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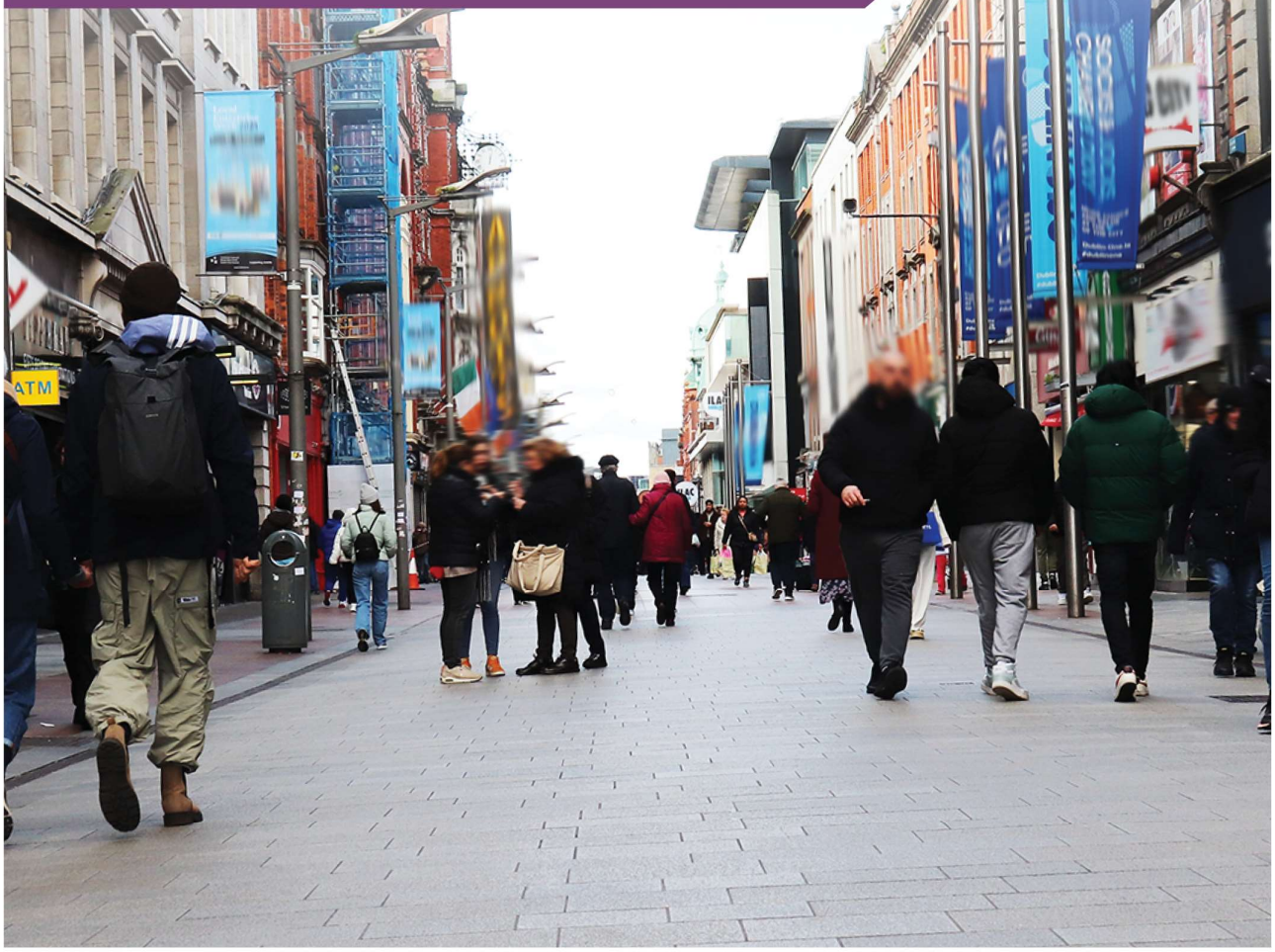

Contents

Beyond the Big Three: A Broader View of Competition in the Irish Loan Market*

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ABSTRACT

We assess competition in the Irish loan market using comprehensive Central Credit Register data covering all term loan originations from 2019–2025. Although the exit of two retail banks has heightened concerns about concentration, we show that aggregate market concentration is substantially lower — and has declined — once non-bank lenders (NBLs), credit unions, and foreign banks are included. The market is integrated rather than segmented: firms, particularly SMEs, frequently combine bank and non-bank credit, and borrowing relationships with NBLs are persistent. Pricing evidence shows that non-banks charge a premium in less standardised segments — largest in commercial and business lending — but not in the highly standardised residential mortgage market, consistent with product differentiation and specialisation rather than market power. Overall, non-bank lenders provide meaningful competitive discipline in an integrated credit market.

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1. INTRODUCTION

Over recent decades, financial systems have undergone a profound structural transformation: an increasing share of credit intermediation now occurs *beyond banks* (IMF, 2023; FSB, 2024; ESRB, 2025). This activity is carried out by a diverse set of non-bank lenders (NBLs) — including retail credit firms, leasing companies, investment funds, and various specialised finance providers. While this shift has expanded the range of credit options and diversified funding sources, it also challenges traditional approaches to monitoring market competition, which often remain focused primarily on the banking sector.

This article examines the structure of the Irish loan market to assess the broader competitive landscape. The effective exit of Ulster Bank and KBC Bank in 2023 reduced the number of domestic retail banks in Ireland to three, naturally intensifying concerns about competitive conditions in the sector.[1] However, focusing exclusively on domestic retail banks may result in an **incomplete assessment** of market structure, as it does not fully capture the role played by **foreign banks, NBLs, and credit unions**. These institutions account for a substantial share of credit extended to both households and firms. A **holistic assessment** of competition therefore requires a **view of the credit landscape that extends beyond domestic banks alone**.

In this article, we leverage granular loan-level data from the Central Credit Register (CCR) — covering nearly 7 million *new term loan originations* between 2019 and 2025 — to analyze the state of the Irish loan market.[2] Crucially, the CCR records **all credit contracts issued in Ireland**, in excess of €500, including those originated by domestic banks, foreign banks, NBLs, and credit unions. This comprehensive coverage — rare by international standards, as most countries lack systematic data on non-bank lending — allows us to **examine competitive dynamics** in a market where a significant share of credit is intermediated outside the banking sector. Rather than relying solely on aggregate indicators, we examine market structure through **three complementary lenses**: **market concentration** based on new lending, **firm borrowing patterns** across lender types, and **loan pricing** using

[1] Concerns regarding elevated concentration in the Irish banking sector were raised by the Government (Department of Finance, 2022) and acknowledged by the Central Bank of Ireland (Central Bank of Ireland, 2022a, 2023).

[2] Credit card lending is excluded as it constitutes revolving credit without clear origination and maturity dates, and its pricing — based on carried balances, fees, and promotional offers — differs fundamentally from term loans. Other non-term products, such as overdrafts and revolving credit facilities, are also excluded because they lack fixed repayment schedules. We also exclude lending to financial corporations and to borrowers with foreign addresses.

loan-level data.

Our analysis yields **three main findings** that **offer a more nuanced perspective on competition in the Irish loan market**.

First, we show that market concentration varies substantially across loan market segments and that accounting for the lending activity of non-bank lenders, credit unions, and foreign banks materially alters the assessment of concentration. In segments central to the domestic economy — most notably **business lending** and **consumer credit** (including asset finance) — the presence of these lenders **substantially reduces the high concentration implied by domestic banks alone**. For example, concentration measured by the Herfindahl–Hirschman Index (HHI) for new lending in the business segment falls by roughly a **half** once all lender types are considered, while in consumer credit it declines by nearly **80 percent**. In these segments, concentration among domestic banks has remained broadly stable or has even increased slightly, whereas **aggregate concentration across all lender types has declined over time**.

To further assess whether this pattern extends to smaller firms, we **re-examine concentration in business lending to SMEs** and find that **non-bank lenders and foreign banks continue to play a meaningful role**, accounting for a **substantial share of credit supply even within this sub-segment**. In particular, the presence of NBLs and foreign banks **reduces concentration relative to domestic banks by roughly half**, with **NBLs playing a particularly important role due to their large share of SME lending**.

Similarly, the **commercial mortgage segment**, which is dominated by non-bank lenders, exhibits substantially lower concentration when NBL activity is taken into account. Unlike the Business and Consumer Credit segments, however, concentration in commercial mortgages has risen since 2024, nearly doubling in 2025 relative to its 2023 level. Even so, it remains markedly below the level observed when only domestic-bank lending is considered.

By contrast, while the presence of non-bank lenders reduces concentration in the **residential mortgage segment**, concentration remains moderately elevated overall and **rose in 2023–2024**, largely reflecting the retrenchment of some non-bank lenders in a rising interest-rate environment. However, it started to decline again in 2025.

Second, to validate the use of aggregate concentration measures — which could in principle be misleading if the loan market were fragmented along lender-type lines — we show that the market

displays **signs of functional integration**. A common concern is that non-bank lending might reflect a segmented market where certain borrowers are excluded from the banking sector. **Our data suggest a more complex dynamic**. We find that **roughly a third of Irish firms — and 40 per cent of SMEs — borrow from multiple lender types**, typically combining a core domestic banking relationship with non-bank credit. Moreover, borrowing relationships with **non-bank lenders exhibit duration and stability comparable to those with domestic banks**, suggesting that for many firms, the non-bank sector functions as a **complementary source of finance rather than merely a transactional stopgap**. This quantitative evidence is consistent with earlier analysis in Department of Finance (2022) and Central Bank of Ireland (2022b), which discussed non-bank lenders as a potential source of competitive pressure supporting competition and broadening SME access to finance.

Third, our analysis of loan pricing reveals a **heterogeneous landscape shaped by product characteristics and funding structures**. In the highly standardized **residential mortgage market**, we find **no economically meaningful difference in pricing** between banks and non-banks, consistent with a market driven by price competition and regulation. In contrast, **consumer credit and firm lending carry a significant non-bank premium** — ranging from approximately 1.8-1.9 percentage points for consumer credit and 1.6-2.8 percentage points for non-households. We argue that these premiums likely reflect **non-price dimensions of competition**: despite a structural cost-of-funding disadvantage, non-banks appear to compete by offering **contractual flexibility, speed, and product specialisation** that regulated domestic banks may not always replicate.

Taken together, these findings suggest that **relying exclusively on domestic banking data may overstate the degree of market concentration**. By adopting a broader perspective that reflects the full range of credit providers, this article highlights that the Irish loan market is characterized by a **diverse ecosystem** in which alternative lender types **contribute to market depth** and provide **alternative funding options for both SMEs — the backbone of the economy — and households**.

The paper is organized as follows. Section 2 provides a detailed overview of the Irish loan market, focusing on the different lender types operating within it. Section presents the concentration analysis, while Section 3.5 examines firm borrowing patterns. Section 4.4 analyzes systematic differences in loan pricing across lender types. Finally, Section 4.4 concludes.

2. LANDSCAPE OF THE IRISH LOAN MARKET

The Irish loan market is a diverse ecosystem comprising domestic banks, foreign banks, credit unions, and a heterogeneous set of non-bank lenders (NBLs). Figure 1 summarises annual *new* term lending to households and non-households over the 2019–2025 period [3] Panel A reports aggregate lending volumes for new term loans to households and non-households, while Panels B and C depict market shares by lender type across household and non-household segments, respectively.[4]

Over this period, new lending to households averaged approximately €20 billion per year and exhibited relatively stable growth, with the exception of 2023 and 2024. The decline observed in 2023–2024 is consistent with the transmission of ECB monetary policy tightening in 2022–2023. On average per year, nearly two-thirds of this lending is originated by domestic banks, while credit unions and non-bank lenders account for 19 and 15 per cent, respectively. Although foreign banks account for only around 2 per cent on average, their share in household lending has been steadily increasing, reaching nearly 8 per cent in 2025. This rise partly reflects the growing presence of foreign banks in this segment, as well as the reclassification of one non-bank lender as a foreign bank in 2025.

By contrast, non-household lending averaged around €26 billion annually but displayed pronounced volatility, with a sharp expansion in 2021 followed by a sustained decline. The 2021 surge reflected a temporary large expansion of foreign banks' share — primarily in syndicated lending characterised by a small number but large size of loans — likely driven by a combination of pandemic-related liquidity dynamics and Brexit-related cross-border capital flows. On average per year, the share of foreign banks in lending to non-households is nearly 60 per cent while domestic banks and NBLs account for 31 and 11 per cent, respectively. The share of credit unions is less than 1 per cent. The large share of foreign banks in lending to non-households warrants further discussion and caution in interpretation (see discussion below). We next examine each lender type and the composition of their lending in greater detail.

[3] Note: Lending to non-households excludes credit to financial companies, firms with non-Irish addresses, and lending conducted through securitisation vehicles, including Financial Vehicle Corporations (FVCs) and Section 110 SPVs. As a result, the sample also excludes most aviation-related lending, which is frequently structured through such vehicles. In addition, we exclude loans issued by specialised aviation entities, as this activity is less closely linked to the domestic Irish economy and, given its scale, can materially distort measured lending in the non-household sector.

[4] See the Frontier Statistics by Central Bank of Ireland (2025) for a recent analysis of the *outstanding* stock of domestic credit.

Domestic banks comprise the pillar retail institutions — AIB Group, Bank of Ireland, and Permanent TSB — as well as KBC Bank Ireland and Ulster Bank Ireland prior to their withdrawal from the Irish market, announced in 2021 and completed by 2023.[5] Panel A of Figure A1 in the Appendix presents the annual composition of domestic banks' new lending across these broad market segments. Their new lending is primarily composed of residential mortgages (53 per cent) and business loans (33 per cent), complemented by consumer lending including asset financing (10 per cent) and a small exposure to syndicated lending (4 per cent) and commercial mortgages (4 per cent). While domestic banks lend to non-household borrowers of all sizes, they play a particularly critical role for smaller entities, accounting for a disproportionately large share of funding to sole traders and micro-firms.

Foreign banks operate in Ireland either as EU/EEA branches under passporting arrangements, as subsidiaries licensed and supervised by the Central Bank of Ireland (CBI), or through cross-border lending. Our sample includes 20 foreign banks. Panel B of Figure A1 in the Appendix provides an annual breakdown of foreign banks' new lending across broad loan market segments. Foreign-bank lending is primarily concentrated in syndicated lending (29 per cent) and other loan types (34 per cent), the latter largely consisting of structured corporate finance loans. These segments are characterised by relatively large loan sizes, substantial year-to-year volatility, and a limited number of originations; consequently, their high market share is driven by transaction values rather than the number of loans. A significant share of foreign-bank lending also takes the form of business loans (31 per cent). While lending to households remains relatively small in volume, it has been increasing since 2022, partly reflecting the growing presence of foreign banks in this segment as well as the reclassification of one non-bank lender as a foreign bank in 2025.

Ireland's role as an international financial centre implies that some foreign-bank activity may not be primarily oriented towards the domestic economy, and its interpretation therefore warrants appropriate caution. However, even with comprehensive credit registry data, it is not possible to cleanly disentangle foreign-bank lending that is disconnected from domestic economic activity from lending that directly supports Irish firms. To address this issue, we also examine lending by foreign banks to Irish SMEs and show that a non-trivial share of SME borrowing comes from foreign banks.

[5] While KBC and Ulster Bank were not domestic banks in terms of ownership nationality, we classify them as domestic banks because they operated as part of the Irish retail banking sector for a significant period and were locally regulated and supervised by the Central Bank of Ireland.

We further show that many Irish SMEs, as well as larger firms, combine foreign-bank borrowing with domestic bank and non-bank credit. Taken together, this evidence suggests that foreign banks form a meaningful part of the effective funding set faced by Irish firms and should therefore be included in the analysis.

Non-bank lenders (NBLs) form a heterogeneous group comprising retail credit firms (RCFs), local authorities (LAs), high-cost credit providers (HCCPs; formerly moneylenders), and a diverse set of non-bank lenders focused on specialised, non-retail credit provision, which includes various entities operating as balance-sheet lenders.[6] Overall, our sample includes 131 such NBL entities. Panel C of Figure A1 in the Appendix provides an annual breakdown of NBLs' new lending across broad loan market segments. The bulk of NBLs' new lending takes place in the form of business lending (37 per cent), consumer lending including asset finance (34 per cent), and residential mortgages (20 per cent). While commercial mortgage lending averages about 8 per cent per year out of all non-bank lending, it is worth noting that on average nearly three-quarters of new commercial mortgages by volume are originated by non-banks, while the remaining quarter by domestic banks.

While NBLs encompass a wide range of institutional forms, lending volumes are highly concentrated among two types of NBLs. Panels A and B of Figure A2 show that about 95 per cent of non-bank lending by value is accounted for by two groups: RCFs and SFPs.[7] These two types of non-banks naturally differ in their lending compositions, with RCFs focusing more on retail lending to households and firms, while SFPs are more present in non-retail sectors. Figure A2 documents these differences in their lending compositions:

- **Retail Credit Firms (RCFs):** similar to retail banks, RCFs engage in continuous lending activity. Our sample includes 33 RCFs. Their annual new lending represents about 83 per cent of total non-bank lending, and its composition closely resembles that of domestic banks. Specifically, their lending concentrated primarily in consumer credit (39 per cent), business loans (34 per cent), and residential mortgages (22 per cent). RCFs also originate commercial mortgages and, while the relative share of these in RCFs' lending is small (5 per cent), it accounts on average per year for 36 per cent of all new commercial mortgages. RCFs' new lending ex-

[6] These entities include among others alternative lenders (corporate, Commercial Real Estate (CRE)), asset financiers (including corporate asset finance), investment funds (Irish Collective Asset-management Vehicles (ICAVs) and Qualifying Investor Alternative Investment Funds (QIAIFs)) engaged in lending, and SME direct lenders.

[7] High-cost credit providers originate a large number of individual loans (Panel B of Figure A2), but their small average loan size implies a negligible contribution to total lending value relative to RCFs and SFPs.

panded markedly from 2020 to 2022, but this expansion was halted when the ECB engaged in monetary policy tightening to combat rising inflation in 2023. While monetary policy tightening is expected to have a contractionary effect on lending, this was stronger in the case of RCFs due to their high leverage, lack of deposit funding (a cheap and stable source of funds), and heavy reliance on short-term financing.[8] It is also important to note that one of the major RCFs became a foreign bank in 2025, which mechanically reduces measured RCF lending in 2025.

- **Specialised Finance Providers (SFPs):** SFPs are more likely to originate credit on a deal-by-deal basis rather than lend continuously like RCFs, resulting in lumpy lending patterns and elevated volatility. Our sample includes 39 SFPs. Their activity is heavily skewed towards the non-household segment, with new lending dominated primarily by business lending (55 per cent) and commercial mortgages (30 per cent), and a residual category of complex "other" loan types (7 per cent), consisting primarily of structured corporate finance loans. While, on average per year, SFPs account for only 12 per cent of all non-bank lending, they originate about 35 per cent of all new commercial mortgage lending.

Credit Unions are member-owned, not-for-profit financial cooperatives regulated by the CBI. Crucially, unlike other non-bank lenders, they are authorised to accept member deposits, which are protected under the same Deposit Guarantee Scheme that covers domestic banks. They specialise in personal lending and primarily serve local communities or specific occupational groups. Our sample covers 204 credit unions. Panel D of Figure A1 in the Appendix provides an annual breakdown of CUs' new lending across broad loan market segments. Their lending activities are overwhelmingly concentrated in consumer credit (94 per cent), alongside a small but growing presence in residential mortgages (4 per cent). While credit unions account on average per year for about 12 per cent of all new lending, their share in consumer credit stands at 46 per cent, making them the dominant player in this segment. Consistent with their deposit-based funding model and the stability it provides, overall lending by credit unions exhibits very low volatility relative to other lenders, even during the period of elevated ECB policy rates in 2022–2024, and has grown steadily over the sample.

[8] In the context of Irish lending, earlier work has discussed concerns that non-bank lending may be more volatile due to greater reliance on market-based funding relative to banks; see Gaffney et al. (2022); Moloney et al. (2023). For recent quantitative evidence, see Gaffney and McCann (2024); Giuliana and Reddan (2025); Goncharenko and Lukmanova (2025, 2026).

We close this section with a brief discussion comparing the degree of specialisation across lender types. We define specialisation in terms of the range of loan types offered by a lender. Loan types include, among others, standard business loans, business leasing, business hire purchase, and personal loans. The CCR distinguishes 16 different types of term loans, which we summarise in Appendix Table A1.

To quantify specialisation, we use the Herfindahl–Hirschman Index (HHI), computed at the lender level over the distribution of lending across all loan types by volume. We define the HHI formally in the next section.

Figure 2 depicts median annual specialisation measures for different lender types in Panel A, and separately for subtypes of NBLs such as RCFs and SFPs in Panel B. As one would expect, domestic banks exhibit the lowest degree of specialisation, indicating activity across a broad range of loan types, consistent with their retail lending nature. Other lender types generally display a higher degree of specialisation: foreign banks primarily specialise in syndicated lending and structured corporate finance, while credit unions specialise in originating personal loans.

It is important, however, to note that while non-banks appear highly specialised when considered as a group, recomputing the specialisation measure separately for RCFs and SFPs (Panel B) reveals important differences.[9] In particular, SFPs are substantially more specialised than RCFs, justifying our reference to them as *Specialised* Finance Providers. RCFs, in contrast, exhibit a degree of specialisation more comparable to domestic retail banks, further highlighting similarities between these two lender types.

3. CONCENTRATION ANALYSIS OF THE IRISH LOAN MARKET

This section examines the market structure of new loan originations in terms of its concentration. We begin by defining our measure of concentration and then document how expanding the scope of analysis beyond domestic banks fundamentally alters the assessment of market concentration, both in aggregate and across specific market segments defined by borrower type or loan type.

[9] We do not discuss HCCPs and LAs explicitly as their lending shares are small, but both exhibit an extremely high degree of specialisation, with the specialisation measure close to 1.

3.1 Market Concentration Measure

We evaluate market concentration in new loan originations using the Herfindahl–Hirschman Index (HHI), a standard measure in the industrial organization and banking literature. Let $s_{l,m,t}$ denote the market share of new loans (by volume) issued by lender l in market m in year t, where there are N active lenders. The HHI for market m in year t is defined as the sum of squared market shares:

$$HHI_{m,t} = \sum_{l=1}^{N} s_{l,m,t}^2. \tag{1}$$

Since loan shares sum to one, the HHI is bounded between 0 and 1.[10] An HHI of 1 corresponds to a monopoly, while lower values indicate a more fragmented and competitive market structure. The index is decreasing in the number of lenders N and increasing in the variance of market shares. Thus, for a fixed N, a market with symmetric shares will have a lower HHI than one dominated by a single large player.

As a benchmark, in a theoretical market with N identical lenders, the HHI equals $1/N$. For instance, an HHI of 0.33 corresponds to a market shared equally by three lenders. In practice, however, a market with three active lenders will typically exhibit an HHI in excess of 0.33, reflecting the natural asymmetry in market shares. In what follows, we apply this measure to new loan originations in Ireland to assess how market concentration varies with the scope of lenders and product segments.

Note that, with a slight modification of equation (1), the HHI can also be used as a measure of lender l specialisation across M different segments. Let $\tilde{s}_{l,m,t}$ denote segment m's share in lender l's lending at time t. Summing the squared shares across segments for a given l and t then yields a measure of lender l's lending concentration across segments m. This index can in turn be interpreted as a measure of lender l's specialisation across M different segments:

$$Spec_{l,t} = \sum_{m=1}^{M} \tilde{s}_{l,m,t}^2 \tag{2}$$

In this case, higher values of $Spec_{l,t}$ indicate a greater degree of specialisation.

[10] HHI is frequently expressed on a scale of 0 to 10,000 (by using percentages rather than decimals), but the interpretation remains identical.

3.2 Aggregate Market Concentration Analysis

We begin by examining market concentration in the Irish loan market at an aggregate level, distinguishing borrowers by category. Table 1, Panel A, reports average market concentration and lender composition across the two primary borrower categories — households and non-households — distinguishing domestic banks, foreign banks, NBLs, and credit unions.[11] This distinction is based on the status of the borrower; the analysis of specific loan product segments is reserved for the subsequent subsection.

The primary finding is that limiting the analysis to domestic banks yields a misleadingly high measure of concentration. In the full sample, the HHI based on domestic banks alone averages across years to 0.38, indicating a highly concentrated market structure. However, **once all lender types are included, the HHI falls to an annual average of 0.19, consistent with a shift to a moderately concentrated market.**

This reduction is not driven by a simple fragmentation of the market into small players. Rather, it reflects a balanced market structure where four distinct lender groups hold comparable shares: domestic banks (45 per cent), foreign banks (33 per cent), NBLs (13 per cent), and CUs (9 per cent). While domestic and foreign banks exhibit high internal concentration (with internal HHIs of 0.38 and 0.78, respectively), their coexistence alongside low concentration non-bank (internal HHI of 0.08) and credit union (internal HHI of 0.01) sectors significantly dilutes overall market concentration.

This pattern varies meaningfully by borrower type and is more pronounced in lending to households than to non-households. **In lending to households, the HHI falls from 0.35 (domestic banks only) to 0.14 when other lenders are included.** This reduction is driven by the significant market presence of NBLs (15 per cent share) and credit unions (19 per cent share), both of which exhibit low internal concentration. In contrast, lending to non-households is dominated by foreign banks (58 per cent share) and domestic banks (31 per cent share). Although both banking groups are internally concentrated, their coexistence with a sizable NBL presence (11 per cent share) implies that **in the non-household sector, the HHI falls from 0.46 for domestic banks alone to 0.35 when all lenders are included.** We later assess the robustness of these calculations by focusing on lending to SMEs

[11] The CCR categorizes loans as being provided to 'consumers' or 'non-consumers'. This paper adopts the terms 'household' and 'non-household' loans to align with the CCR's internal reporting requirements, which classify individuals acting outside their profession as 'households', while the 'non-household' category encompasses all other sectors reported to the Register, including sole proprietorships, non-financial corporations, financial institutions, and other entities.

only, where the NBL share rises and the foreign-bank share declines, resulting in a larger reduction in the HHI.

We next examine the evolution of concentration over time to assess whether these lower concentration levels reflect a stable market structure rather than transitory compositional shifts, and to better understand their dynamics. Figure 3 plots the evolution of market concentration over time for the overall market and for the household and non-household segments. The data confirm that the lower aggregate concentration levels (blue line) are persistent rather than driven by short-run fluctuations. Across all panels, with the exception of 2021 in the non-household sector, the concentration measure calculated solely for domestic banks (orange line) remains consistently elevated relative to the aggregate HHI. The inclusion of alternative lenders dampens concentration throughout the sample period. This effect is particularly stable and pronounced in household lending, while in non-household lending it becomes more apparent from 2022 onward and strengthens further by the end of the sample in 2025.

Two specific dynamics in Figure 3 deserve attention. First, despite the exit of two domestic banks from the market (announced in 2021 and completed in 2023), the HHI for domestic banks in the overall market (Panel A), as well as in the household (Panel B) and non-household (Panel C) segments, remained relatively stable throughout the sample.[12] Second, concentration among foreign banks in the household sector (Panel B, yellow line) declined sharply after 2021, falling from near-monopoly levels (HHI $\approx$ 1.0) to 0.41 by 2025. This coincided with the entry of a new foreign household lender and the reclassification of one RCF as a foreign bank in 2025. A similar pattern is observed in the non-household sector after 2022, where the HHI among foreign banks declined from near-monopoly levels to 0.44 by 2025.

3.3 Market Segment Concentration Analysis

While households vs. non-household loan analysis highlights important differences in market structure, it can mask substantial heterogeneity across loan products. We therefore turn to a more granular analysis based on specific loan segments by product. The Central Credit Register classifies term loans into 16 distinct categories, however, these are too narrow for robust concentration analysis.

[12] The market shares of the exiting banks were relatively small, and therefore their exit had only little mechanical effect on the HHIs computed for these segments. This does not rule out changes in concentration within narrower market segments, including segments defined by industry, which would require a separate analysis.

We therefore aggregate these into six broad loan segments that capture economically meaningful differences in lending activity while preserving sufficient sample size. Specifically, we distinguish between the following product-based market segments: Business; Consumer Credit (including Asset Finance); Residential Mortgages; Commercial Mortgages; Syndicated Loans; and a residual segment labelled Other, which comprises loans classified in the CCR as "other loan type." Table A1 summarises this mapping formally.

Table 1, Panel B, presents market concentration and lender composition across these six segments based on annual averages. The data show that concentration varies fundamentally by segment. **The least concentrated segments are Consumer Credit (including Asset Finance), Business, and Commercial Mortgage.**

In the **Consumer Credit** segment — which includes personal loans, leasing, hire purchase, and PCP — the aggregate HHI is exceptionally low at 0.09, far below the concentration measured among domestic banks alone (0.41).[13] Remarkably, domestic banks account for only 26 per cent of new lending volume, while credit unions and NBLs account for 46 per cent and 24 per cent, respectively. The high market share of NBLs in this segment reflects their dominance in asset and vehicle finance, while credit unions are active predominantly in personal lending; the low internal concentration of both groups ensures a very low concentration in market structure.

It is important to recognize that the low concentration observed in the consumer credit segment is driven in large part by the substantial number and market share of CUs. A potential concern regarding how representative this is of effective competition arises from the fact that individual borrowers are typically affiliated with only a limited number of CUs — usually one to three — since membership is primarily determined by locality or occupation through the "common bond" framework. However, despite this segmentation, CUs can exert meaningful competitive pressure through several channels. First, their non-profit, member-owned structure allows them to offer relatively favorable pricing, which can serve as a benchmark and indirectly constrain the pricing behavior of banks and non-bank lenders within a given segment. Second, overlapping locality and occupational bonds mean that some borrowers have access to multiple CUs, creating direct competition at the margin for mobile or price-sensitive borrowers. Third, the sector remains contestable over time, as

[13] These results, based on new lending flows, are consistent with earlier analysis based on the outstanding stock of loans; see Central Bank of Ireland (2023).

mergers, regulatory developments, and bond expansions have increased the scale and reach of more efficient CUs, allowing competitive conditions to diffuse beyond narrowly defined local markets. As a result, even where individual borrowers face limited CU choice, the large number of CUs could collectively contribute to competitive discipline in the broader consumer lending market.

The **Business** segment, which includes business loans, business leasing and hire purchase, as well as stocking finance, exhibits a similarly competitive structure, with an aggregate HHI of 0.22 compared with 0.47 for domestic banks alone. This result is driven by a different market composition than in the overall non-household segment: lending is more evenly split across three dominant lender groups, with domestic banks, foreign banks, and NBLs accounting for 49, 33, and 17 per cent of the segment, respectively. The key difference relative to the broader non-household segment is that the Business segment excludes syndicated lending and structured corporate finance loans, which, in line with our earlier discussion, substantially reduces the share of foreign banks relative to NBLs and, in turn, lowers market concentration.

By contrast, in the **Residential Mortgage** segment the presence of other lender types is relatively limited and primarily restricted to NBLs. On average, NBLs account for around 10 per cent of new annual lending, and concentration within the NBLs is relatively high (HHI 0.39). As a result, aggregate concentration remains moderately elevated at 0.27, representing a relatively modest decline from 0.34 when the HHI is calculated based on domestic banks alone. Conversely, the **Commercial Mortgage** segment is dominated by non-bank lenders, which account for 71 per cent of origination volume on average per year. This lending is driven by a large number of RCFs and SPFs and as such the segment is characterized by a low concentration in line with a competitive market structure (HHI 0.17).

Finally, we briefly discuss the syndicated loan segment and the segment consisting of loans classified in the CCR as Other loan type, which, in the context of term loans, is composed primarily of large structured corporate finance loans. It is important to stress that these segments, especially the Other segment, account for a substantial share of lending that is less directly tied to the Irish domestic economy. Nevertheless, for completeness, we provide a brief analysis of concentration in these segments. The syndicated loan segment is dominated by foreign banks, which account for 81 per cent of annual origination volume, with the remaining share originated by domestic banks. Most of this lending is originated by a single foreign bank, resulting in high aggregate concentration (HHI

0.56). In the Other segment, virtually all originations are made by a single foreign bank, yielding an aggregate concentration close to a perfect monopoly (HHI 0.97).

Next, we examine the evolution of these segment-based concentration measures over time to verify that the annual averages reported in Table 1 reflect sustained market structures rather than short-term volatility or outliers, and to better understand their dynamics. Figure 4 confirms that the competitive pressure in segments critical to the real economy is structural rather than transient. In the Business segment, the aggregate HHI has remained consistently below the domestic bank HHI and has steadily declined throughout the sample, signalling an improving competitive environment. Similarly, the Consumer Credit segment maintains a stable and low HHI throughout the sample, reflecting the persistent presence of a large number of credit unions and NBLs. In the Commercial Mortgage segment, while the aggregate HHI remained low and stable until 2023, it began to rise in 2024–2025, increasing from 0.13 in 2023 to 0.22 in 2024 and further to 0.27 in 2025. This increase in concentration reflects rising concentration among NBLs in this segment. By contrast, the Residential Mortgage segment reveals a sensitivity to the credit cycle that annual averages may mask. After a period of stability, concentration ticked up moderately in 2023, coinciding with the tightening phase of monetary policy, which led some non-bank lenders in this sector to retrench. This contraction in non-bank activity is consistent with the view that NBLs, lacking a stable deposit base, may be more sensitive to rising funding costs than banks (Goncharenko and Lukmanova, 2026).

3.4 Marginal Contribution of Lender Types to Market Concentration

In this section, we assess the marginal contribution of different lender types to aggregate market concentration, with the aim of identifying which lender types exert the strongest concentration-reducing effect in each segment. We implement a simple counterfactual exercise. Specifically, we first compute market concentration for a hypothetical market composed exclusively of domestic banks. We then calculate the percentage change in the HHI when foreign banks, non-bank lenders, or credit unions are introduced individually, holding observed origination volumes fixed. This allows us to isolate the marginal competitive pressure associated with each lender type. Table 2 reports the results for household and non-household lending, as well as for the broad loan segments based on annual averages.

The analysis indicates that the sources of competitive pressure differ fundamentally between

household and non-household lending. In the household sector, competition is driven primarily by non-bank lenders and credit unions. Relative to the domestic-bank benchmark, the inclusion of credit unions reduces concentration by 41 per cent, while the inclusion of non-bank lenders lowers it by 33 per cent. Foreign banks, by contrast, have only a limited effect (−6 per cent), consistent with their relatively small footprint in household lending.

In non-household lending, the pattern is more nuanced. Non-bank lenders remain the main source of competitive pressure, reducing concentration by 44 per cent. Foreign banks, on average, have a comparatively small concentration-reducing effect (−8 per cent), and in many years their inclusion would actually increase aggregate concentration. As discussed earlier, however, the impact of foreign banks on market concentration should be interpreted with caution, given their involvement in large-scale syndicated and structured corporate lending. This concern is considerably mitigated when attention is restricted to the broad market segments.

The analysis of the broad market segments also reveals substantial heterogeneity across segments. In the **Business** segment, both foreign banks and non-bank lenders make an important contribution to reducing market concentration: non-bank lenders lower concentration by 41 per cent, while foreign banks reduce it by 33 per cent. In **Consumer Credit**, all lender types exert a sizable concentration-reducing effect. Relative to the domestic-bank-only benchmark, the inclusion of credit unions lowers concentration by 86 per cent, while non-bank lenders and foreign banks reduce it by 64 per cent and 19 per cent, respectively. In the **Residential Mortgage** segment, the only sizeable effect comes from non-bank lenders, whose inclusion reduces concentration by 18 per cent. In the **Commercial Mortgage** segment, which is dominated by non-bank lenders, their inclusion lowers concentration by as much as 71 per cent. Foreign banks also reduce concentration in this segment, by 11 per cent, although this result should be interpreted with caution, as it is driven largely by a single year in which foreign banks accounted for a substantial share of origination.

Finally, in the Syndicated and Other segments, which are dominated by foreign banks, including foreign banks in the calculation increases aggregate concentration, owing to the very high concentration of foreign-bank origination within these segments.

3.5 From Full Sample to Domestic Irish Economy

A limitation of our baseline analysis of concentration in non-household lending is that, given Ireland's role as an international financial hub, a non-trivial share of this lending is extended to firms whose economic activity may have limited relevance for the domestic Irish economy. This is particularly true for foreign banks and, potentially, for some non-bank lenders — SFPs in particular — and, to a lesser extent, for domestic banks. Although focusing on the Business segment helps to mitigate this issue by excluding syndicated and structured corporate finance loans, it may still not fully reflect the degree of concentration that is economically relevant for firms operating in the domestic Irish economy. In this subsection, we therefore refine the analysis by restricting the sample to lending that is more representative of non-household activity in the domestic Irish real economy — specifically, lending to small and medium-sized enterprises (SMEs).

Even with loan-level data from the CCR, it is not straightforward to isolate lending that directly affects the domestic Irish economy in a clean way. While the borrower's domestic status is informative, it is not, on its own, a sufficient criterion. First, foreign firms may establish Irish-registered entities, for example as Designated Activity Companies (DACs), specifically to raise funds in Ireland. Second, foreign firms may borrow directly from Irish-based lenders to finance projects undertaken in Ireland — for example, U.S. or UK-based property developers. Third, information on the borrower's domestic status is missing for a non-negligible share of observations.

Nevertheless, to restrict the analysis as closely as possible to lending relevant to the domestic Irish economy, we apply a set of increasingly stringent nested sample filters. First, we retain only loans to non-household borrowers with a stated address in Ireland. While our baseline sample excludes borrowers with a foreign address, it still includes borrowers with missing address information. Second, we ensure that only non-financial businesses are included by retaining borrowers whose institutional sector is classified as either non-financial corporations or sole proprietorships (including partnerships without legal status). Again, although the baseline sample excludes financial firms, a number of borrowers have missing values for institutional sector, which may result in some financial firms being retained. Third, we exclude DACs. While many DACs are already excluded in the baseline sample, since a large number of financial firms are organised in this legal form, some remain in the data as borrowers. These entities often appear as small firms taking out very large loans

and are unlikely to be closely linked to domestic economic activity or, at the very least, to represent the core SME sector. Finally, using the classification reported in the CCR, we explicitly restrict the sample to SMEs — arguably the narrowest and most policy-relevant definition of the domestic real economy.

While this restrictive definition of the domestic Irish real economy inevitably excludes some lending that may nonetheless be economically relevant — particularly lending by foreign banks and non-bank lenders — it substantially reduces the risk of including lending that is clearly unrelated to domestic economic activity. As such, it provides a conservative benchmark and, insofar as it may exclude some genuine competitive pressure from foreign and non-bank entities, can be interpreted as delivering an upper bound on our concentration measures.

Table 3 presents the results of this sequential filtering exercise, reporting market concentration measures and lender shares as the sample is progressively narrowed to better capture the domestic real economy. Moving from the full sample to borrowers with an explicit Irish address reduces the sample, on average across years, by only 6 per cent. Imposing the additional requirement that borrowers belong explicitly to the non-financial business sector reduces the sample by 32 per cent, and excluding DACs shrinks it to slightly less than half of the baseline sample.

This contraction in sample volume confirms that a substantial share of non-household credit is extended to DACs. Although not reported in the table, the reduction in the number of loans is far more modest, indicating that the filtering primarily removes the largest loans. The refinement also leads to a marked shift in lender composition. The market share of foreign banks falls sharply, from 58 per cent in the full sample to 24 per cent in the sample restricted to non-financial businesses excluding DACs. By contrast, the shares of domestic banks and non-bank lenders increase: the share of domestic banks rises from 31 per cent to 56 per cent, while the share of non-bank lenders nearly doubles from 11 per cent to 20 per cent.

Crucially, aggregate concentration declines from 0.35 in the full sample to 0.20 in the restricted sample. This suggests that **once the sample is restricted to lending more representative of the domestic Irish real economy, the inclusion of all lenders is associated with a much more competitive market structure in non-household lending**. Non-bank lenders remain the main source of competitive pressure — on their own, they reduce concentration by about 43 per cent relative to the domestic-bank-only benchmark — but foreign banks also have a substantial effect, lowering con-

centration by roughly one third.

Finally, when we further restrict the sample to the SME segment — arguably the strictest definition of the domestic real economy — the results remain largely unchanged, even though this sample represents, on average, only about one quarter of the baseline non-household sample by volume. Competition remains at a meaningful level, with the aggregate HHI equal to 0.23, compared with 0.48 when concentration is calculated using domestic banks only. Although the segment is dominated by domestic banks, which account on average for around one half of new lending by volume, both foreign banks and non-bank lenders retain substantial shares, accounting for 22 per cent and 25 per cent of new lending on average per year, respectively. As a result, both foreign banks and non-bank lenders make a meaningful contribution to a more competitive market structure in SME lending.

These findings show that the lower concentration observed in the full-sample analysis when all lender types are included is not merely an artefact of international financial flows. If fact, the result becomes even stronger once the sample is restricted to lending more closely tied to the domestic Irish economy, pointing to a genuinely more competitive market structure within the core domestic economy. Figure A3 in the Appendix complements Table 3 by extending the analysis beyond annual averages and showing that these patterns are robust over time.

4. BEYOND CONCENTRATION: HOW IRISH FIRMS BORROW

Aggregate measures of market concentration are informative about competitive conditions only when lenders serve broadly overlapping client bases. If instead markets are fragmented by lender type — meaning that different lender types lend to largely disjoint sets of borrowers, so that borrowers effectively face separate credit markets depending on the type of institution — aggregate concentration measures may be misleading and understate the true extent of market power. In such cases, limited competition across lender types implies that aggregate concentration can overstate the degree of competition faced by borrowers. For example, if certain borrowers can obtain credit only from NBLs, the relevant measure of competition for these borrowers is the concentration among NBLs rather than the aggregate market concentration.

From a functional perspective, a business loan serves the same financing purpose regardless

of the originating institution, suggesting that some degree of competition across lender types is unavoidable within a given market segment. Distinguishing empirically whether observed fragmentation reflects limited competition or instead arises from competitive advantages is therefore challenging. For instance, the prevalence of NBLs among certain borrowers may reflect more favorable terms or better product fit, in which case what appears as fragmentation is the outcome of competitive forces that lead to lender specialisation rather than their absence. At the same time, lender types could differ in their risk appetites and screening technologies, which could then generate fragmentation based on borrower risk profiles. Banks operate under rigorous Basel III risk-based capital and liquidity regulation, which constrains their risk tolerance, while NBLs face fewer such constraints. Moreover, by holding borrowers' deposit and current accounts, banks enjoy not only a funding cost advantage due to deposit insurance but may also benefit from superior information about borrowers that mitigates adverse selection. These institutional differences could, in principle, lead to a fragmented market in which banks and non-banks serve different borrowers.

Examining borrowing patterns across lender types can help address concerns about fragmentation and validate the use of aggregate concentration measures to assess competition in the Irish loan market. Accordingly, in this section, we analyze borrowing patterns of non-households, primarily Irish firms — whose relatively frequent borrowing activity provides richer variation than that of consumers — to assess the extent of fragmentation along institutional lines and to evaluate the validity of aggregate market concentration as a measure of loan market competition.

Specifically, using the 2019–2024 sample, we document three main stylized facts that argue against viewing the market as fragmented along institutional lines.[14] First, **borrowing patterns reveal a high degree of market integration, particularly among SMEs.** Nearly a third of all borrowing firms — and 40 per cent of SMEs — combine credit from multiple lender types, typically maintaining a domestic bank relationship while accessing specialised non-bank credit. This multi-sourcing behavior follows a distinct size-based trajectory, suggesting that non-banks function largely as complements to core banking relationships as firms grow, rather than as substitutes for borrowers excluded from the banking sector.[15]

[14] We use the 2019–2024 sample in this section because the latest firm-level data available from Dun & Bradstreet are for 2024.

[15] Furthermore, recent research shows that NBLs can help absorb shortages in bank funding for SME lending. McCann et al. (2023) find that while the unexpected exit of a major retail bank created a significant and persistent credit supply shock for its SME borrowers, non-bank lenders acted as an important buffer by providing alternative funding.

Second, we show that **non-bank lending is characterized by relationship stability rather than transactional precarity.** The average duration of borrowing relationships with non-bank lenders is comparable to that of domestic banks, indicating that firms view these lenders as long-term financing partners. This persistence refutes the concern that non-bank credit acts merely as a temporary stopgap for distressed firms.

Third, regarding borrower selection, we find **no evidence in the overall sample that NBLs systematically serve weaker or riskier firms relative to banks.**[16] While borrower characteristics differ across lender types, firms that borrow from multiple sources generally exhibit stronger financial fundamentals — such as higher solvency and profitability — than those relying on a single source. Furthermore, these selection patterns are driven by firm-level characteristics rather than industry affiliation. Taken together, these findings suggest that non-bank borrowing is driven primarily by functional specialisation and borrower choice within an integrated market. Overall, our analysis points to a well-integrated credit market populated by both bank and non-bank lenders, supporting the use of aggregate concentration measures to assess competition in the loan market.

4.1 Firm Borrowing Across Lender Type

After filtering out non-household borrowers without an Irish address, financial companies, and DACs (to exclude SPVs), our sample comprises 163,733 distinct non-household borrowers over the period 2019–2024. In the Central Credit Register (CCR), non-household borrowers include all entities borrowing for business or professional purposes, encompassing both incorporated firms and unincorporated entities such as sole traders and other non-household legal forms. Of these, 58,807 borrowers are classified as firms, defined in line with the Companies Act 2014.

The CCR categorizes firms by size into micro, small, medium, and large.[17] This data is available for about 92 per cent of firms. Although the standard definition of SMEs often includes micro-

[16] Our findings regarding firm risk characteristics and firm selection into lender type differ from those in Gaffney and McGeever (2022), who document economically significantly higher risk profiles among non-bank borrowers measured in terms of liquidity and leverage. This divergence reflects methodological differences: while Gaffney and McGeever (2022) classify firms based on the stock of outstanding debt at a point in time — thereby including legacy borrowers with partially amortised liabilities — our analysis is based on the flow of new lending, capturing firms at the point of credit origination. As a result, our estimates reflect the characteristics of marginal borrowers active in the 2019-2024 credit markets rather than historical balance-sheet positions.
Note that this lack of evidence applies to the overall sample; NBLs may still serve riskier firms in narrower segments defined by industry or borrower type.

[17] Enterprise size is defined according to the EU classification set out in European Commission Recommendation 2003/361/EC.

enterprises, in this paper we classify only small and medium-sized firms as SMEs. As our subsequent analysis shows, this distinction is empirically warranted: the borrowing patterns of micro-firms differ systematically from those of small and medium-sized enterprises. Under this classification, the sample includes 24,299 distinct SMEs, representing approximately 42 per cent of all firms. Large firms account for around 2 per cent, while micro-firms constitute the majority at 56 per cent.

We begin our analysis by examining whether and to what extent firms borrow from different lender types in our sample. In Table 4, we construct co-occurrence matrices of borrower–lender relationships across lender types over the sample period for all non-households (Panel A), firms (Panel B), and SMEs (Panel C). Borrowers are classified according to whether they obtain credit from domestic banks (DB), foreign banks (FB), retail credit firms (RCF), specialised finance providers (SFP), or credit unions (CU). The green cells report borrowing incidence and overlap: the main diagonal shows the share of borrowers that use a given lender type at least once, while the lower off-diagonal cells report the share of borrowers that obtain credit from both lender types. Three main conclusions regarding firm borrowing patterns emerge from this table, which we discuss below.

1. **Non-Bank Lenders are Broad-Based, Not Niche.** First, NBLs provide credit to a large share of Irish firms, particularly in the SME segment. While domestic banks maintain the broadest reach, borrowing from NBLs is widespread rather than peripheral. RCFs alone provide credit to around 34 per cent of borrowing firms (Panel B) and to almost half of borrowing SMEs (42 per cent) (Panel C). This broad incidence indicates that NBLs operate well beyond niche market segments and constitute an important source of credit to the real economy alongside domestic banks.
2. **The Market is Highly Integrated, Not Fragmented.** Second, borrower sets overlap substantially across lender types, pointing to a high degree of market integration rather than fragmentation. The contestation ratio — measuring the share of borrowers that also borrow from at least one other lender type — is particularly high for non-bank lenders. Among firms (Panel B), more than 60 per cent of RCF and SFP borrowers also borrow from another lender type. In particular, more than half of firms borrowing from an RCF (0.19 out of 0.34) or an SFP (0.11 out of 0.19) also maintain a borrowing relationship with a domestic bank.
3. **Integration is Strongest Among SMEs.** Third, market integration is strongest precisely where

fragmentation concerns are typically most acute: among SMEs. In this segment, reliance on single-source banking declines markedly. The contestation ratio for domestic banks rises to 53 per cent for SMEs, up from 37 per cent in the broader firm population, implying that the majority of SME bank borrowers also borrow from at least one other lender type. This contrast reflects the composition of the aggregate sample, which is dominated by micro-firms that borrow predominantly from domestic banks and, due to their small size, rarely engage in multi-sourcing. At the same time, contestation ratios for RCFs and SFPs remain elevated at 66 per cent and 71 per cent, respectively. This pervasive multi-sourcing pattern reinforces the view that SMEs actively combine bank and non-bank credit, using non-banks as functional complements to core banking relationships rather than as lenders of last resort.

Finally, to further explore the overlap in the client bases of different lender types, we quantify the intensity of pairwise overlaps using Jaccard similarity indices, reported in the purple cells above the diagonal in Table 4. For any two lender types, this index measures the share of overlapping borrowers.[18] Consistent with the contestability results, similarity indices increase as we move from non-household borrowers to firms and then to SMEs. The overlap between domestic banks and retail credit firms rises from 0.13 in the full sample (Panel A) to 0.19 for firms (Panel B), and is strongest in the SME segment (Panel C), where the highest pairwise similarity is observed between domestic banks and retail credit firms (0.23), followed by domestic banks and specialised finance providers (0.17). Notably, these values exceed the overlap between different types of non-bank lenders (for example, retail credit firms and specialised finance providers at 0.16), indicating that firms do not simply cluster into a single "non-bank" segment. Instead, the dominant pattern of multi-sourcing involves combining a domestic bank with a non-bank lender.

4.2 Borrowing Patterns by Firm Size

Next, we examine how firm financing varies by size to assess whether the intensity of competition across lender types differs by market segment. In Table 5, we tabulate the distribution of firms across funding sources by firm size over the period 2019–2024. We distinguish between exclusive

[18] The Jaccard similarity coefficient measures the similarity between two sets of borrowers, A and B, defined as $J(A,B) = \frac{|A \cap B|}{|A \cup B|}$. It ranges from 0 (no overlap) to 1 (identical borrower sets), effectively normalizing the intersection by the total number of unique borrowers served by the pair.

funding sources — where a firm borrows solely from one lender type — and multi-sourced funding, which corresponds to any combination of credit from multiple lender types. Note that, given their negligible share of corporate lending, credit unions are excluded from the analysis for the remainder of this section.

Based on Table 5, firm borrowing patterns exhibit distinct funding life cycles across size classes, refining the broad micro versus SME distinction introduced earlier. Micro firms — which constitute roughly 56 per cent of the sample — are overwhelmingly anchored to domestic banks: around 60 per cent borrow exclusively from domestic banks, and fewer than a quarter engage in multi-sourcing. This concentration explains why aggregate loan markets appear highly bank-centric and suggests that, for the smallest firms, effective market integration is limited, likely reflecting the need for basic transaction services and small loan sizes that do not justify multiple lending relationships.

As firms grow into the small and medium size categories, borrowing patterns change sharply. Exclusive reliance on domestic banks falls from 60 per cent among micro firms to 35 per cent for small firms and just 16 per cent for medium firms, while multi-sourcing peaks at 39 per cent and 47 per cent, respectively. The SME segment is where market integration and competitive pressure from non-bank lenders are most pronounced: these firms are large enough to access alternative credit providers but still rely on domestic banks for core services, leading them to combine funding sources.

Within this segment, non-bank lenders play differentiated roles. Retail credit firms are most prominent among small firms, holding a substantial exclusive share of firms (18 per cent), consistent with their focus on standardized flow credit such as vehicle and asset finance. In contrast, specialised finance providers become increasingly important as firm size increases, with their presence rising sharply among medium and large firms, consistent with their role in financing larger, more complex capital investments. Foreign banks occupy a distinct position at the top of the size distribution: they are largely absent among micro and small firms but become significant lenders to medium and large firms, consistent with a strategy of serving larger and more transparent borrowers. Overall, the table reveals a clear size-based pecking order in firm financing — from domestic bank dependence among micro firms, to diversified bank–NBL borrowing among SMEs, to the addition of foreign banks and specialised finance providers at the upper end — providing a structural explanation for the contestation patterns observed earlier.

Finally, Table 6 unpacks the composition of these multi-source bundles, suggesting that diversification typically functions as complementarity rather than substitution. For the vast majority of multi-source borrowers, the domestic bank remains the anchor: over 90 per cent of micro and small multi-source firms maintain a domestic bank relationship. For these smaller entities, diversification is structurally simple, predominantly involving the addition of an RCF loan — often for vehicle or equipment finance — to a core banking arrangement. In contrast, medium and large firms construct more complex funding structures. While they typically retain a domestic bank connection, they are significantly more likely to incorporate foreign banks (rising to 53 per cent for medium firms) and specialised finance providers (reaching 53 per cent for large firms). This is consistent with the view that while domestic banks remain the central hub for liquidity and transaction services, firms systematically layer on additional, specialised lenders as their financial complexity grows.

4.3 Relationship Dynamics

Further, we examine whether the borrowing patterns observed above are stable over time. A potential concern for market integration is that non-bank borrowing may be largely transactional or sporadic — a temporary stopgap for firms unable to secure bank credit — rather than a stable financing arrangement. To address this concern, we analyze the duration and intensity of borrower–lender relationships across different lender types. We define a lending relationship as a *spell* of continuous borrowing activity, whereby a relationship is considered ongoing as long as new loans are originated within a short window following the maturity of a previous loan.[19]

As shown in Table 7, the data suggest that NBLs engage in relationship lending comparable to that of domestic banks, rather than operating merely as transactional lenders. The average duration of a borrowing relationship with an RCF (67 months) or an SPF (68 months) is close to that observed for domestic banks (74 months). This degree of longevity indicates that firms view NBLs as long-term financing partners capable of supporting ongoing capital needs. Moreover, relationships with NBLs tend to be relatively intensive: RCFs, for example, extend an average of 4.0 loans per relationship, compared with 2.2 for domestic banks. This higher frequency is consistent with

[19] Following Ioannidou and Ongena (2010) and Boot (2000), we define a relationship spell at the firm–lender pair level. A spell begins when a firm receives a loan from a lender after at least six months of inactivity (i.e., no loan in the prior six months or the previous loan matured more than six months earlier). The spell continues as long as each subsequent loan is originated within six months of the preceding loan's maturity. A "relationship loan" is any loan extended during an ongoing spell, excluding the initial initiation loan.

the RCF business model, which often involves repeated financing for vehicles, equipment leasing, and inventory, as well as with differences in borrower composition, since domestic banks lend more heavily to micro firms, which typically exhibit fewer repeated borrowing interactions than SMEs or larger firms.

Evidence on relationship exclusivity reinforces the complementarity nature of non-bank lending. While relationships with banks tend to be more exclusive, relationships with non-bank lenders involve, on average, a larger number of distinct lenders (1.3).[20] This indicates that firms typically maintain relationships with non-bank lenders alongside bank relationships, rather than being "trapped" in a segmented non-bank market. Taken together, these patterns point to a mature and integrated credit market in which non-bank lenders compete effectively for long-term clients while functioning as a complementary source of specialised credit.

4.4 Borrower Selection and Financial Characteristics

Having established substantial overlap in lender bases, particularly among SMEs, we next examine whether borrower characteristics vary systematically with their chosen funding mix. A simple binary distinction between "exclusive" and "multi-source" borrowing is insufficient, as the specific combination of lenders likely reflects fundamental differences in firm quality and strategy. While the four lender types theoretically yield 15 distinct borrowing combinations ($2^4 - 1$), analysing each individually is expositionally impractical. We therefore partition the data into seven mutually exclusive funding categories that capture the dominant funding structures observed in the data: the four exclusive relationships (DB, FB, RCF, and SFP, with the latter also including the small number of SFP+RCF combinations) and three multi-source bundles (DB+FB, Bank+RCF, and Bank+SFP).[21] We do not interpret these patterns causally, but rather as correlations reflecting the joint determination of firm characteristics and lender access. The distribution of firms across these categories within the CCR population is summarised in Table A2 in the Appendix.

To assess borrower characteristics, we merge CCR data with firm-level accounting information

[20] Exclusivity is proxied by the average number of distinct lenders involved in a firm's borrowing mix during an active relationship spell. A value of 1.0 indicates perfect exclusivity (the firm borrows from no other lender during the spell), while higher values indicate concurrent borrowing from multiple institutions.

[21] Note that any residual combinations involving an SFP that are not separately categorized are pooled into the 'Bank+SFP' group. We confirmed that results using the full set of 15 distinct combinations are consistent with the aggregated findings presented here.

from Dun & Bradstreet (D&B), yielding a final matched sample of 48,634 firms. Although this represents a reduction of almost 20 per cent relative to the full CCR population, the matched sample remains broadly representative in terms of firm size and funding composition.

To examine whether and how borrowing patterns are associated with borrower characteristics and, especially, risk profiles, Table 8 compares the financial characteristics of firms averaged across 2019–2024, grouped by funding category.[22] We use a colour-coding scheme to illustrate deviations from the pooled sample average/median, which is reported in the final column. Green cells indicate a relatively stronger or safer financial position than the benchmark (e.g., larger size, higher liquidity, lower leverage, or lower insolvency risk), while red cells indicate a relatively weaker or riskier position.[23] Three main results emerge from this table

1. **No evidence that non-bank lenders systematically serve weaker or riskier firms.** The results provide no evidence of a simplistic segmentation in which banks serve "good" firms and non-bank lenders serve "bad" ones. Firms borrowing exclusively from domestic banks — the largest category by count — frequently display weaker financial metrics than the sample average, appearing red across size, leverage, and insolvency indicators in Panel A, which covers the full firm population. This does not support the notion that banks systematically cherry-pick the safest borrowers. Importantly, this pattern is largely driven by borrower composition. Domestic banks lend disproportionately to micro firms, which are smaller and riskier on average. Once attention is restricted to SMEs (Panel B), the financial profile of domestic bank borrowers improves markedly relative to other lender types, particularly with respect to insolvency risk. Note that this result emerges in the overall sample, which does not exclude the possibility of some NBLs serving riskier firms in narrower segments (e.g., defined by industry or borrower type).
2. **Borrowing from multiple lender types is associated with stronger firm fundamentals.** Restricting attention to SMEs — where lender choice is more economically meaningful and less

[22] Means and medians of financial indicators are computed using the full sample to capture structural differences rather than year-specific conditions. Firms are grouped according to lending patterns observed over the entire sample period rather than within a single year. Robustness checks (not reported) based on one-, two-, and three-year windows yield qualitatively similar results.

[23] Strictly speaking, only one of our measures — insolvency — directly captures financial distress. The remaining variables are financial ratios or measures of firm size and, when considered as standalone univariate statistics, should not be interpreted as definitive indicators of distress. Rather, they can be used only in a suggestive manner to provide information about firms' financial conditions and therefore require caution in interpretation.

mechanically driven by firm size — sharpens the analysis. Panel B of Table 8 shows that firms borrowing from multiple lender types tend to exhibit stronger financial health than those relying on a single source, consistent with the broader literature on relationship multiplicity (Ongena and Smith, 2000). Firms with access to foreign banks, either exclusively or in combination with domestic banks (DB+FB), generally display stronger balance sheets, particularly in terms of solvency and leverage. While this advantage is more muted within the SME subsample than in the full population, FB-borrowing firms remain among the safest borrowers even when firm size is held constant. By contrast, firms borrowing from specialised finance providers (SFPs) tend to be larger than the average SME but exhibit slightly weaker risk metrics, including higher insolvency rates and lower profitability. This heterogeneity underscores that non-bank lending is not monolithic and reflects differentiated borrower selection across lender types.

3. **Lender choice reflects firm-level characteristics rather than industry segmentation.** Finally, Figure 5 serves as a robustness check, confirming that the observed borrowing patterns are *also* not driven by industry-specific factors. Firms across virtually all sectors rely on diverse funding sources, and there is little evidence of strong sectoral sorting by lender type. Industry affiliation therefore does not appear to be a first-order determinant of firms' funding mixes. Taken together, these results indicate that borrower–lender matching in the Irish loan market is primarily shaped by firm-level characteristics — such as size, risk, and financing needs — rather than by institutional segmentation or industry specialisation.

While this analysis based on simple means and medians is informative, it is intentionally descriptive, relying on cross-sectional comparisons across the full sample. It therefore does not attempt to capture dynamic or causal effects of borrowing from different lender types, which may operate through differences in monitoring intensity and lending technologies. Such analysis, while important, lies beyond the scope of this article.

5. COST OF BORROWING

In this final section, we examine how loan pricing at origination varies across lender types to assess competitive dynamics in the Irish loan market. As emphasized by Osberghaus et al. (2025), the key distinction between banks and non-banks lies in funding structures. Banks benefit from deposit

financing, which provides a stable, low-cost funding source and generates a continuous flow of borrower information via deposit and current accounts. This informational advantage allows banks to mitigate adverse selection and, in turn, offer lower interest rates. To compete, NBLs must therefore compensate by offering non-price benefits, such as greater underwriting flexibility or tailored products. Consequently, this suggests that non-bank lenders are expected to charge a strictly positive premium relative to banks, which has been previously documented in the context of non-household loans (McCarthy and Navarro-Ramírez, 2025).

To isolate systematic differences in loan pricing, we estimate loan-level regressions. The full specification is presented in the Appendix in equation (1). A key feature of the analysis is the inclusion of borrower-by-time fixed effects, in the spirit of Khwaja and Mian (2008), which absorb all observed and unobserved borrower-specific factors that vary over time. Under this specification, pricing differentials are identified by comparing loans taken by the same borrower from different lender types within the same period. This provides a clean way to net out credit demand, but identification is then effectively restricted to borrowers with at least two lending relationships in the same period, which can limit external validity. To show that our conclusions are not driven solely by this subset of multi-lender borrowers, for firms we also estimate specifications with the less demanding industry–location–size–time fixed effects proposed by Degryse et al. (2019). Specifically, these ILST fixed effects are defined as the interaction of industry (4-digit NACE), location (county), firm size, and time. This alternative approach allows us to control for demand-side heterogeneity while retaining both single- and multi-lender firms in the sample.[24] Crucially, we find that the estimated premiums and discounts are quantitatively similar across specifications, confirming that our results are robust to the choice of controls and representative of the broader borrower population.

Table 9 reports the estimation results. Columns (1)–(6) present results for non-household loans (business hire purchase, leasing, business loans, stocking finance, commercial mortgages, and syndicated loans), while columns (7)–(10) report results for consumer credit. Focusing on non-household loans, our analysis reveals a significant premium:

[24] As a further robustness check, we also employ *BT-L-LT-Y* fixed effects, defined as the interaction of borrower type (sole trader, micro firm, SME, or large firm), location, loan type, and time. This specification also allows us to retain sole traders in the analysis, for whom industry data are unavailable. In the case of household loans, there is only one borrower type.

- **General Non-Household Loans:** Non-banks (both RCFs and SFP) charge interest rates approximately 1.6–2.8 percentage points higher than domestic banks, with RCFs charging 0.3-0.9 percentage points more than SFPs.
- **SME Lending:** Table A3 re-estimates the model for SMEs specifically, finding an even slightly higher premium of 1.8–3.1 percentage points, across specifications.
- **Commercial Mortgages:** When separating estimates by product type (Table A4), the premium for commercial mortgages is notably higher, at approximately 3.3-3.8 percentage points.

It is important to emphasize that these estimates (particularly columns (3), (4), and (6) in Table 9 and (3), (4), and (5), in A3) control for time-varying borrower heterogeneity. Therefore, this pricing differential cannot be attributed to the generic risk profile of the borrower (e.g., a “worse" firm borrowing from an NBL). Moreover, in the previous section we show that there is no evidence that non-bank lenders serve a pool of firms with riskier profiles than domestic banks. Since we compare the same borrower across lenders, the premium must instead reflect lender-specific constraints or loan-specific benefits. We propose two primary drivers for this differential:

1. **Cost of Funding and Information Asymmetry:** As noted, domestic banks possess a structural cost advantage due to deposit funding and superior informational access through transactional accounts. NBLs, lacking these advantages, face a higher cost of capital which is passed through to the borrower.
2. **Product Heterogeneity and Flexibility:** Since borrower risk is held constant, the remaining premium likely represents the “price of flexibility." Unlike banks, which operate under strict risk-based capital requirements and standardized loan loss recognition rules, non-banks can offer greater flexibility regarding default triggers, renegotiation, and leverage. Additionally, NBLs often exhibit a higher degree of specialisation in specific assets (e.g., agriculture or automotive), creating value through sector expertise and faster execution.

In summary, while NBLs operate at a price disadvantage, their ability to lend at significantly higher rates to the pool of borrowers with an access to banks implies they are not competing on price, but rather on product differentiation and contractual flexibility that regulated banks cannot easily replicate.

Next, we examine the cost of lending to households. Table 9 reports the estimation results for

consumer credit (personal loans, hire purchase, leasing, personal contract plans (PCP), and premium financing) in columns (7)–(10). The analysis of residential mortgages is presented separately in Table 10, as this estimation utilizes macroprudential templates which offer superior loan- and borrower-level controls compared to the Central Credit Register.

When analyzing consumer credit, we also employ borrower-by-year fixed effects to control for unobserved borrower heterogeneity. We note that, unlike firms, households exhibit less frequent repeated borrowing, which limits the sample size available for this specific identification strategy. However, as shown below, our results remain stable across specifications, supporting the reliability of the estimates.

Focusing on loans to households, our analysis reveals a significant NBL premium in consumer credit, but notably, no premium in residential mortgages:

- **Consumer Credit:** RCFs — who are responsible for nearly all non-bank consumer credit — charge interest rates approximately 1.8-1.9 percentage points higher than domestic banks.
- **Consumer Credit by Product:** Table A5 re-estimates the model by specific loan type. This reveals that the aggregate consumer premium is primarily driven by personal loans and hire purchase. Notably, no economically significant premium is observed in Personal Contract Plans (PCP).
- **Residential Mortgages:** The analysis of residential mortgages (Table 10), which controls for granular loan-to-value (LTV) and loan-to-income (LTI) ratios, shows no economically meaningful pricing differences across domestic banks, foreign banks, and non-banks. Although some estimated differentials are statistically significant, they are small in magnitude: RCFs charge, on average, around 0.1 percentage points more than domestic banks, while foreign banks appear to offer a modest discount of about 0.2 percentage points. The latter result should be interpreted with caution, however, as foreign bank mortgage lending is concentrated largely in the final year of the sample and is partly driven by the reclassification of one non-bank lender as a foreign bank.

Overall, these results complement our findings on non-household lending and highlight the role of product standardization in determining pricing power. First, NBLs charge a premium of approximately 1.8-1.9 percentage points for consumer credit. While lower than the premium observed

in corporate lending, this suggests that for personal loans — where speed and approval flexibility remain valued — NBLs can still differentiate themselves from banks.

Second, the absence of a meaningful pricing differential in the mortgage market aligns with the high degree of standardization in this segment. Mortgage products are largely homogeneous, and underwriting is among banks and non-bank is regulated by the same macroprudential and consumer protection rules. Consequently, neither banks nor NBLs can easily differentiate on product features or flexibility, forcing them to compete mostly on price. This effectively eliminates the non-bank premium observed in other segments.

6. CONCLUSION

Assessments of the Irish loan market often emphasize high concentration based on the dominance of three domestic banks. This *Article* argues that such a view is incomplete and may overstate the degree of market power. By incorporating the role of non-bank lenders, foreign banks, and credit unions, our analysis points to a more nuanced picture of competition.

We find limited evidence of market fragmentation: a substantial share of firms — particularly SMEs — borrows from multiple lender types, and non-bank lenders exhibit a higher incidence of relationship lending than domestic banks. Differences in loan pricing appear to reflect, at least in part, product characteristics rather than market power. While borrowers often pay a premium for the specialisation and flexibility offered by non-bank lenders, pricing in more standardized segments — such as residential mortgages — shows little difference between banks and non-banks, where scope for differentiation is limited.

Taken together, these findings suggest that assessments of competition in Irish credit markets should adopt a broader, functional perspective, while recognizing that pricing and market structure may differ across loan segments.

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FIGURES

Figure 1. New Lending: Level and Share by Lender Type.
This figure summarizes new lending by lender type in Ireland over the period 2019–2025. Panel A shows total new lending to households (including mortgages) and to non-households. Panels B and C report lender-type shares by loan volume for household loans (including mortgages) and non-household loans, respectively. Lender types include domestic banks, foreign banks, non-bank lenders (NBLs), and credit unions. New lending refers to all newly originated term loans in excess of € 500 and excludes credit card lending and other non-installment credit products. The non-household sample further excludes lending to financial firms, firms with non-Irish addresses, and lending routed through securitisation or specialised aviation vehicles (thereby removing activity that is less closely tied to the domestic Irish real economy).
Data source: The Central Credit Register.

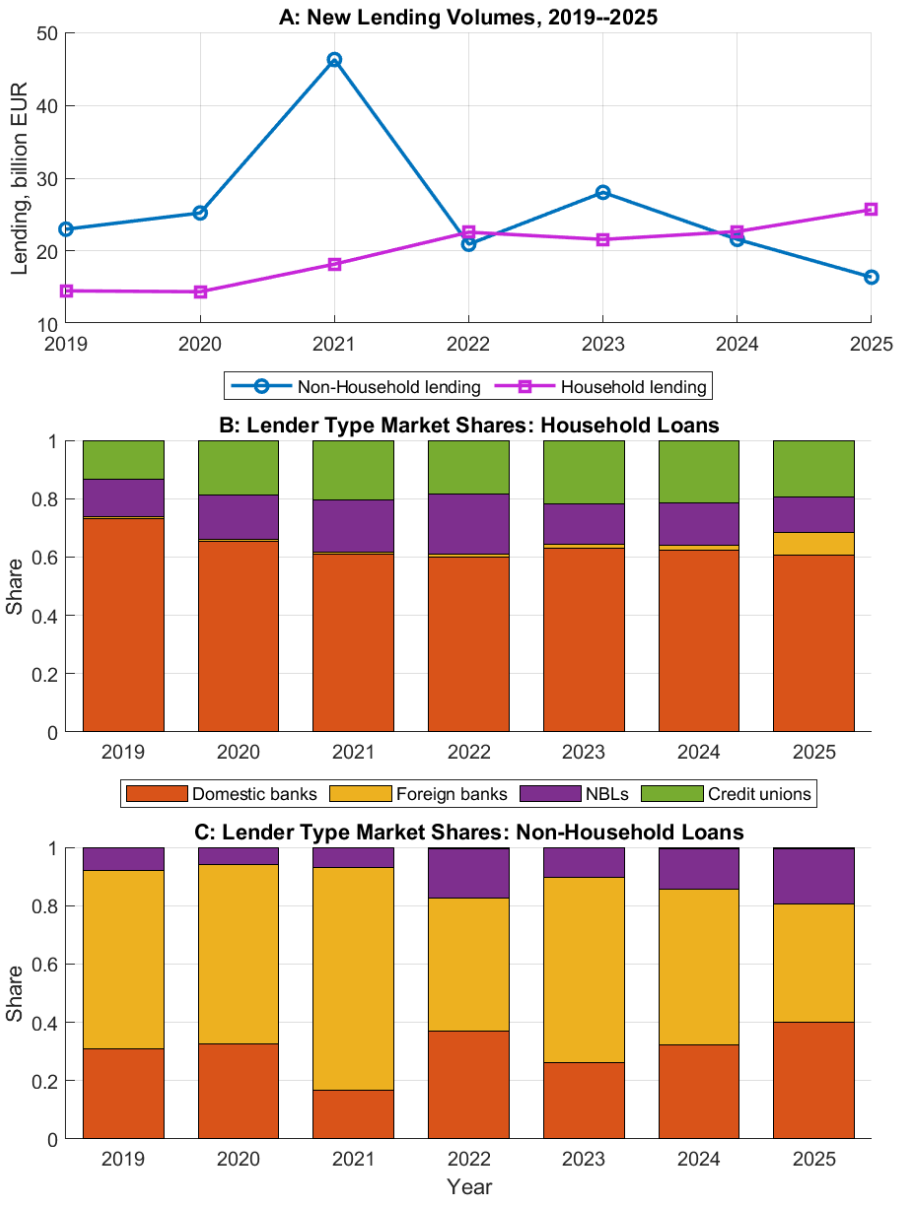


Figure 2. Specialisation Measure by Lender Type and Year.
This figure presents annual specialisation measures for different lender types over 2019-2025. Specialisation, $Spec_{l,t}$, is measured at the lender level using the Herfindahl–Hirschman Index (HHI) computed over the distribution of each lender's new lending across 16 loan types, as defined in equation (2). The 16 loan types are presented in Table A1. The reported measure for each lender type is the median of lender-level specialisation within that group. Higher values indicate greater specialisation, meaning that lending is concentrated in fewer loan types. Panel A reports results for domestic banks, foreign banks, non-bank lenders (NBLs), and credit unions. Panel B refines the non-bank category by distinguishing between Retail Credit Firms (RCFs) and Specialised Finance Providers (SFPs), with specialisation recomputed accordingly. *Data source: The Central Credit Register.*

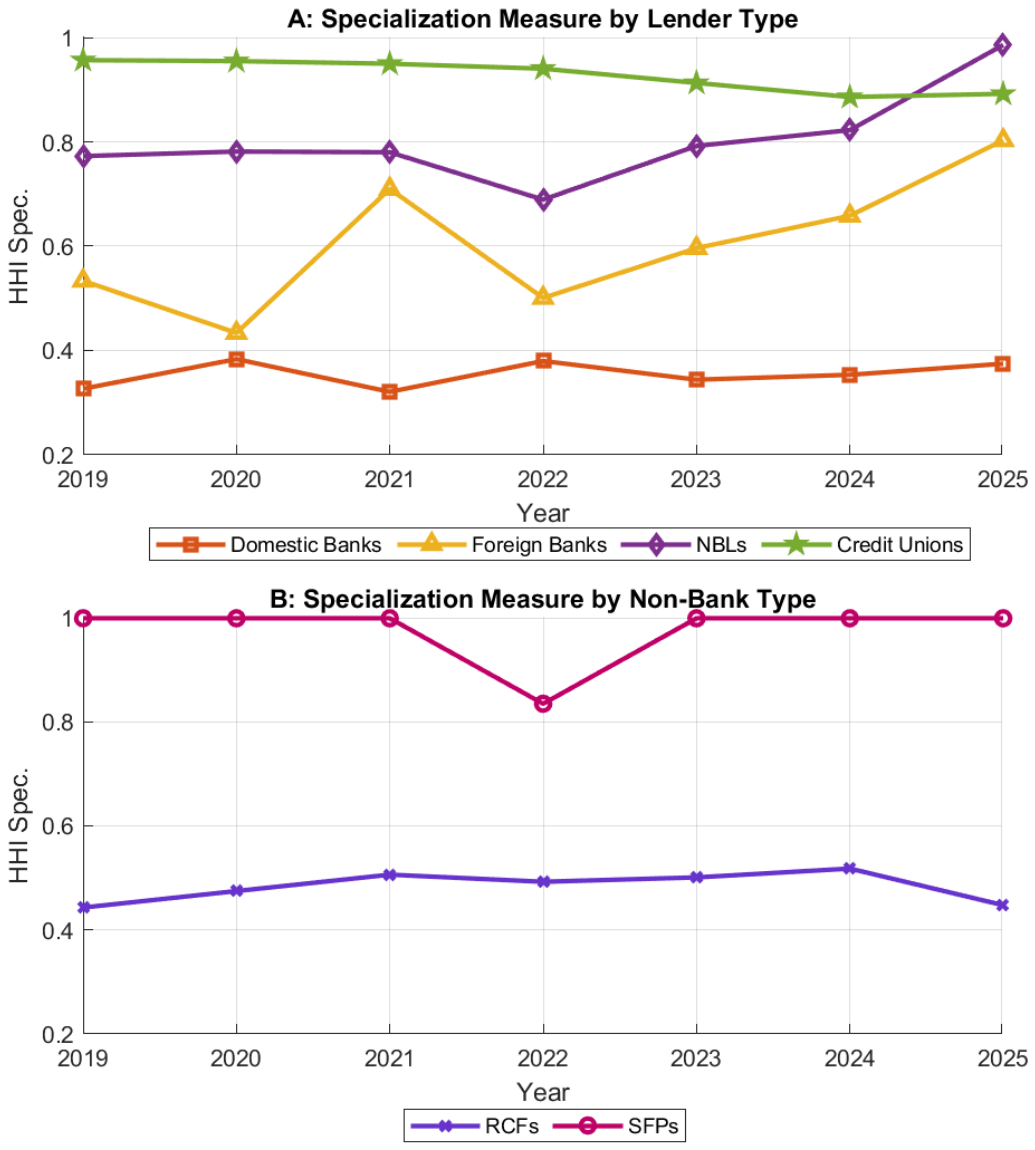


Figure 3. Concentration by Lender Type.
This figure shows annual measures of market concentration, computed using the Herfindahl–Hirschman Index (HHI) based on new lending volumes over 2019-2025. Higher values indicate greater concentration. HHIs are calculated across lender types — domestic banks, foreign banks, non-bank lenders (NBLs), and credit unions. Panel A reports concentration based on all new term loans, while Panels B and C report concentration in household lending (including mortgages) and non-household lending, respectively.
Data source: The Central Credit Register.

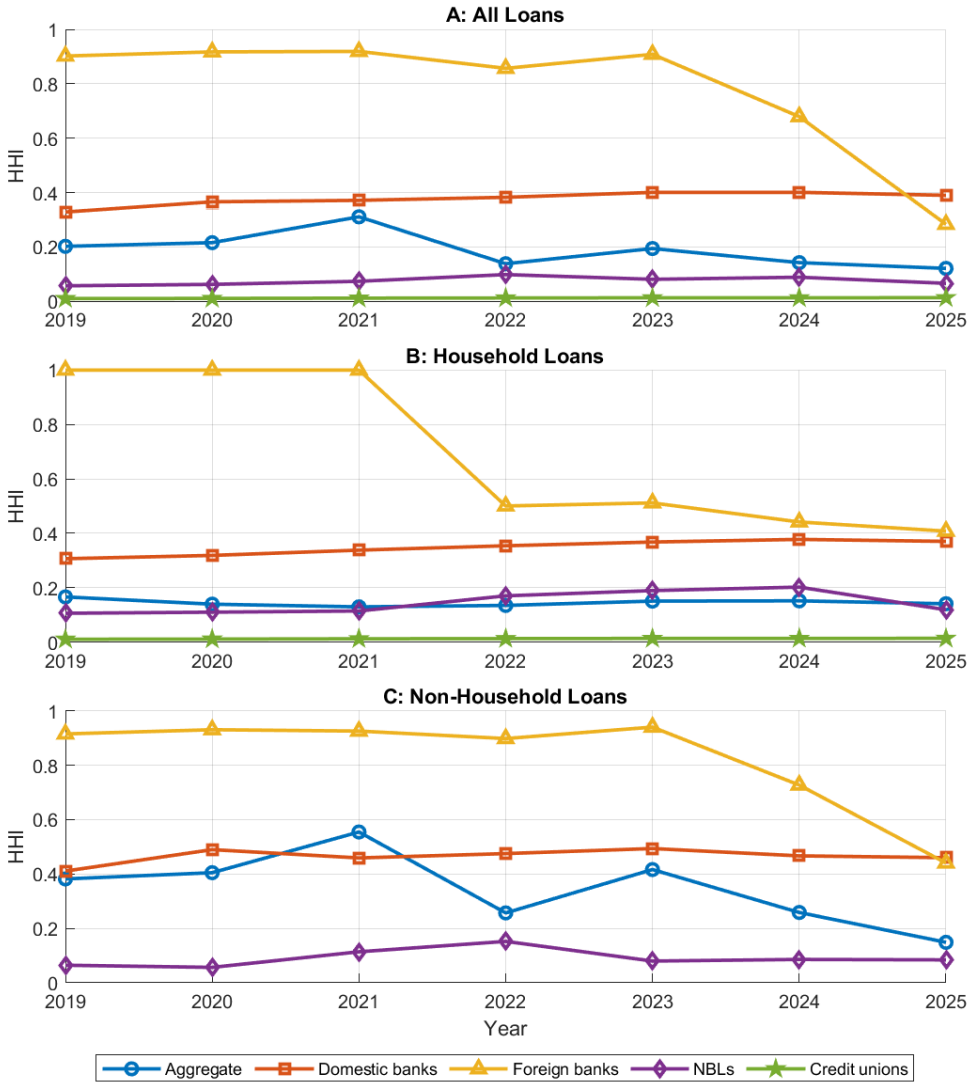


Figure 4. Concentration by Broad Market Segments.
This figure reports annual concentration measures for the broad loan market segments. For each segment, the Herfindahl–Hirschman Index (HHI), computed from new lending volumes, is shown for the market as a whole across all lender types (blue) and for domestic banks only (orange), over 2019-2025. The figure also shows the segment's share in total new lending (black) and the total amount of new lending in the segment, measured in EUR billions (green, the right y-axis). Higher HHI values indicate greater concentration. Background stacked bars indicate the composition of new lending by lender type within each segment. The lender types include domestic banks (orange, tinted), foreign banks (yellow, tinted), NBLs (purple, tinted), and credit unions (green, tinted). The segments comprise business lending, consumer credit (including asset finance), residential mortgages, commercial mortgages, syndicated lending, and other loan products, as defined in Table A1.
Data source: The Central Credit Register.

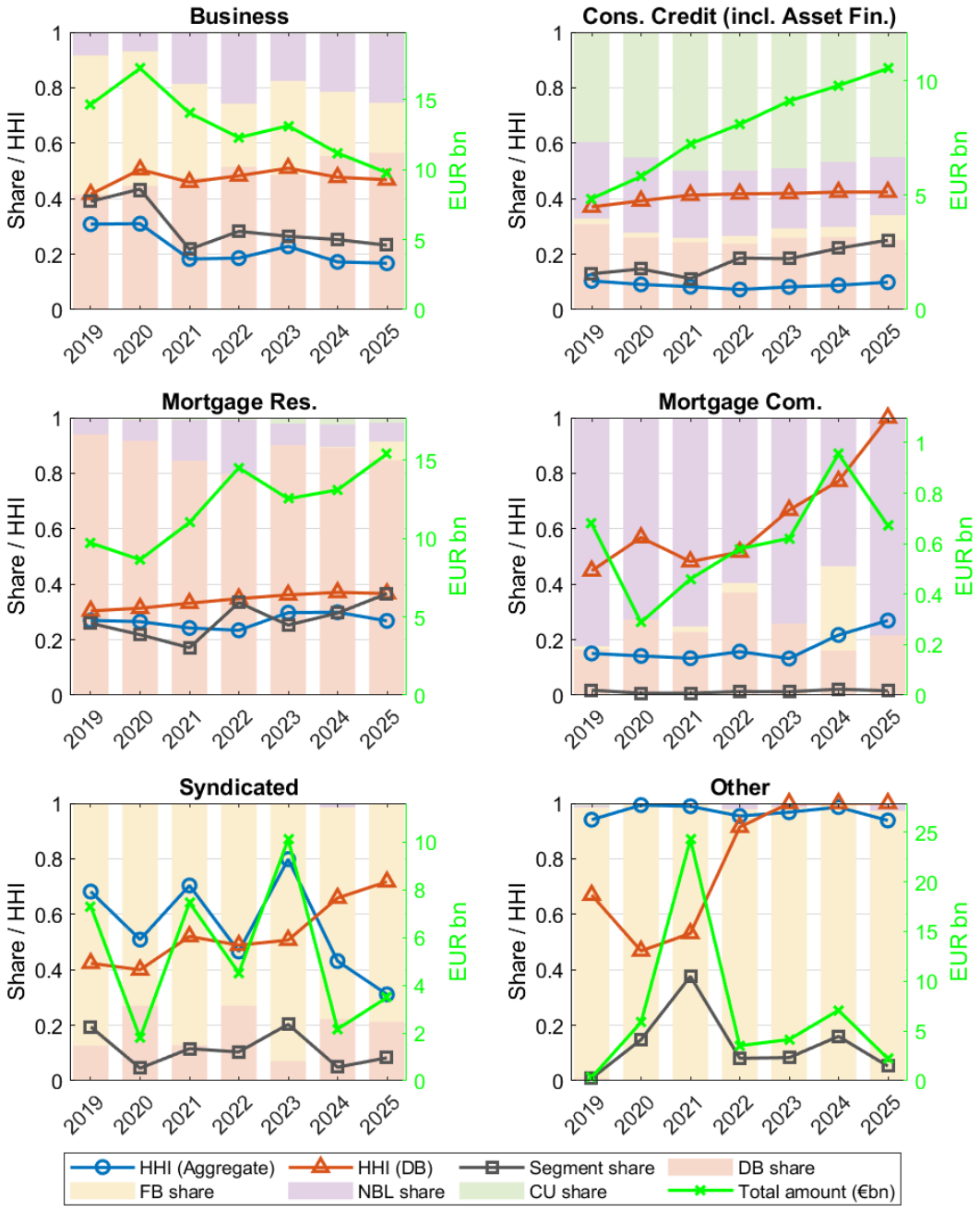
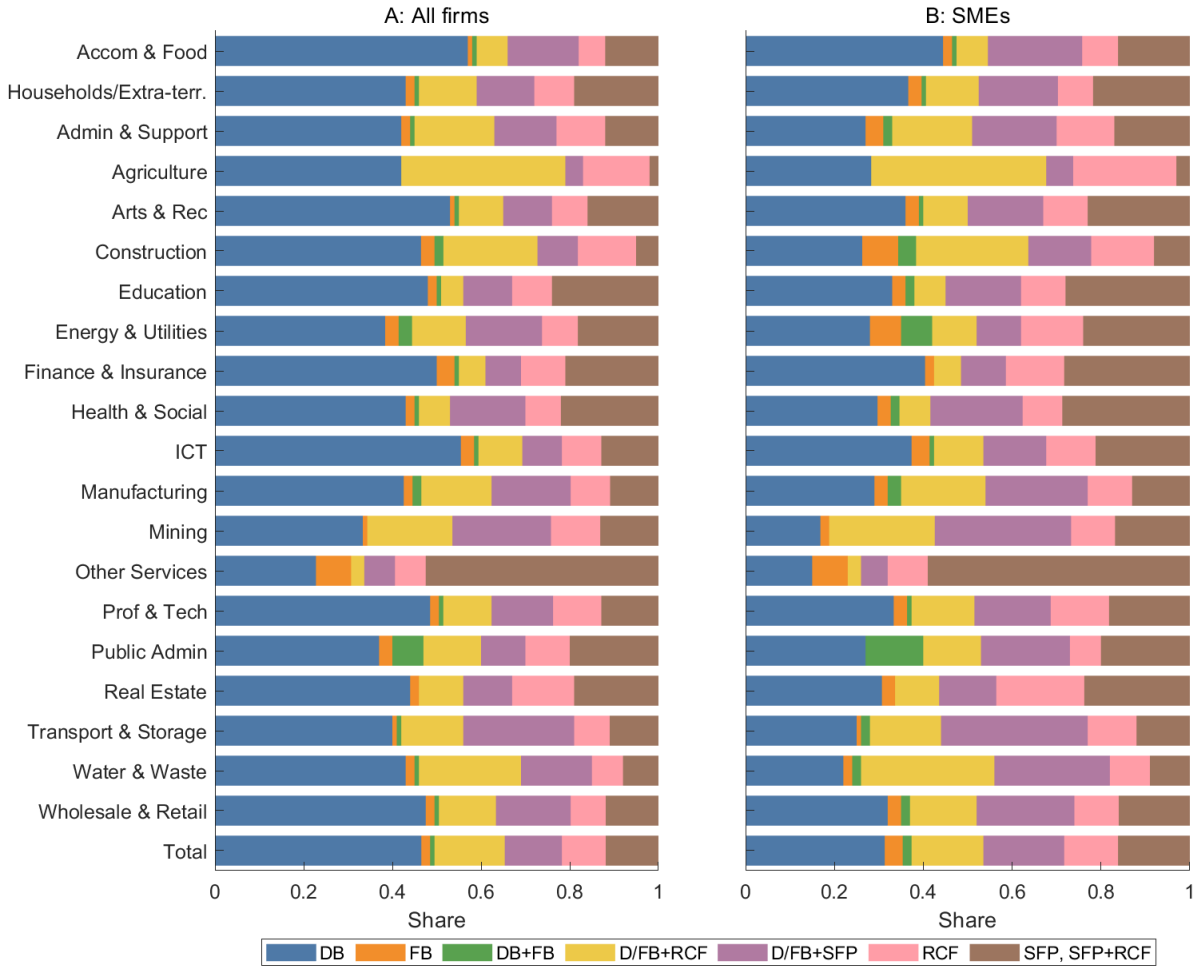


Figure 5. Distribution of Firm Borrowing Patterns by Industry

This figure shows the distribution of firms across seven borrowing-source combinations by industry, based on the NACE two-digit classification using the sample over 2019-2024. Panel A reports results for all firms, while Panel B focuses on SMEs.

Data source: Central Credit Register and Dun & Bradstreet.



TABLES

Table 1. Loan Market Concentration: Borrower Types and Market Segments.
This table reports average annual aggregate concentration, measured by the Herfindahl–Hirschman Index (HHI), together with market shares based on new term loan originations over 2019–2025. Panel A shows the results for the total market and for the household (including mortgages) and non-household loan segments. Panel B presents the corresponding results for the broad loan segments: business lending, consumer credit (including asset finance), residential mortgages, commercial mortgages, syndicated lending, and other loan products, as defined in Table A1. In both panels, the table reports the aggregate HHI, based on lending by all lender types combined, as well as HHIs computed separately for each lender type. Note that for the aggregate categories, "Share" refers to the share of each segment in total lending and therefore sums to one across rows, whereas for lender types, "Share" refers to the share of a given lender type within a segment and therefore sums to one across columns. Lender types comprise domestic banks (DB), foreign banks (FB), non-bank lenders (NBLs), and credit unions (CUs).
Data source: The Central Credit Register.

	Aggregate		DB		FB		NBL		CU	
Segment	**HHI**	**Share**	**HHI**	**Share**	**HHI**	**Share**	**HHI**	**Share**	**HHI**	**Share**
A: Loans to Households vs. Non-Households										
Loans to Households	0.14	0.44	0.35	0.64	0.69	0.02	0.14	0.15	0.01	0.19
Loans to Non-Households	0.35	0.56	0.46	0.31	0.82	0.58	0.09	0.11	0.03	<0.01
Panel B: Broad Loan Segments										
Business	0.22	0.30	0.47	0.49	0.72	0.33	0.11	0.17	0.03	<0.01
Cons. Credit incl. Asset Fin.	0.09	0.18	0.41	0.26	0.71	0.03	0.16	0.24	0.01	0.46
Mortgage Res.	0.27	0.27	0.34	0.88	0.85	0.01	0.39	0.10	0.04	0.01
Mortgage Com.	0.17	0.01	0.64	0.24	1.00	0.05	0.24	0.71	1.00	<0.01
Syndicated	0.56	0.11	0.53	0.19	0.80	0.81	1.00	<0.01	0.79	<0.01
Other	0.97	0.13	0.80	<0.01	1.00	0.98	0.81	0.01	0.06	<0.01
Total Market	**0.19**	**1.00**	**0.38**	**0.45**	**0.78**	**0.33**	**0.08**	**0.13**	**0.01**	**0.09**

Table 2. Marginal Effect of Lender Types on Market Concentration.
This table reports average annual aggregate (Agg.) and domestic bank (DB) concentration (Herfindahl–Hirschman Index, HHI) for household versus non-household loan segments, and for broad loan types, based on new term loan originations over 2019–2025. The broad segments include business lending, consumer credit (including asset finance), residential mortgages, commercial mortgages, syndicated lending, and other loan product type, as defined in Table A1. It further reports percentage changes in market concentration when foreign banks (FB), non-bank lenders (NBLs), or credit unions (CUs) are added individually to a benchmark market composed solely of domestic banks (DB), holding observed origination volumes fixed. Negative values of ΔHHI(+X) indicate that lender type X reduces concentration.
Data source: The Central Credit Register.

	HHI		ΔHHI, %		
Segment	**Agg.**	**DB**	**+FB**	**+NBL**	**+CU**
A: Loans to Households vs. Non-Households					
Loans to Households	0.14	0.35	−6	−33	−41
Loans to Non-Households	0.35	0.46	−8	−44	−2
B: Broad Loan Segments					
Business	0.22	0.47	−33	−41	−2
Cons. Credit incl. Asset Fin.	0.09	0.41	−19	−64	−86
Residential Mortgages	0.27	0.34	−2	−18	−3
Commercial Mortgages	0.17	0.64	−11	−71	0
Syndicated	0.56	0.53	+13	−3	0
Other	0.97	0.80	+36	−19	−64
Total	**0.19**	**0.38**	**−21**	**−38**	**−30**

Table 3. Concentration Analysis: From Aggregate to Domestic Real Economy.

This table reports average annual aggregate and within-domestic-bank-sector concentrations (Herfindahl–Hirschman Index, HHI) for subsamples of non-household loans based on new term loan originations over 2019–2025. The full sample excludes loans to borrowers with explicitly foreign addresses and to firms classified in the financial sector, but retains observations with missing address or institutional sector information. The sample is then progressively restricted by excluding observations with missing address, excluding observations with missing institutional sector, removing lending to Designated Activity Companies (DACs), and finally restricting to Small and Medium Enterprises (SMEs), yielding a sample increasingly representative of the domestic real economy. The table further reports percentage changes in market concentration when foreign banks (FB) and non-bank lenders (NBLs) are added individually to a benchmark market composed solely of domestic banks (DB), holding observed origination volumes fixed. Negative values of ΔHHI(+X) indicate that lender type X reduces concentration. Lender type market shares are expressed in decimals. The time-series analysis is presented in Figure A3 in the Appendix.

Data source: The Central Credit Register.

		HHI		ΔHHI, %		Market Share		
Loans to Non-Households	**Sample Share**	**Agg.**	**DB**	**+FB**	**+NBL**	**DB**	**FB**	**NBL**
Full Sample	1.00	0.35	0.46	−8	−44	0.31	0.58	0.11
... excl. missing address	0.94	0.34	0.47	−8	−45	0.30	0.57	0.12
... excl. missing institutional sector	0.68	0.24	0.47	−32	−43	0.42	0.43	0.14
... excl. DACs	0.48	0.20	0.47	−34	−43	0.56	0.24	0.20
... SMEs	0.23	0.23	0.48	−22	−46	0.53	0.22	0.25

Table 4. Overlap and Competition Across Lender Types.

This table summarizes borrowing relationships across lender types for commercial loans granted to all businesses (firms and sole traders) over 2019–2024. Firms are classified according to whether they borrow from domestic banks (DB), foreign banks (FB), retail credit firms (RCF), specialised finance providers (SFP), and credit unions (CU). The green cells report borrowing incidence and overlap: the main diagonal shows the share of borrowers that use a given lender type at least once, while the lower off-diagonal cells show the share that borrow from both lender types. The purple cells above the diagonal report a pairwise competition index (Jaccard similarity), measuring the extent to which two lender types serve the same borrowers relative to their combined customer base. The contestation ratio at the bottom reports, for each lender type, the share of borrowers that also borrow from at least one other lender type. Panel A covers all business borrowers, Panel B restricts the sample to firms, and Panel C focuses on SMEs only.

Data source: Central Credit Register.

	DB	FB	RCF	SFP	CU
A: All Businesses					
DB	0.65	0.02	0.13	0.06	<0.01
FB	0.01	0.03	0.02	0.03	<0.01
RCF	0.12	0.01	0.32	0.07	<0.01
SFP	0.04	0.00	0.03	0.09	<0.01
CU	0.01	<0.01	0.01	<0.01	0.04
Contestation ratio	0.25	0.49	0.44	0.59	0.35
B: Firms					
DB	0.70	0.03	0.19	0.12	<0.01
FB	0.03	0.05	0.04	0.04	<0.01
RCF	0.19	0.02	0.34	0.13	<0.01
SFP	0.11	0.01	0.07	0.19	<0.01
CU	<0.01	<0.01	<0.01	<0.01	<0.01
Contestation ratio	0.37	0.60	0.64	0.67	0.61
C: SMEs					
DB	0.62	0.07	0.23	0.17	<0.01
FB	0.05	0.10	0.07	0.05	<0.01
RCF	0.24	0.04	0.42	0.16	<0.01
SFP	0.15	0.02	0.11	0.27	<0.01
CU	<0.01	<0.01	<0.01	<0.01	<0.01
Contestation ratio	0.53	0.60	0.66	0.71	0.66

Table 5. Firm Funding Sources by Firm Size.

This table reports the distribution of firms across funding sources by firm size over the period 2019–2024. The sample includes all firms that borrowed at least once during the sample period. For each size class, the table shows the share of firms borrowing exclusively from domestic banks (DB), foreign banks (FB), retail credit firms (RCF), or specialised finance providers (SFP), as well as the share of firms borrowing from multiple funding sources (Multi). Table 6 provides a further breakdown of firms with multiple funding sources. The column "Sample Share" reports the fraction of firms in each size class in the overall sample.

Data source: Central Credit Register.

Firm Size	Sample Share	Funding Source				
		DB	FB	RCF	SFP	Multi
Large	0.02	0.25	0.05	0.15	0.20	0.34
Medium	0.08	0.16	0.20	0.08	0.09	0.47
Small	0.34	0.35	0.01	0.18	0.08	0.39
Micro	0.56	0.61	0.01	0.10	0.04	0.24
All	1.00	0.48	0.02	0.13	0.06	0.31

Table 6. Funding Composition of Multi-Source Borrowers by Firm Size.
This table reports the composition of funding sources among firms that borrow from multiple lender types (Multi), by firm size, over the period 2019–2024. The sample includes all firms that borrowed at least once during the sample period and are classified as multi-source borrowers. For each size class, the table shows the share of multi-source firms that borrow from domestic banks (DB|M), foreign banks (FB|M), retail credit firms (RCF|M), and specialised finance providers (SFP|M). The column "Sample Share" reports the fraction of multi-source borrowers in each size class relative to firms in that class. Funding source shares within Multi are not mutually exclusive and therefore do not sum to one.
Data source: Central Credit Register.

Firm Size	Sample Share	Funding Source within Multi			
		DB|M	FB|M	RCF|M	SFP|M
Large	0.34	0.80	0.23	0.64	0.53
Medium	0.47	0.83	0.53	0.63	0.40
Small	0.39	0.90	0.06	0.77	0.43
Micro	0.24	0.94	0.04	0.80	0.31
All	0.31	0.91	0.11	0.76	0.38

Table 7. Relationship Loan Characteristics by Lender Type.

This table summarizes the average characteristics of firm–lender relationships and relationship loans across different lender types and in total over 2019–2024. Lender types include domestic banks (DB), foreign banks (FB), retail credit firms (RCF), and specialised finance providers (SFP). The first column reports relationship loans as a share of total loans extended by each lender type to firms in the sample. The second column presents the average expected duration of a relationship (in months). The third column shows the average number of loans within a relationship. Column four reports the average annual borrowing volume per relationship. Column five documents the average number of distinct loan types (e.g., business leasing, business hire purchase, business loans, and stocking finance loans) within a relationship. The final column captures the exclusivity of a relationship, measured by the average number of distinct lenders involved in each relationship.

Data source: Central Credit Register.

Lender Type	Rel. Loan	Rel. duration (in months)	# loans in rel.	Ann. exposure in rel.	Loan Types	Distinct Lenders
DB	55%	73.8	2.2	€999,488	1.1	1.1
FB	85%	64.8	6.7	€86,900,000	1.2	1.0
RCF	75%	67.1	4.0	€202,830	1.2	1.3
SFP	58%	67.6	2.4	€3,905,220	1.2	1.3
Overall	66%	70.7	2.9	€3,411,398	1.2	1.2

Table 8. Firm Characteristics by Funding Source.

This table reports summary statistics of balance-sheet characteristics for non-financial firms by funding source over 2019–2024. Panel A shows all firms, while Panel B restricts the sample to SMEs. Firms are classified into mutually exclusive funding groups based on observed borrowing relationships, including domestic banks (DB), foreign banks (FB), retail credit firms (RCF), specialised fund providers (SFP), and combinations thereof. Total assets are reported in thousands of euros, ratio variables are expressed as shares, and insolvency — defined as negative book equity — is a binary indicator. The final column reports pooled statistics across the partitioning of funding sources.
Data source: Central Credit Register and Dun & Bradstreet.

Variable	Statistic	DB	FB	DB+FB	Bank +RCF	Bank +SFP	RCF	SFP, SFP+RCF	All
A: All Firms									
Total Assets (€'000)	Mean	3,092	49,300	12,200	1,965	8,707	12,000	46,700	10,100
	Median	220	255	385	498	958	310	763	371
Debt/Asset	Mean	0.85	0.61	0.62	0.64	0.71	0.71	0.74	0.77
	Median	0.62	0.48	0.50	0.57	0.61	0.56	0.52	0.59
Current liab./Tot. liab.	Mean	0.79	0.84	0.81	0.75	0.75	0.81	0.84	0.79
	Median	0.91	0.96	0.88	0.82	0.82	0.94	1.00	0.90
Current ratio	Mean	2.45	3.43	2.54	2.22	1.96	2.84	3.16	2.48
	Median	1.33	1.82	1.69	1.38	1.32	1.45	1.58	1.38
ROA	Mean	0.12	0.27	0.29	0.27	0.23	0.19	0.18	0.18
	Median	0.10	0.30	0.34	0.29	0.31	0.17	0.28	0.21
Insolvent (0/1)	Mean	0.22	0.12	0.12	0.11	0.14	0.17	0.18	0.18
Observations		117,543	5,157	2,972	41,491	32,813	23,831	25,779	249,586
Firms		22,662	963	541	7,403	5,621	4,795	4,678	46,663
B: SME									
Total Assets (€'000)	Mean	2,787	6,185	3,347	2,165	4,943	14,400	22,400	7,415
	Median	665	228	392	774	1,503	473	1,177	818
Debt/Asset	Mean	0.74	0.60	0.61	0.60	0.66	0.68	0.69	0.68
	Median	0.56	0.47	0.50	0.54	0.58	0.55	0.51	0.55
Current liab./Tot. liab.	Mean	0.78	0.84	0.81	0.77	0.75	0.82	0.84	0.79
	Median	0.90	0.95	0.89	0.85	0.81	0.97	1.00	0.90
Current ratio	Mean	2.54	3.44	2.53	2.30	1.97	2.91	3.21	2.56
	Median	1.46	1.87	1.72	1.52	1.37	1.49	1.63	1.49
ROA	Mean	0.21	0.28	0.31	0.34	0.29	0.22	0.21	0.25
	Median	0.35	0.32	0.36	0.39	0.36	0.25	0.34	0.35
Insolvent (0/1)	Mean	0.17	0.12	0.12	0.09	0.12	0.16	0.16	0.14
Observations		33,983	4,195	2,304	19,226	20,341	12,210	15,798	108,057
Firms		6,189	796	429	3,347	3,409	2,490	2,807	19,467

Table 9. Determinants of Non-Household and Consumer Lending Interest Rates.

This table reports regression estimates for loan interest rates at origination for lending to non-households (firms and sole traders) in columns (1)–(6), and to households excluding mortgages—that is, the consumer credit (including asset finance) segment—in columns (7)–(10), over 2019–2025. All specifications include loan-level characteristics and various fixed effects. $D(X)$ is an indicator equal to 1 if the loan is originated by lender type X and 0 otherwise, where lender types comprise foreign banks (FB), retail credit firms (RCF), specialised finance providers (SFP), and credit unions (CU). Domestic banks are the omitted category; accordingly, the coefficients on $D(X)$ measure the average interest rate differential relative to domestic banks. ILST FE refers to industry (4-digit NACE) × location (county) × firm size × time (quarter) high-dimensional fixed effects, following Degryse et al. (2019). BT-L-LT-T FE refers to borrower type × location (county) × loan type × time (quarter) high-dimensional fixed effects. For non-households, borrower type comprises sole traders, micro firms, SMEs, and large firms, whereas for households there is only one borrower type.

Table 10 reports regression results for residential mortgage interest rates. Table A3 re-estimates specifications (1)–(4) and (6) for loans to SMEs. Table A4 reports separate estimates for business lending and commercial mortgages to firms. Table A5 reports estimates separately for personal loans, hire purchase, and PCP.

Data source: Central Credit Register.

	Non-Household Loans						Consumer Credit (incl. Ass. Fin.)			
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**
D(FB)	1.07***	1.21***	1.29***	1.37***	1.04***	1.45***	1.40***	1.43***	1.58***	1.42***
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.01)
D(RCF)	2.46***	2.25***	2.25***	2.18***	2.47***	2.77***	1.79***	1.84***	1.93***	1.76***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
D(SFP)	1.60***	1.93***	1.92***	1.79***	1.65***	2.29***	–	–	–	–
	(0.01)	(0.02)	(0.03)	(0.03)	(0.01)	(0.03)				
D(CU)	1.03***	1.17***	1.25***	1.22***	1.17***	1.55***	0.77***	1.17***	1.30***	0.78***
	(0.02)	(0.04)	(0.05)	(0.08)	(0.02)	(0.18)	(0.00)	(0.00)	(0.01)	(0.00)
Loan Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quarter FE	Y	Y	Y	N	N	N	Y	Y	Y	N
Borrower FE	N	Y	N	N	N	N	N	Y	N	N
Borrower-Year FE	N	N	Y	N	N	N	N	N	Y	N
Borrower-Quarter FE	N	N	N	Y	N	N	N	N	N	N
BT-L-LT-T FE	N	N	N	N	Y	N	N	N	N	Y
ILST FE	N	N	N	N	N	Y	N	N	N	N
R^2	0.31	0.66	0.85	0.92	0.39	0.68	0.28	0.68	0.89	0.30
Observations	671,157	671,157	671,157	671,157	671,157	314,352	5,257,327	5,257,327	5,257,327	5,257,327

Note: *** $p < 0.01$, ** $p < 0.05$. Clustered standard errors in parentheses.

Table 10. Determinants of Mortgage Loan Interest Rates.

This table reports regression estimates for residential mortgage interest rates at origination over 2019–2025, shown separately for all mortgages (1)-(2), new purchase mortgages (3)-(4), and refinancing (switching) mortgages (5)-(6). All specifications include quarter fixed effects. $D(X)$ is an indicator equal to 1 if the loan is originated by lender type X and 0 otherwise, where lender types comprise domestic banks (DB), foreign banks (FB), and retail credit firms (RCF). Domestic banks are the omitted category; accordingly, the coefficients on $D(X)$ measure the average interest rate differential relative to domestic banks. Loan and borrower controls include borrower characteristics (age, income, and occupation), loan contract characteristics (loan-to-value ratio, loan-to-income ratio, loan size, interest rate type, and loan type), collateral characteristics (property value, property type, and county), and applicant status (single versus joint).
Data source: Macro-prudential templates.

	All		Purchase		Refinancing	
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
$D(\text{FB})$	-0.24***	-0.22***	-0.19***	-0.23***	-0.21***	-0.33***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)
$D(\text{RCF})$	0.09***	0.14***	0.10***	0.11***	0.21***	0.14***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Quarter FE	Y	Y	Y	Y	Y	Y
Loan & Borrower Controls	N	Y	N	Y	N	Y
R^2	0.58	0.66	0.59	0.66	0.59	0.69
Observations	307,999	307,867	212,970	212,934	46,029	45,973

Note: *** $p < 0.01$. Standard errors in parentheses.

APPENDIX

A.1 Cost of Borrowing Regression

Our baseline specification for analysing how loan pricing varies systematically with lender type is given by

$$r_{b,i,l,t} = \alpha_{b,t} + \beta\, D(X)_i + \gamma' Z_l + \epsilon_{b,i,l,t}, \tag{1}$$

where the dependent variable $r_{b,i,l,t}$ is a loan-level interest rate at origination for loan l issued by institution (lender) i to borrower b in quarter t.The indicator $D(X)_i$ equals one if lender's type is X, for $X \in \{\text{FB, RCF, SFP, CU}\}$, and zero otherwise. Thus, β captures the systematic differential in loan pricing of lender type X relative to domestic bank, which serves as a base category. To absorb unobserved credit demand, we include borrower–quarter fixed effects, $\alpha_{b,t}$, in the spirit of Khwaja and Mian (2008). Finally, we include loan-level controls Z_l, such as contractual maturity, interest rate type, and market segment. Standard errors are clustered at the borrower–lender level to allow for arbitrary correlation in residuals across multiple loans within a borrower–lender relationship. We do not cluster standard errors by time for two reasons. First, our preferred specification already includes borrower–year fixed effects ($\alpha_{b,t}$), which absorb all common shocks affecting borrowers within a given quarter. Because these fixed effects remove any quarter-specific variation in the residuals, an additional cluster correction along the time dimension would be redundant. Second, our sample spans only six years (24 quarters), which provides too few time clusters for reliable cluster-robust inference.

A.2 Figures

Figure A1. New Loan Origination by Lender Type and Market Segment

This figure shows the annual distribution of new lending volumes across broad market segments, defined in Table A1, for four lender types — domestic banks (Panel A), foreign banks (Panel B), non-bank lenders (Panel C), and credit unions (Panel D) — over the period 2019–2025. The red line, with the right y-axis, indicates total new lending volume for each lender type.

Data source: Central Credit Register.

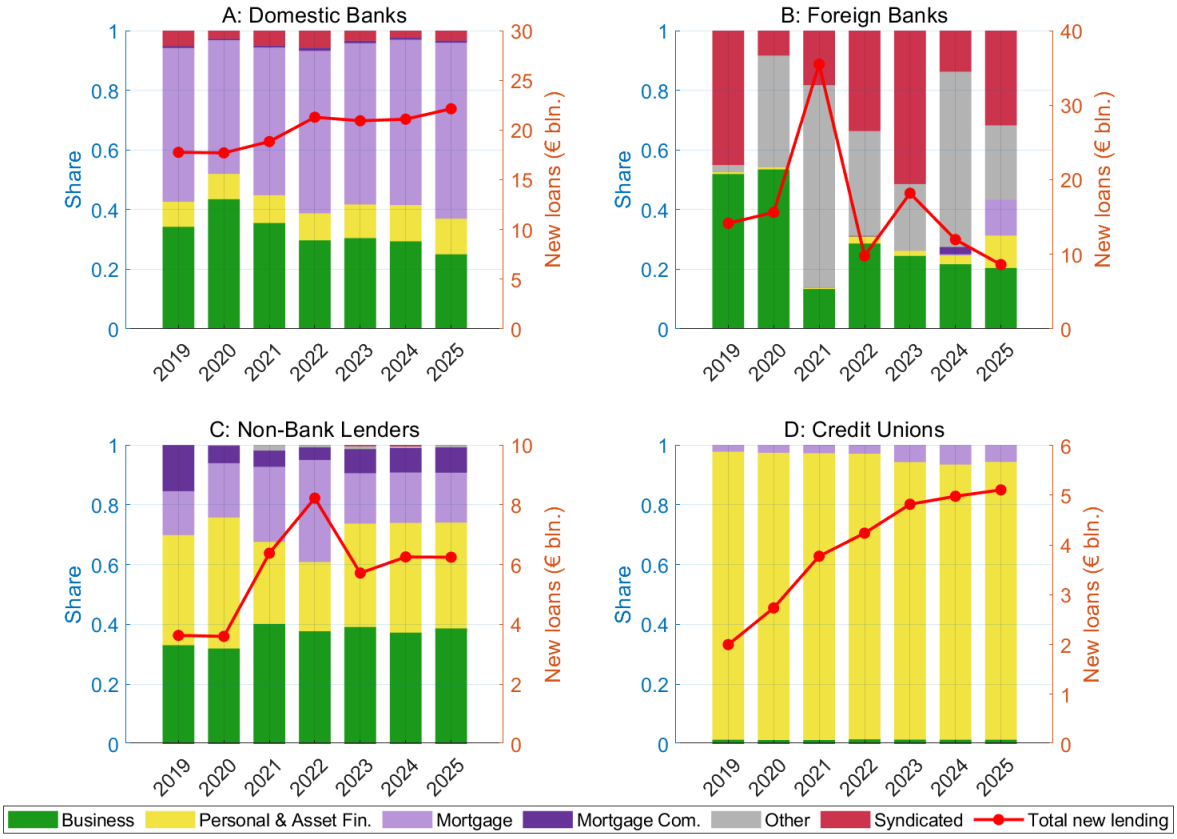


Figure A2. Non-bank Lenders by Subtype.
This figure summarizes the composition of non-bank lending by subtype, measured by lending volume (Panel A) and by number of loans (Panel B), over the period 2019–2025. Non-bank lenders include retail credit firms (RCFs), specialised finance providers (SFPs), high-cost credit providers (formerly moneylenders; HCCP), and local authorities (LA). Panels C and D show the distribution of new lending volumes across broad market segments for the two main non-bank lender types, RCFs and SFPs. The red line indicates total new lending volume.
Data source: Central Credit Register.

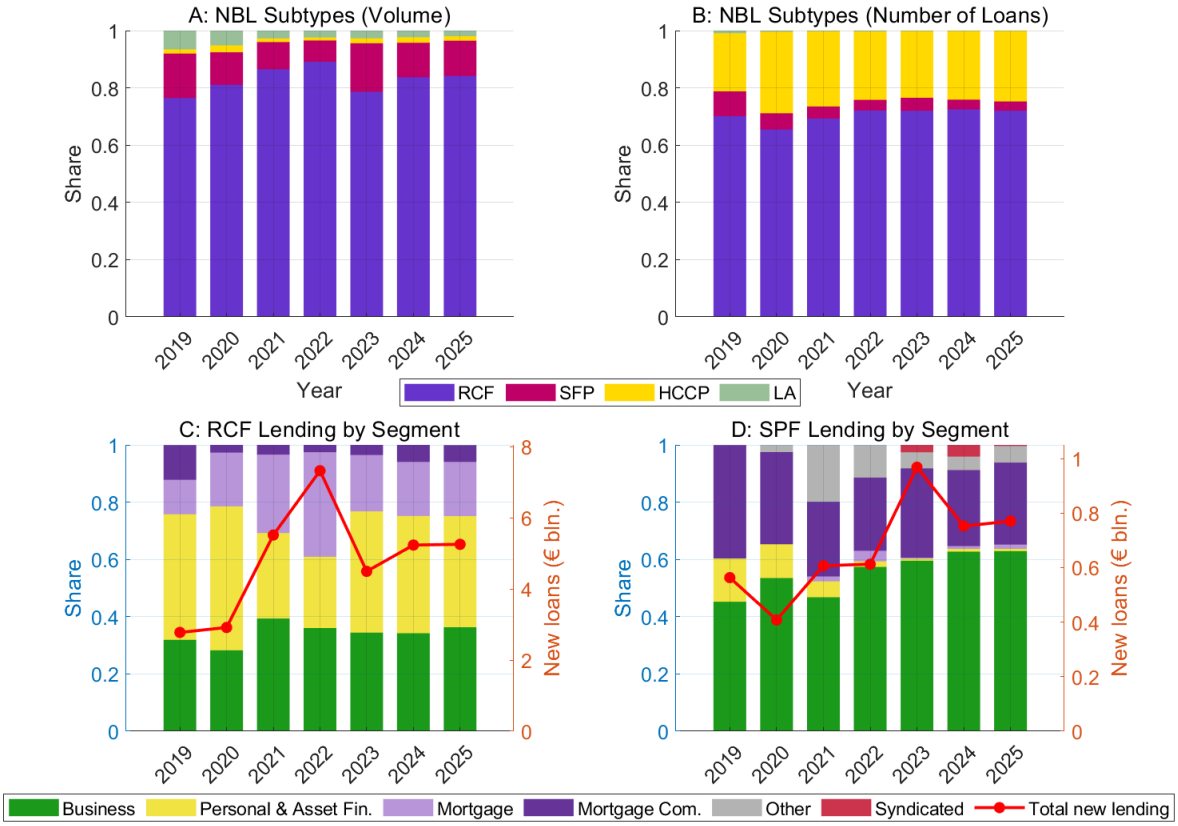
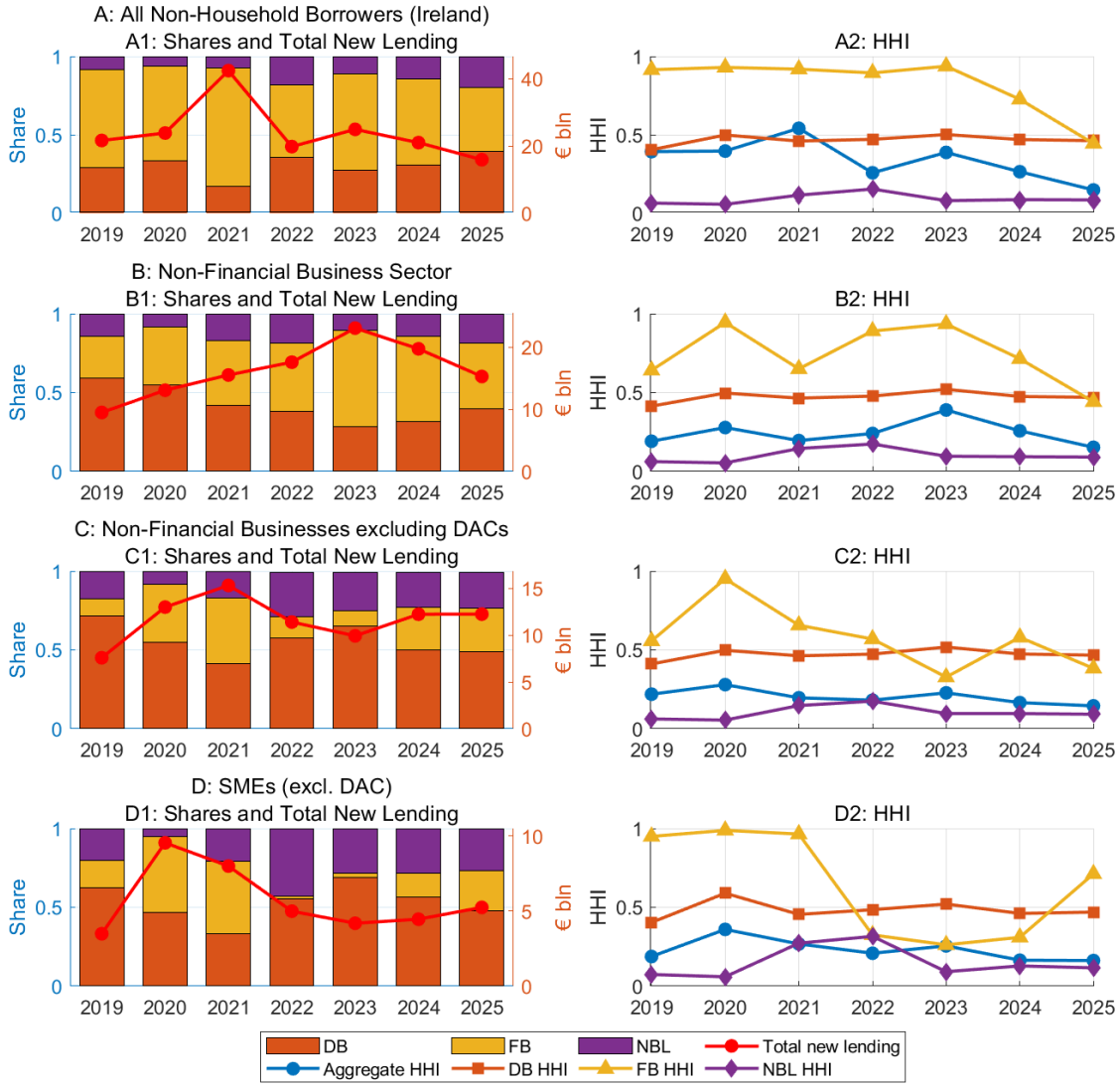


Figure A3. Concentration Analysis: From the Full Sample to SMEs.
This figure shows the annual evolution of new lending volumes, market shares, and concentration across progressively restricted samples of the Irish non-household loan market over the period 2019–2025. The left panels plot total new lending (red line, right axis) and lender market shares (stacked bars, left axis), while the right panels report concentration measures, including the aggregate HHI and lender-specific HHIs. Rows correspond to nested sample restrictions: (A) all non-household borrowers in Ireland with non-missing address information; (B) non-financial businesses (incorporated firms and sole proprietors), restricting to identified institutional sectors (non-financial corporations, and sole proprietorships and partnerships without legal status); (C) excluding Designated Activity Companies (DACs); and (D) SMEs (excluding DACs). The baseline sample excludes financial corporations but may include missing borrower characteristics such as address or institutional sector; subsequent panels impose increasingly strict data and sector filters. Lender types are Domestic Banks (DB), Foreign Banks (FB), and Non-Bank Lenders (NBL).
Data source: Central Credit Register.



A.3 Tables

Table A1. Mapping of CCR Loan Types to Broad Market Segments. This table summarizes the mapping of the 16 loan types in the Central Credit Register (CCR) to the broad product segments analyzed in Sections and 3.5. Household loans correspond to the CCR's 'consumer' designation, comprising consumer credit (including personal contract plans and leasing) and residential mortgages extended to individuals acting outside their profession. Non-household loans correspond to the CCR's 'non-consumer' designation, encompassing commercial mortgages, business-related asset finance, syndicated loans, and credit to financial or legal entities.

Broad Segment	**CCR Loan Type**
Business	Business Hire Purchase Business Leasing Business Loan Stocking Finance
Consumer Credit including Asset Finance	Hire Purchase (excl. PCP) Leasing Personal Contract Plan (PCP) Personal Loan Premium Financing
Residential Mortgage	Mortgage – Buy-to-Let Mortgage – Home Loan
Commercial Mortgage	Mortgage – Commercial
Other	Other Product Type
Syndicated	Syndicated Loan – Business Loan Syndicated Loan – Commercial Mortgage Syndicated Loan – Other Product Type

Table A2. Firm Size and Funding Source Composition.
Panel A reports, for each firm size class, the distribution of firms across funding-source categories. Panel B reports, for each funding-source category, the distribution of firms across size classes. Shares are computed over the period 2019–2024. The sample includes all firms that borrowed at least once during the sample period.
Data source: Central Credit Register.

Funding Source	Firm Size				Total
	Large	Medium	Small	Micro	
A: Funding Source Distribution within Firm Size					
DB	0.25	0.16	0.35	0.61	0.48
FB	0.05	0.20	0.01	0.01	0.02
DB+FB	0.02	0.09	0.01	0.00	0.01
D/FB + RCF	0.10	0.16	0.18	0.15	0.16
D/FB + SFP	0.18	0.19	0.17	0.07	0.12
RCF	0.15	0.08	0.18	0.10	0.13
SFP, SFP+RCF	0.24	0.11	0.12	0.06	0.09
Total	1.00	1.00	1.00	1.00	1.00
B: Firm Size Distribution within Funding Source					
DB	0.01	0.03	0.24	0.72	1.00
FB	0.05	0.71	0.11	0.13	1.00
DB+FB	0.03	0.59	0.19	0.19	1.00
D/FB + RCF	0.01	0.08	0.38	0.53	1.00
D/FB + SFP	0.03	0.13	0.48	0.36	1.00
RCF	0.02	0.05	0.46	0.46	1.00
SFP, SFP+RCF	0.06	0.11	0.47	0.37	1.00
Total	0.02	0.08	0.34	0.56	1.00

Table A3. Determinants of SME Loan Interest Rates.

This table reports regression estimates for loan interest rates at origination for lending to Small and Medium Enterprises (SMEs) during 2019–2025 (excluding designated activity companies (DACs)). The SME loans include all non-household loan types. $D(X)$ is an indicator equal to 1 if the loan is originated by lender type X and 0 otherwise, where lender types comprise foreign banks (FB), retail credit firms (RCF), specialised finance providers (SFP), and credit unions (CU). Domestic banks are the omitted category; accordingly, the coefficients on $D(X)$ measure the average interest rate differential relative to domestic banks. ILSQ FE refers to industry (4-digit NACE) × location (county) × firm size × quarter high-dimensional fixed effects, following Degryse et al. (2019).
Data source: Central Credit Register.

Variable	(1)	(2)	(3)	(4)	(5)
D(FB)	1.39***	0.94***	0.93***	1.03***	1.19***
	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)
D(RCF)	3.07***	2.54***	2.47***	2.42***	2.87***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)
D(SFP)	2.30***	1.95***	1.87***	1.83***	2.33***
	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)
D(CU)	1.05***	1.28***	1.56***	1.91***	1.81***
	(0.14)	(0.21)	(0.26)	(0.40)	(0.28)
Loan Controls	Y	Y	Y	Y	Y
Quarter FE	Y	Y	Y	N	N
Borrower FE	N	Y	N	N	N
Borrower-Year FE	N	N	Y	N	N
Borrower-Quarter FE	N	N	N	Y	N
ILSQ FE	N	N	N	N	Y
R^2	0.36	0.60	0.79	0.89	0.66
Observations	204,193	204,193	204,193	204,193	174,800

Note: *** $p < 0.01$. Clustered standard errors in parentheses.

Table A4. Determinants of Non-Household Loan Interest Rates: Business Lending and Commercial Mortgages Separately.

This table reports regression estimates for loan interest rates at origination for lending to firms during 2019–2025. The sample includes business lending (business hire purchase, business leasing, business loans, and stocking finance) as well as commercial mortgages. All specifications include loan-level controls and fixed effects. $D(X)$ is an indicator equal to 1 if the loan is originated by lender type X and 0 otherwise, where lender types comprise foreign banks (FB), retail credit firms (RCF), specialised finance providers (SFP), and credit unions (CU). Domestic banks are the omitted category; accordingly, the coefficients on $D(X)$ measure the average interest rate differential relative to domestic banks. ILSQ FE refers to industry (4-digit NACE) × location (county) × firm size × quarter high-dimensional fixed effects, following Degryse et al. (2019).

Data source: Central Credit Register.

	Business Lending					Com. Mortgages		
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
D(FB)	1.25***	1.40***	1.45***	1.46***	1.43***	-0.09	—	-3.42**
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.50)		(1.37)
D(RCF)	2.74***	2.40***	2.39***	2.29***	2.75***	3.65***	3.43***	3.30***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.09)	(0.43)	(0.34)
D(SFP)	2.04***	2.06***	2.04***	1.88***	2.36***	3.82***	3.49***	3.43***
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.13)	(0.46)	(0.37)
D(CU)	1.31***	1.39***	1.75***	1.70***	1.65***	0.64	—	0.05
	(0.11)	(0.17)	(0.21)	(0.29)	(0.19)	(0.62)		(1.31)
Loan Controls	Y	Y	Y	Y	Y	Y	Y	Y
Quarter FE	Y	Y	Y	N	N	Y	Y	N
Borrower FE	N	Y	N	N	N	N	Y	N
Borrower-Year FE	N	N	Y	N	N	N	N	N
Borrower-Quarter FE	N	N	N	Y	N	N	N	N
ILSQ FE	N	N	N	N	Y	N	N	Y
R^2	0.30	0.61	0.81	0.90	0.69	0.59	0.94	0.95
Observations	392,466	392,466	392,466	392,466	295,399	3,101	3,101	1,550

Note: *** $p < 0.01$, ** $p < 0.05$. Clustered standard errors in parentheses.

Table A5. Determinants of Consumer Credit Interest Rates by Loan Type.

This table reports regression results for consumer loan (including asset finance) interest rates at origination, disaggregated by loan type: personal loans (PL), hire purchase excluding PCP (HP), and personal contract plans (PCP). The regressions cover the period 2019–2025 and control for loan-level characteristics and fixed effects. The variable $D(X)$ is a dummy equal to one if the loan is issued by lender type X and zero otherwise. Lender types X include foreign banks (FB), retail credit firms (RCF), and credit unions (CU). The omitted reference category is domestic banks; therefore, coefficients on $D(X)$ measure the average interest rate differential charged by lender type X relative to domestic banks. In the specification with borrower–year fixed effects (4), co-borrowers are included.
Data source: Central Credit Register.

	PL				HP				PCP			
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
D(FB)	1.71***	1.83***	1.84***	1.70***	-0.27***	-1.81***	-1.78***	-0.27***	-0.18***	-0.88***	-1.32***	-0.18***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.05)	(0.14)	(0.02)	(0.02)	(0.06)	(0.21)	(0.02)
D(RCF)	1.03***	1.49***	1.39***	1.03***	2.31***	1.35***	1.58***	2.30***	0.20***	0.32***	0.31***	0.20***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.06)	(0.01)	(0.01)	(0.03)	(0.11)	(0.01)
D(CU)	0.73***	1.21***	1.29***	0.75***	—	—	—	—	—	—	—	—
	(0.00)	(0.00)	(0.01)	(0.00)								
Loan Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quarter FE	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N
Borrower FE	N	Y	N	N	N	Y	N	N	N	Y	N	N
Borrower-Year FE	N	N	Y	N	N	N	Y	N	N	N	Y	N
County-Quarter FE	N	N	N	Y	N	N	N	Y	N	N	N	Y
R^2	0.26	0.69	0.88	0.27	0.30	0.92	0.99	0.31	0.14	0.78	0.99	0.14
Observations	4,500,819	4,500,819	4,500,819	4,500,819	555,485	555,485	555,485	555,485	191,798	191,798	191,798	191,798

Note: *** $p < 0.01$. Clustered standard errors in parentheses.

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