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POLICY PAPER: FINANCIAL SECTOR POLICY

Saving to Invest? Financial Intermediation in Ireland Since the GFC

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Abstract: Financial intermediation is the process through which savings are channelled into investment. This article studies developments in both sides of this process in Ireland, beginning by studying the savings behaviour of Irish households and the allocation of this wealth across assets. We show that households with the most financial resources are more likely to save and at higher rates, leading them to accumulate larger stocks of assets, which have benefitted most from asset price gains in recent years. We then study the usage of external finance for investment in Ireland, focussing on indigenous businesses. We find that despite their low investment rates in aggregate, a lack of access to finance is rarely a barrier to growth cited by indigenous Irish firms. We finish the paper by discussing the mechanisms that exist to connect household wealth to productive investment in the case of a small and highly-globalised economy such as Ireland, drawing out a range of policy conclusions.

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Preamble: It is an honour to be speaking to you all today, to mark Patrick's immense contribution to Irish economic policy. It is particularly special to be speaking to you given that I had the distinction of being Patrick's first PhD student at Trinity College Dublin. On a slightly different theme to today's paper, the first paper we worked on during my PhD examined hyperinflation in Zimbabwe.

I INTRODUCTION

In its most simple formulation, financial intermediation can be thought of as the "mechanism for channelling the savings of households into the investments of firms".[1] While the majority of households may not think of their savings as being of direct use to businesses looking to make investments, a key role played by financial intermediaries is to allocate these funds indirectly towards profitable investment opportunities. In this conference edition in honour of Professor Patrick Honohan, we explore three topics related to this mechanism in Ireland: the savings behaviour and allocation of household wealth across assets; the sources of finance used for investment, with a focus on indigenous firms; and the mechanisms that exist to connect savings to investment in Ireland.

Financial intermediation is often conceptualised narrowly in textbook economics as involving the transformation by *commercial banks* of short-maturity liabilities (customer deposits) into long-maturity assets (loans). The maturity mismatch and liquidity risk that are inherent to this transformation process have long been a key source of fragility in the banking system (with the economics literature on bank runs having expanded since the now Nobel-prize-winning contribution of Diamond and Dybvig (1983). Undoubtedly, banks remain an extremely important location for the storing of household wealth: institutional accounts for Ireland estimate that, of total household financial assets of €576 billion in Ireland, €202 billion are in "currency and deposits".[2] Banks also remain a key source of financing for investment, particularly for smaller businesses, while providing complementary deposit and credit line facilities to their borrowers in the manner described by Kashyap *et al.* (2002).

However, this traditional framing of intermediation through the lens of banks' maturity transformation has become less and less complete with the passage of time. Firstly, the globalisation of financial flows means that, whether through banks or portfolio investment, the savings of households in country A need not necessarily be channelled into investment in country A, nor do they place a constraint on the amount of investment that is possible in country A. A stark example of how global

[1] Quotation from Cecchetti (1999).
[2] Central Bank of Ireland Quarterly Financial Accounts: "Financial accounts for Ireland".

capital flows can influence local investment is the case of the Irish banking sector in the years preceding 2007. During this boom period, domestic savings became decoupled from domestic investment, as local banks availed of low-cost international financing, which allowed loan books, driven by the boom in real estate, to expand far beyond the size of the deposit base in the Irish economy.

Since the global crisis, the funding profile of banks, in Ireland and abroad, has changed markedly. Irish banks are now predominantly funded by their deposit base, with a very small reliance on issuance of marketable debt and securities. The aggregate loan-to-deposit ratio now sits at 77 per cent at Q3 2024.[3] This changed funding profile arises during an era of much more intrusive banking supervision and more prudent capital and liquidity requirements, which have created a banking system that is far more resilient than was the case before the global crisis. A key policy consideration in this environment is the degree to which resilient, low-risk banks provide sufficient financing to ensure the long-term potential of the Irish economy is achieved. Of particular relevance here is the issue of business model convergence in the banking sector, with a concern expressed by many researchers and commentators that operational costs and the risk-weighted capital regulation regime may push banks towards collateralised real estate lending at the expense of cash-flow based lending to businesses. This long-term trend towards greater household mortgage finance in particular is shown to be in existence in major economies for many decades by Jordà *et al*. (2016). The complex balancing of the costs and benefits of regulation has been central to the Central Bank of Ireland's policy frameworks for macroprudential capital buffers as well as the mortgage measures.

The growing share of financing occurring outside the banking sector is another key trend that has shifted the real-world situation away from the textbook maturity transformation view of financial intermediation. This shift in intermediation towards Non-Bank Financial Intermediaries (NBFIs) has meant that, rather than banks and their loan officers acting as the main conduit through which household wealth is transformed into investment opportunities for firms, a range of interconnections and financing channels now exist. It has occurred during a "golden age of asset management", where low interest rates and quantitative easing led to shifts in yield-seeking behaviour in many sectors. At the same time, innovations in financial technology have facilitated portfolio investment in a broader range of "alternative" asset classes such as real estate and private corporate credit, while traditional banks have been subject to stricter prudential regulation and supervision since the GFC.[4]

[3] Authors' calculations based on supervisory data returns.

[4] As just one example, Preqin (2018) notes, that over the 2009–2017 period, assets under management of direct lending funds quadrupled from $39 billion to $181 billion. Buchak *et al.* (2024) refer to this process as the "secular decline of bank balance sheet lending", ongoing since at least the 1970s, with their model indicating that changing saver preferences, declines in the cost of securitisation, and changes in implicit subsidies have all played a role.

While NBFIs' growth brings with it risks related to risk-taking, pro-cyclicality, and less intrusive prudential regulation and supervision, it has brought benefits to the resilience of the financial system. The maturity structure of assets and liabilities in the global economy is likely to be better matched under a system where NBFIs play a greater role: long-term investors can now avail of a much wider suite of long-term investment opportunities than would be the case in a system dominated by banks. As an example, purely from a maturity mismatch perspective, the appropriate investor in a 30-year product such as a mortgage is more likely to be an insurance company or pension fund (which can access mortgage exposure through structured finance products backed by these loans), with similarly long-dated liabilities, than a bank subject to run risk on short-term borrowing. Similarly, a Commercial Real Estate project of long duration may be more appropriately funded by a pension fund with minimal short-term redemption risk and locked-in long-term investors, compared to a bank funded by overnight deposits. Along with maturity matching, a more diversified set of funding sources also decreases the concentration risks associated with an economy overly reliant on a small number of large banks for its financing needs. Research from Gambacorta *et al*. (2014) confirms this intuition, showing that when financial crises hit, bank-oriented economies experience shocks to GDP that are three times more severe when compared to market-finance-oriented economies.

Substantial research effort has been devoted to understanding the growth of NBFIs in financial intermediation. Factors such as stricter bank regulation, innovations in financial technology, and increased yield-seeking behaviour due to low interest rates can all be thought of as explanations for the *larger slice of the pie* being taken by NBFIs. Irani *et al*. (2021) show that banks more impacted by the Basel III reforms reduce their participation in syndicated loan markets, particularly for loans with higher capital requirements. They also show that non-banks step in to fill the funding gap, something that is also shown for small business lending after the negative banking shock of the global crisis in the United States by Gopal and Schnabl (2022). On interest rates and financial cycles, Aldasoro *et al*. (2023) and Fleckenstein *et al*. (2020) both show using different data and techniques that non-bank funding may be more cyclical, and in particular more prone to dry-ups during shocks such as financial crises.

While the distribution of financial intermediation between banks and non-banks is a central concern of authorities such as central banks and financial regulators, perhaps the more fundamental question from the perspective of this paper relates to the determinants of *the size of the pie* itself. Why is it that, in Ireland, financial assets of households have risen from €177 billion in 2002 to €576 billion in 2024, an increase of over three times, over a period when the Consumer Price Index rose just over 50 per cent? Why have euro area household financial assets[5] risen from

[5] ECB data portal, "Financial Accounts", Total financial assets of households, Euro area 20 (fixed composition) as of 1 January 2023, Quarterly.

€12 trillion to €30 trillion over the same timeframe, while US households have had an equivalent increase from $33 trillion to $117 trillion?[6]

The determinants of the stock of global wealth are deep, structural, and long-running in nature, and have been the subject of a broad literature that cannot be summarised adequately in this short introductory section. Here, we group the most prominent explanations in the literature into three broad themes: demographics, inequality, and economic growth.

First, on demographics, a long-established fact is that households save more, and their Marginal Propensity to Consume (MPC), falls as they grow older. This is particularly true as households move past child-raising stages of life and begin to focus on saving for retirement, but may be less true as more households move out of the labour force and into retirement, raising questions about the direction of this demographic effect in future (Goodhart and Pradhan, 2017).

Second, it is also widely established and confirmed empirically that higher-income households have lower MPCs out of income, and that the MPC out of wealth is lower than that out of income (Jappelli and Pistaferri, 2014). With these forces in mind, it seems unquestionable that the increase in inequality of both income and wealth in key developed economies in recent decades, with more resources available to those less likely to consume, has led to an increase in savings and wealth available for investment allocation. This phenomenon has been referred to as the "savings glut of the rich" and is hypothesised by Mian *et al.* (2021) to be a key explanation for the increase in household indebtedness among those on lower incomes observed in the United States.

Last, on economic growth, and in particular the global distribution of growth. Rapid growth in living standards in emerging economies such as China since the 1990s has had a fundamental impact on global savings, due to the high savings rates common in these economies due to a lack of social insurance. When economies with structurally higher savings rates grow rapidly, savings stocks grow in tandem. This phenomenon has had the effect of increasing the pool of global savings looking to be allocated into the same "pot" of investment opportunities in developed economies, putting downward pressure on the natural rate of interest (r^*), which is estimated to have fallen by around 4 percentage points over the past two decades (Brand *et al*., 2018).[7]

In the rest of this article – taking the above as a global, macro backdrop to the analysis – we focus on the specifics of household saving behaviour and wealth allocation in Ireland. We avail of rich, granular data available to the Central Bank of Ireland, and show that at an individual level, income is the key determinant of saving and accumulating assets, with the saving behaviour of many households

[6] FRED; Households; Total Financial Assets; Level (BOGZ1FL194090005Q)

[7] As r^* is unobservable, measurements of it vary depending on modelling approach. Further, the declining trend in r^* may have reversed somewhat over the past two years of heightened inflation (see speech by Isabel Schnabel, March 2024).

deviating from the national average rate. In the case of Ireland, households with the most financial resources are more likely to save and at higher rates, leading them to accumulate larger stocks of assets, which have benefitted most from asset price gains in recent years. The greater ability of higher income households to save (and in turn invest), along with intergenerational persistence in wealth holdings, leads to a concentration of wealth among households higher up the income distribution. Therefore, not only is the pool of potential investors in Ireland relatively small, but the concentration of assets can drive further inequality. Ireland is not unique in having a concentrated pool of households holding large shares of total assets. We show that this pattern appears to be consistent across the euro area.

We study the financing decisions of Irish businesses in a second section, and show that, during a period of rapid economic growth since the GFC recovery, financing demand (particularly via bank loans) for investment has been remarkably, perhaps puzzlingly, low. This lack of borrowing appetite from domestic firms could be explained by a combination of scarring from debt experiences during the GFC,[8] alternative emerging sources of finance, and the availability and attractiveness of internal funds. The macroeconomic implications are more complex: this decade-long period of weak demand for loan finance appears to have coincided with a period of healthy aggregate investment activity, despite textbook economics predicting that weak credit would beget weak growth. Digging deeper, it does appear that *indigenous* Irish firms have among the lowest investment rates in Europe but that, in aggregate, the investment and broader economic contributions of multinational firms may mask the macroeconomic impact of this. Despite their low investment rates in aggregate, a lack of access to finance is rarely mentioned by domestic firms as a barrier to growth in enterprise surveys.

The special case of Ireland, with its particularly large and important MNE sector, is a key context for a study of financial intermediation. Relative to larger, more closed economies with a greater reliance on domestic firms, financial intermediation in countries like Ireland should be expected to have certain distinguishing features. For example, when the most productive businesses in the economy, who drive aggregate investment, are MNEs, the flow of loan financing for domestic investment is likely to be smaller, all other things equal. This is likely to hold even in the case where a subset of productive local businesses benefit from FDI spillovers. When MNEs are as large and dominant as they are in Ireland, and have minimal need for debt financing due to strong global balance sheets, the potential size of the local financial sector's exposure to private sector non-household lending automatically reduces. The heavily skewed productivity distribution may also have an additional impact on the investment appetite of local firms, through "crowding out" effects in both labour and capital markets. When returns are so great in the MNE sector, even relative to similarly-sized small businesses in more closed

[8] Cantillon *et al.* (2022) discuss of the lingering GFC-era effects on firm investment, including demand-side issues such as aversion to debt.

economies, those in an economy like Ireland's may simply have less growth potential, and may search less for external financing, as high-growth investment opportunities are more likely to be pursued in the MNE sector.

We conclude by assessing the policy implications of our findings for financial intermediation in Ireland currently. The connection between the functioning of the financial system and the well-being of the citizens as a whole has long been a central theme in Professor Honohan's academic and professional career, and as practitioners working within the Central Bank under his Governorship, we can attest to the importance that these aims held for him when leading our institution. Long pre-dating his time as Governor, Professor Honohan's work clearly illustrated his interest in understanding how financial development connected with broad-based, inclusive economic development. In *Finance For All?* (Demirgüç-Kunt *et al*., 2008), the authors state:

> *Improved access to finance creates an environment conducive to new firm entry, innovation, and growth. However, research also shows that small firms benefit the most from financial development and greater access–both in terms of entry and seeing their growth constraints relaxed.*

They then highlight the mechanisms through which financial development can support financial health and economic well-being across households, even in cases where the financial sector focusses its attention on larger businesses:

> *the poor may benefit from having jobs and higher wages, as better-developed financial systems improve overall efficiency and promote growth and employment. Similarly, small firms may see their business opportunities expand with financial development, even if the financial sector still mostly serves the large firms. Hence, … (having) a strongly favorable indirect effect on the poor.* (Demirgüç-Kunt *et al.*, 2008)

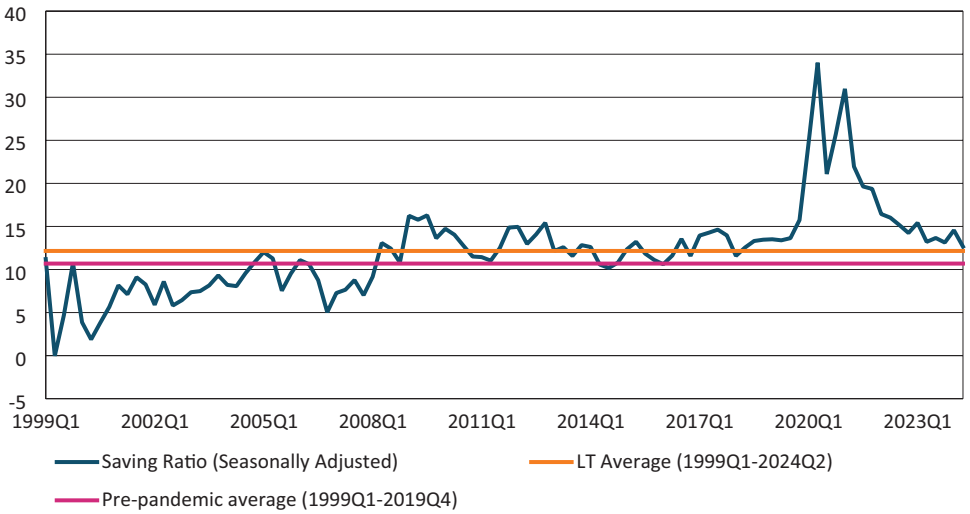
Our study implies that meaningful portfolio investment remains out of reach of the majority of Irish households, and that the distribution of income and savings capacity means that this is likely to remain the case for many lower-income households. However, at higher income levels, policy changes around the tax treatment of retail investments could lead to significant direct investment being unlocked. The question of whether Irish household deposits, if allocated into retail investment products, would *or should* be channelled into the Irish economy, spurring local investment, is however more complex. We conclude that, despite challenges and potential areas for growth, the Irish financial system currently appears to offer a wide range of financing options to support the growth prospects of the domestic economy, with a variety of funding options both inside and outside the local banking sector available for businesses of different sizes and stages in the lifecycle.

II THE SAVINGS BEHAVIOUR AND ALLOCATION OF HOUSEHOLD SAVINGS IN IRELAND

2.1 Irish Households are Saving More, in Aggregate, Today Than Before the Pandemic

Data from the Institutional Sector Accounts (ISA) show that, in aggregate terms, gross saving by Irish households increased substantially in 2020 (Arrigoni *et al.*, 2022b) and remains above its historic trend. As of Q2 2024, the seasonally adjusted gross household saving rate measures 12.7 per cent against a pre-pandemic average of 10.7 per cent and a long-term average of 12.2 per cent (Figure 1).

Figure 1: Gross Household Saving Rate, Q1 1999-Q2 2024 (Seasonally Adjusted, %) – IE

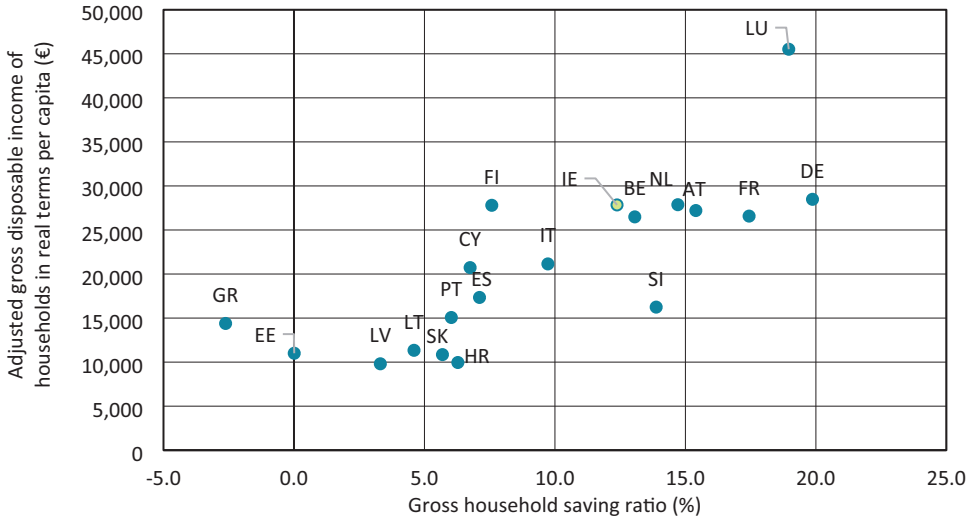


Source: CSO Institutional Sector Accounts.

Comparing across 19 Eurozone countries, Eurostat data show Ireland's gross household saving ratio ranked 8th in 2022 (Figure 2). Eleven euro Member States had saving rates below 10 per cent but Greece was the only country to record a negative saving rate. Figure 2 also provides important suggestive evidence on the underlying drivers of household savings: savings rates are higher in higher-income countries, consistent with the idea that the pool of savings in an economy should grow disproportionately as an economy develops (Modigliani, 1970).

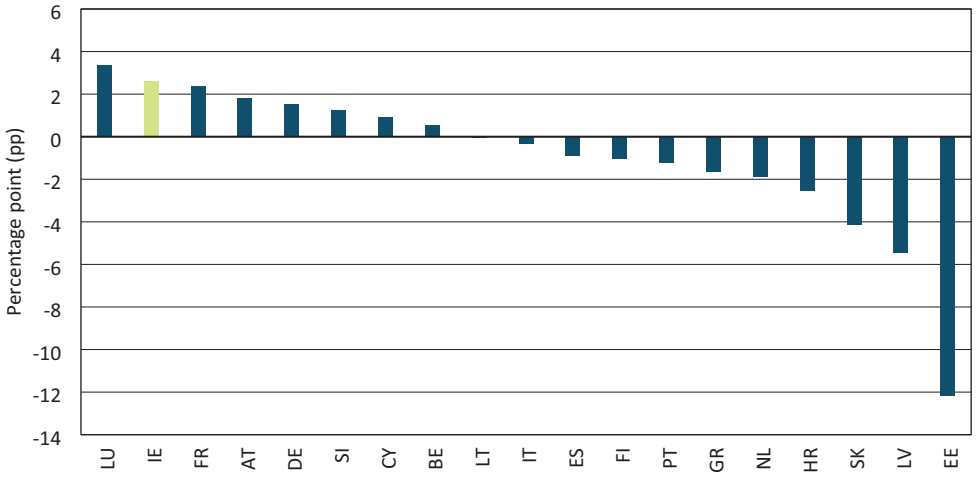
Compared to before the global pandemic, saving rates are higher in Ireland and seven other euro area countries, including France and Germany. In terms of percentage point difference, Ireland's saving rate in 2022 was 2.6 percentage points higher than in 2019 (Figure 3). This represents the second-largest increase and moves Ireland up from its 2019 pre-pandemic rank of 11th.

Figure 2: Income (€) vs Saving Rate (%) in 2022 – Across the Euro Area



Source: Eurostat and authors' calculations.
Note: Data for Malta not available. Ireland is shaded green. Savings rates are higher where incomes are higher.

Figure 3: Change in Gross Household Saving Ratio (2022 vs 2019) – Across the Euro Area (pp)

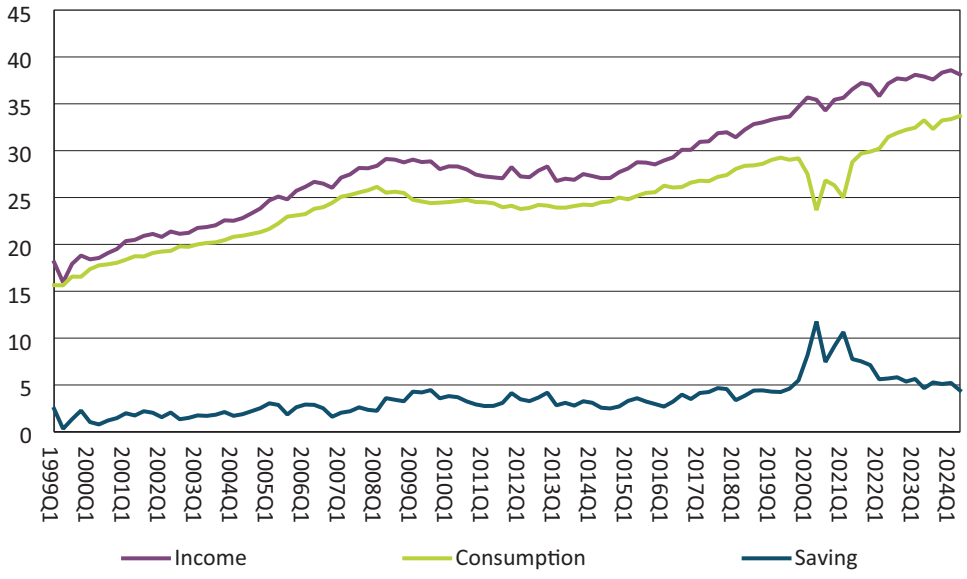


Source: Eurostat and authors' calculations.
Note: Data for Malta not available. Ireland is shaded green. Savings rates are higher where incomes are higher. Saving rate has increased notably in Ireland since the pandemic.

2.2 Higher Saving Flows have Translated into a Large Stock of Savings in Ireland

Ireland's comparatively high savings rate means that substantial stocks of financial assets have accumulated over time. Quarterly Financial Accounts (QFA) data show the household sector in Ireland holds gross financial assets worth an estimated €478 billion in real terms in Q1 2024; over €59 billion more than in Q4 2019 (Figure 4) and 1.5 times domestic demand in the Irish economy in 2023.[9]

Figure 4: Household Disposable Income, Consumption and Saving Flow (IE, Q1 1999-Q1 2024, Constant Prices, Seasonally Adjusted)



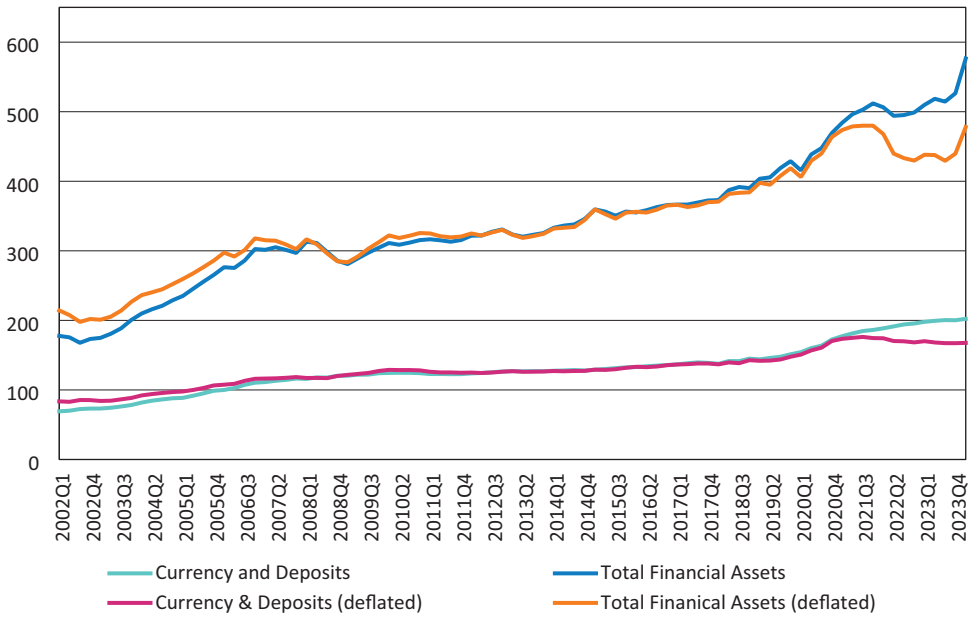
Source: CSO Institutional Sector Accounts.
Note: Saving flows remain high despite consumption tracking its pre-pandemic trend.

Households hold several types of assets on their balance sheet. These include liquid deposits, less liquid financial assets and non-financial assets (mostly housing in Ireland). After the GFC, Irish households tended to allocate their saving flows across these in roughly the proportion one-quarter, one-quarter, one-half. The proportion allocated to deposits increased to two-thirds during the pandemic and remains elevated at approximately one-third over 2022 and 2023, with one-third going to each of financial assets and housing.

Whilst deposits and liquid savings do not typically generate large returns for households, they do provide easily accessible financial buffers in case households experience price or income shocks, such as the cost of living increases over 2022

[9] Domestic demand in 2023, at current market prices, was €321.254 billion (CSO).

Figure 5: Household Saving Stock (IE, Q1 2002-Q1 2024)



Source: Central Bank Quarterly Financial Accounts; Household and NPISH sector.
Note: The stock of savings is large but has lost some purchasing power due to inflation.

and 2023. In response to these shocks, households can choose to adjust their spending; spend more of their income (save less), or draw down on available financial buffers (dis-save).

The high levels of savings by Irish households during the pandemic were due, at least in part, to reduced opportunities to spend during 2020 and 2021 (Lydon and McIndoe-Calder, 2021). The continued high level of saving over 2022 and 2023 is at first look more puzzling, given this was a period of heightened inflation and a decline in real incomes, which would suggest reduced savings may have been required to maintain consumption levels. However, higher interest rates and large-scale fiscal supports to households (many of which were universal) combined with either a desire to re-build wealth after inflation losses or to target a particular savings level in anticipation of future additional negative economic shocks (consistent with 'buffer stock saving behaviour') may explain the elevated saving rate.

Higher household saving can have both positive and negative economic implications. At a micro level, it enables a household to smooth consumption over the longer-term (Modigliani and Brumberg, 1954) and provides resilience against shocks (Gjertson, 2016). At a macro level, national saving has historically been highly correlated with investment so higher household saving can indirectly lead to higher capital accumulation, which may boost investment, improve productivity

and stimulate long-term economic growth. However recent studies highlight savings as playing a more important role in lower-income countries (Aghion *et al*., 2016). In open economies, like Ireland, higher household saving may lead to reduced reliance on foreign capital to finance investments (Cavallo *et al*., 2018), and in turn improve current account balances. However, higher household saving implies less household spending which could reduce aggregate demand. This phenomenon, known as the 'paradox of thrift', was first addressed by Keynes (1936) and can be a particular issue if the higher saving/lower consumption of many households occurs during times of economic downturn. Reduced spending could also indicate low consumer confidence and also has knock-on fiscal effects via lower indirect tax receipts (Coffey *et al*., 2020). In addition, the implications are highly dependent on where households store their savings. For example, if households use them to purchase other real estate then this could raise house prices and have less positive real effects.

For the remainder of this paper, we limit our analysis of the "savings stock" to the financial wealth held by households that may be available for intermediation to firms. That is we focus on gross financial assets owned by households (and exclude non-financial assets such as housing). Under this definition, while households' savings remain high, the stock has lost purchasing power in recent years given the increased price level (Figure 5). Nevertheless, Irish households continue to show a strong preference for saving and, at least in aggregate terms, hold a large pool of financial assets that are potentially available for investment.

2.3 The Extent to Which a Given Household Saves is Dependent on Income

While many households in Ireland save, the extent of saving (and also investing) at an individual level, is highly heterogeneous. For example, on average, households with higher savings are more likely to have a household head who is aged 50-70 years old, higher educated, male, in work or retired and living in the Eastern and Midlands region (containing Dublin). The ability to save also varies by tenure status. Conditional on having financial assets, the median homeowner holds a stock worth around 5.5 times that of the median non-homeowner.[10]

One of the most important factors driving saving behaviour is income (Lydon and McIndoe-Calder, 2021). This is illustrated consistently via microdata from wealth surveys. The first for Ireland was conducted in 1987, with Professor Honohan co-authoring the paper presenting the key findings (Honohan and Nolan, 1993). Today, Ireland relies on the Household Finance and Consumption Survey[11] (HFCS) to collect these important data.

[10] Authors' calculations using HFCS (2020) data. Results available upon request.

[11] The HFCS is a Eurosystem survey coordinated by the ECB, compiling harmonised granular information on household balance sheets across the euro area. In Ireland, three waves of data have been collected to date by the Central Statistics Office (CSO). These are 2013, 2018 and 2020. The next wave relates to 2023, and compilation is still ongoing, so the data are not yet available.

According to this survey, 97 per cent of households hold financial assets (defined as cash in deposit or saving accounts, publicly traded shares, bonds, managed accounts, mutual funds, voluntary pension or whole life insurance). Including households with no financial assets, the average household in the State holds savings worth around €62,780, while the median Irish household holds a stock worth €12,250 (Table 1).

However, both the ownership and value of savings in financial assets varies by household income. For example, the median household in the bottom quintile holds savings worth €3,700 in 2020. While the median household in the top income quintile holds a stock worth over five times' that (€40,000). Compared to 2018, and accounting for price differences, the stock of savings is higher for the median household in all income quintiles. In percentage terms, the increase ranges from around a third in the top income quintile to over 240 per cent in the bottom quintile. These large increases, present across the income distribution and larger in level terms at the top end, reflect the increase in savings that arose under pandemic restrictions.

Table 1: Participation and Level of Household Saving – by Income Quintile (IE, 2020)

	Has financial assets (%)	*Average value of financial assets (€)*	*Median value of financial assets (€)*	*Median saving rate (%)*
Q1	92.8	16,462	3,700	–15.5
Q2	93.7	29,913	6,106	19.8
Q3	99.3	53,921	11,709	36.6
Q4	99.9	50,135	17,481	50.4
Q5	100.0	163,694	40,000	64.9
All	97.1	62,780	12,250	36.8

Source: HFCS 2020 (CSO and Central Bank of Ireland).
Note: Asset valuations reflect unconditional values, whereby non-owners are assigned values of zero for the calculation.

However, many households at the lower end of the income distribution do not save any amount of their total income. This is illustrated by considering the median household in the first quintile and comparing their typical monthly expenditure to gross income. Doing so generates a negative saving rate indicating dis-saving. This is in line with Horan *et al.* (2020), who find similar dis-saving patterns in HFCS 2018. It is also consistent with findings from the 2015/2016 Household Budget Survey (HBS). Note, the HFCS does not provide an identical measure of the saving rate to the Institutional Sector Accounts (ISA) so we generate a close definition

as 1 minus the ratio of total spending over total gross income.[12] As the spending information is self-reported and does not capture certain items, such as durable goods, the HFCS saving rate is higher than aggregate, but this measure can still provide insight into distributional trends.

Considering developments over time, Professor Honohan's work with the 1987 survey indicates 68.7 per cent of Irish households held financial assets (defined as balances in savings accounts, small savings such as saving certificates or pre bonds, gilts, equities and bonds). Applying the same definition to the HFCS data, the participation rate has risen to 82.1 per cent in 2020. The largest participation gains have occurred for the bottom income quintile, indicating improved access to savings products over time. However, considering the ratio of top to bottom income deciles in terms of conditional median value of savings, the ratio stood at 5.6 in 1987, rising to 10.0 in 2020. This indicates a widening in the financial asset distribution over time.

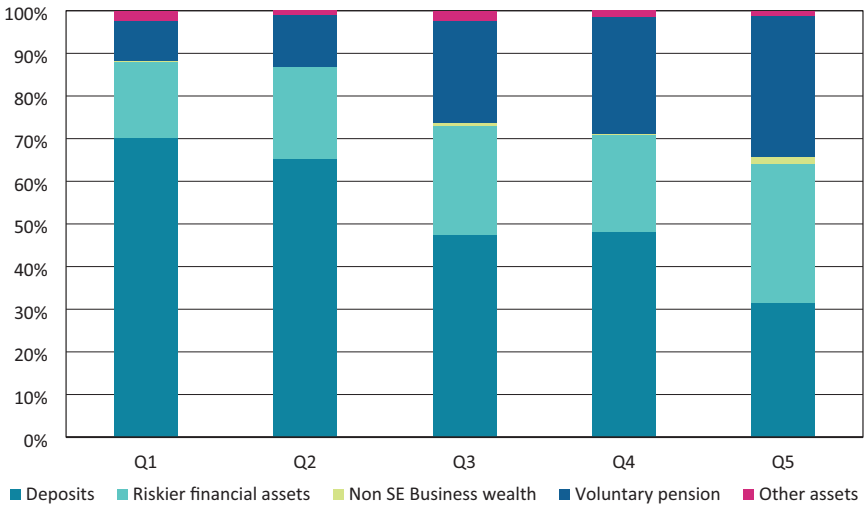
2.4 Savings and Wealth are Concentrated at Higher Incomes

It is not possible to directly compare the results from the HFCS with the earlier survey Professor Honohan worked on (particularly from a value of financial assets perspective) given differences between the surveys. However, both surveys highlight the preference for real assets. Amongst Irish households, real assets account for over 85 per cent of total gross assets, while financial assets make up the remaining 15 per cent. Both surveys also point to the concentration of financial sector holdings at the top of the income distribution. Considering the portfolio of the average household in each income quintile, financial assets account for just under 8 per cent of total assets in the first quintile compared to around 17 per cent in the top quintile. This highlights not just individual differences in resources, but also in individuals' choice of savings and in how these savings are financed. Households at the top of the income distribution are also substantially less leveraged than households in the middle and bottom of the income distribution.

There is also a clear ordering in the exposure of households to riskier assets across the income distribution. Riskier financial assets (defined as shares, bonds, managed accounts and mutual funds) account for just 1 per cent (18 per cent) of total (financial) assets for the bottom 20 per cent of households, but 5 per cent (33 per cent) in the top 20 per cent of households (Figure 6). In contrast, liquid assets (cash saving and deposits) make up between roughly five- and seven-tenths of financial assets in all but the top quintile, where they make up a smaller share of total financial assets. By value, the top quintile dominates, particularly in terms of both riskier financial assets and voluntary pensions (Figure 7).

[12] Total spending in HFCS includes expenditures on food (at home and outside home), trips and holidays, utilities and consumer goods and services, in addition to alimony, rent and interest payments on mortgages outstanding on households' main residence, other property and other loans. We consider interest instead of total debt payments (including capital) to exclude the accrual of assets (or savings).

Figure 6: Composition of Gross Financial Wealth Within Quintiles of the Income Distribution (*IE, 2020 – %)

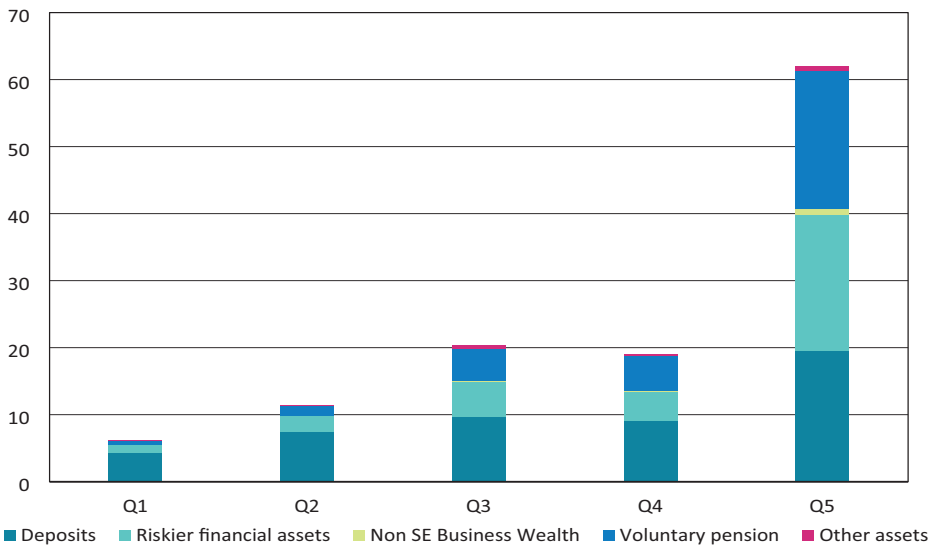


Source: HFCS and authors' calculations.
Note: Deposits reflects cash in bank accounts. Riskier assets include mutual funds, bonds, shares, managed accounts. Non-self-employment business wealth includes non-traded shares. Voluntary pension captures personal pensions only (not occupational) and also includes whole life insurance. Other assets include money owed to households and alternative assets such as options, futures, index certificates, precious metals, oil and gas leases royalties, future proceeds from a lawsuit being settled or cryptocurrency.

Looking more closely at the conditional value of financial assets (i.e. only considering households who report ownership of a given asset), voluntary pensions have the highest median value of all financial assets ranging from €18,700 in the bottom income quintile to just under €50,000 in the top income quintile (Table 2). Similarly, the median household in the top income quintile holds riskier financial assets worth more than five times the median household in the bottom income quintile. As a result of these portfolio choices, the highest income households are not only more likely to save and build up wealth, but they are also more likely to diversify their portfolio and invest their savings. This gives them access to potentially higher returns and larger wealth gains, which in turn, further concentrates the stock of savings.[13]

[13] While not shown in this paper, the HFCS data also show interesting differences in households' financial portfolios by tenure status. For example, deposits dominate the gross financial wealth of non-homeowners where they account for almost three-quarters of the portfolio, on average. In contrast, deposits are a much lower 40 per cent for the average household who owns their home. Home-owning households also have a three times larger share of risky financial assets in their financial portfolio and two times larger share of voluntary pensions. Detailed tables of these results are available upon request.

Figure 7: Total Value of Gross Financial Assets by Component Across the Income Distribution (*IE, 2020 – € billion)



Source: HFCS and authors' calculations.
Note: Deposits reflects cash in bank accounts. Riskier assets include mutual funds, bonds, shares, managed accounts. Non-self-employment business wealth includes non-traded shares. Voluntary pension captures personal pensions only (not occupational) and also includes whole life insurance. Other assets include money owed to households and alternative assets such as options, futures, index certificates, precious metals, oil and gas lease royalties, future proceeds from a lawsuit being settled or cryptocurrency.

From a time series perspective, HFCS data indicate the share of gross financial wealth held in risky financial assets has risen consistently each wave for both the bottom and top income quintiles (Table 3). Notably large jumps in the share were recorded for the middle of the distribution between 2013 and 2018, with Q3 and Q5 households showing the largest gains in conditional median value between 2013 and 2020. This suggests an increased preference over time for risky assets across the entire distribution, albeit with the top quintile continuing to dominate. The trends suggest the period 2013-2018 was a particularly significant time for changes in household portfolios. This is likely related to demand-side factors such as post-GFC recovery in incomes, balance sheets and house prices, in addition to new requirements such as the mortgage rules (introduced in 2015) requiring higher savings for down payments. However, the developments may also reflect supply-side product innovation which has occurred in the last decade.

Understanding portfolio choice remains central to research on household finance, and as far back as 2006, Professor Honohan's work considered puzzles in this area:

Table 2: Participation (%) and Conditional Median Value of Assets (€) – by Income Quintile (IE, 2020)

	Savings	*Riskier financial assets*	*Non-self-employment business wealth*	*Voluntary pension*	*Other assets*
Participation (%)					
Q1	90.7	11.6	0.3	2.9	2.8
Q2	93.6	16.8	0.2	6.0	3.2
Q3	99.0	18.5	0.5	14.9	7.1
Q4	99.9	23.5	1.3	22.3	5.4
Q5	99.9	39.5	1.6	31.6	5.0
All	96.6	22.0	0.8	15.5	4.7
Conditional median (€)					
Q1	4,000	3,000	–	18,700	2,000
Q2	6,000	2,300	–	24,000	1,100
Q3	7,091	10,000	–	29,000	1,500
Q4	10,600	5,893	–	30,000	5,000
Q5	21,000	15,778	100	49,168	10,000
All	8,700	9,000	471	34,031	5,000

Source: HFCS.
Note: Asset valuations reflect conditional values, whereby non-owners are excluded from the median calculation. Some values suppressed for statistical disclosure purposes.

Table 3: Share of Risky Financial Assets in Gross Financial Wealth (%) and Conditional Median Value of Risky Financial Assets (€) – by Income Quintile (IE, 2013-2020)

	2013	*2018*	*2020*
Q1	12%	14%	18%
Q2	12%	25%	22%
Q3	15%	30%	26%
Q4	16%	24%	23%
Q5	26%	30%	33%
All	21%	27%	28%
Q1	3,155	5,020	3,000
Q2	3,155	6,964	2,300
Q3	3,943	11,044	10,000
Q4	6,572	10,040	5,893
Q5	10,552	17,068	15,778
All	6,309	10,040	9,000

Source: HFCS.
Note: Asset valuations reflect conditional values in 2020 prices, whereby non-owners are excluded from the median calculation.

> *Much of the recent literature on household financial asset allocation has been driven by a concern that households are not allocating their savings in an optimal manner. The suggestion is often made that, whether because of erroneous risk calculations, or simply out of ignorance, households fail to adopt strategies and products that would give them a dominant risk-return mix* (Honohan, 2006).

2.5 Precautionary Motives are a Key Driver for Irish Households' Saving Behaviour

Households save for a variety of reasons. Precautionary motives, including saving for unforeseen events and for old age, are an important driver of savings. Increased precautionary behaviour by households in recent years likely partly explains the increased saving both during the COVID-19 pandemic and in the subsequent period of heightened inflation, as both periods represent times of heightened economic uncertainty.[14]

There are, however, other motivations for households choosing to save. These include bequest motives and lifecycle motives. The former arise due to a desire to leave assets behind for family or friends. In Ireland, money is the most common type of asset received by households, followed by dwellings and land (Arrigoni *et al.*, 2024). Lifecycle motives arise due to "temporary imbalances between income and expenditure" (Horioka and Watanabe, 1997). Saving a deposit to purchase a home is an important lifecycle motive, particularly in Ireland where the homeownership rate is high. Census data from the early 2000s show homeownership rates were around 74 per cent. This has since declined to 69 per cent in 2022, but remains around 8 percentage points above the euro area average.

In the HFCS, all households are asked whether their regular expenses over the last 12 months were higher, lower or about the same as their income. This provides a self-reported measure of ability to save. Households who reported being able to save (i.e. their expenses to be less than income), are then asked to provide their main reasons for saving. HFCS data from the most recent (2020) wave indicate a strong preference for precautionary motives, with saving for provision under an unexpected event or in old age the top two most commonly cited answers in Ireland (Table 4). Of the households who self-report being able to save, almost three-in-four households selected at least one of these as a key reason for their household saving. Interestingly, the share of households reporting saving for either old age or unexpected events is fairly constant across the distribution, indicating broad-based preferences for this motivation.

[14] As illustrated, for example, by the Credit Union consumer sentiment index falling from an average value of 84.4 in 2019 to 65.0 in 2020; and similarly falling from 80.5 in 2021 to 57.2 and 60.0 respectively for 2022 and 2023.

Table 4: Main Reasons for Saving – Share of Households (%), by Income Quintile (IE, 2020)

Reason	*Q1*	*Q2*	*Q3*	*Q4*	*Q5*	*All*
Able to save (self-reported)	40.1	43.9	49.0	63.3	69.2	53.1
Conditional on self-reported ability to save:						
Unexpected event	59.4	55.8	60.3	61.6	60.5	59.8
Old age	42.0	39.1	35.0	31.9	43.0	38.1
Holidays	17.6	23.4	35.0	38.6	35.9	31.5
Education/support to relatives	13.5	24.3	28.0	35.5	43.8	31.1
Major purchase	8.3	19.3	20.5	21.9	27.5	20.6
Buy main home	5.7	23.4	19.7	21.7	17.6	18.1
Repay debt	9.8	7.5	7.0	9.7	13.3	9.8
Other	8.5	3.9	4.3	2.2	4.3	4.4
Bequest	4.1	4.2	5.1	2.7	1.6	3.3
Financial investment	0.4	0.0	1.6	2.8	4.7	2.3
Business investment	1.2	1.2	1.6	1.6	1.7	1.5
Exploit State subsidies	0.2	0.4	0.4	0.8	1.5	0.7

Source: HFCS.
Note: Data on specific reasons are based on an HFCS question only answered by survey respondents who self-report being able to save (i.e. specifically that their last 12 months' household expenses were less than their total household income). Respondents answering this question can select more than one reason for saving and therefore columns do not necessarily sum to 100.

Purchasing a main residence ranked 6th, with nearly one out of every six households who are able to save stating this as a savings motive. This represents an increase on the share reporting intention to buy a home as driving their savings motives between the 2018 and 2020 survey waves (Lydon and McIndoe-Calder, 2021) and together with evidence of new housing units not keeping pace with demographic developments (Conefrey *et al*., 2024) may be consistent with unmet housing demand for some families. Interestingly, purchasing a main residence ranked 2nd for non-homeowning households. Instead, their most commonly reported main reason to save was to prepare for unexpected events, the same as that of homeowners. However, they were less likely to report saving for old age, ranking this 5th compared to 2nd for homeowners.

Similar to the share of households reporting saving to buy a house, nearly 21 per cent report saving in order to make other major purchases (including other property, vehicles, and furniture). Only around three per cent of households identified bequest motives as a primary purpose and an even smaller share (drawn from the upper end of the distribution) reported saving specifically to invest in financial assets. The motivation for saving for "bequests" or "other" reasons is

strongest at the bottom end of the income distribution. While the middle of the distribution shows the strongest motivation for saving to "purchase a main home".

Taken together, lower income households are not only less likely to save, but for those that can, they are more likely to hold risk averse investment attitudes and less likely to report saving for investment purposes. This is despite growing pressure to save for longer-term needs. Important developments, such as the shift from defined benefit pensions to defined contribution pensions implies there will be greater responsibilities in the future on individuals to more proactively manage their retirement savings, for example by selecting an investment strategy to suit their needs. This is important as adequate saving coverage allows households to maintain their consumption and living standards in old age, and yet one-third of Irish workers are currently without any supplemental coverage outside of their future State pension (CSO, 2024).

2.6 Many Other European Countries Have Similar Conservative Saving Behaviours

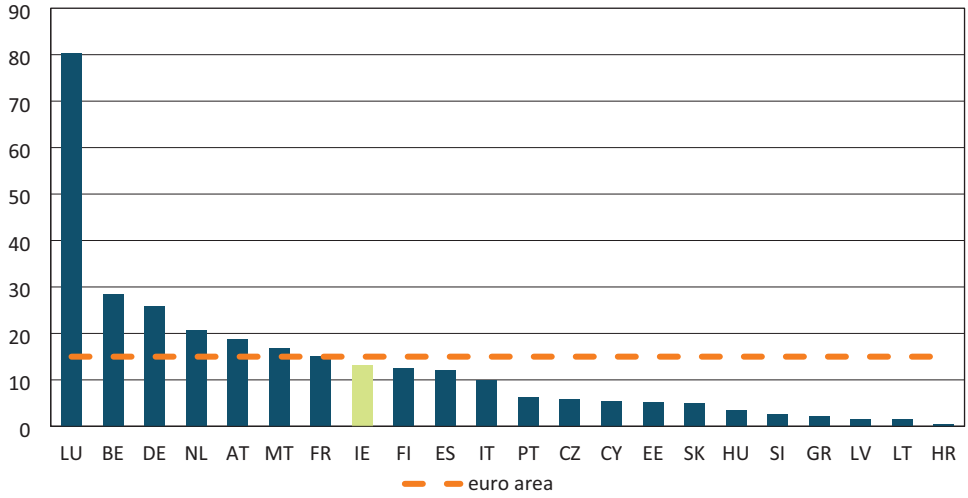
Setting aside the highest income households, the majority of households in Ireland appear conservative in their asset allocation. This could be for a variety of reasons ranging from institutional, structural (including due to tax treatment), behavioural or a reflection of personal preferences.

Regardless, it is important to note that Ireland is not alone in this phenomenon of generally low participation in riskier financial assets. The median value of the saving stock in Ireland is similar to the median value for the euro area as a whole (Figure 8). Across the euro area, approximately a fifth of households hold some form of risky financial asset, with Ireland's ownership rate ranking 6th across countries. However, on average, less than 13 per cent of euro area households hold mutual funds. The proportion holding shares is smaller still, at around a tenth. Ireland's ownership rate of bonds and managed accounts stand at 10.9 per cent and less than 2 per cent respectively, yet these rates rank second highest of the 22 countries covered in the latest HFCS.

Further, like Ireland, household financial portfolios in other European countries are dominated by less risky, liquid savings in the form of deposits (Figure 9). In countries such as Greece, Cyprus, Portugal, Czechia, Slovakia, Cyprus and Latvia, the share is over 70 per cent. This compares to around four-tenths in Ireland.

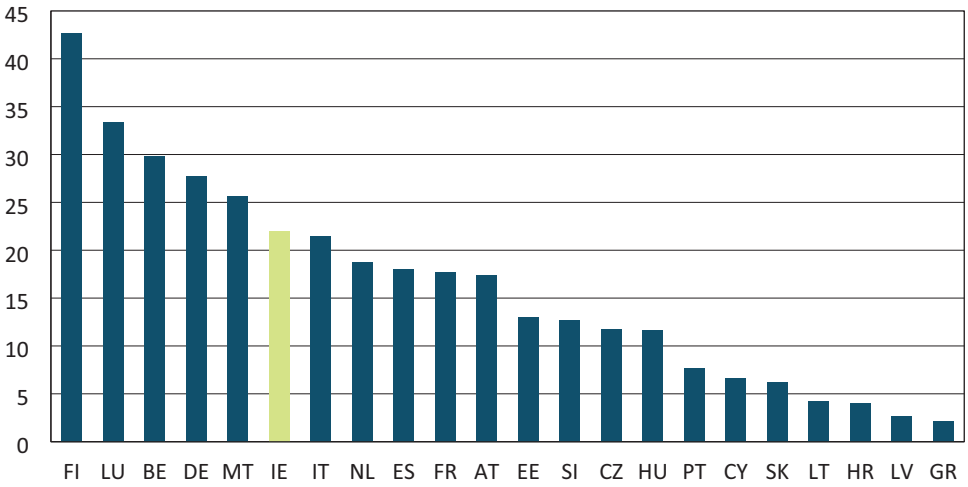
Finally, Ireland is also not an outlier in finding the precautionary motive to be the dominant motive for saving. HFCS data indicate that across the euro area, saving for this purpose is common (Figure 11). This is supported by Horioka and Ventura (2024), whose empirical research using the HFCS, shows that the precautionary motive ranks highest when the proportion of households saving for each motive is used as the rank criterion. However, saving for old age is most important when the amount of saving being done for a specific motive is accounted for. Perhaps unsurprisingly, the generosity of social safety nets is relevant to household saving

Figure 8: Conditional Median Value of Financial Assets – across the Euro Area (2020, €)



Source: ECB HFCS 2021 statistics.
Note: Ireland shaded green. Any risky financial asset defined as holding either mutual funds, bonds, publicly traded shares or managed accounts.

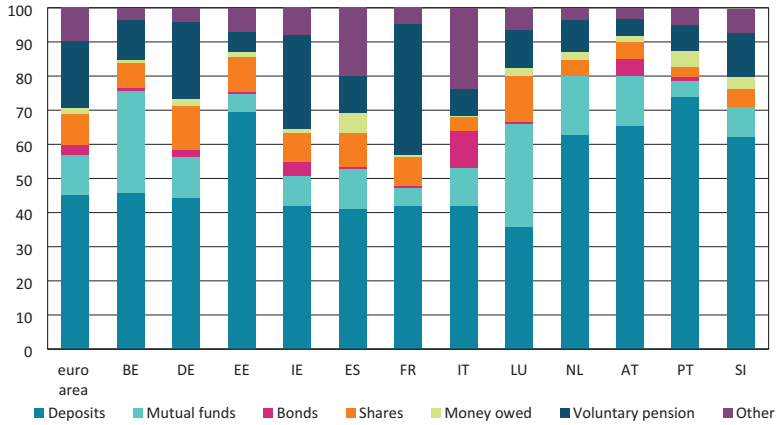
Figure 9: Participation in any Risky Financial Assets – Across the Euro Area (2020, %)



Source: HFCS and authors' calculations.
Note: Ireland shaded green. Any risky financial asset defined as holding either mutual funds, bonds, publicly traded shares or managed accounts.

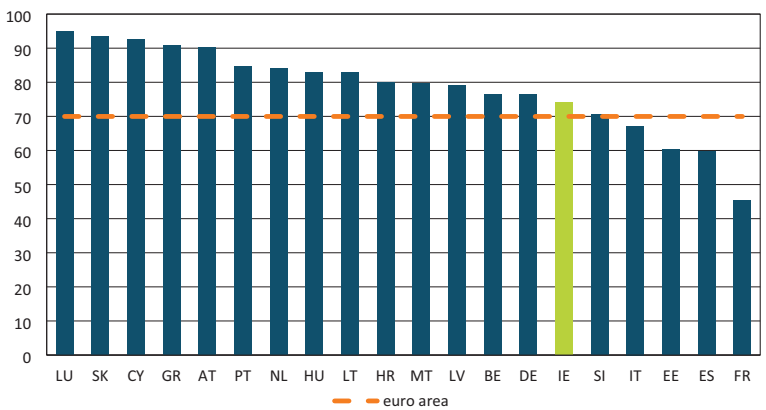
behaviour. Saving for old age (unexpected events) is found to become less important in euro area countries with generous public pension benefits (generous health systems).

Figure 10: Share of Financial Asset Types on Total Financial Assets – Across the Euro Area (2020, %)



Source: ECB HFCS 2021 statistics.
Note: While breakdowns for some individual euro area countries (GR, HR, CY, LV, LT, MT, SK, FI) have been omitted for presentational and disclosure purposes, relating to missing observations for certain asset types, the euro area column reflects published ECB figures.

Figure 11: Share of Households Reporting they Save in Order to Prepare for Old Age or Unexpected Events (2020, %)



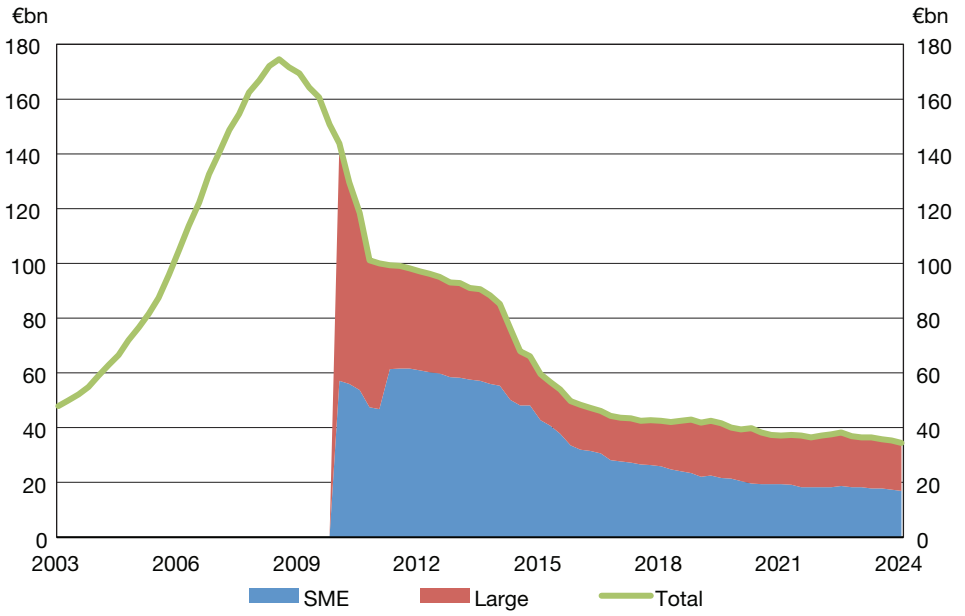
Source: HFCS and authors' calculations.
Note: Euro area average excludes FI and CZ, as microdata for this question in these countries are not available in the authors' HFCS dataset.

III THE FINANCING OF BUSINESS INVESTMENT

3.1 Bank Debts Have Fallen Since the GFC

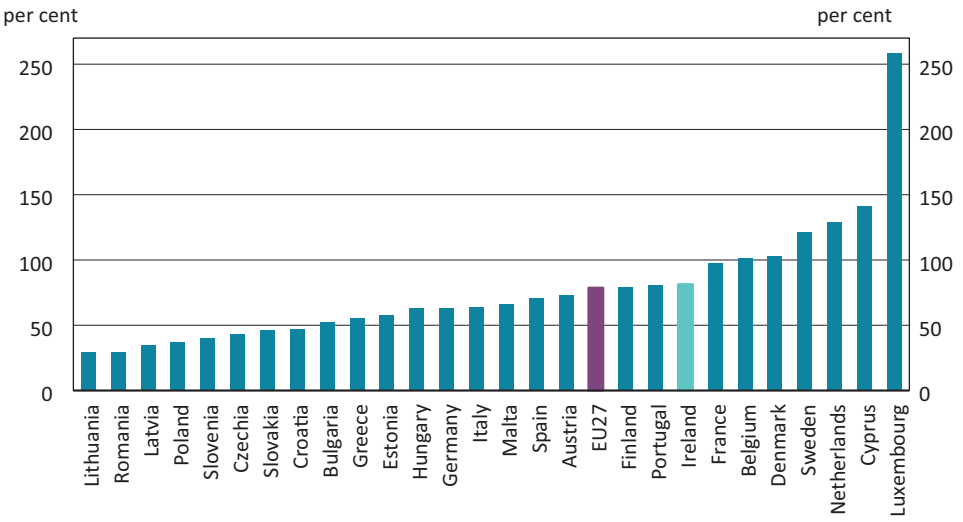
The scale of bank lending to Irish firms fluctuated substantially over the last two decades and can be characterised into two main periods (Figure 12). First, 2003 to 2008 saw a large rise in Irish NFC debts owed to the domestic banking sector, coinciding with an unsustainable credit-fuelled real estate boom. This was followed by a period of intense deleveraging and the workout of soured loans in the post-GFC crisis years, in which the stock of outstanding NFC bank debt continued to fall gradually. This was despite the substantial macroeconomic recovery that had taken place in Ireland by that point following the financial crisis period. This was also a period of relatively easy global financial conditions, enabling greater NFC borrowing globally. SMEs – firms that depend relatively more on bank finance – saw their total bank debts shrink from €61 billion in 2011 to €17 billion in 2024.

Figure 12: Outstanding Loan Balances of Irish NFCs to Irish Banks



Source: Central Bank of Ireland, CSO Institutional Sector Accounts, Eurostat.
Note: Irish NFC loan exposures of Irish banks by borrower size group. Domestic non-redomiciled NFC debt-to-GNI* ratio for Ireland and NFC debt-to-GDP ratio for other EU27 countries in 2022.

Figure 13: NFC Debt to National Income Among EU27 Countries in 2022



Source: Central Bank of Ireland, CSO Institutional Sector Accounts, Eurostat.
Note: Irish NFC loan exposures of Irish banks by borrower size group. Domestic non-redomiciled NFC debt-to-GNI* ratio for Ireland and NFC debt-to-GDP ratio for other EU27 countries in 2022.

Taking a comparative perspective, we see that domestic NFC indebtedness in 2022 was similar to the EU27 average. We are defining 'domestic' NFCs here as non-redomiciled Irish-parent NFCs, in line with the CSO's Institutional Sector Accounts. This removes subsidiaries of foreign MNEs, as well as a small set of large firms that moved their headquarters to Ireland in recent years. Domestic Irish firms had a similar debt-to-national income ratio to the EU27 average in 2022 (Figure 13). Domestic NFC debt-to-GNI* in Ireland was 81 per cent, compared to the EU27 average debt-to-GDP ratio of 79 per cent. The latter ratio ranged from 64 to 97 per cent among the larger economies of Germany, Italy, Spain, and France. Nordic countries were at or above the average, while Luxembourg is a clear outlier. At the lower end of the distribution, central and eastern European countries dominate.

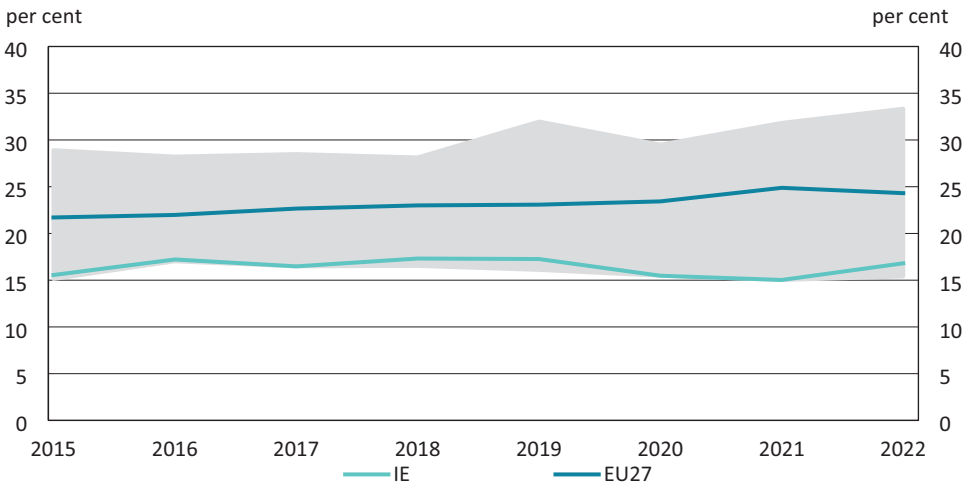
3.2 Investment by Domestic Firms: Does Domestic Lending Matter for Growth?

A key policy question is whether the large reduction in outstanding debts in the banking sector has weighed on domestic firm investment levels, and therefore growth prospects. Investment rates of domestic firms do appear low relative to other EU countries (Figure 14). The National Accounts show that the ratio of gross fixed capital formation to gross value added is typically 15-16 per cent in Ireland. This

contrasts with approximately 23 per cent on average across EU27 countries and is consistently at the low end of the EU27 range.[15]

Despite this aggregate picture, domestic firms themselves report being broadly satisfied with their own investment levels. Approximately 80 per cent of firms regularly report that their investment levels over the preceding three years were 'about right'. In 2023, this figure was 92 per cent. The responses of Irish firms to this question are generally comparable to those of other EU27 countries (Figure 15).

Figure 14: NFC Investment Rates in Ireland and Europe

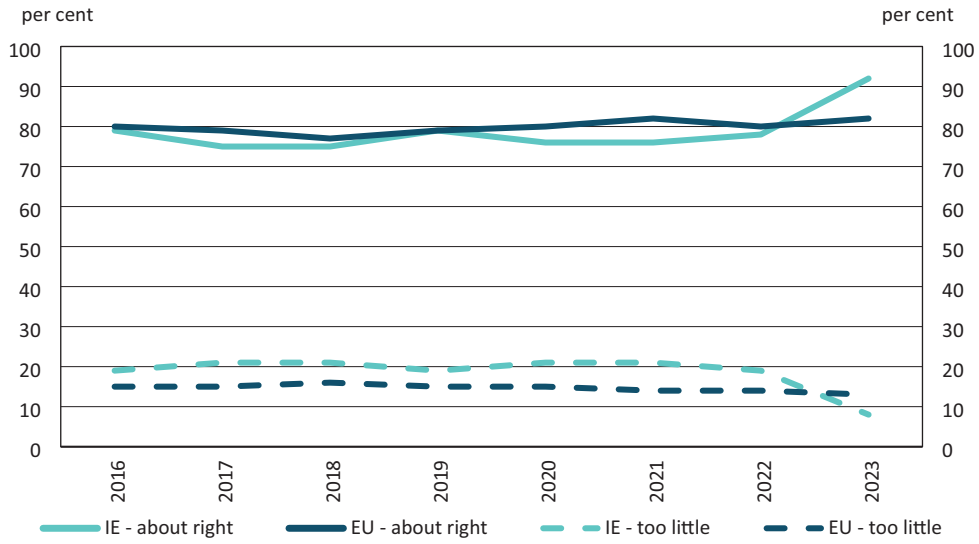


Source: CSO, European Investment Bank Investment Survey, Eurostat.
Note: The ratio of NFC gross fixed capital formation over gross value added. Domestic NFCs only in the case of Ireland. The shaded range shows the minimum and maximum rate in each year among EU27 countries.

The peculiar structure of the Irish business economy can help to explain these contrasting signals about investment. Foreign MNEs lead much of the high value added service and manufacturing activities and make an outsized contribution to investment, employment, and tax revenues.[16] Domestic firms on the other hand are relatively small, with over 90 per cent considered micro enterprises,[17] and this helps to explain their satisfaction with structurally lower investment rates. While there are risks associated with Ireland's industrial model (with geopolitical tensions and international trade volatility to the fore), the ownership structure of investee firms

[15] See the Department of Finance's Spring 2024 Economic Insights publication for further commentary on the investment rate in Ireland.
[16] See the CSO's Business in Ireland release.
[17] See the CSO's Business Demography statistics.

Figure 15: Views of Firms About Their Investment Levels in the Prior Three Years



Source: CSO, European Investment Bank Investment Survey, Eurostat.
Note: The share of Irish and EU firms reporting specific answers to the following question: "Looking Back at your investment in the last three years, was it too much, too little, or about the right amount?".

does not diminish the tangible impact of foreign MNE activity. In particular, the balance sheet strength of these MNEs, and their reliance on public listings and market-based sources of debt funding, means that economic activity in Ireland may simply be less dependent on lending growth than elsewhere.

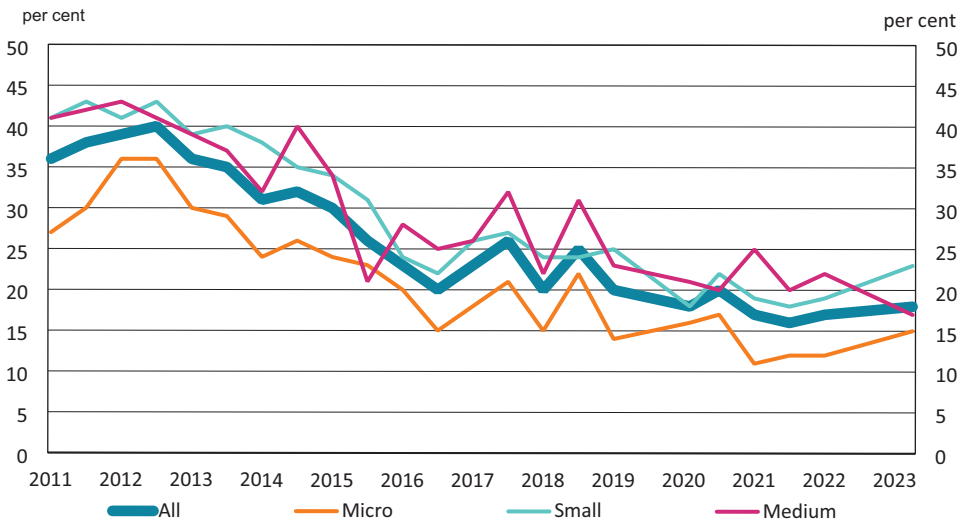
In recent work, Gargan *et al*. (2024) look deeper at the investment activity of SMEs in Ireland in comparative context. Using World Bank Economic Survey data, they find that investment levels among Irish firms are broadly in line with peer firms across Europe, particularly when it comes to investment in tangible fixed assets. However, R&D investment does appear to be low among Irish firms, particularly relative to peers in northern Europe. While a potential explanation for this is that much intangible investment in Ireland is made by MNE subsidiaries, the authors also show that the share of Irish business sector employment in R&D roles is at the EU27 average and again below most northern European countries.

3.3 Credit Demand has been Muted for a Prolonged Period, but Lending is not Dampened by Credit Constraints

Are credit constraints a part of the explanation for weak credit growth in Ireland since the GFC? Domestic firms do not cite credit constraints as a major barrier to investment. In fact, credit demand has been quite muted among SMEs over recent

years (Figure 16). In any given six month period, approximately 17 per cent of firms report making a credit application. The period 2011 to 2016 saw a noticeable drop in credit demand, relating in part to a fall in applications for the restructuring of existing debts. More generally, micro enterprises appear to have structurally lower credit application rates than small- or medium-sized firms.

Figure 16: SME Credit Application Rate in Ireland

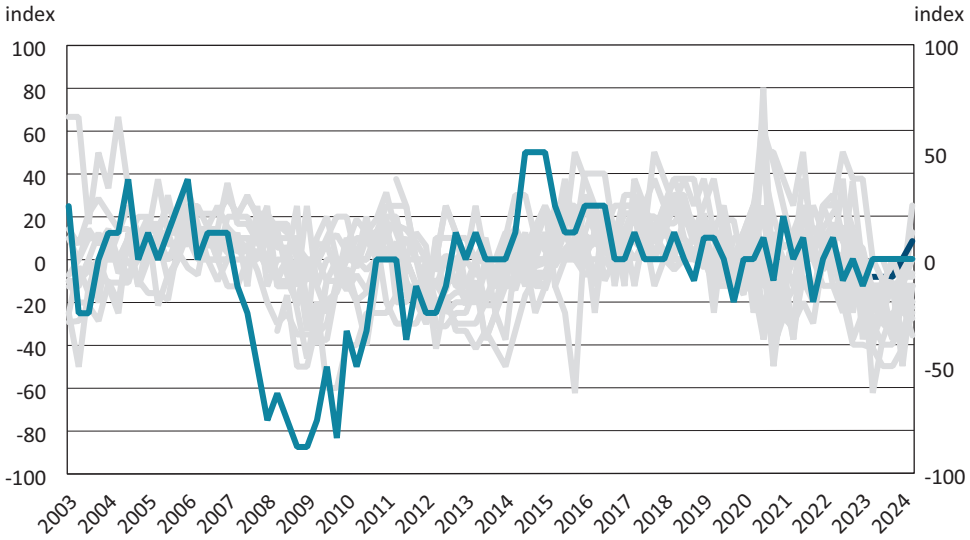


Source: Department of Finance SME Credit Demand Survey, ECB Bank Lending Survey.
Note: The share of incorporated Irish SMEs that made a credit application in the prior six months by size class. Semi-annual data from 2011 to 2022 and annual data for the full year 2023. The net share of bank lenders reporting an increase in SME credit demand in the prior three months and styled as a 'diffusion index', by euro area country. Ireland is presented in teal. Quarterly data from Q1 2003 to Q2 2024.

Banks similarly report muted credit demand growth among Irish SMEs over recent years. The ECB Bank Lending Survey provides a quarterly measure of the net share of lenders reporting increased credit demand (Figure 17). This indicator deteriorated sharply in Q2 2007 and corroborated other early signals of a macroeconomic downturn at the time. Similarly, it rose strongly in 2014, coinciding with an economic recovery that was gaining momentum. The measure has been relatively stable since 2016, with some deterioration during the most acute phase of the COVID-19 pandemic, and resilience in the higher interest rate environment of 2022 to 2024.

The rationale firms cite for borrowing varies. Approximately 40 per cent of SME credit applications are for working capital purposes (Figure 18). This share jumped during the COVID-19 pandemic, but has since returned to trend levels.

Figure 17: SME Credit Demand Dynamics in Ireland and the Euro Area



Source: Department of Finance SME Credit Demand Survey, ECB Bank Lending Survey.
Note: The share of incorporated Irish SMEs that made a credit application in the prior six months by size class. Semi-annual data from 2011 to 2022 and annual data for the full year 2023. The net share of bank lenders reporting an increase in SME credit demand in the prior three months and styled as a 'diffusion index', by euro area country. Ireland is presented in teal. Quarterly data from Q1 2003 to Q2 2024.

Other major rationales are for growth and expansion and for the acquisition of machinery or equipment. These were cited by 31 and 25 per cent of firms, respectively, in 2023.

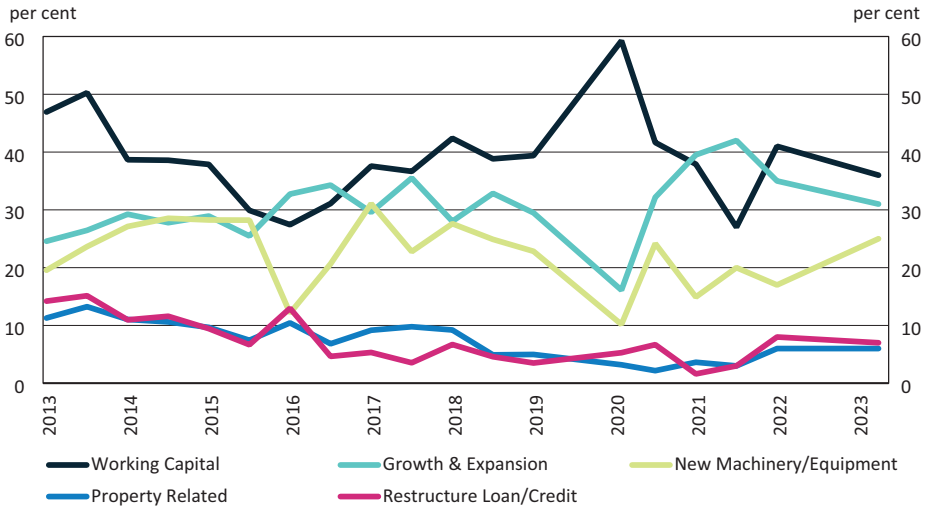
Borrower discouragement – firms opting not to apply for credit due to an expectation of rejection – was a tangible public policy issue during the crisis period and a form of latent unsatisfied credit demand.[18] In 2013, approximately 10 per cent of firms report either not applying due to possible rejection or due to a belief that banks generally were not lending (Figure 19). This phenomenon was particularly striking among micro enterprises. Discouragement fell significantly from 2013 to 2017 and remained broadly steady at approximately 3 per cent up to 2023.

3.4 Credit Supply Remains Stable

Credit supply indicators have not shown signs of significant stress over recent years. This contrasts sharply with the environment in the post-crisis years. In 2011, approximately one-in-three SME loan applications were rejected (Figure 20). This

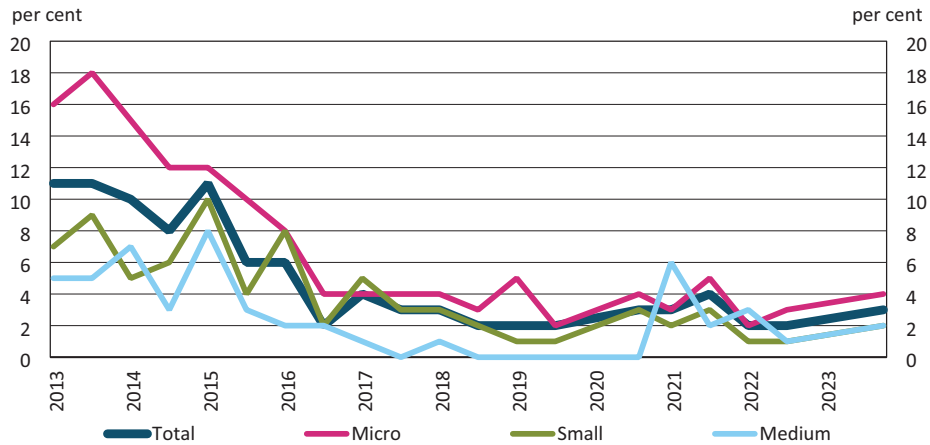
[18] See Mac an Bhaird *et al.* (2016) for further discussion and empirical evidence for European firms.

Figure 18: Rationale for Credit Application



Source: Department of Finance SME Credit Demand Survey, ECB Bank Lending Survey.
Note: The share of incorporated Irish SMEs that made a credit application in the prior six months by stated rationale. The share of incorporated Irish SMEs that did not apply for credit due to possible rejection or to a belief that banks generally were not lending by size category.

Figure 19: Borrower Discouragement by Size Class

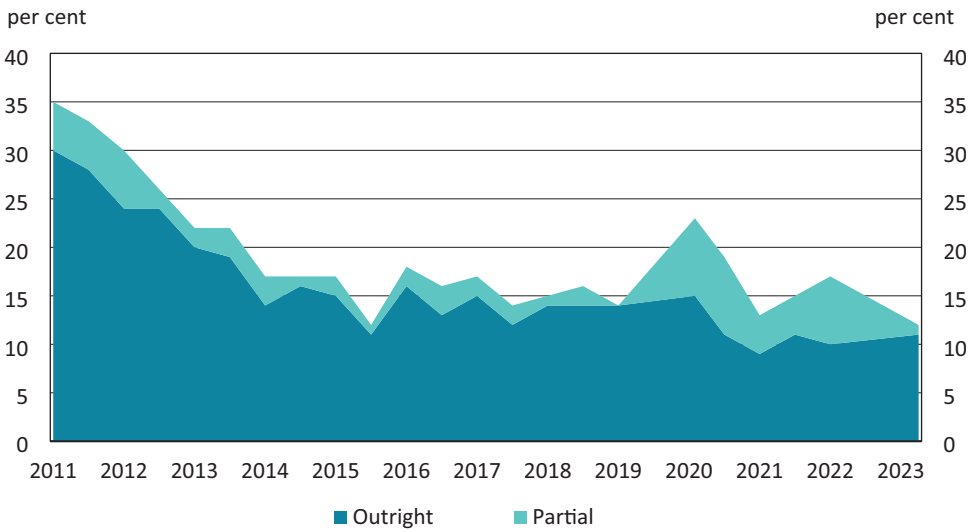


Source: Department of Finance SME Credit Demand Survey, ECB Bank Lending Survey.
Note: The share of incorporated Irish SMEs that made a credit application in the prior six months by stated rationale. The share of incorporated Irish SMEs that did not apply for credit due to possible rejection or to a belief that banks generally were not lending by size category.

rejection rate fell quickly year-on-year to approximately 15 per cent in 2016 and levelled off. The level of partial rejections rose temporarily in 2020, but extraordinary policy measures at the time likely mitigated the impact of this change.[19] Loan rejections, particularly outright rejections, appear to have declined further in the years 2021 to 2023.

A longstanding feature of the survey data is that micro enterprises have higher loan rejection rates than small- and especially medium-sized enterprises (Figure 21). This is likely explained by a lack of micro enterprise collateral, varied trading histories, and survivorship bias among larger firms. A lack of established lender relationships may also play a role.

Figure 20: SME Loan Rejection Rate in Ireland



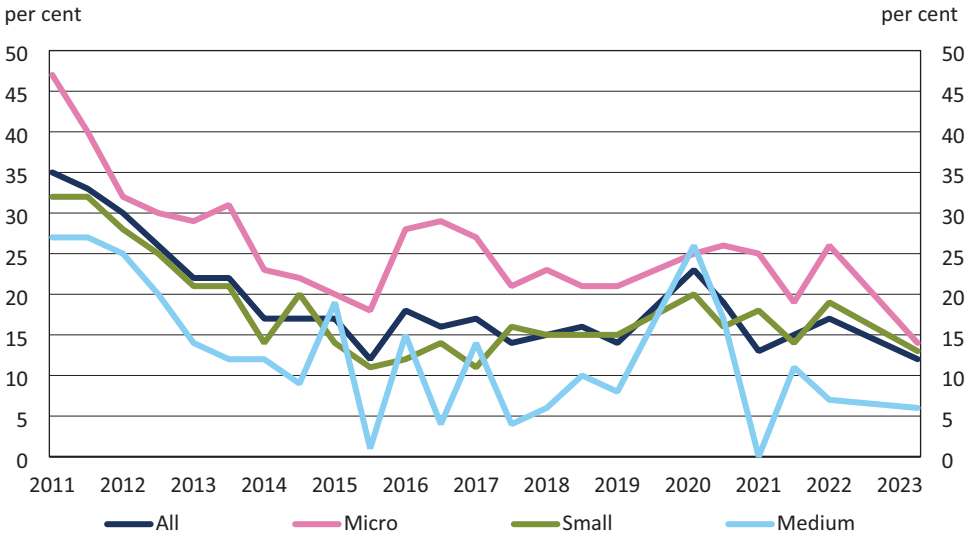
Source: Department of Finance SME Credit Demand Survey, ECB Bank Lending Survey.
Note: The share of incorporated Irish SMEs that had a credit application rejected outright or partially in the prior six months. Semi-annual data from 2011 to 2022 and annual data for the full year 2023. The share of incorporated Irish SME credit applications rejected by size category.

3.5 Non-Bank Financial Intermediation

Non-bank lenders – including entities such as leasing and hire purchase companies – are long established in the Irish business credit market, and the recent establishment of Ireland's Central Credit Register allows for a systematic analysis of their lending activity. They are more likely to be funded from abroad than Irish banks, through a variety of channels including bond issuance, securitisation and direct intra-group funding. In the period 2019 to 2023, non-banks played an

[19] See Durante and McGeever (2022).

Figure 21: SME Loan Rejection Rate by Size Class



Source: Department of Finance SME Credit Demand Survey, ECB Bank Lending Survey.
Note: The share of incorporated Irish SMEs that had a credit application rejected outright or partially in the prior six months. Semi-annual data from 2011 to 2022 and annual data for the full year 2023. The share of incorporated Irish SME credit applications rejected by size category.

important role in this market, originating approximately one-third of new lending to Irish SMEs.[20] The real estate sector is the primary recipient of this credit in absolute terms, with non-banks originating up to half of new credit to real estate SMEs over this period. Despite a series of economic shocks in recent years and a financing structure that is generally more sensitive to market sentiment than that of deposit-taking banks, the non-bank share of SME lending has held relatively steady.[21]

Non-bank lenders likely play an important role in supporting firms' access to finance. A growing empirical literature finds that the financial characteristics of non-bank borrowers tend to be weaker than those of bank borrowers (Aldasoro *et al*., 2023; Chernenko *et al*., 2022). In episodes of bank lending retrenchment, non-banks have also been found to have played a significant role in maintaining credit supply to impacted firms (Gopal and Schnabl, 2022; McCann *et al*., 2023).

Using credit registry data, Gaffney and McGeever (2022) show that approximately one-in-six indebted Irish SMEs borrow exclusively from non-banks and that these borrowers are on average younger, less liquid, and more levered than

[20] See the Central Bank of Ireland's Financial Stability Review 2024-I.
[21] Ibid.

bank borrowers. The authors also show that asset finance and invoice finance products play an important role in non-bank lending volumes, while more innovative fintech offerings (e.g. peer-to-peer lending) appear to be a relatively small share of the credit market. This work builds on previous survey-based analysis by O'Toole *et al*. (2015), who study the use of financing sources other than bank credit by Irish SMEs. They find that trade credit utilisation is notably high among Irish SMEs, that asset finance is also a common finance source, and that the utilisation of novel fintech credit products and equity crowdfunding was relatively low.[22]

While non-bank financial intermediation has become a topic of growing interest in the post-GFC era, non-bank lending has long been a feature of the Irish business credit market. However, establishing its market share over time is challenging. We can get a sense of their role from occasional academic and parliamentary contributions. Speaking in the Seanad in 1946, the Minister for Industry and Commerce stated that "hire-purchase facilities encourage commercial and industrial expansion, particularly by smaller concerns."[23] O'Neill (1967), analysing farm survey data, estimates that non-bank hire purchase lenders financing machinery and equipment purchase accounted for 5 to 9 per cent of new agricultural lending by balance and 20 per cent by loan count between 1962 and 1966.[24]

3.6 Equity Finance for Growth Firms Appears Plentiful

Venture capital (VC) is an important source of finance for growth firms in Ireland, particularly in the areas of life sciences, software, and environmental activities. Mac an Bhaird and Lucey (2010) document the role of external equity in the financing of R&D expenditure by medium-sized Irish firms. In the absence of collateralisable firm assets or an established trading history, they argue that firms can mitigate information asymmetry issues by pledging personal assets as collateral or by financing R&D through external equity.

The role of external equity finance among Irish firms has grown since the GFC. The equity investment flow from VC investors to Irish firms stood at approximately €275 million per annum in the period 2008-2013 (Figure 22). Investment levels began rising significantly in 2014, coinciding with improvement in macroeconomic conditions, and hit approximately €875 million on average in the years 2016-2020. This jumped again to €1.3 billion per annum in 2021 and remained at this level in 2022 and 2023. This compares with annual new Irish bank lending to SMEs of

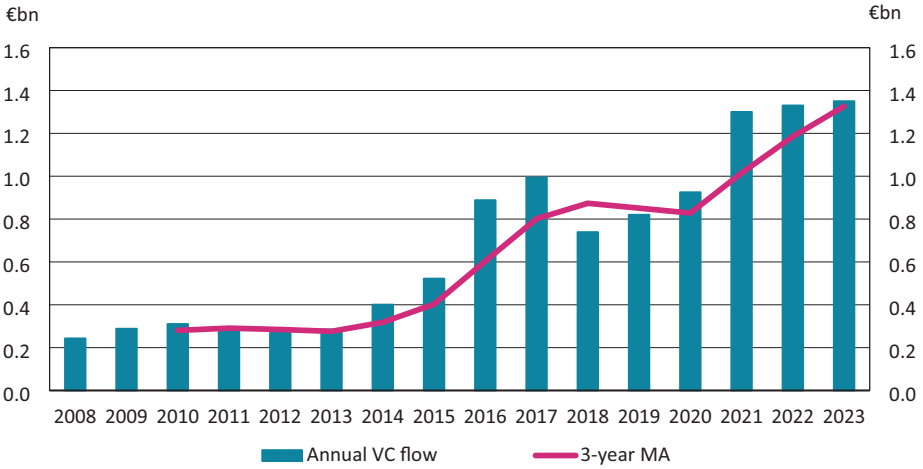
[22] Credit unions, while economically similar in some regards to banks, play a minor role in the SME credit market in Ireland. See the Central Bank of Ireland's Financial Conditions of Credit Unions 2024 report. See also Talbot *et al.* (2015) for a discussion of the limited role of credit unions in the UK SME credit market.

[23] See the Seanad debate on the Hire-Purchase Bill 1946.

[24] See Gaffney and McGeever (2022) for further discussion.

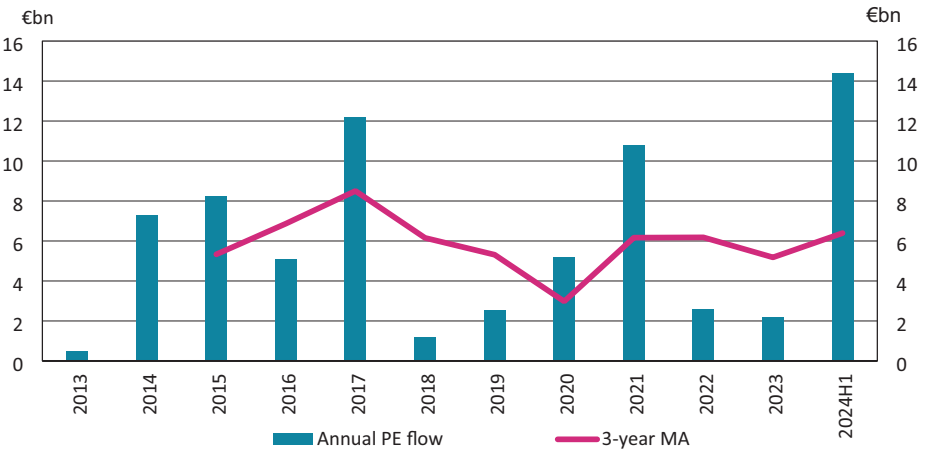
€4 billion in 2023.[25] Private equity investment flows averaged €6 billion per annum from 2014 to and Q2 2024, but are highly concentrated in small numbers of very large deals. This results in volatile annual flows (Figure 23).

Figure 22: Venture Capital Investment Flows



Source: Irish Venture Capital Association, William Fry.
Note: Annual venture capital (VC) investments in Irish firms. We include a trailing three-year moving average (MA).

Figure 23: Private Equity Investment Flows



Source: Irish Venture Capital Association, William Fry.
Note: Annual private equity (PE) investments in Irish firms. We include a trailing 3-year moving average (MA).

[25] See the Central Bank of Ireland's SME and Large Enterprise statistical release.

IV CONCLUSIONS: INVESTIGATING THE INTERMEDIATION MECHANISM

Our empirical analysis reveals the following features of financial intermediation in Ireland:

4.1 Supply – Households

- Large shares of household wealth continue to be tied up in housing.
- Very few households invest directly in financial assets, with most non-housing wealth in bank deposits. Households in Ireland are found to be similar to those in the broader euro area in terms of low participation in riskier financial assets.
- Irish households increased their savings rate sharply during the COVID-19 pandemic, and this rate has not reverted to pre-pandemic levels as of mid-2024.
- Those at the bottom of the income distribution dis-save, with the savings rate increasing in income. Those at the top of the income distribution hold a wider variety of financial assets than lower income households. Higher income households also have a higher appetite for holding riskier financial assets relative to other households. Together this means that savings stocks flowing into financial assets are very concentrated in the top of the household income distribution.
- Whilst just half of households are able to save, these households report precautionary motives as a key rationale for their savings.
- Households also appear to be storing savings in bank deposits due to their ongoing unmet demand for house purchase.

4.2 Demand – Firms

- Corporate and SME debt in Ireland has fallen substantially over a decade.
- Credit demand, according to enterprise surveys, has not risen through more than a decade of economic growth post-GFC.
- Banks allocate only a small portion of their total assets to domestic business lending, but in a European context, corporate leverage appears similar to peers.
- Despite credit demand appearing structurally weak, local firms appear satisfied with their capacity to invest, and do not cite finance as an important barrier to expansion.
- Venture capital, while concentrated in specific innovative sectors, has grown strongly over the past decade in Ireland, while non-bank sources of loan finance have also expanded in availability.
- Non-bank intermediaries, mostly funded from abroad, now account for around one-third of the financing of local businesses, and are particularly important for real estate businesses.

- At a macroeconomic level, investment of domestic firms appears low, but this may reflect long-running compositional issues in the Irish economy, with productivity growth driven by the MNE sector.

Against this backdrop, we conclude the paper with a discussion of the policy environment in which savings and investment "meet" in Ireland.

On the household side, one puzzle that appears to require a solution is the substantial share of wealth tied up in lower-yielding overnight deposits, which appears at first glance to be sub-optimal from the perspective of households. One simple improvement in household allocation, without any funds leaving the banking sector, would be for much larger shares of savings to switch to term deposits. However, strong policy conclusions are more difficult to draw. Switching between overnight and term deposits is already a low-friction process, with substantial increases in returns available. Yet, despite the rapid rise in interest rates since 2022, close to 90 per cent of deposits remain in overnight accounts. Why is it then that households have not switched to avail of money being left on the table? Qualitative evidence suggests a role for precautionary savings motives. Further, the skewed distribution of income and wealth implies that many households may simply not have large amounts of "free" savings to move out of instant-access accounts. For example, the median household may hold liquid savings to cover less than six months of spending on food, utilities and housing, with this falling to less than two weeks coverage for the lowest income households accounting for one-in-seven of all households (Arrigoni *et al.,* 2022a). Finally, the inadequate supply of housing relative to demand has also meant that many households may be holding substantial sums of money in overnight accounts in order to be ready to deploy them immediately in the event that they do secure a home for purchase.

Issues of financial literacy, education and risk aversion often surface in discussions on suboptimal allocation of household savings. Based on the facts presented above, it is unclear as to whether these "behavioural" issues are the predominant explanation for the status quo. For younger savers, digitised financial products already appear to be gaining a foothold and suggest that, over time, the "puzzle" of allocation into low-yielding deposits may be resolved by household behavioural changes.

Outside of the banking sector, there is perhaps more scope for welfare-improving policy change. Retail investment products are currently not widely used in Ireland outside of the top end of the income distribution, and may be particularly unattractive for those with modest sums available due to fees, charges, tax treatment and the complexity and barriers associated with engagement with the asset management industry. An example of a policy change that could incentivise allocation away from low-yielding bank deposits is the tax treatment of ISA products in the UK, whereby interest income and capital gains are tax-free, and products are accessible through a wider range of retail channels. Again,

demographic change may bring about significant changes in allocation without any policy action. The ease with which fintech products now allow savings to be allocated into a diverse set of investment products and asset classes from mobile apps means that, as younger consumers grow older and accumulate savings, outflows from bank deposits to retail investment products may naturally occur.

The relatively weak allocation of household capital into schemes that channel funds directly to businesses may be partly explained by both the complexity, as well as the tax rate itself, on these investments. A simplification of the system would incentivise more household wealth to be allocated into such products, away from bank deposits, with increased access to direct equity financing for businesses as a result. However, the question of whether this would improve the availability of investment financing to *domestic, Irish* businesses is less clear. In a globalised system, Irish household wealth need not (and perhaps should not, for diversification reasons) be allocated into Irish businesses. Products that attempt to ring-fence financing for investment within national borders risk offering lower returns to the household investors themselves, suggesting a need for proceeding cautiously when designing policies aimed at shifting the portfolio allocation of households towards the domestic economy. A lack of equity financing for small, domestic businesses may also be a demand-side phenomenon, with the family-owned and small nature of many firms meaning that dilution of ownership through equity financing is not attractive outside of a small group of high-growth sectors.

Finally, experience in other countries also indicates that household participation in financial markets and retail investment products is intrinsically linked to the structure of the pension system. American households, for example, have visibility and control over allocations of private pensions through the 401(K) system, within which contributions are deducted from gross income. In Australia, the superannuation system operates on a similar basis. Strong social safety nets, in which households have a reasonable expectation of adequate access to housing and healthcare in older age, may reduce the need for households to maximise returns on savings during their working lives. These safety nets may also explain why, from an institutional and policy perspective, households are less incentivised in some countries to allocate savings into longer-term investment products. Auto-enrolment may therefore prove over time to generate an additional mechanism to connect wealth to investment; however it is again unclear whether savings generated through auto-enrolment will, or should, be channelled directly into the Irish economy. Specific schemes, a matter for Government, would be required to ring-fence such investment for the Irish economy.

On the capacity of the financial system to meet the needs of businesses within the economy, we arrive at a number of conclusions. Firstly, as a modern, digitised, open economy operating within an advanced currency union and with strong ties to the UK and US economies, the Irish economy has been particularly nimble in adapting to the global availability of a wide range of financial services from

competitor digital banks, fintechs, and NBFIs. Among higher-growth, high-tech Irish businesses, a global market for investment capital exists, which local entrepreneurs appear to have sourced at a rapidly growing rate since the GFC. Non-Bank Lenders, channelling international capital into local investment opportunities, have increased lending supply across the economy in recent years, accounting for around one-third of lending to SMEs and providing alternatives to domestic bank borrowing for many businesses.[26] These developments have occurred alongside a domestic retail banking system that appears to offer only weak levels of competition for domestic business lending in more traditional, slower-growing sectors. The apparent dissonance between a weakly competitive domestic banking system and a growing, broadening non-bank financial system with growing connections to the domestic economy is an important nuance that must be factored into any assessment of financial intermediation in Ireland.

Our assessment suggests that, where policy changes could potentially deliver most benefit to local businesses is through the provision of more readily available equity financing from domestic investors. This could be provided through enhanced direct investment schemes, the expansion of platforms that allow for the aggregation of retail investments into local businesses, or through the more attractive tax treatment of direct private financing. Separately, simplification of investment platforms that channel greater volumes of *long-term* savings into long-term investment needs, are also likely to offer particularly strong benefits to longer-term national well-being. On loan financing, while it may appear at first glance that a concentrated banking sector is a risk to the healthy financing of the local economy, upon further examination we conclude that there is more competition and product availability when the range of NBFI providers are also taken into account. Further research can support the assessment of the degree of true competition on price, terms and volumes across market segments in Ireland, moving beyond simple concentration indices. State involvement from the SBCI also remains an important backdrop to the local loan finance market, allowing policymakers scope to intervene if further financing gaps emerge or are identified in future.

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[26] NBFIs have also been shown by McCann *et al.* (2023) to have played a role in mitigating the credit supply shock arising from Ulster Bank's exit from the SME lending market.

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