediaries, financial agents, and credit brokers.

Figure 4

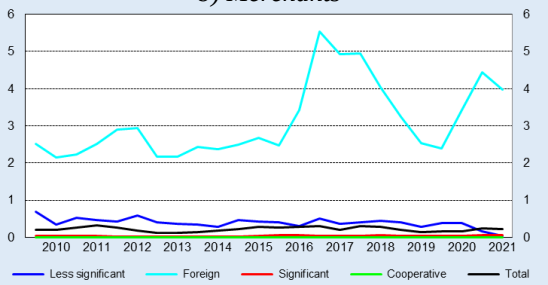
Volumes of new loans granted through external and remote channels as percentages of total volumes of new loans (1) (2)

(percentages)

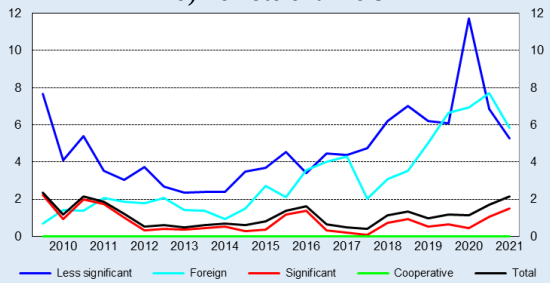
a) Promoters and insurance companies



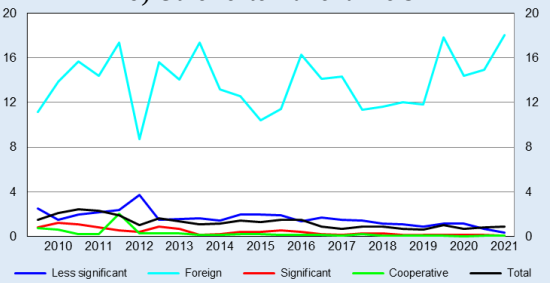
b) Merchants



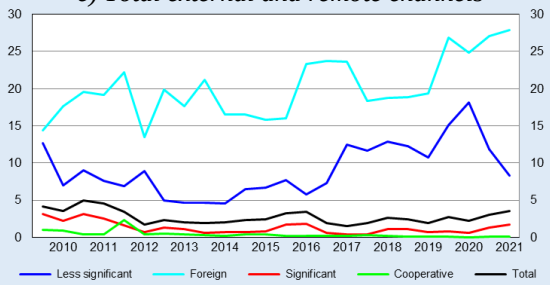
c) Remote channels



d) *Other external channels*



e) Total external and remote channels



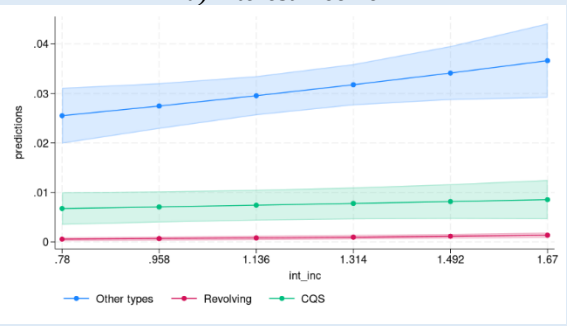
Source: Supervisory reports.

(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.- (2) Promoters include credit intermediaries, financial agents, and credit brokers.

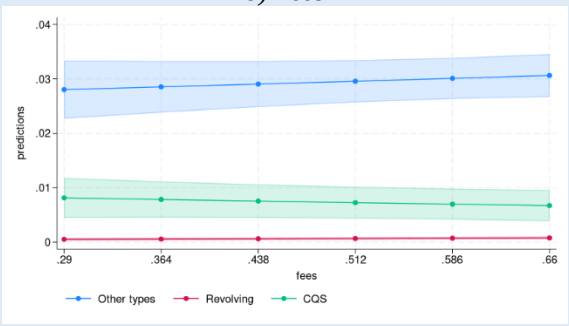
Figure 5

Marginal effects in the estimates of bank characteristics associated to consumer credit loan types

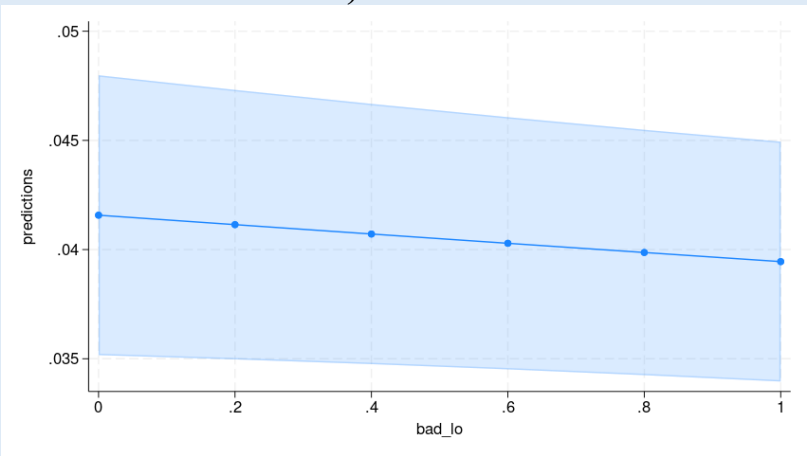
a) Interest income



b) Fees



a) Bad loans

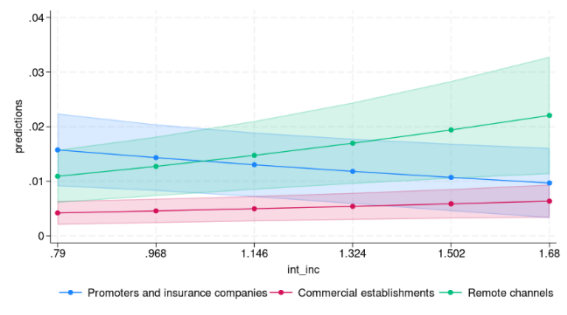


Marginal effects are measured on estimates of Table 10 by moving from the 25th to the 75th percentile of the variable's distribution while keeping the others constant.

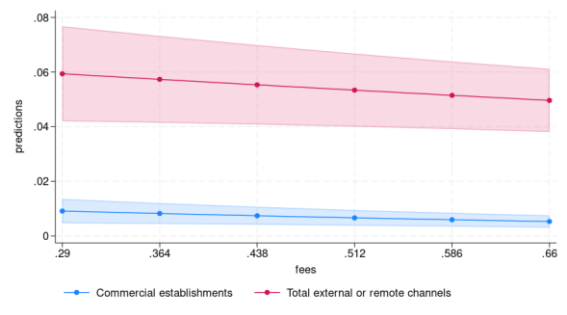
Figure 6

Marginal effects in the estimates of bank characteristics associated to the percentages of clients borrowing through external and remote channels

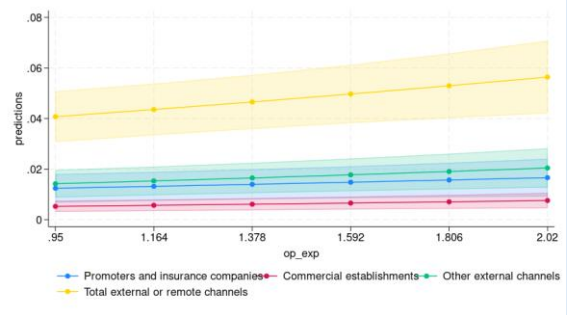
a) Interest income



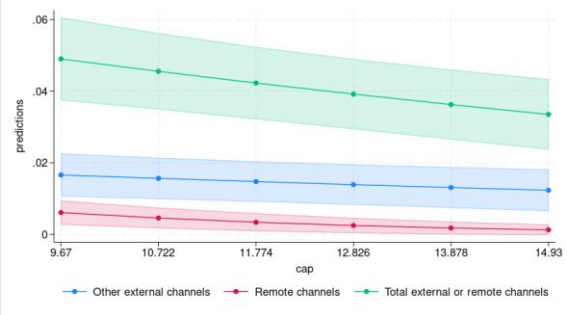
b) Fees



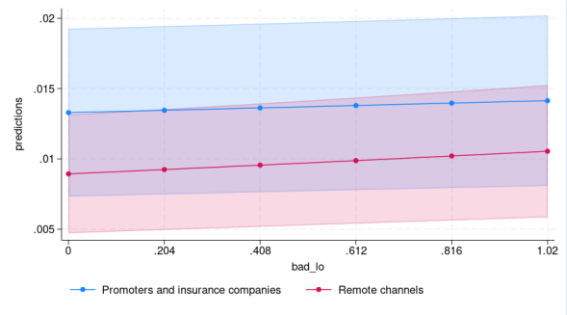
c) Operating expenses



d) *Capital*



e) Bad loans



Marginal effects are measured on estimates of Table 13 by moving from the 25th to the 75th percentile of the variable's distribution while keeping the others constant.

Table 1

Amounts of consumer credit loans, by loan type and bank category (1)
(Total outstanding amounts, billion euros)

	2010	2012	2014	2016	2018	2020	2021
Total banking system							
Total consumer credit	80.9	79.6	77.5	93.3	107.5	115.3	120.4
Revolving	4.0	3.7	3.1	3.9	4.1	3.7	3.3
CQS	10.5	9.2	9.7	11.6	13.4	15.9	17.4
Other types	66.5	66.7	64.7	77.8	90.0	95.7	99.7
Significant banking groups (non-cooperative)							
Total consumer credit	38.3	35.3	32.4	39.0	43.2	45.0	46.3
Revolving	0.8	0.8	0.6	1.5	1.5	1.4	1.3
CQS	6.2	3.6	3.0	3.7	4.2	6.2	6.3
Other types	31.3	30.9	28.7	33.7	37.5	37.4	38.7
Cooperative (significant) banking groups							
Total consumer credit	2.0	1.8	1.7	1.9	2.1	1.9	2.0
Revolving	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CQS	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Other types	2.0	1.7	1.7	1.9	2.0	1.9	1.9
Less significant banking groups							
Total consumer credit	5.8	7.0	10.0	11.3	13.7	15.7	17.2
Revolving	0.1	0.1	0.1	0.3	0.3	0.2	0.1
CQS	0.9	1.6	2.7	3.7	4.9	6.2	6.3
Other types	4.8	5.2	7.1	7.3	8.6	9.4	10.7
Foreign banks							
Total consumer credit	34.8	35.5	33.4	41.2	48.5	52.7	55.0
Revolving	3.1	2.7	2.3	2.1	2.4	2.2	1.9
CQS	3.4	4.0	4.0	4.2	4.2	3.5	4.8
Other types	28.3	28.8	27.1	34.9	41.9	47.1	48.3

Source: Supervisory reports.
(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.

Table 2

Number of banks lending consumer credit loans, by loan type and bank category
(number of banks, unit)

	2010	2012	2014	2016	2018	2020	2021
Total banking system							
Total consumer credit	682	628	595	535	447	413	394
Revolving	327	295	267	229	186	171	156
CQS	81	79	77	66	55	58	60
Other types	680	626	593	531	446	411	391
Significant banking groups (non-cooperative)							
Total consumer credit	102	82	67	54	36	27	24
Revolving	51	44	33	27	14	10	9
CQS	34	29	23	19	14	13	12
Other types	102	82	67	54	36	27	24
Cooperative (significant) banking groups							
Total consumer credit	349	331	322	286	228	208	201
Revolving	214	199	192	165	140	131	121
CQS	18	19	21	15	16	11	10
Other types	349	331	322	284	228	207	199
Less significant banking groups							
Total consumer credit	188	178	172	160	154	151	143
Revolving	46	40	30	26	22	20	16
CQS	20	24	25	25	20	29	32
Other types	186	177	171	159	154	151	142
Foreign banks							
Total consumer credit	43	37	34	35	29	27	26
Revolving	16	12	12	11	10	10	10
CQS	9	7	8	7	5	5	6
Other types	43	36	33	34	28	26	26

Source: Supervisory reports.

Table 3

Percentages of banks lending consumer credit loans, by loan type (1)
(percentages)

LOAN TYPE	2010	2012	2014	2016	2018	2020	2021
Only Revolving	0.0	0.0	0.0	0.4	0.0	0.2	0.6
Only CQS	0.2	0.2	0.2	0.2	0.2	0.2	0.0
Only Other types	38.4	38.9	39.8	42.8	45.8	45.5	44.8
Revolving and CQS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other types and revolving	36.5	34.5	32.1	30.0	30.1	29.4	26.8
Other types and CQS	3.6	5.2	5.6	4.9	4.7	6.1	6.7
All loan types	7.3	6.9	7.3	7.4	6.7	6.1	6.3
Banks not active in consumer credit	14.0	14.3	15.0	14.3	12.5	12.5	14.8

Source: Supervisory reports.
(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.

Table 4

Percentages of the amounts of consumer credit loans on total consumer credit, by loan type and bank category (1)
(percentages of total outstanding consumer credit loans)

	2010	2012	2014	2016	2018	2020	2021
Total banking system							
Revolving	4.9	4.6	3.9	4.2	3.8	3.2	2.8
CQS	12.9	11.6	12.5	12.5	12.4	13.8	14.5
Other types	82.1	83.8	83.5	83.4	83.7	83.0	82.8
Significant banking groups (non-cooperative)							
Revolving	2.2	2.2	2.0	3.9	3.5	3.1	2.7
CQS	16.1	10.1	9.3	9.6	9.8	13.8	13.6
Other types	81.8	87.6	88.8	86.5	86.7	83.1	83.7
Cooperative (significant) banking groups							
Revolving	0.8	0.9	1.0	0.8	0.6	0.5	0.5
CQS	0.2	0.2	0.5	0.6	3.1	3.1	3.0
Other types	99.0	98.9	98.5	98.6	96.3	96.4	96.6
Less significant banking groups							
Revolving	1.0	2.1	1.5	2.7	1.9	1.2	0.7
CQS	15.3	23.5	27.0	32.9	35.7	39.2	36.8
Other types	83.8	74.4	71.5	64.4	62.4	59.6	62.5
Foreign banks							
Revolving	8.8	7.7	6.7	5.0	4.9	4.1	3.5
CQS	9.9	11.3	12.0	10.1	8.7	6.6	8.7
Other types	81.3	81.1	81.3	84.9	86.5	89.3	87.8

Source: Supervisory reports.
(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.

Table 5

Market shares of bank categories in consumer credit loans by loan type and bank category (1)

(percentages of total outstanding consumer credit loans for loan type)

	2010	2012	2014	2016	2018	2020	2021
Total consumer credit							
Significant banking groups (non-coop)	47.3	44.3	41.8	41.7	40.2	39.0	38.4
Cooperative (significant) banking groups	2.5	2.2	2.2	2.0	2.0	1.7	1.7
Less significant banking groups	7.1	8.8	12.9	12.1	12.8	13.6	14.3
Foreign banks	43.0	44.6	43.1	44.1	45.1	45.7	45.7
CQS							
Significant banking groups (non-coop)	21.0	21.6	21.0	39.1	36.4	37.1	38.0
Cooperative (significant) banking groups	0.4	0.4	0.5	0.4	0.3	0.3	0.3
Less significant banking groups	1.4	4.0	4.9	7.9	6.4	4.9	3.7
Foreign banks	77.2	74.0	73.6	52.6	56.9	57.8	58.0
Revolving							
Significant banking groups (non-coop)	58.8	38.7	30.9	32.0	31.5	39.1	36.0
Cooperative (significant) banking groups	0.0	0.0	0.1	0.1	0.5	0.4	0.3
Less significant banking groups	8.4	17.9	27.9	31.9	36.6	38.8	36.3
Foreign banks	32.8	43.4	41.2	35.9	31.4	21.7	27.3
Other types							
Significant banking groups (non-coop)	47.1	46.4	44.4	43.3	41.6	39.1	38.8
Cooperative (significant) banking groups	3.0	2.6	2.6	2.4	2.3	2.0	1.9
Less significant banking groups	7.3	7.8	11.0	9.3	9.5	9.8	10.8
Foreign banks	42.6	43.2	41.9	44.9	46.6	49.2	48.5

Source: Supervisory reports.

(1) Data are adjusted to take into account the effects of mergers and acquisitions occurred during the period.

Table 6

Number and percentages of banks lending through external and remote channels (1)

(number of banks and percentages)

	2010	2012	2014	2016	2018	2020	2021
Banks lending only through bank branches	**623**	**582**	**546**	**471**	**391**	**350**	**341**
Banks using only external or remote channels	**26**	**22**	**19**	**18**	**22**	**22**	**22**
Banks using also external or remote channels	**89**	**81**	**74**	**82**	**59**	**64**	**58**
Banks using only 1 alternative channel	**71.8%**	**67.9%**	**68.8%**	**72.3%**	**67.5%**	**60.2%**	**56.3%**
Promoters and insurance companies (i.c.)	29.4%	24.4%	26.0%	31.3%	26.0%	20.5%	15.0%
Merchants	8.2%	5.1%	6.5%	8.4%	7.8%	4.8%	3.8%
Other external channels	28.2%	30.8%	32.5%	25.3%	24.7%	24.1%	23.8%
Remote channels	5.9%	7.7%	3.9%	7.2%	9.1%	10.8%	13.8%
Banks using 2 alternative channels	**21.2%**	**21.8%**	**22.1%**	**18.1%**	**22.1%**	**27.7%**	**32.5%**
Promoters. i.c. and merchants	1.2%	1.3%	1.3%	0.0%	0.0%	0.0%	0.0%
Promoters. i.c. and other external channels	5.9%	5.1%	7.8%	8.4%	7.8%	13.3%	10.0%
Promoters. i.c. and remote channels	2.4%	1.3%	1.3%	1.2%	1.3%	3.6%	6.3%
Merchants and remote channels	2.4%	1.3%	1.3%	0.0%	0.0%	1.2%	1.3%
Merchants and other ext. channels	4.7%	9.0%	6.5%	4.8%	7.8%	6.0%	10.0%
Remote channels and other external channels	4.7%	3.8%	3.9%	3.6%	5.2%	3.6%	5.0%
Banks using more than 2 alternative channels	**7.1%**	**10.3%**	**9.1%**	**9.6%**	**10.4%**	**12.0%**	**11.3%**

Source: Supervisory reports.
(1) "Other external channels" are a residual category including other types of distance channels. The total number of banks slightly differs from Table 2 as some banks use external or remote channels to offer loans different from consumer credit.

Table 7

Percentages of banks lending through external and remote channels (1)
By bank category
(percentages)

	2010	2012	2014	2016	2018	2020	2021
Total banking system							
Only bank branches	80.9%	82.4%	82.6%	80.7%	81.9%	80.2%	81.0%
Bank branches and external and remote channels	14.4%	13.8%	14.0%	15.8%	13.2%	14.5%	13.8%
Only external and remote channels	4.7%	3.8%	3.4%	3.5%	4.9%	5.2%	5.2%
Significant banking groups (non-coop)							
Only bank branches	28.0%	34.6%	37.0%	42.3%	42.3%	40.0%	42.3%
Bank branches and external and remote channels	68.0%	61.5%	63.0%	57.7%	50.0%	52.0%	50.0%
Only external and remote channels	4.0%	3.8%	0.0%	0.0%	7.7%	8.0%	7.7%
Cooperative (significant) banking groups							
Only bank branches	93.5%	96.5%	97.5%	97.0%	97.0%	98.5%	98.5%
Bank branches and external and remote channels	6.5%	3.5%	2.5%	3.0%	3.0%	1.5%	1.5%
Only external and remote channels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Less significant banking groups							
Only bank branches	82.9%	82.2%	80.6%	75.0%	78.9%	72.8%	74.8%
Bank branches and external and remote channels	12.7%	14.4%	15.0%	20.2%	15.5%	20.9%	18.2%
Only external and remote channels	4.4%	3.3%	4.4%	4.8%	5.6%	6.3%	6.9%
Foreign banks							
Only bank branches	39.5%	37.1%	39.4%	41.2%	38.9%	37.1%	35.3%
Bank branches and external and remote channels	28.9%	34.3%	39.4%	38.2%	33.3%	34.3%	38.2%
Only external and remote channels	31.6%	28.6%	21.2%	20.6%	27.8%	28.6%	26.5%

Source: Supervisory reports.
(1) Remote channels is a residual category including other type of distance channels.

Table 8

Descriptive statistics

The table contains descriptive statistics of variables used in Equations (1) and (2).

VARIABLES	Description	p5	p25	p50	p75	p95	mean	standard dev.	observations
Cons_cred	CQS	0	0	0.0000	0	0.0055	0.0073	0.0611	10,966
Cons_cred	Revolving loans	0	0	0.0000	0.0001	0.0008	0.0015	0.0175	10,966
Cons_cred	Other consumer credit types	0	0.003	0.0129	0.0269	0.1707	0.044	0.1285	10,966
Cons_cred	Total consumer credit	0	0.0036	0.0139	0.0295	0.2462	0.0529	0.1516	10,966
Lo_distr_ch	Total remote or external channel	0	0	0.0000	0	0.997	0.0927	0.2707	10,417
Lo_distr_ch	Promoters and insurance companies	0	0	0.0000	0	0.013	0.0191	0.1155	10,417
Lo_distr_ch	Merchants	0	0	0.0000	0	0	0.0211	0.1356	10,417
Lo_distr_ch	Other externa channels	0	0	0.0000	0	0.0784	0.0358	0.1698	10,417
Lo_distr_ch	Remote channels	0	0	0.0000	0	0	0.0166	0.1193	10,417
cap	Capital / total assets	0.0151	0.087	0.1169	0.1489	0.2183	0.1213	0.0681	10,934
bad_lo	Bad loans / total assets	0	0	0.0000	0.009	0.0734	0.0134	0.0326	11,045
log_ta	*Proxy* bank size	3.975	5.4781	6.5892	7.6559	9.9789	6.6465	1.8716	11,156
roa	Return on Assets	-0.0119	0.0004	0.0019	0.0039	0.0105	-0.0017	0.1251	10,081
gr_inc	Gross income / total assets	0.0095	0.0141	0.0209	0.0296	0.0468	0.025	0.0223	9,880
int_inc	Net interest income / total assets	0.0023	0.0074	0.0109	0.0164	0.024	0.0121	0.0066	9,881
fees	Net fees / total assets	0.0005	0.0028	0.0044	0.007	0.0233	0.0164	0.1434	10,081
ot_inc	Other income / total assets	0.0021	0.005	0.0079	0.0118	0.0209	0.0092	0.0061	9,476
op_exp	Operating expenses / total assets	0.0055	0.0095	0.0141	0.0211	0.0463	0.0332	0.2288	10,081
lo_hh	Households loans / total assets	0	0.1315	0.2399	0.3059	0.4247	0.2236	0.1472	11,156
lo_nfc	Non financial entities loans/ total assets	0	0.1541	0.2518	0.3411	0.5439	0.2542	0.1656	11,156
retail_dep	*Retail* deposits / total assets	0	0.3239	0.4986	0.6228	0.7351	0.4382	0.2414	11,156
bonds	Issued bonds / total assets	-0.054	0	0.0130	0.121	0.3019	0.0646	0.1193	11,156

Table 9

Bank characteristics associated to consumer credit loan types

The table contains the *Average Marginal Effects* of results estimated by *Fractional Probit* in equation (1). The model contains fixed effects of time. bank classification. belonging to a banking group and primary activity region. Standard deviations are in parentheses. * indicates significance at 1 per cent (***); 5 per cent (**); 10 per cent (*).

VARIABLES	CQS		Revolving		Other types		Total consumer credit	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
$gr\_inc_{i.t-1}$	-0.0000		0.0002***		0.0037***		0.0042***	
	(0.001)		(0.000)		(0.001)		(0.001)	
$roa_{i.t-1}$		0.0016*		0.0000		0.0001		0.0010
		(0.001)		(0.000)		(0.001)		(0.002)
$cap_{i.t-1}$	-0.0003	-0.0004	0.0000	0.0000**	-0.0001	0.0000	-0.0005	-0.0003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
$bad\_lo_{i.t-1}$	-0.0001	-0.0000	-0.0000	-0.0000	-0.0019**	-0.0015	-0.0023**	-0.0019*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
$log\_ta_{i.t-1}$	-0.0002	-0.0005	0.0005***	0.0004**	0.0038*	0.0012	0.0039	0.0009
	(0.001)	(0.001)	(0.000)	(0.000)	(0.002)	(0.002)	(0.003)	(0.003)
$lo\_nfc_{i.t-1}$	-0.0003**	-0.0003**	-0.0001***	-0.0001***	-0.0006***	-0.0006***	-0.0009***	-0.0010***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$lo\_hh_{i.t-1}$	0.0004***	0.0004***	0.0000***	0.0000***	0.0015***	0.0014***	0.0021***	0.0021***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$retail\_dep_{i.t-1}$	-0.0001**	-0.0001**	0.0000	0.0000	-0.0002	-0.0002	-0.0006***	-0.0005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$bonds_{i.t-1}$	-0.0001	-0.0001	0.0000	0.0000	-0.0007***	-0.0008***	-0.0008***	-0.0009***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Group affiliation	0.0071**	0.0077**	0.0010***	0.0011***	-0.0065	-0.0026	0.0092	0.0133
	(0.003)	(0.003)	(0.000)	(0.000)	(0.009)	(0.009)	(0.009)	(0.009)
Time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank category FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank clusters	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,007	9,067	9,007	9,067	9,007	9,067	9,007	9,067

Table 10

Bank characteristics associated to consumer credit loan types

The table contains the *Average Marginal Effects* of results estimated by *Fractional Probit* in equation (1). The model contains fixed effects of time. bank classification. belonging to a banking group and primary activity region. Standard deviations are in parentheses. * indicates significance at 1 per cent (***); 5 per cent (**); 10 per cent (*).

VARIABLES	CQS	Revolving	Other types	Total consumer credit
	(1)	(1)	(1)	(1)
$int\_inc_{i.t-1}$	0.0019	0.0008***	0.0123**	0.0170***
	(0.002)	(0.000)	(0.006)	(0.007)
$fees_{i.t-1}$	-0.0037	0.0009***	0.0072	0.0049
	(0.003)	(0.000)	(0.007)	(0.008)
$ot\_inc_{i.t-1}$	-0.0001	-0.0001	0.0014	0.0020
	(0.002)	(0.000)	(0.004)	(0.005)
$op\_exp_{i.t-1}$	-0.0374	0.0053	0.1130	0.1414
	(0.073)	(0.012)	(0.112)	(0.133)
$cap_{i.t-1}$	-0.0004	-0.0000	-0.0001	-0.0007
	(0.000)	(0.000)	(0.001)	(0.001)
$bad\_lo_{i.t-1}$	-0.0000	-0.0000	-0.0017**	-0.0020**
	(0.000)	(0.000)	(0.001)	(0.001)
$log\_ta_{i.t-1}$	-0.0004	0.0005***	0.0029	0.0028
	(0.001)	(0.000)	(0.002)	(0.002)
$lo\_nfc_{i.t-1}$	-0.0002**	-0.0001***	-0.0007***	-0.0010***
	(0.000)	(0.000)	(0.000)	(0.000)
$lo\_hh_{i.t-1}$	0.0004***	0.0000**	0.0011***	0.0017***
	(0.000)	(0.000)	(0.000)	(0.000)
$retail\_dep_{i.t-1}$	-0.0001*	0.0000	-0.0002	-0.0006***
	(0.000)	(0.000)	(0.000)	(0.000)
$bonds_{i.t-1}$	-0.0001	0.0000	-0.0007***	-0.0008***
	(0.000)	(0.000)	(0.000)	(0.000)
Group affiliation	0.0066**	0.0006**	-0.0001	0.0126
	(0.003)	(0.000)	(0.008)	(0.008)
Time FEs	Yes	Yes	Yes	Yes
Bank category FEs	Yes	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes	Yes
Bank clusters	Yes	Yes	Yes	Yes
Observations	8,682	8,682	8,682	8,682

Table 11

Bank characteristics associated to consumer credit loan types

The table contains the average marginal effects of results estimated by *Fractional Probit* in equation (1). The model contains fixed effects of time. bank classification. belonging to a banking group and primary activity region. Standard deviations are in parentheses. * indicates significance at 1 per cent (***); 5 per cent (**); 10 per cent (*).

VARIABLES	CQS	Revolving	Other Types	Total consumer credit
	(1a)	(2a)	(3a)	(4a)
$int\_inc_{i.t-1}$	0.0034*	0.0009***	0.0131**	0.0181**
	(0.002)	(0.000)	(0.007)	(0.007)
$fees_{i.t-1}$	-0.0017	0.0012**	0.0072	0.0085
	(0.004)	(0.000)	(0.008)	(0.009)
$ot\_inc_{i.t-1}$	-0.0036*	-0.0001	0.0025	-0.0013
	(0.002)	(0.000)	(0.004)	(0.005)
$op\_exp_{i.t-1}$	0.0356	0.0087	0.0889	0.1423
	(0.025)	(0.013)	(0.119)	(0.133)
$cap_{i.t-1}$	-0.0003	0.0000	0.0002	-0.0004
	(0.000)	(0.000)	(0.001)	(0.001)
$bad\_lo_{i.t-1}$	-0.0002	-0.0001	-0.0019**	-0.0026***
	(0.000)	(0.000)	(0.001)	(0.001)
$log\_ta_{i.t-1}$	-0.0003	0.0006***	0.0026	0.0030
	(0.001)	(0.000)	(0.002)	(0.002)
$lo\_nfc_{i.t-1}$	-0.0003***	-0.0001***	-0.0007***	-0.0010***
	(0.000)	(0.000)	(0.000)	(0.000)
$lo\_hh_{i.t-1}$	0.0003***	0.0000**	0.0012***	0.0016***
	(0.000)	(0.000)	(0.000)	(0.000)
$retail\_dep_{i.t-1}$	-0.0001	0.0000	-0.0003	-0.0006***
	(0.000)	(0.000)	(0.000)	(0.000)
$bonds_{i.t-1}$	-0.0000	-0.0000	-0.0010***	-0.0011***
	(0.000)	(0.000)	(0.000)	(0.000)
Group affiliation	0.0039	0.0009***	0.0011	0.0079
	(0.003)	(0.000)	(0.008)	(0.008)
$comp_{i.t-1}$	0.0000	0.0000	0.0001	0.0004***
	(0.000)	(0.000)	(0.000)	(0.000)
$disp_{i.t-1}$	0.0004**	0.0000	-0.0001	0.0014**
	(0.000)	(0.000)	(0.001)	(0.001)
Time FEs	Yes	Yes	Yes	Yes
Bank category FEs	Yes	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes	Yes
Bank clusters	Yes	Yes	Yes	Yes
Observations	6,016	6,016	6,016	6,016

Table 12

Bank characteristics associated to the use of external and remote lending channels
Estimation of intensive margin

The table contains the average marginal effects of results estimated by *Probit Random Effect* in equation (2). The model contains fixed effects of time. bank classification. belonging to a banking group and primary activity region. Standard deviations are in parentheses. * indicates significance at 1 per cent (***); 5 per cent (**); 10 per cent (*).

VARIABLES	Promoters and insurance companies	Merchants	Other external channels	Remote channels	Total external and remote channels
$int\_inc_{i.t-1}$	-0.0051	0.0193**	-0.0029	0.0035	0.0005
	(0.008)	(0.010)	(0.012)	(0.010)	(0.013)
$fees_{i.t-1}$	-0.0176	-0.0933***	-0.0321**	0.0197	-0.0359**
	(0.013)	(0.022)	(0.014)	(0.013)	(0.016)
$ot\_inc_{i.t-1}$	0.0002**	0.0003***	0.0002**	-0.0001	0.0003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$op\_exp_{i.t-1}$	0.0146**	0.0299***	0.0113	0.0105	0.0199**
	(0.007)	(0.009)	(0.008)	(0.008)	(0.008)
$cap_{i.t-1}$	-0.0029**	-0.0027	-0.0026*	-0.0002	-0.0041***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)
$bad\_lo_{i.t-1}$	0.0026**	-0.0037	0.0013	0.0028	0.0033**
	(0.001)	(0.003)	(0.001)	(0.003)	(0.002)
$log\_ta_{i.t-1}$	0.0255	0.0535***	0.0260**	0.0537**	0.0533***
	(0.021)	(0.011)	(0.011)	(0.023)	(0.010)
$lo\_nfc_{i.t-1}$	-0.0005	0.0017**	-0.0007	0.0001	-0.0012*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$lo\_hh_{i.t-1}$	0.0008	0.0040***	0.0009	0.0009	0.0018**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$retail\_dep_{i.t-1}$	0.0003	-0.0015***	-0.0005	0.0008	0.0002
	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
$bonds_{i.t-1}$	0.0004	-0.0009	-0.0019**	-0.0015	-0.0004
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Group affiliation	-0.0044	0.0575**	0.0422	-0.0033	0.0277
	(0.034)	(0.024)	(0.029)	(0.055)	(0.039)
Time FEs	Yes	Yes	Yes	Yes	Yes
Bank category FEs	Yes	Yes	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes	Yes	Yes
Bank clusters	Yes	Yes	Yes	Yes	Yes
Observations	7,301	2,175	7,096	3,204	7,427

Table 13

Bank characteristics associated to the use of external and remote lending channels
Estimation of extensive margin

The table contains the average marginal effects of results estimated by *Fractional Probit* in equation (2). The model contains fixed effects of time. bank classification. belonging to a banking group and primary activity region. Standard deviations are in parentheses. * indicates significance at 1 per cent (***); 5 per cent (**); 10 per cent (*).

VARIABLES	Promoters and insurance companies	Merchants	Other external channels	Remote channels	Total external and remote channels
$int\_inc_{i.t-1}$	-0.0077*	0.0022**	-0.0051	0.0097***	0.0020
	(0.004)	(0.001)	(0.005)	(0.003)	(0.008)
$fees_{i.t-1}$	-0.0067	-0.0070***	-0.0083	-0.0020	-0.0250**
	(0.005)	(0.002)	(0.005)	(0.004)	(0.011)
$ot\_inc_{i.t-1}$	0.0001**	0.0000***	-0.0000	0.0000	0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$op\_exp_{i.t-1}$	0.0039*	0.0020***	0.0055***	-0.0003	0.0146***
	(0.002)	(0.001)	(0.002)	(0.003)	(0.005)
$cap_{i.t-1}$	-0.0006	-0.0003	-0.0009*	-0.0022***	-0.0031***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
$bad\_lo_{i.t-1}$	0.0009*	-0.0002	0.0002	0.0017***	0.0014
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
$log\_ta_{i.t-1}$	0.0003	0.0019**	0.0015	-0.0002	0.0014
	(0.002)	(0.001)	(0.002)	(0.002)	(0.004)
$lo\_nfc_{i.t-1}$	0.0001	0.0002***	-0.0000	-0.0005***	-0.0002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$lo\_hh_{i.t-1}$	-0.0000	0.0003***	-0.0003	-0.0003*	0.0000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$retail\_dep_{i.t-1}$	0.0001	-0.0002***	-0.0005***	0.0001	-0.0006**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$bonds_{i.t-1}$	-0.0010**	-0.0000	-0.0005*	0.0003	-0.0017**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Group affiliation	-0.0030	0.0023	0.0191***	0.0009	0.0220
	(0.008)	(0.002)	(0.007)	(0.005)	(0.014)
Time FEs	Yes	Yes	Yes	Yes	Yes
Bank category FEs	Yes	Yes	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes	Yes	Yes
Bank clusters	Yes	Yes	Yes	Yes	Yes
Observations	8,295	8,295	8,295	8,295	8,295

Table 14

Bank characteristics associated to the use of external and remote lending channels
Estimation of extensive margin

The table contains the average marginal effects of results estimated by *Fractional Probit* in equation (2). The model contains fixed effects of time. bank classification. belonging to a banking group and primary activity region. Standard deviations are in parentheses. * indicates significance at 1 per cent (***); 5 per cent (**); 10 per cent (*).

VARIABLES	Promoters and insurance companies	Merchants	Other external channels	Remote channels	Total external and remote channels
$int\_inc_{i.t-1}$	-0.0014	0.0005	-0.0005	0.0071**	0.0085
	(0.003)	(0.000)	(0.004)	(0.003)	(0.007)
$fees_{i.t-1}$	-0.0041	-0.0027***	-0.0129**	-0.0009	-0.0197**
	(0.004)	(0.001)	(0.005)	(0.003)	(0.009)
$ot\_inc_{i.t-1}$	0.0000	0.0000***	0.0000	0.0000	0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$op\_exp_{i.t-1}$	0.0046**	0.0003	0.0044**	-0.0011	0.0116***
	(0.002)	(0.000)	(0.002)	(0.002)	(0.004)
$cap_{i.t-1}$	-0.0009**	-0.0000	-0.0005	-0.0019***	-0.0029***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
$bad\_lo_{i.t-1}$	0.0012***	-0.0004***	-0.0001	0.0007	0.0013
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
$log\_ta_{i.t-1}$	0.0001	-0.0000	0.0018	-0.0026	-0.0029
	(0.002)	(0.000)	(0.002)	(0.002)	(0.004)
$lo\_nfc_{i.t-1}$	-0.0000	0.0000	0.0000	-0.0004***	-0.0004
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$lo\_hh_{i.t-1}$	-0.0001	0.0002***	-0.0001	-0.0004*	-0.0003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$retail\_dep_{i.t-1}$	0.0002	-0.0000	-0.0005***	-0.0000	-0.0004
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$bonds_{i.t-1}$	-0.0006*	-0.0001***	-0.0006**	0.0003	-0.0012**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Group affiliation	-0.0141	0.0016***	0.0112*	0.0034	0.0048
	(0.009)	(0.000)	(0.006)	(0.005)	(0.012)
Time FEs	Yes	Yes	Yes	Yes	Yes
Bank category FEs	Yes	Yes	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes	Yes	Yes
Bank clusters	Yes	Yes	Yes	Yes	Yes
Observations	8,295	8,295	8,295	8,295	8,295