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SME investment report 2024: Developments between 2016 and 2023

JANEZ KREN, CYNTHIA O'REGAN, CONOR O'TOOLE, LUKE REHILL AND ALICE SMITH

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ABBREVIATIONS

CDS	Credit Demand Survey
CSO	Central Statistics Office
EIB	European Investment Bank
SME	Small and medium-sized enterprise

EXECUTIVE SUMMARY

Despite a robust domestic economic performance, over the past number of years, the Irish enterprise sector has been hit with a series of external shocks. From Brexit to the COVID-19 pandemic and then the external inflationary shocks following the energy price crisis, enterprises have faced challenges that have put pressure on their sustainability in day-to-day operations and heightened uncertainty around their commitment to capital investment. Yet long-term investment is critical to enhance productivity and drive profitability going forward. Over and above these external shocks, firms are grappling with the twin challenge of decarbonisation and digitalisation. Understanding the trends in investment is therefore critical to determining how firms are adapting to the changing circumstances and how Ireland's economy is building capacity for future growth.

Given this backdrop, this report provides a detailed examination of the SME investment across a range of asset categories. It explores how these investments are financed and the investment challenges faced by SMEs in the current environment. Although SMEs make up the bulk of firms and employment in Ireland, aggregate statistics on investment activity tend to be dominated by larger firms. This report uses firm-level data collected as a specific module on the Department of Finance Credit Demand Survey to provide a statistical review of the key trends in SME investment.

The report presents data from the Credit Demand Survey conducted in 2024 for the investments in year 2023. Annual time series comparisons back to 2016, with the exception of 2022, are also provided for context and comparison. The main findings in each of the analytical chapters are provided below.

TRENDS IN SME INVESTMENT

To review trends in investment, we draw on a number of metrics. First, we look at how many Irish companies invest by presenting the percentage of firms investing. Second, we gauge the magnitude of investment by looking at a) the typical value of investment, and b) the magnitude of investments relative to the firms' existing assets. All of these indicators are presented across different types of assets, namely: fixed assets including buildings, transport equipment, machinery, and intangible assets. A number of key findings emerge:

- Nearly 60 per cent of enterprises invested in capital in 2023, and this has increased marginally from 2021. The scarring effects of the pandemic and following shocks are still evident as the proportion of investing firms still remains below pre-pandemic levels. For example, in 2018 and 2019, 64 per cent of firms had capital investments.
- Investment levels per firm have also recovered in nominal terms, with median investments increasing from €40,000 to €50,000 between 2021 and 2023. Controlling for price effects, these changes are much more

muted with the investment-to-assets ratio remaining constant at 17 per cent.

- Focusing on fixed capital assets, around 20 per cent of firms invested in buildings, 28 per cent invested in transport equipment, and 42 per cent invested in machinery and equipment. Relatively few firms, 5 per cent, invest in intangible assets.
- For those firms which did invest in different assets, the largest investments in median expenditure terms occurred for vehicles (€43,000), followed by buildings (€40,000) and non-transport machinery (€20,000).

In addition to the exploration of the aggregate position, we explore patterns across different groups of firms. A number of findings emerge:

- As found in previous survey iterations, structural rather than cyclical dynamics are very evident with micro firms less likely to invest than larger firms. Meanwhile, the median level of investment for medium-sized firms remains well below pre-pandemic levels with some recovery evident for smaller and micro enterprises.
- Younger firms are the most likely to invest, with the older enterprises more hesitant to commit capital.
- Across sectors, domestically oriented sectors such as construction, hotels and restaurants and wholesale and retail sectors continue to invest at levels well below the pre-pandemic period, suggesting that the impact of repeated shocks has weakened their investment appetite.

INVESTMENT CONSTRAINTS AND ADEQUACY

Having reviewed the trends in investment activity over time and across firms, we turn to the question of whether this investment is sufficient or whether constraints are limiting firm activity. Using a series of questions on respondents' attitudes and perceptions, we compare these factors both over time and across various firm characteristics. A number of findings emerge in relation to these indicators:

- The vast majority of enterprises are happy with the current level of assets and investments. This has remained relatively constant over time.
- While just under half of firms are willing to expand their operations, the data indicate this has fallen marginally over the period 2021 to 2023, which points towards an increase in risk aversion for some firms.
- The willingness to expand is decreasing with firm size and firm age.
- There was a slight increase in the share of firms willing to borrow, from 43 to 47 per cent of firms between 2021 and 2023. This breaks the declining trend seen from 2018 to 2021.

- Investment supply side constraints seem to be moderating as fewer firms are reporting access to financing as major barriers to investment activity. At the same time, they also report less uncertainty than in previous surveys.

INVESTMENT FINANCING AND CREDIT DEVELOPMENTS

We finally provide a deeper dive into investment financing by considering how firms fund their expansions. A number of findings emerge:

- Firms continue to fund their operations with internal funds; this pattern appears to be demand driven, with little evidence of credit access constraints.
- Leasing has increased in importance for vehicle purchases while external equity financing remained very low as a source of funding for investment expenditures.
- Between 2021 and 2023, the median interest rate on loans obtained in the six months prior to the survey have increased from 3.6 per cent to 5.6 per cent. Despite the hike, only 6 per cent cited high costs as a reason for not seeking credit. However, that is still a substantial increase from the 2021 survey, where only 2.3 per cent of respondents cited high borrowing costs.

INVESTMENT FOR THE TWIN TRANSITION – DIGITALISATION AND DECARBONISATION

Our survey contains a range of information on the twin challenge of investing for digitalisation and decarbonisation. Results show that:

- Just over one in three firms, or 36 per cent, invested in digital assets in 2023, down from 41 per cent in 2021. The median spend was €6,000.
- The proportion of firms investing in digital assets increased for micro and young firms but declined for larger SMEs and older enterprises.
- On a sectoral basis, the expenditure increased for construction, hotels and restaurants, and transport storage and communications, and declined for other sectors.
- There has been no major change in the share of companies indicating investments in digital assets are important for their business. This indicates a potential challenge to the policy aims of wider digital adoption.
- Climate-related investments fell in 2023 compared to 2021; both in terms of the proportion of firms and the median expenditure.
- This pattern occurs across all firm ages and for small and micro enterprises. Those firms reliant on the domestic economy have also lowered their investment in climate-related expenditures.

- The proportion of firms indicating that climate is important to their business declined from 2022 to 2024. This decline is greater for domestic-oriented enterprises in sectors such as construction and hotels and restaurants as well as for young and smaller firms.
- This represents a major challenge for SMEs in terms of their role in the transition of the Irish economy towards a lower carbon operating structure.

CHAPTER 1

Introduction

To have adequate scope to grow and develop, firms need to continually invest in fixed and other assets that will boost output and enhance productivity. Indeed, fixed and intangible capital investment is a critical determinant of long-term productivity growth leading to sustained economic growth and job creation. Over the past number of years, the Irish economy has performed relatively well in the face of a series of external shocks, from Brexit to the COVID-19 pandemic and the energy price shocks following the Russian invasion of Ukraine. However, these events have created challenges for the domestic sectors in particular with the cost of doing business and demand uncertainty. Within this context, it is critically important to understand the trend in capital investment, which is one of the key determinants of long-term capacity and growth.

The degree of uncertainty and the nature of the repeated shocks uncertainty is weighing on investment activity not only in Ireland but in a broader European context. The most recent investment survey by the European Investment Bank (EIB) (2024) noted a general concern by enterprises about the political environment, regulatory activity and the underlying economic concerns. Drawing on the survey data, the EIB notes that the share of firms planning to increase investment has declined notably and their main commitment is towards replacement investment rather than capacity expansion. The EIB notes that this reluctance towards committing additional capital is at odds with the widespread recognition that Europe needs to commit additional investment expenditure towards innovation, digitalisation, climate adaption and dealing with geopolitical risks. Indeed, the underlying investment deficit for European enterprises is one of the key findings of the recent Draghi report (Draghi, 2024), which points towards a major competitiveness challenge if investment deficits are not removed. Irish firms are no different in this context, with the requirement to invest in productivity enhancing technology while also needing to invest in the digital space as well as for the green transition. Indeed, Gargan et al. (2024) showed an investment deficit in research and development (R&D) activity.

Small and medium-sized enterprises (SMEs) play an important role in this process, as young and small firms tend to create new jobs and growth faster (Haltiwanger et al., 2013; Lawless, 2014). According to the Central Statistics Office (CSO) estimates for 2022, SME firms in Ireland accounted for 99.8% of all registered enterprises, 68% of employment, 43% of total turnover, and 41% of gross value added in Ireland.[1] However, when it comes to investments, Irish SMEs continue to lag behind international peers despite strong macroeconomic growth and a high savings rate (Department of Finance, 2024; Gargan et al., 2024).

[1] www.cso.ie/en/releasesandpublications/ep/p-biisr/businessinireland2022summaryresults

Measuring investment in the Irish economy is typically challenging due to the activities of multinationals. For example, multinationals' investments in assets for the purpose of aircraft leasing, or intellectual property related investments, notably distort Irish national accounts series. This has led the CSO to produce so-called 'modified' time series that strip out the impact of multinationals. However, other investment by multinationals in items such as plant and machinery, buildings or other assets are still contained in the modified investment series. It is for this reason that data measuring the activities of SMEs relating to investment, such as this report, is particularly informative and useful. In this regard, from a quantum perspective, the overall level of SME investment would be contained within the modified series of the national accounts under each of the asset headings that make up the overall series. However, as a share of the total, it is likely to be relatively low due to the ongoing inclusion of multinationals, other domestic large firms, as well as the state expenditure on capital that gets included in these investment items.

Within this context, the Department of Finance in conjunction with the ESRI introduced a module on 'Investment activity and company assets' into the SME Credit Demand Survey (CDS) in 2017, which has since been repeated on an annual basis, with the exception of 2022. The CDS has been a key tool used by the Department of Finance to monitor the demand for, and supply of, credit for SMEs. This investment activity module contains a series of questions specifically asking about firms' investment and assets. In addition, the module also contains questions regarding investment financing sources, barriers and firms' attitudes. Moreover, firms are asked to provide a numeric figure of the value of their total assets, as well as declaring the percentages of assets that were in fixed or liquid form. Consequently, it enables the construction of an empirical overview of Irish SMEs, facilitating the exploration of the following questions:

- Which type of assets are SMEs investing in and what is the rate of investment relative to the level of existing total assets?
- Do firms consider their investment activity to be optimal and, if not, what are the barriers to investment?
- How are firms financing this investment?

Appendix Table A.1 lists the CDS surveys used in this report, detailing differences in data availability. Each survey sample consists of approximately 1,500 observations, as shown in Table A.2. The survey includes sample weights to ensure that the sample accurately represents the Irish SME sector in term of SME size groups (micro, small and medium) and sector (Ipsos B&A, 2024). We use the sample weights throughout the analysis. Although some firms appear in the sample multiple times, this subsample is relatively small. Therefore, the data are treated as a pooled panel.

Results from previous waves of this survey were presented by Cantillon et al. (2022), Lawless et al. (2020) and Gargan et al. (2018). The aim of this report is to

provide a statistical update on the indicators presented previously and to review trends in investment across SMEs over time. In particular, given the extraordinary economic disruption to many domestic SMEs caused by the pandemic (Kren et al., 2022) as well as the recent inflationary spike (O'Toole et al., 2021), it is critically important to assess the impact on capital formation as this directly impacts their long-term productivity growth.

Our main objective is to provide up-to-date profiling of investment that can be used to monitor the sector and to feed into the development of SME support policies. In addition, new and more detailed information regarding firms' risk attitudes, investment uncertainty or investment funding sources is also included in this report. We also present new findings on investment into digitalisation and climate-related assets, and firms' attitudes towards such investments.

The structure of the report is as follows: Section 2 presents the trends in SME investment over time and across firms. Section 3 presents data on investment attitudes and constraints. Section 4 considers developments in digital investments; Section 5 considers climate investments; Section 6 explores investment financing and SMEs' access to finance; while Section 7 concludes.

CHAPTER 2

Trends in SME investments

This section provides an overview of the extent to which Irish SMEs are investing in different types of assets, both tangible and intangible. We use two sets of indicators to monitor trends in each type of investment. First, we look at how many firms are engaging in capital spending by tracking the percentage of investing firms. Second, we use a number of metrics to measure the magnitude of investment among the firms that had investment. We primarily focus on the mean and median investment level in nominal values, but also provide mean and median in adjusted to constant prices, adjusted to 2023 levels. We will also consider the investment-to-assets ratio as an alternative way to control for price effects.

The selection of any investment deflator is considerably challenging in an Irish context as the national account measures are affected by extremely volatile investment flows due to the multinational enterprises. To mitigate this issue, our primary deflator is based on 'modified investments' which excludes investments related to aircraft leasing and to imported intellectual property assets. We further exclude the construction sector from the modified investments.[2] Additionally, we employ three distinct deflators for buildings, machinery and equipment investments, and investments in intangible assets. Appendix Table A.3 lists the deflators and their data sources. The values of all four indexes are presented in Appendix Figure A.1.

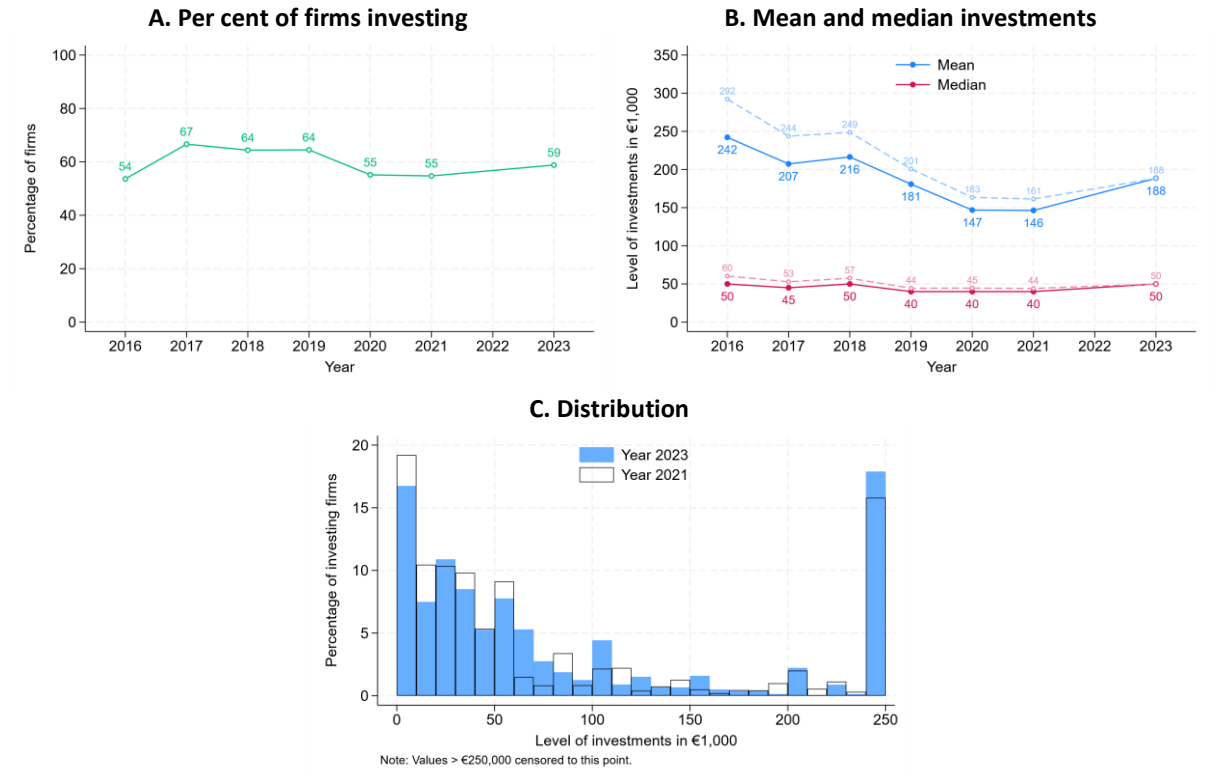
This section will also explore how investment activities vary across different firm categories defined in terms of age, size and sector of operation, location and exporting status. A number of different asset classes are covered in this section. First, in terms of fixed assets we document trends in buildings, vehicles (and other transport equipment), other fixed assets (such as machinery and equipment), and investments in intangible assets. Second, we explore trends in investments in human capital (such as staff training). Understanding the range of expenditures across different asset types can give an insight into whether firms are targeting investments towards those assets which are likely to boost productivity such as intangible assets and help inform our understanding of the competitiveness challenge as outlined by Draghi (2024) and the European Investment Bank (EIB) (2024).

[2] The Central Statistics Office (CSO) produced adjusted measures of investment entitled the 'modified investment' series to attempt to remove some of the volatility from the multinational activities. The main assets that were causing this extreme volatility were aircraft leasing and intangible assets in the form of intellectual property in the IT sector. These assets are not purchased by SMEs; therefore, we have used the modified version of the investment data to develop a deflator. Furthermore, to adjust for construction sector inflation we have also used as an additional deflator the modified investment excluding the construction sector.

2.1 TOTAL CAPITAL INVESTMENTS

We begin by providing a comparison of the investment activity of firms from 2016–2023 in Figure 2.1. We define investment in this section as capital outlays on buildings, vehicles, other fixed assets (including machinery and equipment) and intangible assets. We first consider total capital investment, which is the sum of these four component asset types. Figure 2.1 panel A presents the share of SMEs investing as a percentage of all firms in the sample. The proportion of investing SMEs was relatively constant between 2017 and 2019 at approximately 64 per cent or just under two in three firms. The impact of the COVID-19 pandemic can be clearly seen in the data as the share of investing enterprises dropped by 9 percentage points (or 14 per cent) to 55 per cent of companies. While these data indicate over half of Irish SMEs still did undertake some investment in capital assets in 2020 during the pandemic, the fall-off is notable. It remained at that level in 2021. In terms of the most recent data, it appears there has been some rebound in 2023, with the proportion of investing firms up to 59 per cent. However, it remains below the pre-pandemic levels.

FIGURE 2.1 TOTAL CAPITAL INVESTMENTS



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Mean and median only among the investing firms. Dashed lines show series adjusted to 2023 price levels.*

Figure 2.1 panel B presents the mean and median investment in €1,000 for the period 2016–2023. It must be noted that these metrics are calculated for only the sample of firms who invested (zero value investment firms are excluded from the calculations). The mean and median level of investment trended downwards in

2020 and 2021, having dropped markedly in 2019. It is notable that in 2023 there has been a partial recovery in the value of investment. The figure also includes the mean and median adjusted to 2023 prices level shown in dashed lines.

In terms of values, the mean investment in 2023 was just over €188,000, up from €146,000 in 2021; a 29 per cent rise in the nominal value. The median investment also increased to €50,000 from €40,000 between 2021 and 2023; this represents a 25 per cent rise in the nominal value. The median investment is well below the mean, which suggests that the distribution of investment across enterprises is highly right-skewed. This can be seen in panel C of Figure 2.1, which presents the distributional charts for 2021 and 2023. The shift of the distribution towards higher value investments can be clearly seen in 2023.

Given the recent challenges with inflation, trends in the nominal level of investment may give a misleading picture. Using the non-construction modified investments price index as a deflator, the mean total capital investments in 2023 experienced a real increase of 17 per cent. The remaining 12 per cent can be attributed to change in price level compared to 2021. For median investments, the price-adjusted growth rate is 14 per cent.

Table 2.1 presents a comparison of all five investment metrics for 2023, compared the pre-pandemic average from 2016 to 2019. The percentage of firms investing in 2023 was 3.5 percentage points lower than the pre-pandemic average, and this difference is statistically significant. Although the median values remained identical, the nominal mean was reduced by €21,500 (equating to a 10 per cent decrease), but this reduction is not statistically significant. In contrast, the price-adjusted mean demonstrates a substantially larger decline of €55,300, or 23 per cent, which is statistically significant at the 5 per cent level. Therefore, even though there was substantial recovery compared to 2021, the investments levels in 2023 are still below levels seen between 2016 and 2019.

TABLE 2.1 TOTAL CAPITAL INVESTMENTS IN 2023 COMPARED TO PRE-PANDEMIC AVERAGE

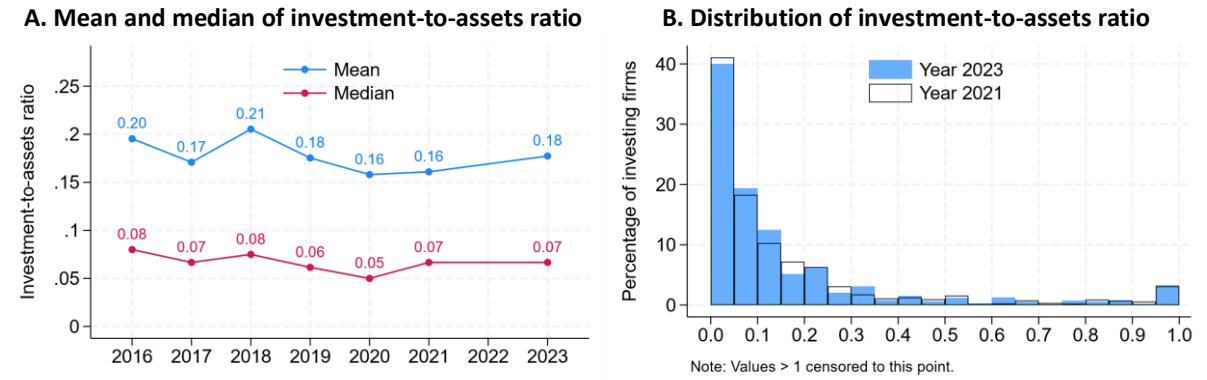
Indicator	Pre-2020	2023	Change	Relative change
Per cent investing	62.3	58.8	-3.5**	n/a
Nominal mean	210.0	188.4	-21.5	-10.3%
Nominal median	50.0	50.0	0.0	0.0%
Price-adjusted mean	243.8	188.4	-55.3**	-22.7%
Price-adjusted median	55.5	50.0	-5.5*	-9.9%

Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Notes: *Means, medians and changes in total capital investments in €1,000 among investing firms only. Pre-2020 is average between 2016 and 2019. Stars show significance based on t-tests: *** p<0.01, ** p<0.05, * p<0.1*

Another way to reduce the impact of price changes on the observed trends is to look at the investment rate or investment-to-assets ratio. In Figure 2.2 panel A, we present the mean and median investment-to-assets ratio over time; while in

panel B, we present the distribution of the investment-to-assets ratio for the years 2021 and 2023. The level of the average investment-to-assets ratio was 0.18 in 2023, up from 0.16 in 2021. This represents an increase of 12.5 per cent, which is less than half the increase reported in the nominal values. A level of 0.18 per cent of the investment-to-assets ratio suggests that firms are increasing their investment capacity by almost 20 per cent per annum, which is notable. The median investment-to-assets ratio is much lower at 0.07 or 7 per cent of assets. This has not changed from 2021, suggesting that the observed increase in the nominal values is at least partly explained by price effects. The distribution in panel B clearly shows the majority of investments are small in size at less than 10 per cent of assets. The mean is dragged upwards by a long tail of the right of the distribution, suggesting some very fast growing firms with extremely high investment rates.

FIGURE 2.2 INVESTMENT-TO-ASSETS RATIO



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Excluding firms without investments.*

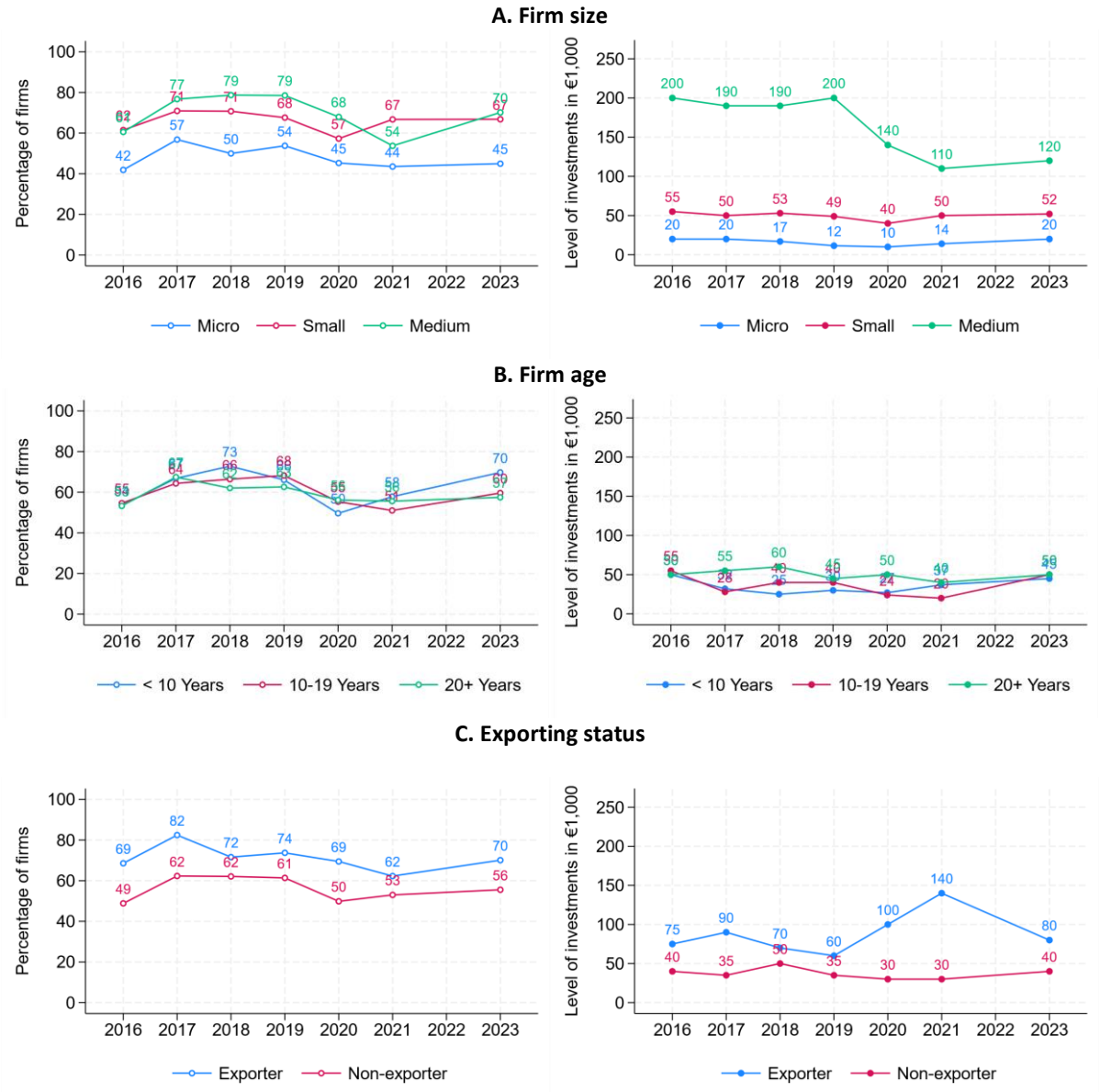
2.2 BREAKDOWN BY FIRM CHARACTERISTICS

While the overall trend in investment provides insight into the aggregate picture for Irish SMEs, it may hide considerable heterogeneity across different types of firms or groups of enterprises. Exploring this heterogeneity is important for diagnosing the barriers that block investment for different types of firms. In this section, we explore trends in investment for four different dimensions of enterprises: a) firm size groups, b) firm age groups, c) exporting status, and d) firm sector. We also provide an overview of regional differences across Ireland by considering the trends in investment at a NUTS 3 regional disaggregation.

Figure 2.3 presents the average percentage of investing firms (left column) and the mean investment level in nominal euro (right column) by firm age, size group and exporting status. Three different age categories are defined throughout this report according to the number of years a firm has been operating: 1) young firms (less than ten years), 2) established firms (10–19 years), and 3) older firms (20+ years). Size categories are defined with respect to the number of employees in each firm. The micro category includes firms that employ between one and nine people, small firms have between ten and 49 employees, and medium firms employ between

50 and 249 people. Exporting status captures if a firm reports having sales outside of Ireland.

FIGURE 2.3 MEDIAN INVESTMENT BY FIRM TYPE, PERCENTAGE AND LEVEL (IN NOMINAL €) OF INVESTORS ONLY



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*

The first firm grouping that is presented in Figure 2.3 is firm size. While investment propensity is generally increasing with firm size, the proportion of investing SMEs dropped across all size classes during the COVID-19 pandemic; the share for micro firms dropped by 16 per cent between 2019 and 2020 to 45 per cent of enterprises; the share of small firms dropped by 15 per cent to 57 per cent of enterprises between 2019 and 2020; and finally, the share of investors amongst medium-sized firms dropped by 11 per cent between 2019 and 2020 to approximately 68 per cent. However, in 2023, both small and medium-size firms had recovered in terms of the proportion of investing firms. For small firms, the proportion of firms investing had

recovered in 2023 from 2021 to 67 per cent, which is close to the pre-pandemic level. For medium-sized firms, there was a big recovery in the proportion of investing SMEs in 2023, up to 70 per cent, compared to 54 per cent in 2021. But this still remains below the pre-pandemic level. For micro-sized firms, there was no change between 2021 and 2023.

In terms of the level of investment, again this is typically increasing with firm size, ranging from a median of €20,000 for micro firms to €120,000 for medium-sized firms in 2023. The levels across all firm groups have increased in 2023 relative to 2021 but remain below the pre-pandemic level for medium-sized firms. Given the impact of inflationary pressures, it is likely that the level of investment is in fact static or dropping across firm groups. In particular, the low investment for medium-sized enterprises relative to the 2016–2019 period presents major challenges for their long-term growth if they are not investing.

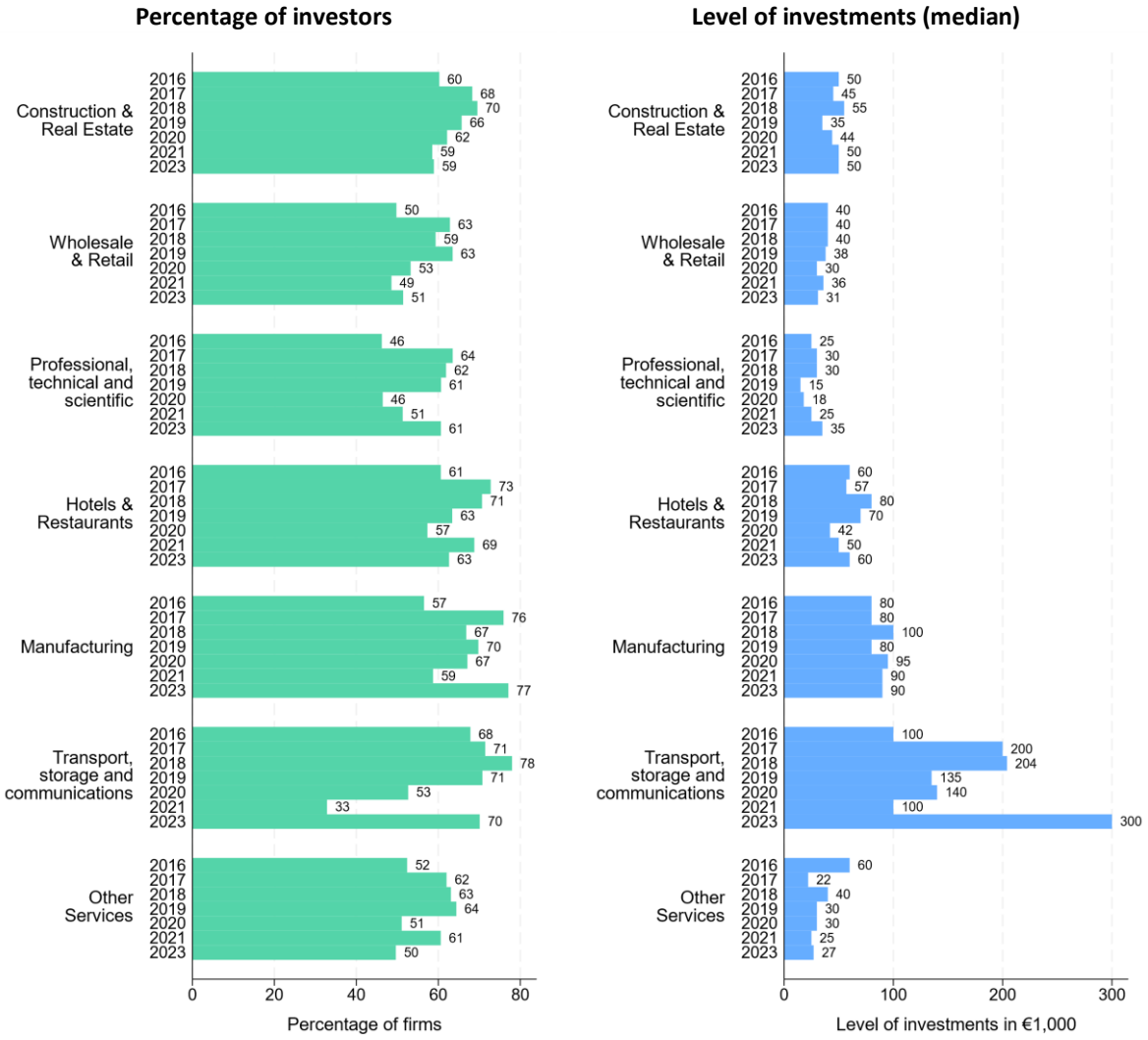
Considering trends across the age distribution, in 2023, 70 per cent of young firms invested in fixed capital, which was a major increase from 58 per cent in 2021. This is a notable increase as young firms are often major drivers of firm growth and innovation. It is also an important turnaround as the drop in 2020 suggested that COVID-19 had the largest impact on young firms. There was also an increase in the proportion of established firms investing, from 51 to 60 per cent. The proportion of older firms investing remained static. For those firms that did invest, the median level of investment in 2023 was highest for the oldest firms at €50,000, with established firms and youngest firms typically investing €45,000. These expenditures are all up on 2021 levels in nominal terms, but are likely to have only grown marginally or fallen in real terms, adjusting for price changes.

The final grouping presented in Figure 2.3 is exporting status. There was a clear recovery between 2021 and 2023 for exporting firms with the proportion of investors increasing from 62 per cent to 70 per cent. There was also a marginal increase for non-exporters, with the proportion of investors increasing to 56 from 53 per cent. In terms of the median level of investment, there was a decline for exporters from €140,000 in 2021 to €80,000 in 2023. The median investment for non-exporters increased to €40,000 in 2023 from €30,000 in 2021.

A very notable feature of the economic shock associated with COVID-19 was the unequal impact across sectors in the Irish economy (O'Toole et al., 2021). Furthermore, this research on the impact on SMEs also highlighted that particular sectors were very hard hit, especially those most affected by public health closures and restrictions (retail, hospitality, etc.). However, the recent energy price shock and ensuring inflationary spiral is likely to be more impactful on the types of business that require a heavily concentrated energy use input. It is therefore important to consider the investment trends on a sectoral basis as this can give a more direct insight into how economic conditions have been feeding through to firms' capital structure choices. Figure 2.4 presents the share of investment and level of investment for eight industrial and service sectors: construction and real estate; wholesale and retail; professional, technical and scientific; hotels and

restaurants; manufacturing (food manufacturing, non-high-tech and high-tech manufacturing); transport, storage and communications; and other services.

FIGURE 2.4 INVESTMENT BY SECTOR, PERCENTAGE AND LEVEL (MEDIAN €) OF INVESTORS ONLY



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*

There is a clear divergence across different sectors regarding the trend in the proportion of firms investing. Between 2021 and 2023, some sectors experienced a sharp increase in the proportion of investors such as manufacturing; transport, storage and communications; and the professional, scientific and technical sectors. These sectors would be more outward oriented, trading on international markets. The more domestic-focused sectors, such as hotels and restaurants, wholesale and retail and construction and other services, had either a fall or only marginal gain in the proportion of investing enterprises. More notably, these domestically oriented sectors have not recovered to the levels seen prior to the COVID-19 pandemic, which likely points towards a scarring effect of the repeated shocks, higher uncertainty and potentially higher cost of credit as interest rates rose with inflation.

In terms of the level of investment expenditure, the median spend was highest in transport, storage and communications at over €300,000 per firm and the lowest

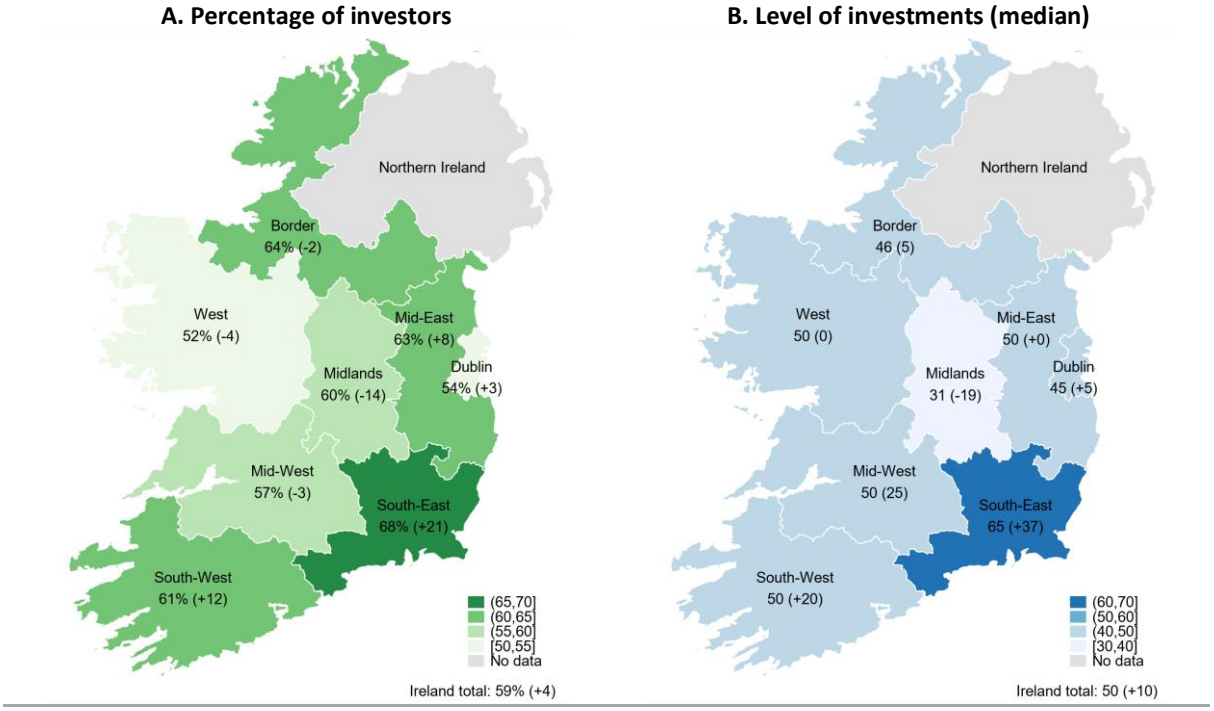
was in other services at €27,000. There was no material change in the expenditure levels in wholesale and retail, construction and manufacturing, which adjusting for inflation likely points towards a fall back in real expenditure.

Finally, to provide a breakdown of investment activity on a regional basis in Ireland, Figure 2.5 presents the share of investing enterprises for the NUTS 3 regions in Ireland. The highest proportion of investing firms was in the South East, which experienced a rapid increase in the proportion investing between 2021 and 2023. The second highest was in the Border region. The lowest proportion was in the West region, with the Dublin region second lowest.

In terms of the level of expenditure, the highest median level was again in the South East at €65,000. This had increased sharply since 2021. The lowest level of expenditure was in the Midlands, which experienced a fall to €31,000 per firm median investment expenditure. The West, South West, Mid-West and Mid-East regions had a median expenditure per firm of €50,000.

It must be noted across all the regional data that some regions may have small sample sizes and values are not adjusted for changes in sample composition. Thus, the presence of a small number of firms in the sample may affect the figures.

FIGURE 2.5 INVESTMENT BY NUTS 3 REGION, PERCENTAGE AND LEVEL (MEDIAN €) OF INVESTORS ONLY



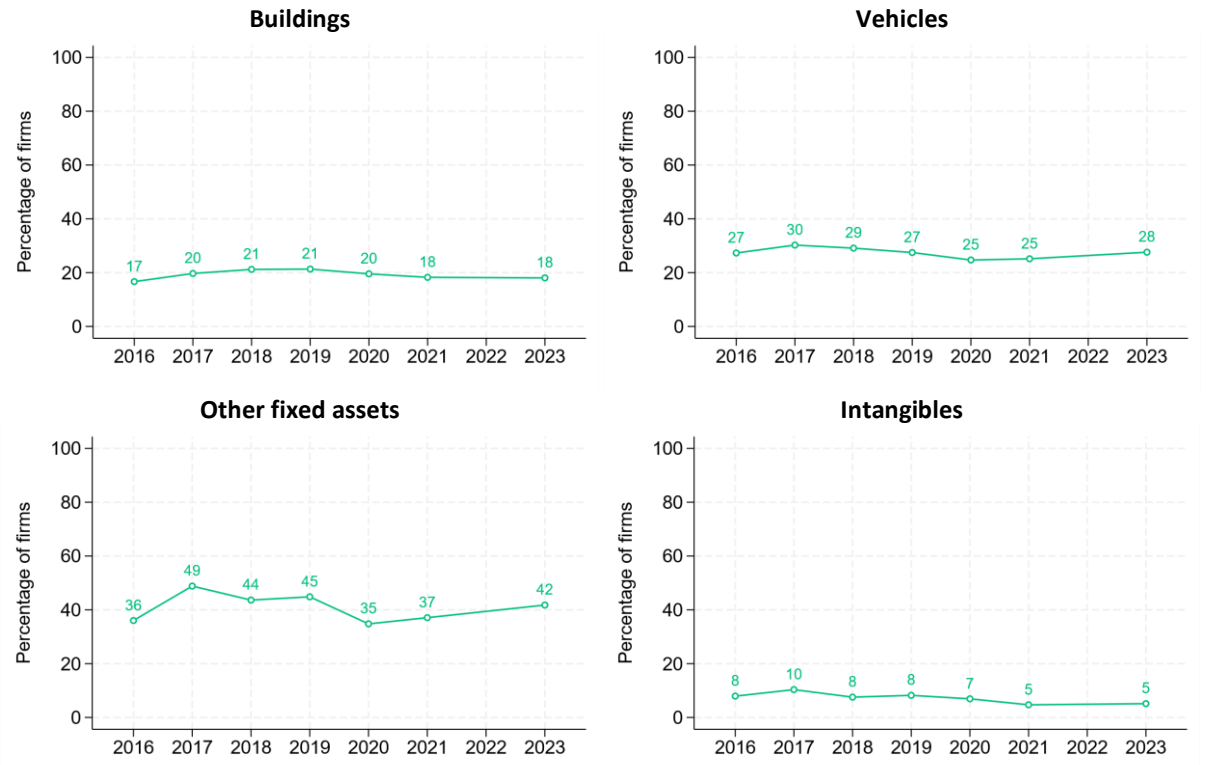
Sources: *Department of Finance Credit Demand Surveys, 2021 and 2024.*
Note: *Number in parentheses show the change compared to 2021.*

2.3 INVESTMENT BY TYPE OF ASSET

While the above data focus on investment overall across all assets, firms are likely to have very different expenditure patterns across the types of assets, depending on their capital structure. In particular, across sectors, the asset structures required for production are likely to vary considerably. To explore investment patterns across different asset classes, Figure 2.6 splits out the proportion of investing firms for the following types of assets: buildings; vehicles; other fixed assets, machinery and equipment; and intangible assets.

The proportion of firms investing in building assets has remained constant between 2021 and 2023 at 18 per cent. This is lower than the pre-pandemic period. For investment in vehicles, 28 per cent of firms in 2023 undertook that expenditure, up 3 percentage points on 2021 and returning to the level seen before the onset of the COVID-19 pandemic. Investment in other fixed assets (such as machinery and equipment) rose to 42 per cent of all firms in 2023 from 37 per cent in 2021. This represents a catch-up towards the level seen in the pre-pandemic period. The lowest level of investment in terms of the proportion of investing firms is for intangible assets. In 2023, only 5 per cent or one in 20 firms purchased intangible assets. This was in line with the level seen in 2021 and still below the proportion of firms investing in the pre-pandemic period.

FIGURE 2.6 PER CENT OF FIRMS INVESTING BY INVESTMENT TYPE



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*

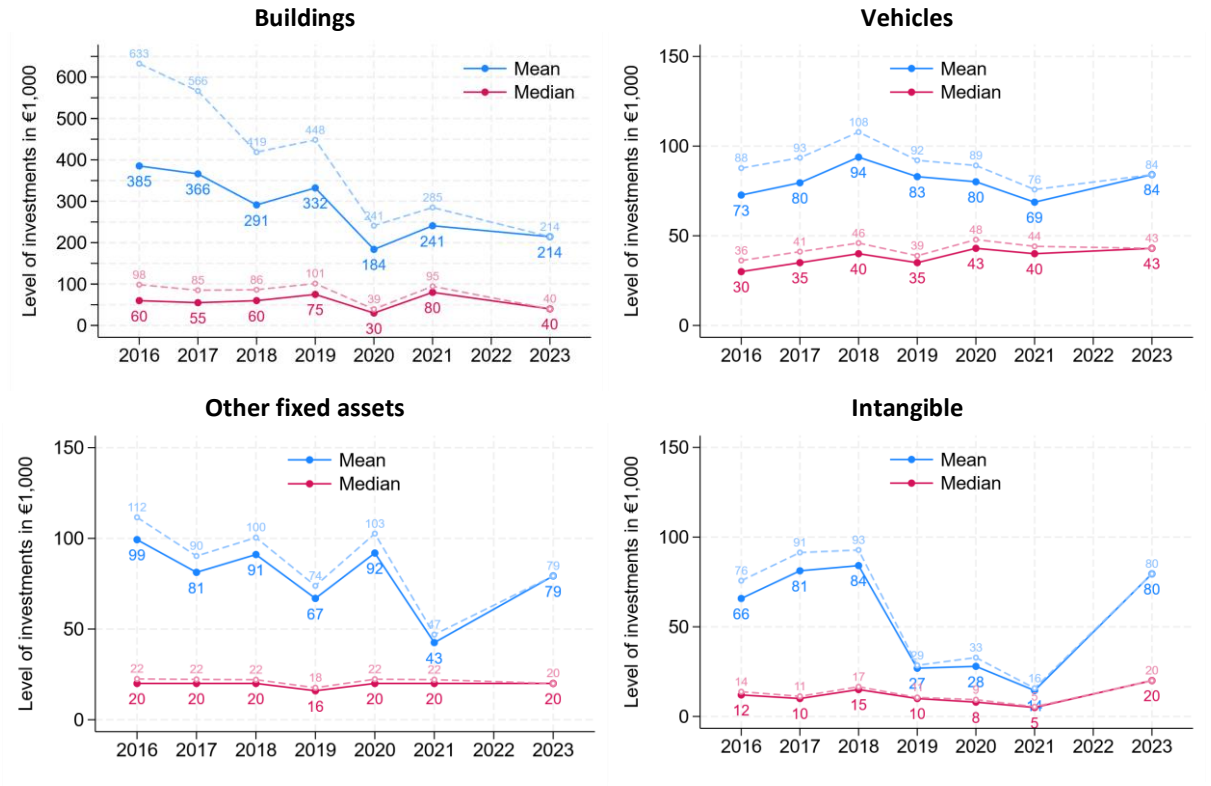
The pattern presented above indicates a stability in the investment activity but at a level below that seen in the pre-COVID-19 period for many assets. This sluggish recovery is not unexpected given the repeated nature to the external shocks faced by firms over the past number of years but it does clearly highlight the downside pressures which are still weighing on activity. Given the drop immediately following the COVID-19 pandemic, and only a partial recovery, long-term productive capacity and potential output could potentially be negatively impacted if investment rates remain low.

Figure 2.7 presents the trends in the mean and median investment activity by asset type. Investments in buildings are larger on average than other investment items, but this is due to considerable distributional skew and a small number of very large investments. Average investment in buildings in 2023 was just under €214,000, while the median was €40,000. These investments include repairs, maintenance and depreciation-related upkeep investments as well as building purchase and improvements. The decline in the average and median investment in buildings is notable following a recovery in 2021 relative to 2020. This highlights the hesitancy to invest in buildings, in particular at a time when transitions towards decarbonisation are likely to require notable expenditure on retrofits. We will return to this topic later in the paper.

The decline of investment in buildings becomes even more apparent after nominal values are converted to 2023 price level. Compared to the prices of other investment, the price index for non-dwelling buildings and structures was consistently high throughout the entire seven-year period. The cumulative increase in building investment prices amounts to a 64 per cent increase between 2016 and 2023. In the same time period, the cumulative price increase in other price indexes was between 12 and 25 per cent, most of which was due to price increases in 2022 and 2023.

The mean investment in vehicles increased by nearly 22 per cent to €84,000, while the median investment in vehicles increased by 7.5 per cent to €43,000. In terms of the median expenditure, the nominal value has recovered to levels seen prior to the pandemic but with the impact of price inflation, it is likely to be lower in real terms. For other fixed assets, the median has remained at approximately €20,000 per firm across the sample. The mean is displaying quite a degree of variation as single large investments can impact the distribution.

FIGURE 2.7 INVESTMENT BY ASSET TYPE (NOMINAL LEVEL IN €1,000)



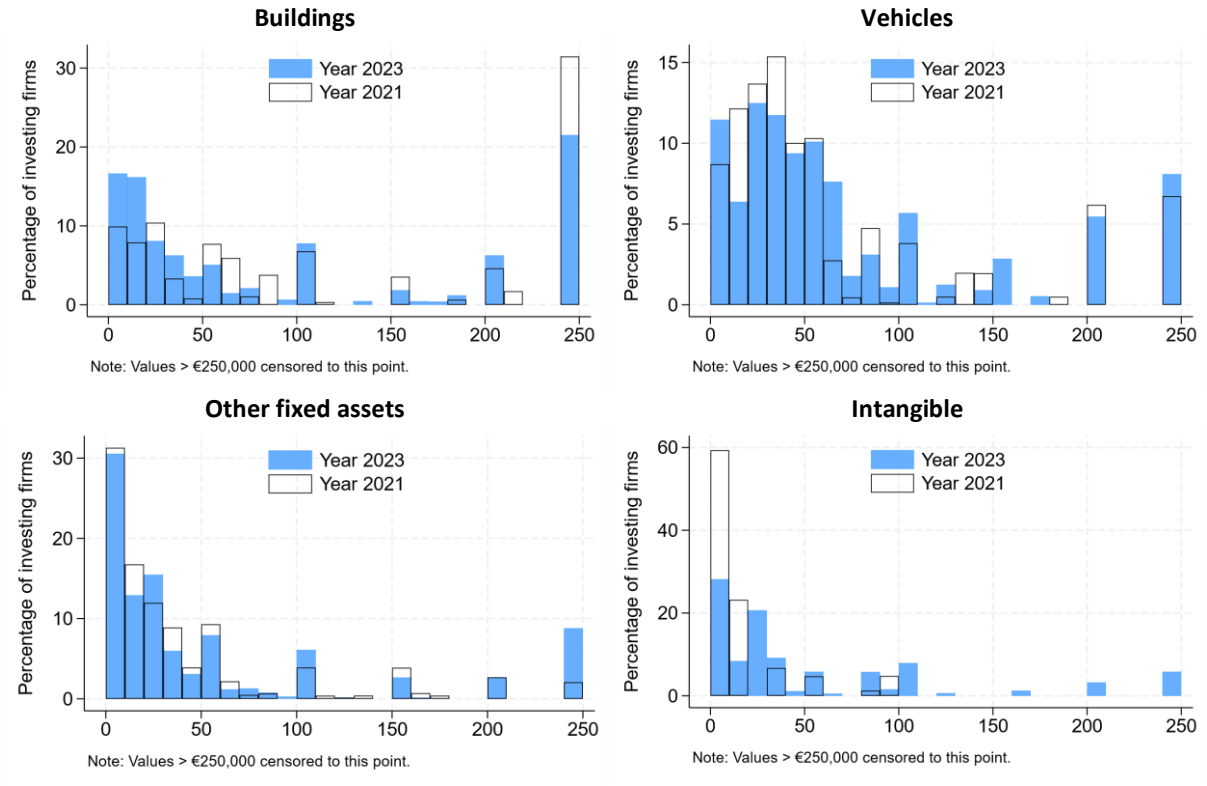
Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Mean and median of the investing firms for each asset. Dashed lines show series adjusted to 2023 price levels.*

The final asset class presented in Figure 2.7 is for intangible assets. The median nominal investment increased notably from €5,000 to €20,000 between 2021 and 2023. This is above the levels seen prior to the COVID-19 pandemic. The mean investment rose significantly between these two years, suggesting that some large investments are skewing the average.

The final charts presented in this subsection relate to the distribution of the level of investment. Histograms presenting the percentage of investments at different values for each asset class are presented in Figure 2.8. These charts provide an insight into how much firms are spending across all enterprises. It is also useful to identify trends over time in the distribution as these can provide insight into what size investments explain changes in the median or mean values. For reference, we provide two histograms: 2023 values are in blue bars, and 2021 values are in white.

For buildings, a leftward shift of the distribution is evident, which suggests a generalised reduction in the level of investment with fewer large investments. For vehicles, the upward movement in investment values towards €100,000 plus appears in the data with the proportion of these investments being higher in 2023 than in 2021. For intangibles, the share of the smallest (less than €10,000) investments decreased in 2023 relative to 2021 but there were also some very large investments in the right tail of the distribution.

FIGURE 2.8 DISTRIBUTION OF INVESTMENT BY ASSET TYPE, PROPORTION OF FIRMS BY LEVEL IN €1,000



Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*

In Table 2.2, we again compare 2023 investments with the pre-pandemic average, this time for each of four types of capital investment. There is a lower proportion of firms investing across all four asset types. However, the difference is only statistically significant for intangible assets (as well as for total capital investments). The decline in mean investments is by far the largest for buildings, where the mean decreased by €126,000 (or 37 per cent). This decline is even larger after adjusting for changes in prices. Other types of investments had either a small and statistically insignificant decline or an increase in the mean.

TABLE 2.2 INVESTMENTS IN 2023 COMPARED TO PRE-PANDEMIC AVERAGE

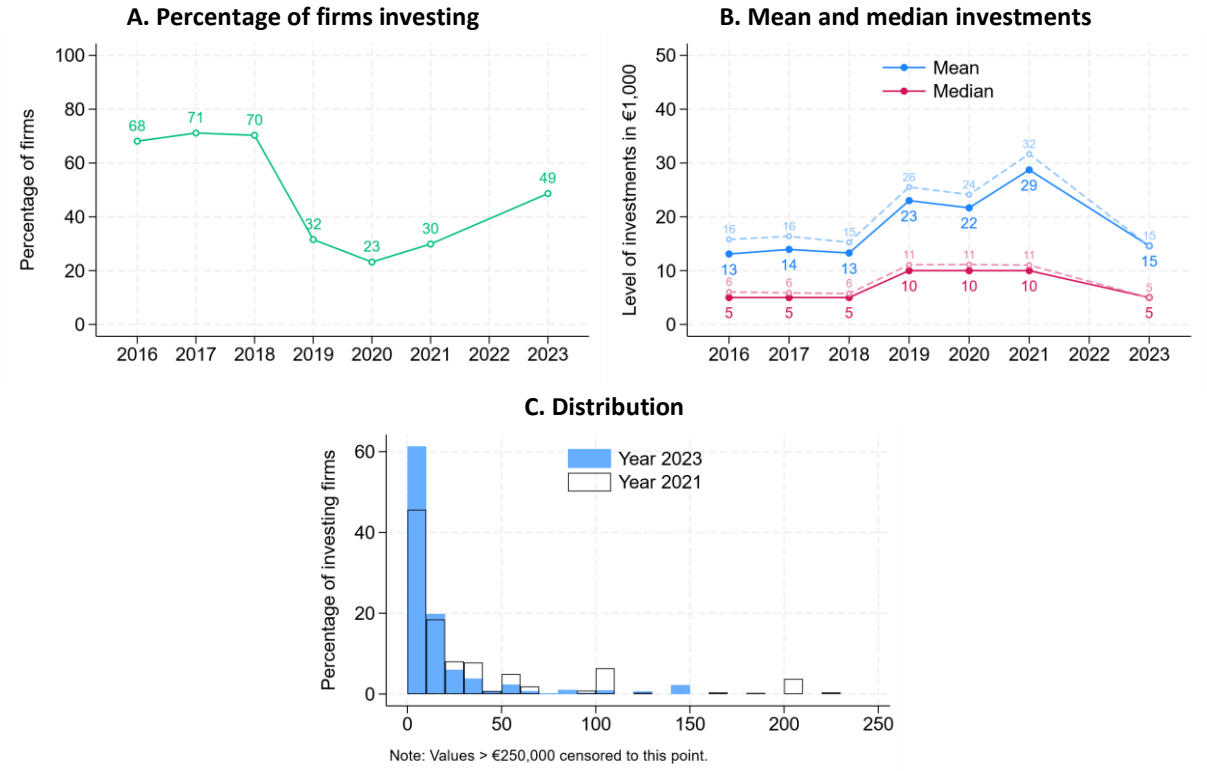
	Per cent investing			Nominal mean investments			Price-adjusted mean investments		
	Pre-2020	2023	Change	Pre-2020	2023	Change	Pre-2020	2023	Change
Total capital	62.3	58.8	-3.5**	210	188.4	-21.5	243.8	188.4	-55.3**
Buildings	19.7	18.1	-1.7	340.8	214.4	-126.4**	508.1	214.4	-293.7***
Vehicles	28.5	27.6	-0.9	82.4	84.1	1.7	95.4	84.1	-11.3
Other fixed	43.4	41.8	-1.6	83.6	79.3	-4.3	92.8	79.3	-13.5
Intangible	8.5	5.1	-3.4***	65	79.5	14.5	72.7	79.5	6.9

Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*
Notes: *Mean investments and change in mean in €1,000 among investing firms. Stars show significance based on t-tests: *** p<0.01, ** p<0.05, * p<0.1*

2.4 INVESTMENTS IN STAFF TRAINING

The final type of investment that we consider in this section relates to human capital investment or investment in staff. Investing in human capital through training and development is also an important mechanism to boost long-term productivity growth. In the Credit Demand Survey, firms were questioned about the level of investments in their staff[3]. This could include training and development courses, etc. The percentage of firms investing in staff training, the mean and median investments and the distribution of investment levels across firms are presented in Figure 2.9. In 2023, there was a big increase in the share of firms investing in their staff, from 30 per cent to just under 50 per cent. However, these levels remain well below those seen in the pre-pandemic period.

FIGURE 2.9 TOTAL INVESTMENTS IN STAFF TRAINING



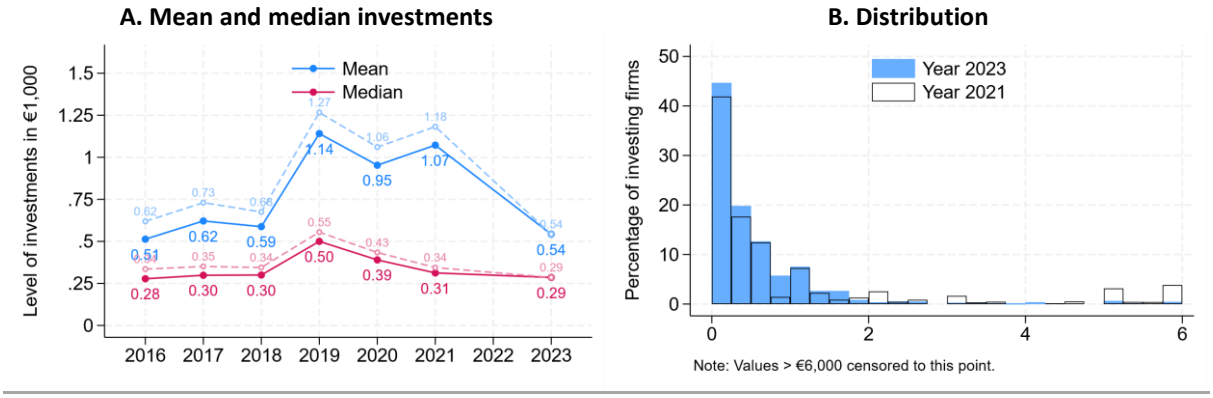
Sources: *Department of Finance Credit Demand Surveys, 2017–2024. Dashed lines show series adjusted to 2023 price levels.*

While the proportion of firms' investing increased, the expenditure per firm has declined; the median spend in 2023 was €5,000, down from €10,000 in 2021; while the average spend was €15,000, down from €29,000. However, it must be noted that these developments are likely to be more reversions to more typical activity as the pre-pandemic per-employee expenditure was much lower. This can be more clearly seen in Figure 2.10, which shows the expenditure per employee, and this

[3] The way this question was asked has subtly changed over time. In the surveys for years prior to 2019, there was a separate question asking 'how much did you spend on training for staff?'. For 2019–2021, integrated with other types of investments, the description was changed to 'investments in staff'. In the latest survey for 2023, this was augmented to 'investment in staff training'. Part of the changes seen in 2019–2021 could be driven by changes in phrasing.

has reverted to levels seen in the pre-pandemic period, suggesting a normalisation of activity.

FIGURE 2.10 INVESTMENTS IN STAFF TRAINING PER EMPLOYEE



Sources: *Department of Finance Credit Demand Surveys, 2017–2024. Dashed lines show series adjusted to 2023 price levels.*

The implication of this is that the smaller investments were those that disappeared in the pandemic period, rather than the larger investments. This may reflect the adjustment by smaller firms relative to larger SMEs.

CHAPTER 3

Attitudes and perceptions towards investment, risk and debt

In order to identify potential investment constraints that might be affecting the growth and development of domestic enterprises in Ireland, this section explores the attitudes of firms towards their investment activities. It explores the extent to which firms are content with their current capital stock, and probes the attitude of firms towards taking risks. Indeed, the findings from the European Investment Bank (EIB) (2024) survey point to issues around risk and uncertainty being notable headwinds for firms. Finally, it explores explicit measures of the extent to which access to finance is a barrier to investment as well as documenting firms' financing structures and the links between investment and cash holdings.

Since the 2018 survey, new questions have been added to the Credit Demand Survey in an attempt to better understand these issues. These questions use a traditional five-point Likert scale to assess firms' attitudes towards expansion and taking on debt. Additional questions were introduced in 2020 and 2021, and the latest survey in 2024 included all previous questions again. In this chapter, we examine firms' responses to the following:

1. On a scale from 1 to 5 (where 1 is 'strongly agree' and 5 is 'strongly disagree'), please indicate whether you agree or disagree with the statement: 'I am happy with my current capacity'.
2. On a scale from 1 to 5 (where 1 is 'strongly agree' and 5 is 'strongly disagree'), please indicate whether you agree or disagree with the statement: 'I am willing to expand my business even if it brings more risk/challenge'.
3. On a scale from 1 to 5 (where 1 is 'strongly agree' and 5 is 'strongly disagree'), please indicate whether you agree or disagree with the statement: 'Uncertainty is a barrier to investment'.
4. On a scale from 1 to 5 (where 1 is 'strongly agree' and 5 is 'strongly disagree'), please indicate whether you agree or disagree with the statement: 'Access to external finance is a barrier to investment'.
5. On a scale from 1 to 5 (where 1 is 'strongly agree' and 5 is 'strongly disagree'), please indicate whether you agree or disagree with the statement: 'I am willing to borrow from banks to fund an expansion of my business'.

The list of variables are presented in Table 3.1 along with some additional indicators which are of interest on digital and climate transition. These two will be reviewed in separate chapters of the report. The table documents in which years the questions have been asked and thus how a time series can be developed of these indicators.

TABLE 3.1 LIST OF QUESTIONS ON ATTITUDE BY CREDIT DEMAND SURVEY YEAR

	Survey year				
Indicate whether you agree or disagree on a scale from 1 to 5	**2018**	**2019**	**2021**	**2022**	**2024**
1. We are happy with our current level of assets and investments			✓		✓
2. I am willing to expand my business even if it brings more risk/challenge	✓	✓	✓		✓
3. I am willing to borrow from banks to fund an expansion of my business	✓	✓	✓		✓
4. Access to external finance is a barrier to investment			✓		✓
5. Uncertainty is a barrier to investment			✓		✓
6. Investing in digital technologies and e-commerce is important for my business			✓		✓
7. Investing in climate change adaptation and low carbon technologies is important to my business				✓	✓

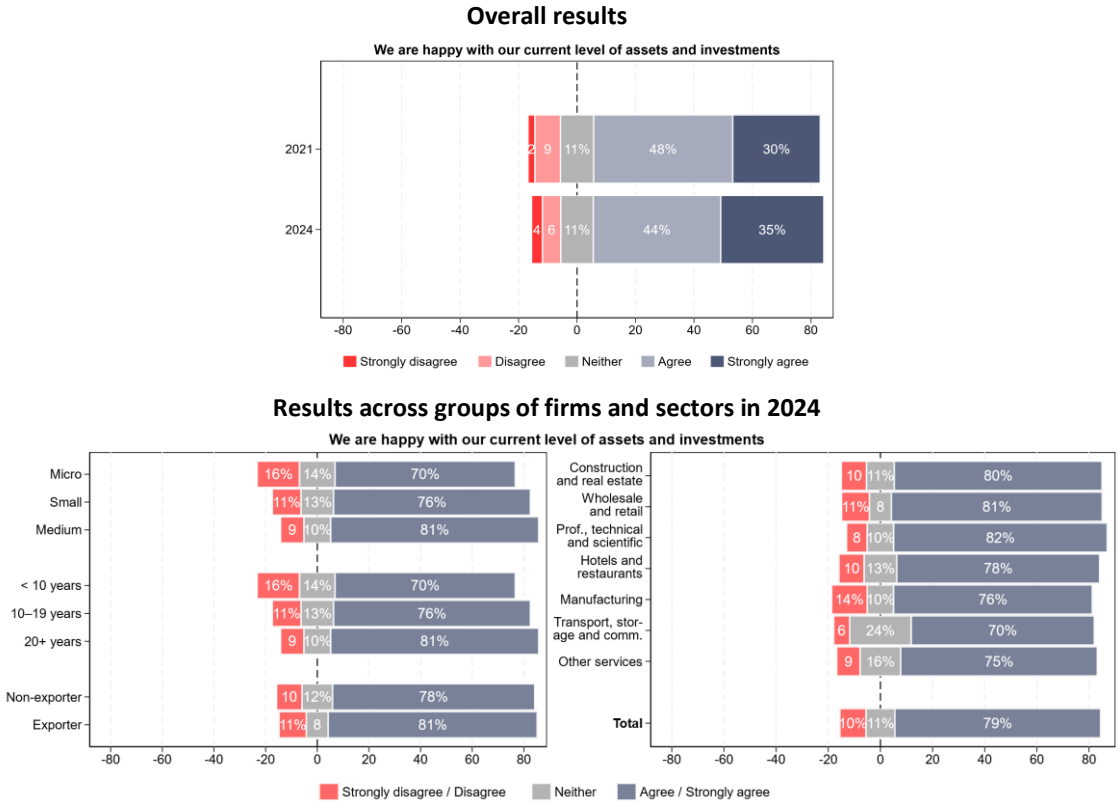
3.1 TRENDS IN ATTITUDES

We begin this chapter by exploring the extent to which firms are content with their existing assets and investments. These data can provide the broadest insight into whether constraints are weighting on firms and holding back investment or whether the demand side is determining investment expenditure. More specifically, contentment with existing capacity may be driven by either demand or supply-side factors; on the demand side, firms may feel that there is insufficient demand in the market for any expansion to their existing operations; on the supply side, firms may be facing barriers that inhibit or lower their willingness or ability to expand.

Figure 3.1 presents the results of the survey for contentment with existing assets and investments for the years 2021 and 2024. It is clear there is a considerable degree of satisfaction with current asset structures; 79 per cent of enterprises noted they agreed or strongly agreed that they were happy with their existing capacity, broadly in line with the figures from 2021.

To get more insight into whether this satisfaction prevails across all firms within the economy, Figure 3.1 also presents the results split out by firm size, sector, age group, and exporting status for 2024. These results pool the agree and strongly agree (disagree and strongly disagree) figures to provide an aggregate assessment. It is clear that satisfaction with current level of assets is increasing with firm size: micro firms are 11 percentage points lower in terms of satisfaction relative to medium-sized firms. Younger firms are also less satisfied than older firms by a similar proportion. Little difference exists between firms based on exporting status. Across sectors, there appears to be a greater degree of satisfaction for more domestically oriented sectors such as construction and wholesale and retail relative to manufacturing.

FIGURE 3.1 CONTENTMENT WITH EXISTING ASSETS AND INVESTMENTS

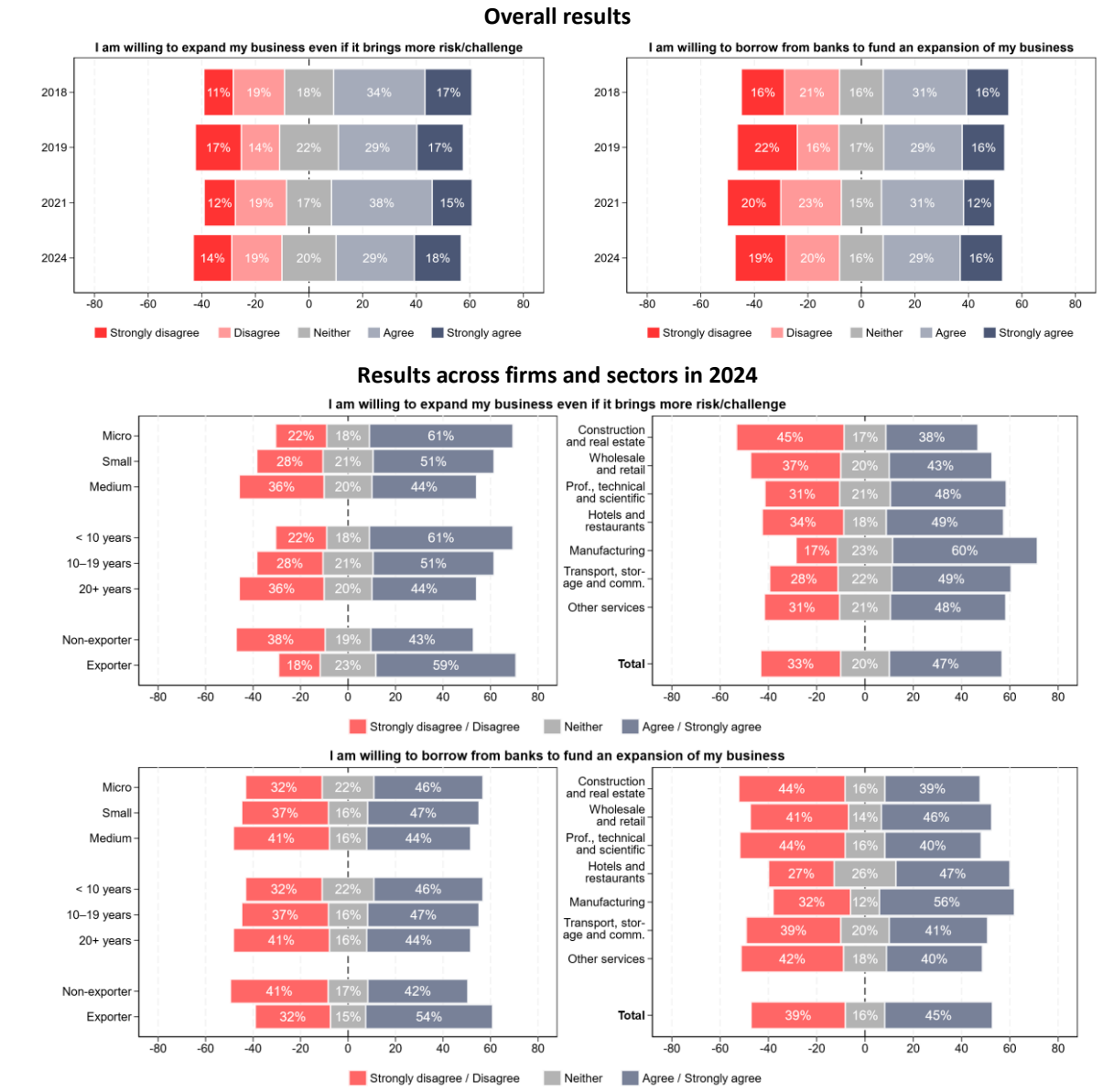


Sources: *Department of Finance Credit Demand Surveys, 2021 and 2024.*

While firms are generally satisfied with the existing capacity, this does not necessarily point towards the asset structure being optimal in terms of growth. They could be satisfied with the current structure because they do not wish to grow or take risks. This would be a downside risk for the Irish economy as it would lower the productive capacity in the long run.

To tease out whether the issues are demand or supply side dominated, we explore firms' responses to questions on willingness to expand and willingness to borrow. The results are presented in Figure 3.2. For these questions, a longer time series is available, which allows us to track developments. In terms of risk appetite, the data indicate that this appears to be declining somewhat both relative to the immediate aftermath from the pandemic but also relative to 2018, which is a useful reference as it pre-dates the series of repeated external shocks of recent years. This increase in risk aversion is a negative factor in terms of the willingness of firms to grow their business and enhance the productive capacity of the economy. Looking across groups of firms, this lack of risk appetite is increasing with firm age and firm size and domestically traded firms have a much lower risk appetite. This finding is also evident across sectors of the domestically oriented sectors indicating a lower willingness to take on risks.

FIGURE 3.2 WILLINGNESS TO EXPAND AND BORROW

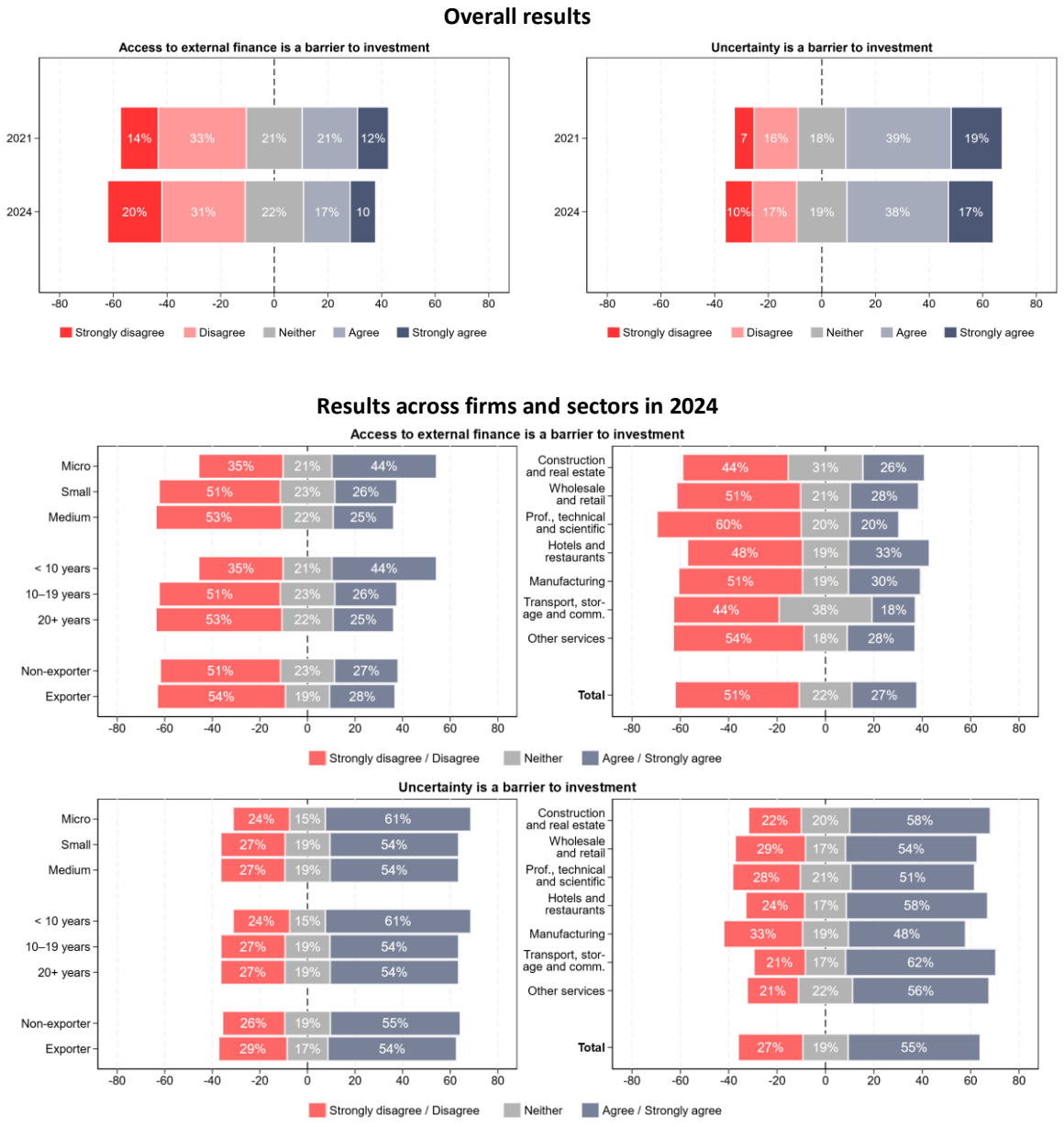


Sources: *Department of Finance Credit Demand Surveys, 2018–2024.*

In addition to the risk appetite question, we also explore whether firms would be willing to take on external financing through borrowing. This is a critical indicator of the investment financing appetite. These data are also presented in Figure 3.2. In general, the willingness to borrow appears to have increased somewhat between 2021 and 2023 following declines from 2018 through to 2021. The proportion of firms agreeing with the statement increased marginally from 43 per cent to 45 per cent between 2021 and 2023. The share of disagreeing firms also decreased. The level of borrowing appetite appears to have recovered to 2018 levels, which is a positive development despite the repeated shocks. As was the case with risk appetite, the willingness to borrow is decreasing in firm size and age and is lower for non-exporters. The willingness to borrow is highest for manufacturing firms and firms in the hotels and restaurants sector.

Having reviewed developments from the demand side, we now explore constraints from the supply side. These are barriers that inhibit the optimal investment by firms and maintain an investment rate below that which would be achieved in an unconstrained environment. Two such supply-side factors are the degree of uncertainty and access to external finance. The results for these indicators are presented in Figure 3.3.

FIGURE 3.3 ACCESS TO EXTERNAL FINANCE AND UNCERTAINTY



Sources: *Department of Finance Credit Demand Surveys, 2021 and 2024.*

It is clear that constraints relating to uncertainty and access to finance are declining between 2021 and 2024. This is a positive development in terms of the business operating environment. The proportion of firms agreeing that access to finance is a barrier has declined from 33 to 27 per cent while the proportion of firms indicating that uncertainty is a barrier has decreased from 58 per cent to 55 per cent. It must

be noted however that this still indicates over one in two Irish SMEs see uncertainty as a major barrier, which is likely to explain the unwillingness to expand. Combing the findings on access to finance and uncertainty, the results point to a weakening of demand-side factors such as the outlook for the businesses while at the same time a moderating of supply-side constraints from access to finance. From the perspective of businesses taking risks to invest and increase the productive capacity of the economy, these findings are worrisome as the constraints are not on the credit supply side. Demand-side factors are much more difficult to address as no major market failure is present at which to target policies.

CHAPTER 4

Investments in digital technologies

A critical element in the adoption of productivity enhancing technologies is investment in digitalisation. This has been put forward as a key enabler of future productivity growth by the European Commission (Draghi, 2024) and the European Investment Bank (EIB) (2024) as well as through the Irish Government White Paper on Enterprise (2022). Indeed, Hogan et al. (2024) highlight the notable impact of digitalisation on productivity that has been established in the literature. For SMEs looking to expand their markets, or to introduce efficiency enhancing technologies, the ability to keep up to date and at the knowledge frontier of the latest digital position for their sectors is likely to be critical. Indeed, both Irish government and European Union economic development strategy has digitalisation as a core element (EIB, 2024; Government of Ireland, 2022) In an attempt to understand better the digital activities of Irish firms, a question on digitalisation was added to the investment survey as follows:

- Did you invest in the following: digital technologies or e-commerce activities (such as automation, robotics, artificial intelligence, blockchain, data analytics infrastructure, internet communication devices, etc.)?

The importance of these data, and indeed firm investment in digital activity, is increasing given the rising prevalence of artificial intelligence. The aim of this sub-section is to review developments in digital expenditure across enterprises to better understand how Irish SMEs are adapting to the digital transformation.

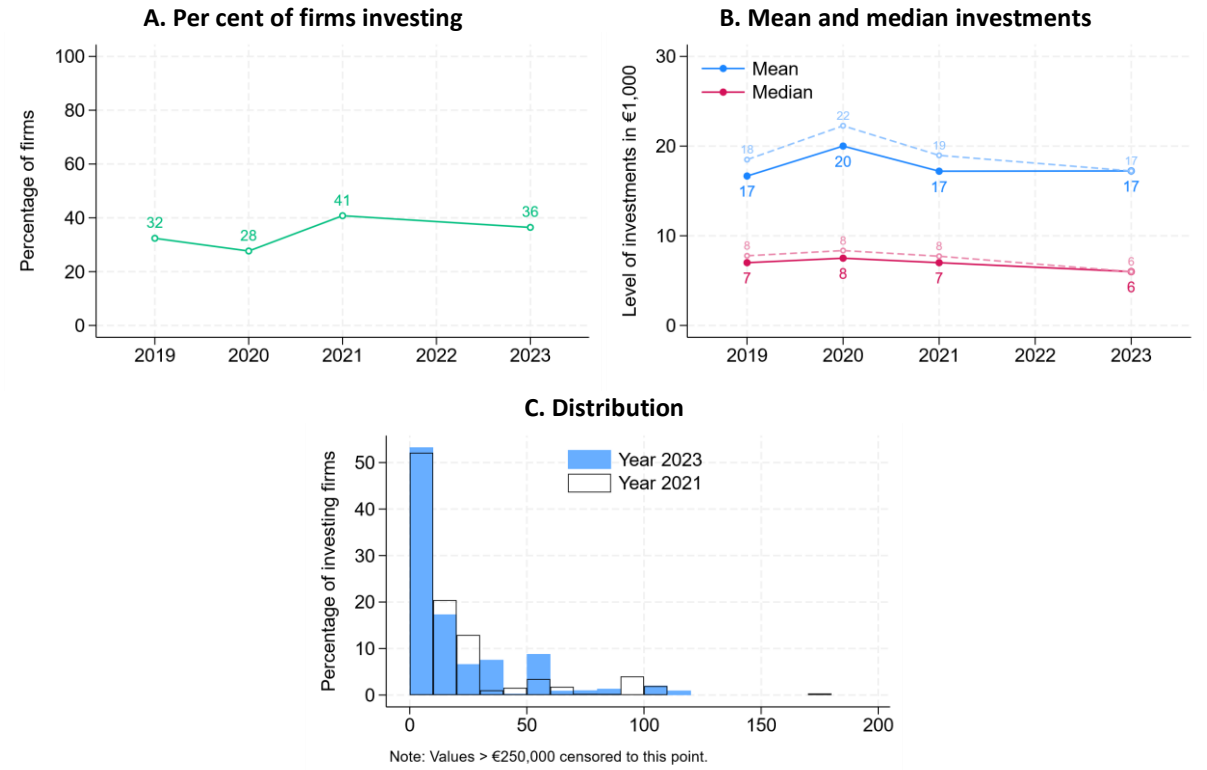
4.1 LEVELS OF DIGITAL INVESTMENTS

We first begin by exploring the investment in digitalisation in a similar manner to the other asset classes by looking at the proportion of firms investing in digitalisation as well as the level of investment. The summary results for the digitalisation data are presented in Figure 4.1.

Overall, the share of SMEs investing in digital activities actually declined by 5 percentage points between 2021 and 2023. There was a slowdown in the first year of the pandemic, which reversed in 2021 but a drop back is evident in 2023. While investment in digitalisation remains higher than the pre-COVID-19 period, these data indicate that just over one in three Irish SMEs invest in digital assets; if such assets are important for long-term productivity growth, these levels will need to be boosted across the sector.

In terms of the level of nominal expenditure, both the mean and median outlay remained relatively constant between 2021 and 2023 at €17,000 and €6,000 respectively. The €1,000 nominal drop in the median can be seen as a generalised movement towards smaller investments in the distributional chart.

FIGURE 4.1 TRENDS IN DIGITAL INVESTMENTS



Sources: *Department of Finance Credit Demand Surveys, 2021–2024. Dashed lines show series adjusted to 2023 price levels.*

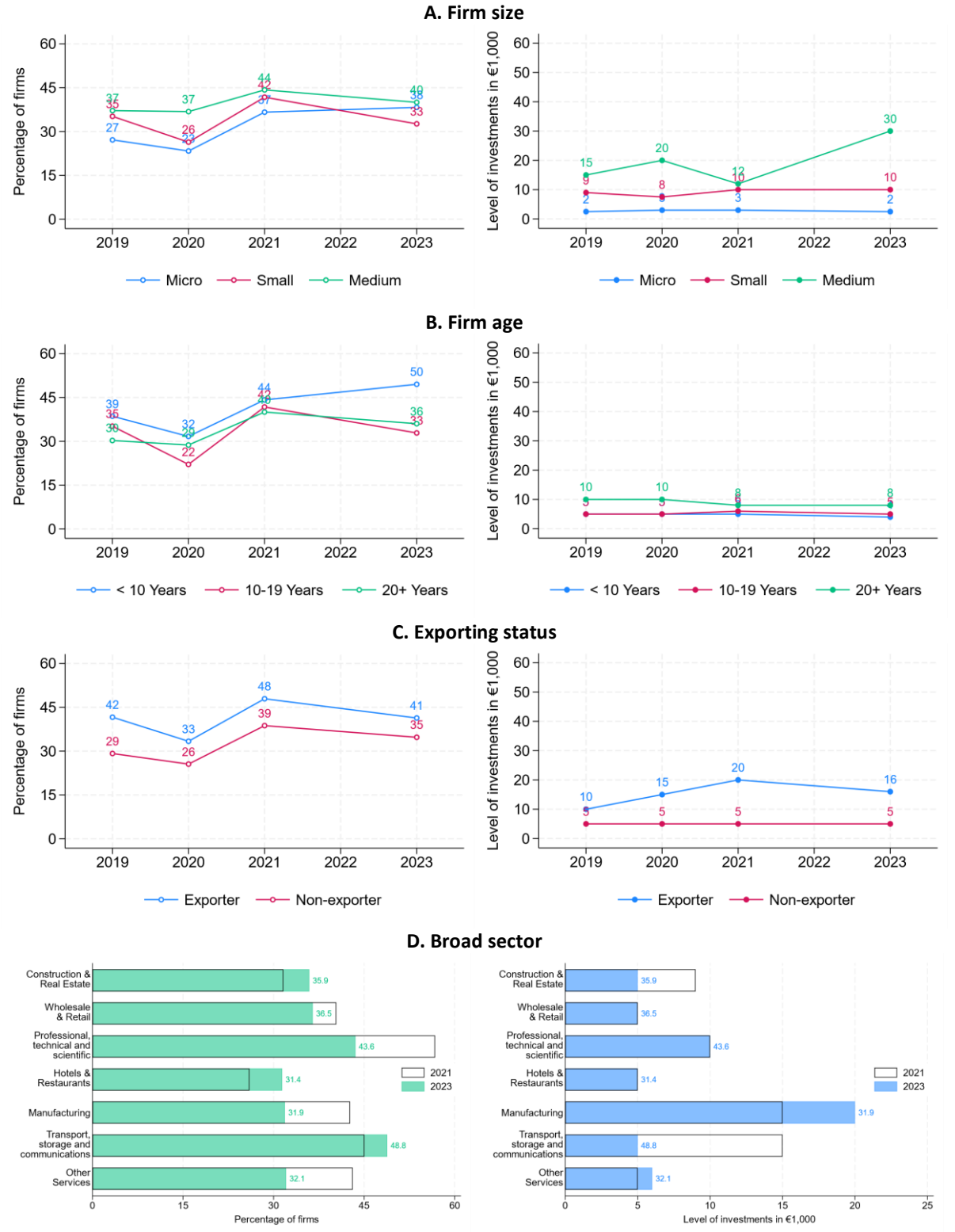
In Figure 4.2, we consider the trends across groups of enterprises. Across age groups, the proportion of enterprises investing in digital activities was greatest for young firms. In 2023, nearly one in two young firms invested in digital assets. This has also increased from 2021 by 6 percentage points. The proportion of digital investing firms for established and older enterprises was considerably lower at 33 and 36 per cent respectively. Both of these firm age groups actually had a fall in the proportion of investing enterprises between 2021 and 2023. In terms of firm size, the proportion of investing firms was highest for medium-sized enterprises, but micro enterprises experienced an increase, with other groups declining. For exporting status, the digital investment share of firms is higher for exporters but for both domestically focused firms and exporting firms, the share of digital investors declined between 2021 and 2023.

On a sectoral level, the three sectors with the highest share of firms investing in digital technologies were the transport, storage and communications sector; professional, scientific and technical services; and wholesale and retail. The sector with the lowest share of firms investing in digital activities was hotels and restaurants. The largest declines in the percentage of firms who invested in digital technologies was in professional, scientific and technical, manufacturing and other services, while both construction and hotels and restaurants sectors displayed a notable increase.

The backdrop to the decline in digital investment for SMEs is a very fast-changing environment with rapid changes to the digital offering. In particular, the emergence of generative artificial intelligence (Gen AI) and its potential impact on the economy

is likely to present a challenge to firms in understanding what the appropriate digital investments might be. Furthermore, the digitalisation strategy for any specific firm is also likely to be dependent on the infrastructure and environment available to cater for digital assets. Hogan et al. (2024) note that education and digital infrastructure availability are critical, while Skare et al. (2023) point to the risk that can come with digital investments such as the lack of skills, and manager experience. Furthermore, Skare et al. (2023) also point to the general lack of competitiveness for European firms that might be limiting their willingness to adopt digital technology. Indeed, Peretz-Andersson et al. (2024) highlight that the ability to adopt AI technologies amongst manufacturing SMEs requires existing resources and capabilities which SMEs may not have.

FIGURE 4.2 DIGITAL INVESTMENT BY FIRM TYPE



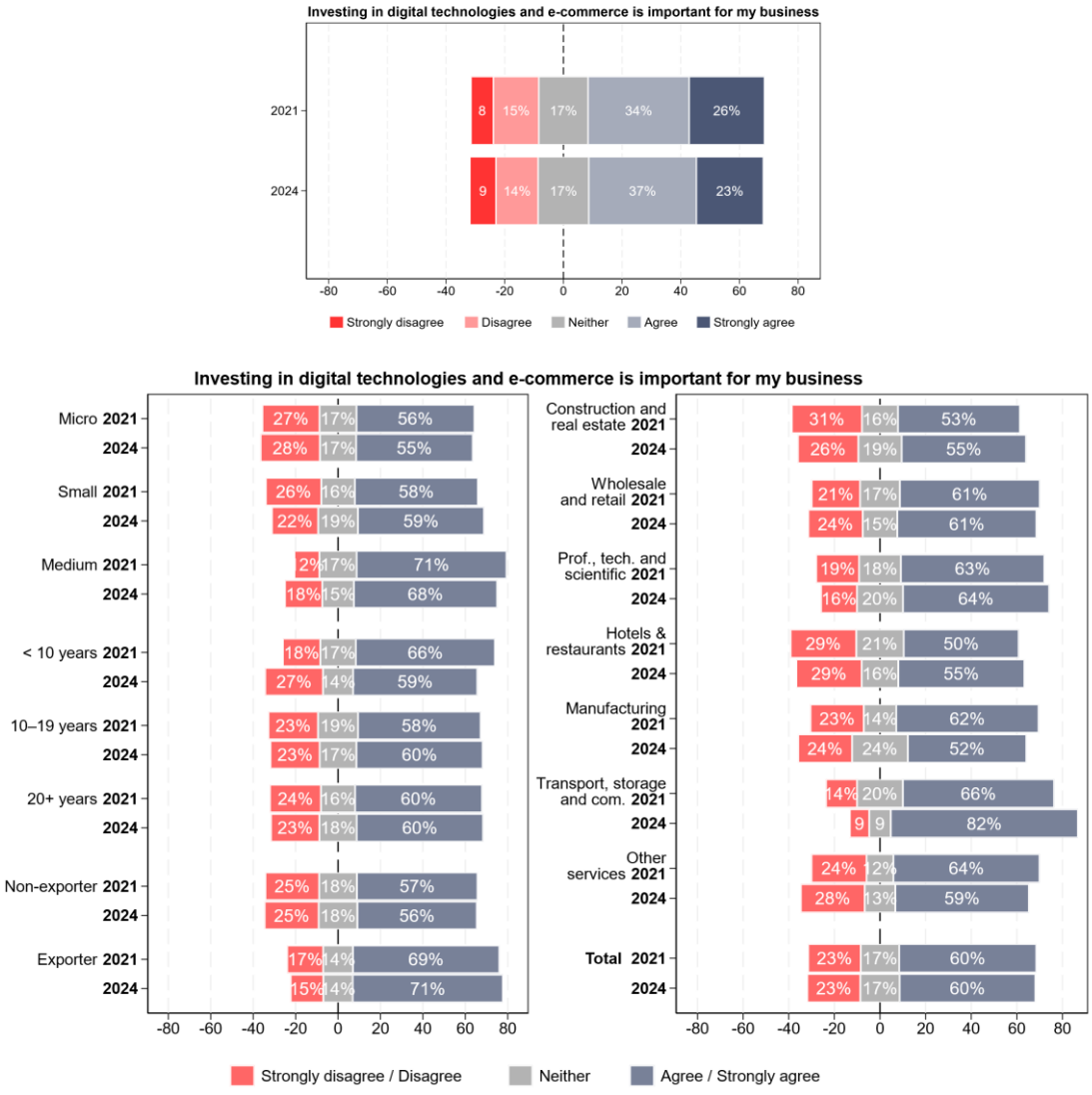
Sources: *Department of Finance Credit Demand Surveys, 2021–2024.*

4.2 ATTITUDES TOWARDS DIGITAL INVESTMENTS

The above indicators provide insight into the observed patterns of investment expenditure by enterprises on digital issues. However, it is also important to position firms in terms of their attitudes to digital investment to explore how importantly they view digital expenditure.

Figure 4.3 outlines firms' attitudes to digitalisation at the time of survey for 2021 and 2024. It is clear that a majority of firms view digital investment positively as 60 per cent agreed or strongly agreed with the statement. It is somewhat surprising that this hasn't increased following the more widespread use of AI but this may be a trend observed in future series.

FIGURE 4.3 IMPORTANCE OF DIGITAL INVESTMENTS

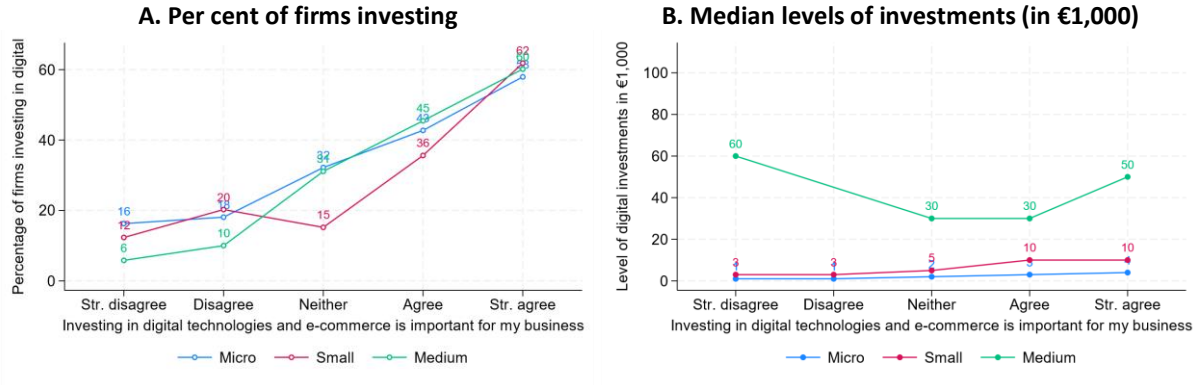


Sources: *Department of Finance Credit Demand Surveys, 2021 and 2024.*

In Figure 4.3, we also consider the importance by firm groups. We find that importance is increasing with firm size but there is little difference across the age distribution. Exports are more likely to consider digital investments as important. Across sectors, digital activities are seen as most important in transport, storage and communications as well as professional, technical and scientific sectors. The lowest share is in fact manufacturing, which is surprising given the internationally traded nature of that sector and the potential for efficiencies through digitalisation in that area. However, there are a number of reasons why that may be the case. First, the period which these data cover pre-dates the release to the general public of ChatGPT and the most recent wave of AI developments. In that respect, smaller manufacturing firms may not have been as keenly aware of AI developments and their potential. Furthermore, the smaller manufacturing firms may have been more focused on the immediate challenges faced by the supply chain dynamics and cost of materials pressures that were prevalent in 2023. For these reasons, the positive attitudes reported may have dropped back somewhat.

We finally consider whether the firms that indicate that investment in digitalisation is important are also the firms who spend on digital assets. Figure 4.4 considers how responses to the question on attitudes towards importance of digital technologies correlate to the proportion of firms investing in digital assets and the median level of digital investments. The data is also split out by firm size. There is a very clear upward trend in the proportion of investing firms and the attitudes to digitalisation. Nearly two in every three firms that indicate a very important role for digitalisation also are investors in those assets. Fewer than 16 per cent invest in these assets if they do not agree. The data indicates that investment expenditures are becoming increasingly significant for small firms, while the figures for micro firms remain relatively stable.

FIGURE 4.4 OBSERVED DIGITAL INVESTMENT AND ATTITUDES



Sources: *Department of Finance Credit Demand Surveys 2024.*

CHAPTER 5

Climate action and mitigation investments

Investments in climate action and carbon reducing technologies are going to be required as Ireland moves away from the use of fossil fuels. This will represent a challenge for many businesses in terms of the optimal mitigation strategy and what investments will be required. For some businesses, these investments will be incorporated into their long-term planning but they will be a challenge for those businesses already struggling with low profitability and facing ongoing operational difficulties.

In this section, we aim to consider the investment in climate-related activities by Irish SMEs. We explore the level of these activities for both 2021 and 2023, the two years for which we have data. We consider the investment activity by firm type and sector. We delve into more detail on the type of green investments as well as considering firms' attitudes towards climate-related capital expenditure.

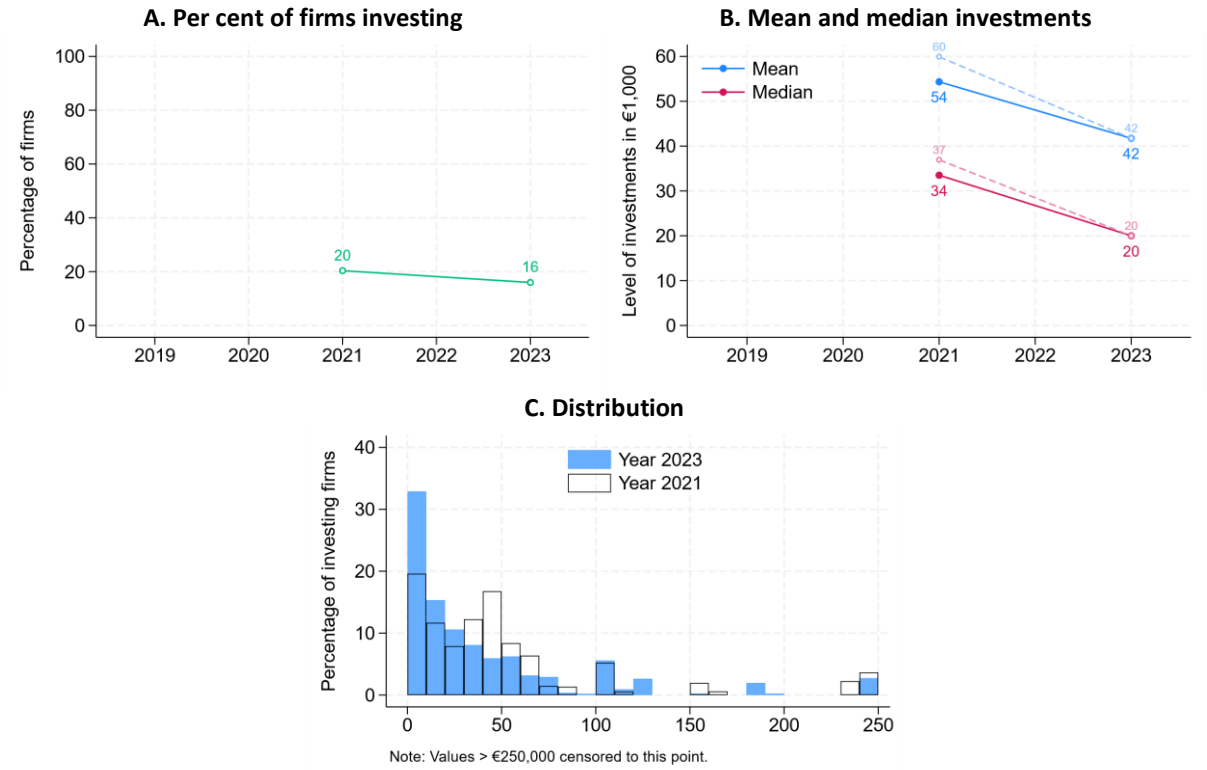
5.1 TOTAL GREEN INVESTMENTS

We first begin by exploring the investment in climate-related activities by looking at the proportion of firms investing in these activities as well as the level of investment. The summary results for the digitalisation data are presented in Figure 5.1. This includes investments to reduce carbon emissions, improve energy efficiency, onsite renewable energy generation, or adapt to changing weather patterns.

Overall, the share of SMEs investing in climate-related activities actually declined by 4 percentage points between 2021 and 2023 from 20 per cent of enterprises to 16 per cent. This indicates that 84 per cent of Irish SMEs undertook no investments in climate-related activities in 2023. Given the scale of the investments that will be needed in terms of climate change, these data point to a major challenge in terms of encouraging small firms to spend on these activities.

In addition to the fall in the proportion of enterprises investing in climate-related assets, both the mean and median outlay also fell between 2021 and 2023. In 2023, the median (mean) expenditure was €20,000 (€42,000), down from €34,000 (€54,000) in 2021. The drop in the median can be seen as a generalised movement towards smaller investments in the distributional chart. These declines become even more apparent in price-adjusted time series.

FIGURE 5.1 CLIMATE-RELATED INVESTMENTS

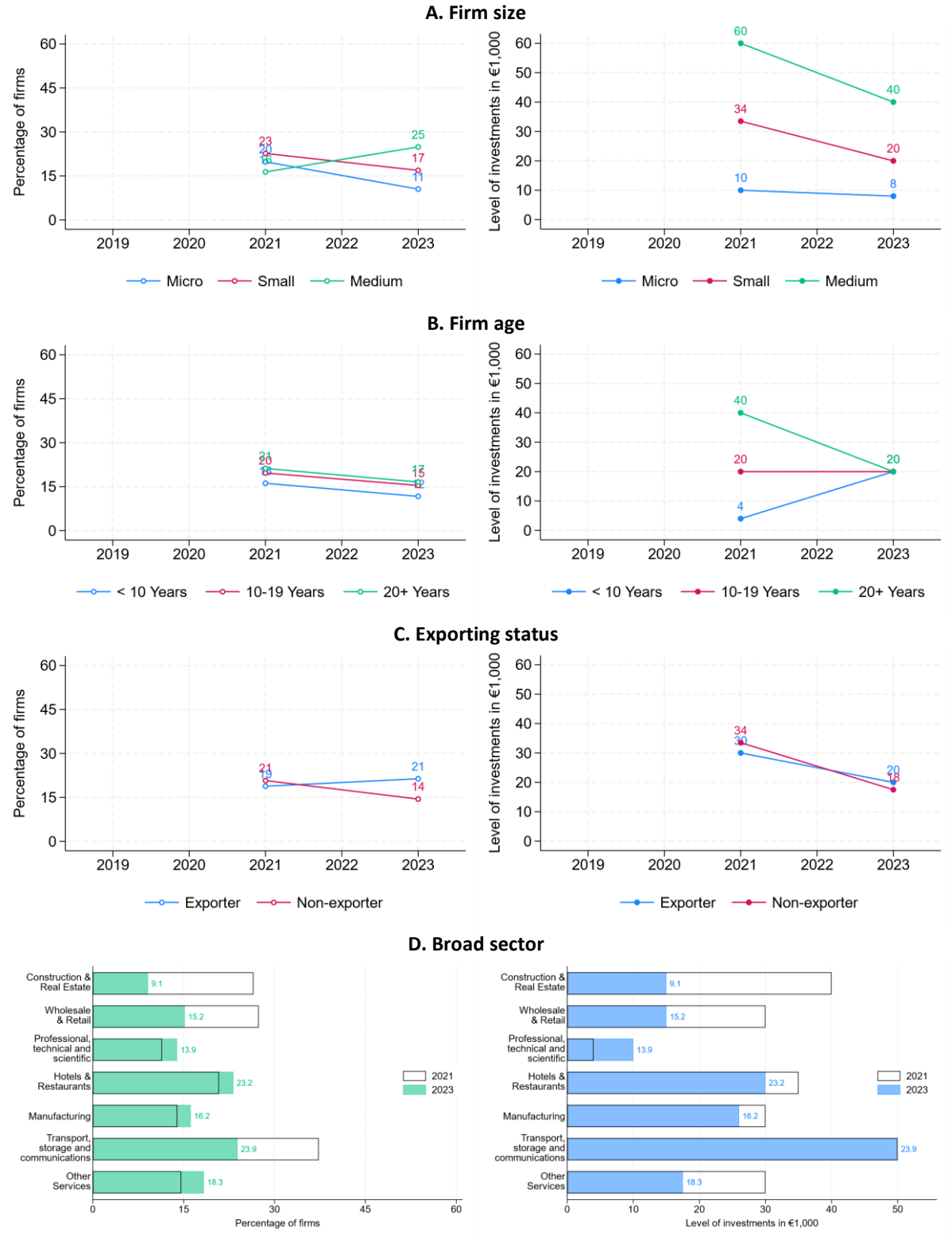


Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*
Note: *Dashed lines show series adjusted to 2023 price levels.*

To explore the trends in activities by firm types, Figure 5.2 presents the investment activity by firm size, age, sector and exporting status. The proportion of micro-sized and small firms investing in climate activities declined between 2021 and 2023 but the share actually increased for medium-sized firms. Given the period 2021 to 2023 contained very severe impacts from the cost-of-living pressures and the energy price shocks, as well as rises in interest rates, it is not unsurprising that smaller SMEs may put off longer-term investments. In terms of the level of expenditure, it declined across all size groups but with the largest decline coming from medium-sized firms. Across the age distribution, there was a drop in the proportion of investing enterprises but the level of investment actually rose for the youngest age firms. In terms of exporting status, the proportion of exporters who invested in climate-related activities actually rose marginally with the fall-off coming for domestically-oriented enterprises. Both groups of firms had a fall in the level of investments.

In terms of a sectoral overview, there were sharp falls in the share of firms investing in climate activities in construction, wholesale and retail, as well as transport, storage and communications, with the biggest decline coming from the construction sector. The proportion of enterprises investing increased in the other sectors. Expenditure levels fell in nearly all sectors with the exception of professional, scientific and technical sector firms.

FIGURE 5.2 CLIMATE-RELATED INVESTMENT BY FIRM TYPE



Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*

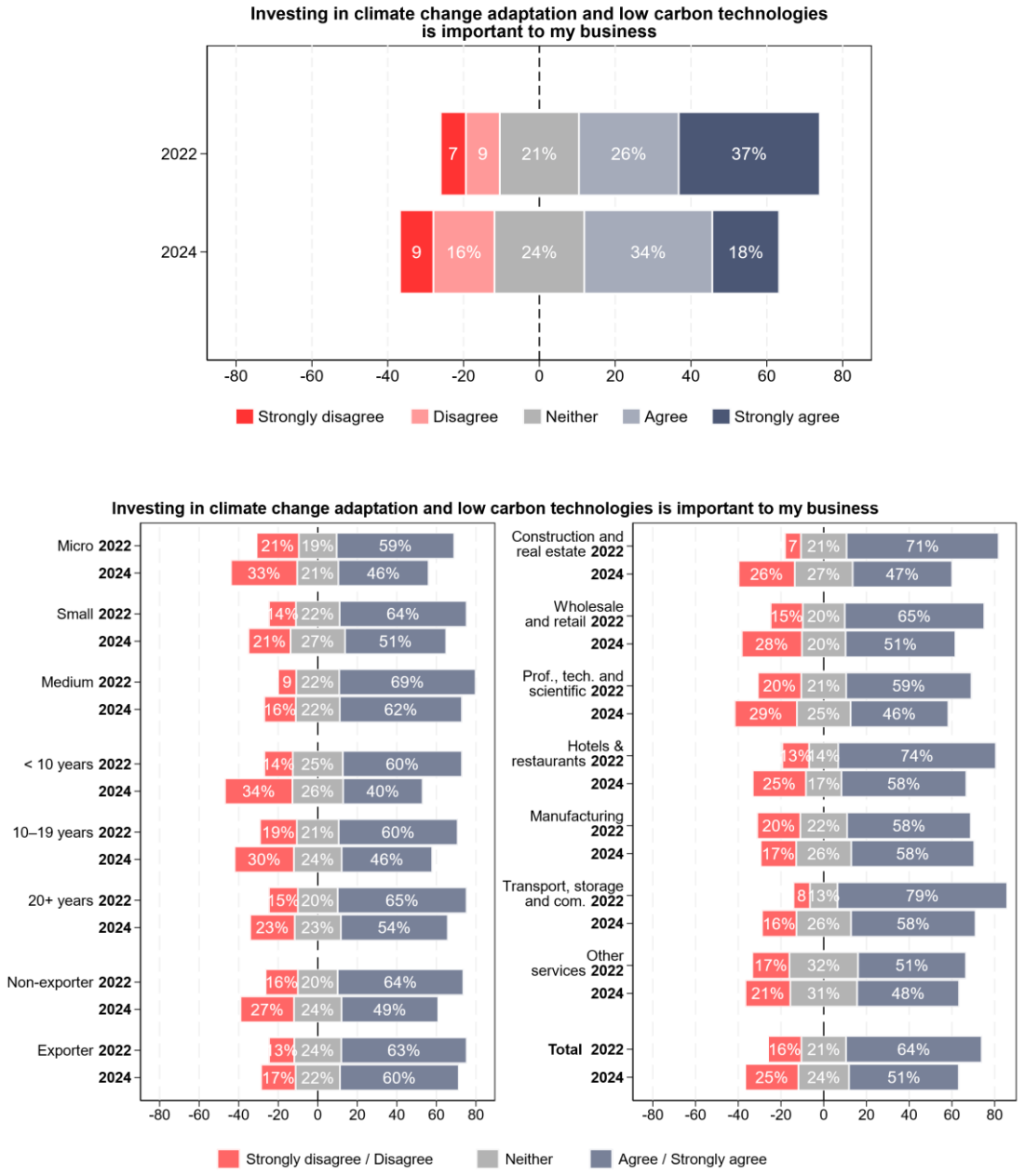
The proportion of firms investing was highest in transport, storage and communications, with hotels and restaurants the second highest in level terms.

5.2 ATTITUDES TOWARD GREEN INVESTMENTS

A final aspect we examine pertains to the attitudes of firms regarding green investments. Although there is a noticeable decrease in both the proportion of enterprises engaging in investments and the amount of capital allocated, operational difficulties, including the energy price crisis and increasing interest rates, may be significant obstacles on the supply side, limiting investments below desired levels. Thus the demand side of the investment decision is also important to understand and some insights into this can be extracted from data on attitudes.

In this section, we explore the responses by firms to a question on how important climate change adaptation and low carbon technologies are to their business. Figure 5.3 presents the overall results for 2024 and 2022 as well as a breakdown across groups of firms and industries. As was the case with the actual investment data, we see a general decline in the share of firms who see climate change investments as important to their business. The overall percentage of companies that agree with this statement has decreased from 63 per cent in 2022 to 52 per cent in 2024. Therefore, although a majority of firms continue to regard these activities as significant, there appears to be a shift away from the emphasis on climate-related matters.

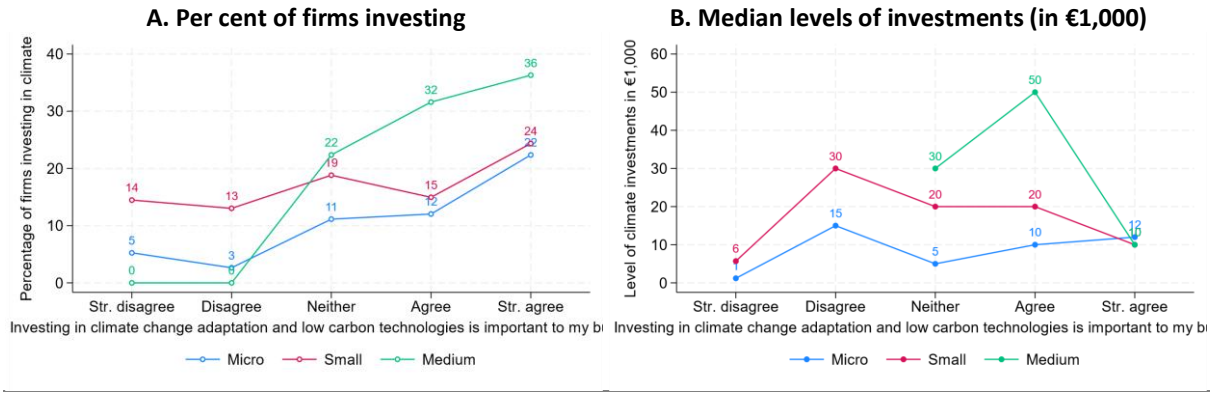
FIGURE 5.3 ATTITUDES TOWARD GREEN INVESTMENTS



Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*

Given this decline in perceived importance, it is useful to explore what firms and sectors this trend is most prevalent in. Across firm size, the largest declines in the proportion of firms indicating that climate issues were important was for micro and small firms, with medium-sized firms less affected by the drop. Notably, young firms also had a sharp decline in the perceived importance of climate issues, down from 60 per cent to 40 per cent between 2024 and 2022. Exporters were least affected relative to domestically oriented firms. Across sectors, there was a broad-based decline, but the fall is greatest for transport, hotels and restaurants and construction firms. The manufacturing sector maintained its level of importance. Figure 5.4 shows attitudes matter for investment as the investment levels rise as firms view climate change as more important.

FIGURE 5.4 CORRELATION BETWEEN INVESTMENT AND ATTITUDES



Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*

It is worthwhile to expand the discussion as to why we may observe a fall-off in climate-related investments for enterprises. SMEs, like larger firms, will not be immune to the changes in the global climate. This will require firms to make investments in mitigation and prevention strategies to both comply with climate regulations and to reduce carbon emissions (Yakut et al., 2024). These investments are likely to be both risk prevention in nature, such as flood management systems, as well as investment in electrification and decarbonisation of their production process. However, many of these investments are likely to carry upfront costs which are unlikely to add to short-term profitability.

Given this context, it is therefore a challenge for smaller firms to carry these costs without seeing an immediate benefit through revenues or costs. Indeed, Irish enterprises are going to face higher input costs through carbon taxes. The Climate Action Plan 2024 (Government of Ireland, 2024) points to a number of other areas which firms must consider in terms of their decarbonisation agenda. These include energy efficiency, reducing embodied carbon in materials, and attempting to use non-fossil fuel heating systems. These changes are going to require investments by enterprises which will carry a cost but without immediate returns in terms of profitability. This may be part of the explanation why SMEs in particular are reluctant to increase climate investments.

CHAPTER 6

Investment financing and access to finance

6.1 INVESTMENT FINANCING STRUCTURE

After identifying the investment patterns, attitudes and constraints of Irish SMEs in the previous sections, this section is concerned with the sources being used in order to fund investment. The main objective of this section is to explore how firms are financing their investment activities. Our survey asks enterprises what proportion of their investment was financed by the following types of financing: internal financing or owners' capital; bank loans, external equity, leasing or hire purchase; supplier credit; and other financing. A long-standing empirical fact in Ireland has been a high usage of internal financing to fund investment (Cantillon et al., 2022). In this section, we present the following:

- The typical percentages used by enterprises who finance their operations (i.e. the average financing mix);
- The extensive margin, which corresponds to the percentage of firms that used each type of funding source; and
- The intensive margin, which is the amount used if a particular source is chosen as part of the capital structure.

The average financing share data are presented in Table 6.1. We present the main new data for 2023 but also previous data for 2021 as a comparison. We include all the main asset purchase types as financing structures are likely to differ depending on the type. As has been the case for many years, the predominant financing mechanism in Ireland in 2023 across all asset types is internal funds. The financing share of internal financing runs from 55 per cent in vehicles to over 95 per cent for digital assets. Leasing has increased for vehicles, with the average share of financing up to 32 per cent for this investment activity. Bank loans remain low for most investment types but are highest for buildings, vehicles and intangibles. Bank loans have become more important for vehicles, other fixed assets and intangibles between 2021 and 2023. Non-bank financing (excluding leasing) remains low across the board and has actually declined as a financing modality across all assets. Equity financing, whether by owners or external equity, is low and declining across nearly all assets.

TABLE 6.1 AVERAGE STRUCTURE OF INVESTMENT FINANCING

	Buildings		Vehicles		Other fixed		Intangibles		Digital		Climate	
Financing source	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**
Internal finance	80.6	85.2	65.2	55.3	79.9	83.1	86.0	89.7	91.8	95.6	76.3	86.7
Leasing	0.9	1.4	25.6	32.0	7.6	6.6	2.6	1.4	1.2	0.8	12.3	5.7
Bank loans	11.0	8.2	2.7	7.6	3.3	4.2	4.4	6.8	0.5	0.3	3.6	4.0
Non-banks	0.9	0.8	4.3	2.8	4.2	1.7	7.1	1.2	0.7	0.3	4.5	2.1
Owners' equity	4.1	1.5	2.0	0.9	2.8	1.8	0.0	0.1	3.7	2.1	2.6	0.0
External equity	1.8	1.0	0.0	0.3	1.7	2.2	0.0	0.7	2.2	0.8	0.0	1.2
Supplier credit	0.7	1.5	0.0	1.1	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Other/refused	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Observations	**125**	**201**	**166**	**330**	**235**	**461**	**48**	**49**	**160**	**270**	**72**	**147**

Source: Department of Finance Credit Demand Surveys, 2022 and 2024.

The second set of figures in Table 6.2 relates to the proportion of firms using each type of financing. This is a useful indicator to gauge the degree to which financing types are in use in a broad sense. Again, internal financing dominates the investment landscape, but focusing in on the different asset types, there are differences in the proportion of firms using external financing. Leasing is the most widespread external financing type and up to 35 per cent of firms used this to purchase vehicles. For other fixed assets, leasing was also important, with just over 8 per cent of firms using this financing type. Bank loans were used by 11 per cent of firms to purchase buildings, 9.3 per cent of firms to purchase vehicles and 7.7 per cent of firms to purchase intangibles. Non-bank financing appears to have fallen in terms of the overall usage by enterprises. External equity rose marginally for other fixed assets and intangibles.

TABLE 6.2 PROPORTION USING EACH TYPE

	Buildings		Vehicles		Other fixed		Intangibles		Digital		Climate	
Financing source	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**
Internal finance	87.9	90.6	70.1	63.4	82.8	86.0	87.7	90.6	94.0	96.3	88.6	90.9
Leasing	1.7	1.8	28.4	35.1	8.9	8.1	2.6	2.3	1.3	1.3	17.5	8.2
Bank loans	17.1	11.3	3.3	9.3	3.6	5.2	4.4	7.7	1.0	0.3	5.5	4.3
Non-banks	1.2	1.6	4.5	2.8	4.9	1.9	8.8	1.2	1.4	0.3	5.3	2.1
Owners' equity	7.0	4.0	2.6	1.7	2.8	2.4	0.0	1.7	4.1	2.6	3.9	0.4
External equity	1.9	1.3	0.0	0.3	1.9	2.4	0.0	1.7	2.6	1.1	0.0	1.6
Supplier credit	0.7	1.9	0.0	1.2	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Other/refused	0.0	0.6	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	2.5	0.4
Observations	**125**	**201**	**166**	**330**	**235**	**461**	**48**	**49**	**160**	**270**	**72**	**147**

Source: Department of Finance Credit Demand Surveys, 2022 and 2024.

Finally, if firms do use each asset type, we can measure the percentage of the total investment that they fund using that source. This is presented in Table 6.3. These figures provide the following insight into the financing structure: when companies rely on internal financing, it seems that they predominantly fund their operations through this method, as the utilisation rate exceeds 87 per cent for all assets. For the external financing sources, the picture is similar for bank loans and leasing, with the proportion using each financing source well over 50 per cent if used. For example, for buildings, bank financing accounted for 72 per cent of total funds on average if it was used, leasing by 75 per cent and external equity 77 per cent.

TABLE 6.3 INTENSITY OF USE IF CHOSEN

	Buildings		Vehicles		Other fixed		Intangibles		Digital		Climate	
Financing source	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**	**2021**	**2023**
Internal finance	91.7	94.0	93.1	87.2	96.5	96.6	98.1	99.1	97.6	99.2	86.1	95.3
Leasing	54.3	74.9	90.2	91.2	84.7	81.7	100.0	63.4	89.9	66.6	70.4	69.1
Bank loans	64.3	72.4	80.8	81.7	91.0	80.2	100.0	89.2	50.0	100.0	66.2	92.9
Non-banks	76.5	53.5	96.5	99.8	85.5	86.3	80.6	100.0	50.8	100.0	85.8	100.0
Owners' equity	58.4	37.5	76.5	55.3	100.0	73.5	n.a.	5.0	89.8	79.5	66.6	1.0
External equity	96.1	77.3	n.a.	100.0	91.1	88.4	n.a.	45.0	84.2	77.1	n.a.	75.1
Supplier credit	100.0	77.7	n.a.	93.3	100.0	80.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other/refused	n.a.	69.7	50.0	10.0	n.a.	10.0	n.a.	n.a.	n.a.	n.a.	26.9	79.0
Observations	**125**	**201**	**166**	**330**	**235**	**461**	**48**	**49**	**160**	**270**	**72**	**147**

Source: *Department of Finance Credit Demand Surveys, 2022 and 2024.*
Note: *n.a. = This type of finance was never chosen in the sample.*

6.2 EXTERNAL FINANCING AND INTEREST RATES

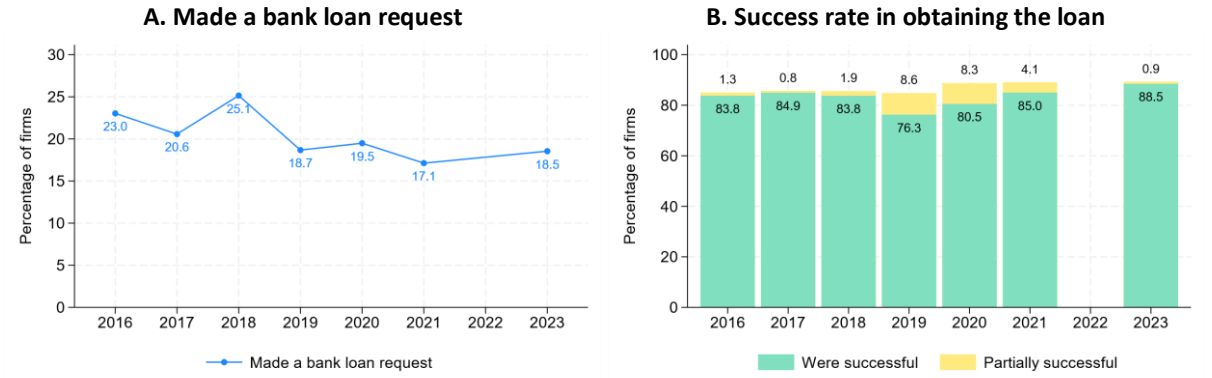
The final aspect that we consider in this chapter is access to, and cost of, external financing for SMEs. Access to finance has long been a topic that attracts considerable policy focus, in particular in Ireland following the global financial crisis where credit constraints were shown to lower investment and employment activities (Gerlach-Kristen et al., 2015).

In recent years, access to finance issues have moved from the mainstream to more sector- or asset-specific issues as the banking system has recovered somewhat. That does not mean that credit access issues are unimportant; rather, other issues have overtaken these as the major constraints facing enterprises. However, given the very sharp increase in policy rates over the past number of years, the cost of credit and related issues has once again come to the fore.

The aim of this section is to therefore consider the issue of the access to, and cost of financing, with respect to firms' operations. We first review data on loan applications, then loan success and finally the interest rates charged on new lending. Figure 6.1 presents the data on firm loan applications and the outcome of those applications. In 2023, on average, 18.5 per cent of firms (or just under one in five) applied for financing. This is considerably lower than in the 2016 to 2018

period and highlights a lowering of demand relative to this period. In Figure 6.1, the success rate of those applications is also presented. Over 88 per cent of loans were fully successful in 2023, which is notably higher than in any of the other years presented. On these data, it does not appear that credit access has tightened for firms over the pandemic period and beyond.

FIGURE 6.1 FIRMS THAT MADE A BANK LOAN REQUEST AND THEIR SUCCESS RATE



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Loans in the six-month period. Success rate only for those firms that made the loan request.*

Given the low level of credit applications at just under one in five firms, it is important to understand whether this is due to credit demand-side effects (the firms don't need the credit) or supply-side effects (firms are facing constraints that limit their borrowing). Table 6.4 provides the reasons that firms give for not applying for credit. Over the past number of years, a consistent story has emerged that the demand side is driving the reasons and this is clearly still the case. The majority of firms indicate that they either have sufficient internal funds, preferred to use internal funds or their firms generated sufficient internal funds. A further 18.5 per cent indicated they have sufficient lines of credit already in place. Few firms decided not to apply for supply-side reasons such as possible rejection or cost of financing. It is noteworthy that the share of firms indicating the cost of credit was too high increased between 2021 and 2023 corresponding with the period of interest rate snapback.

TABLE 6.4 REASONS FOR NOT SEEKING A BANK LOAN

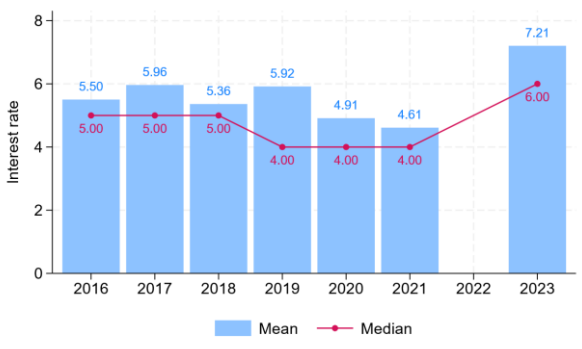
Reason given	2016	2017	2018	2019	2020	2021	2023
Had sufficient internal funds	84.7	78.2	77.4	72.4	72.0	78.0	77.3
Current lines of credit were sufficient	12.2	19.5	17.6	13.2	14.4	13.9	18.5
Preferred to use internal finance	13.5	17.7	16.9	14.0	10.0	7.1	17.7
My business generated sufficient revenue	26.5	47.3	32.0	12.9	13.8	8.5	16.5
Possible rejection	.	.	.	3.2	3.5	2.0	2.7
I do not like to be indebted	.	.	.	19.5	15.6	7.7	13.3
The term of the loan was not suitable	.	.	.	.	.	1.2	1.2
It is too expensive to borrow	.	.	.	.	.	2.3	6.0

Source: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Multiple answers are possible. Not all options were available in previous surveys.*

Focusing in on the issues around the cost of credit, we now explore the interest rates firms were charged on successful applications. Since the onset of the financial crisis, Irish enterprises had paid a considerably higher cost of credit than other countries in Europe as pass through in the financing markets declined with lower competition and other factors. Following the war in Ukraine, rates rose across Europe as inflation became the focus of policymakers, and this is likely to have impacted Irish enterprises.

Figure 6.2 presents the average interest rate on successfully granted loans in the survey for the period 2016 to 2023. The median interest rate was 5 per cent for the first three years of the data, and this fell to 4 per cent in 2019. However, the recent rate rises have been impactful as the median interest rate is now 6 per cent and the average interest rate is over 7 per cent. This increase is likely to have lowered credit demand and be weighting on investment demand.

FIGURE 6.2 INTEREST RATE ATTACHED TO THE LOAN



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Interest rate on the loans received in the six-month period. Only the sample of firms that were successful or partially successful.*

Figure 6.3 presents the average interest rate by size and age category for enterprises over time. While the interest rates typically decline with size (as larger firms often have a track record, repayment history and likely better collateral),

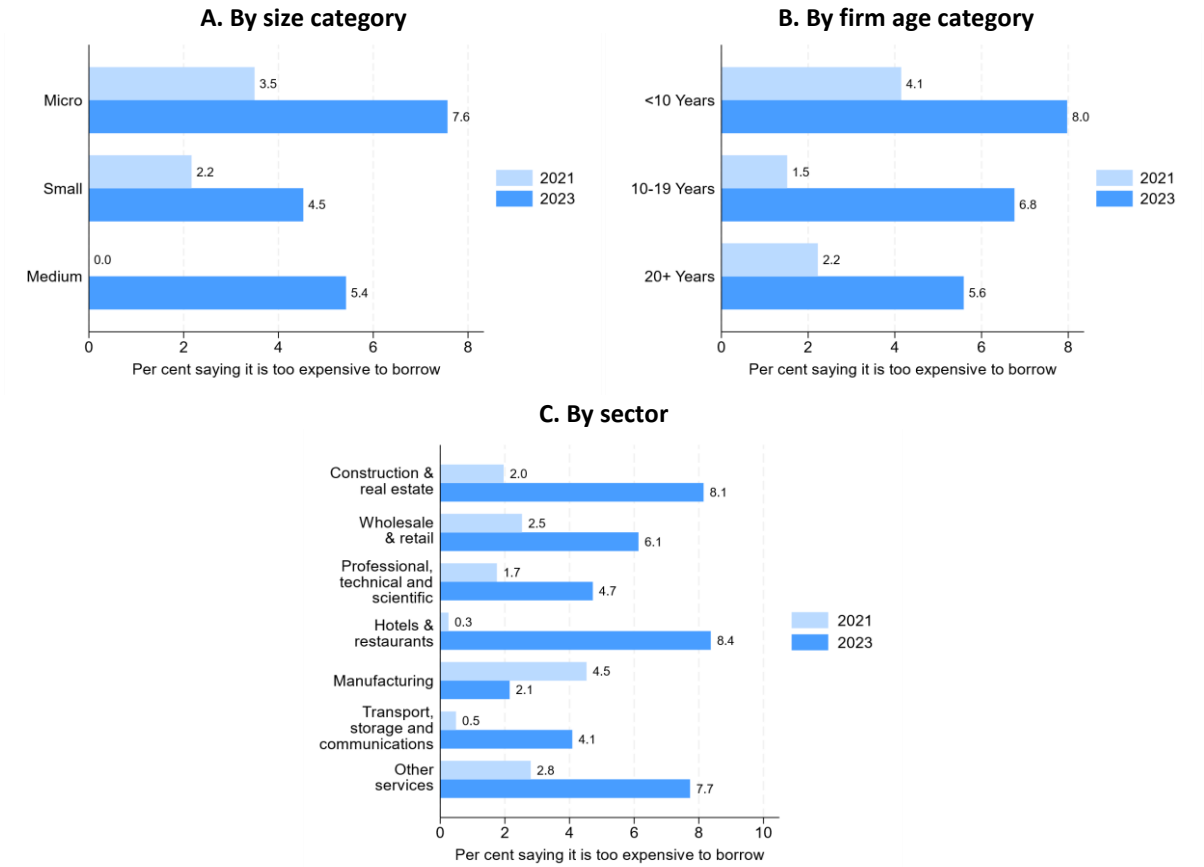
all groups have experienced an increase in recent years. Indeed, medium-sized enterprises experienced a large increase in interest rates over the period, which is consistent with the re-pricing of the cost of credit in line with the Central Bank rate hikes. Across the age distribution, older firms experienced an increase in interest rates whereas younger firms did not compared to pre-pandemic.

FIGURE 6.3 AVERAGE INTEREST RATE BY SIZE AND AGE CATEGORY

Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*
Note: *Interest rate on the loans received in the six-month period. Only the sample of firms that were successful or partially successful.*

One potential impact that is shown earlier is the increase in the share of enterprises that indicate that the cost of credit is a major barrier to further borrowing. Considering these data by size, age and sector, we find large increases across all groups. The largest increase by sector is for construction and real estate, hotels and restaurants, other services, and wholesale and retail.

FIGURE 6.4 PER CENT OF FIRMS SAYING IT IS TOO EXPENSIVE TO BORROW



Sources: *Department of Finance Credit Demand Surveys, 2022 and 2024.*
Notes: *Subsample of firms that did not apply for a bank loan.*

CHAPTER 7

Concluding remarks

Despite its importance, until recently little was known about SME investment activity other than at an aggregate level, with considerable data gaps in relation to composition and distribution across firms. In order to fill these gaps, the Credit Demand Survey (CDS) run by the Department of Finance includes a specific investment and assets module since 2017. Using these data, this report tries to answer important questions that will provide valuable insight for policymakers. The statistics presented in this report are intended to provide a better understanding of investment patterns of Irish domestic small and medium enterprises. This information is of critical importance to assess and understand the growth possibilities and productive capacity of Irish indigenous enterprises.

The period prior to the onset of the COVID-19 pandemic can be characterised by the improving economic situation for SMEs with rising turnover and employment. However, investment did not rise as rapidly and self-financing of investment continued to predominate. The uncertainties around Brexit can also be seen in the data, in 2019 in particular. Thus uncertainty appears to have begun to feed through to investment prior to the pandemic and in the period of repeated shocks which has occurred since then.

That notwithstanding, as anticipated, the COVID-19 pandemic had a notable effect on capital expenditures for SMEs from which investment levels have not fully recovered. Following the COVID-19 disruptions, the energy price crisis and the recent interest rate snapback that occurred following the war in Ukraine, it is unsurprising that firms continue to be somewhat hesitant in terms of their capital outlays. While this hesitancy is understandable, it does come with a long-term economic cost as investment is a clear channel through which long-term productivity can be boosted.

Additionally, we find that firms are moderating their expenditure on digital investments and investment in climate action-related activities. Given the major structural change that is going to be required to transition the economy towards a low or zero carbon environment, it is particularly worrying that fewer firms report carbon investments as important and investment in these activities is declining. From a digitalisation perspective, the clear boost to productivity that can be gained from digital activities is also not being leveraged by higher investment in these activities by Irish firms. Future research should specifically focus on the barriers to capital expenditure in these areas and how policy can be targeted to foster optimal investment.

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APPENDIX

Credit Demand Survey data

This report follows the data cleaning procedure of previous investment reports and is detailed in Cantillon et al. (2022). The questions of the investment module were asked in reference of the previous calendar year. Exceptions are digital investments in 2019, which were surveyed retrospectively in 2022. The list and data availability are outlined in Table A.1 and sample sizes by size category are shown in Table A.2.

Meanwhile, questions on SMEs seeking a loan, application success rate and loan's interest rate were asked for the six-month period before the survey. Questions on perceptions and attitudes towards risk and debt are assumed to refer to the year of the survey.

TABLE A.1 LIST OF CREDIT DEMAND SURVEYS USED IN THIS REPORT

#	Survey year	Reference year	Capital and staff inv.	Digital investments	Climate investments
1	2017	2016	✓		
2	2018	2017	✓		
3	2019	2018	✓		
4	2020	2019	✓	(✓)*	
5	2021	2020	✓	✓	
6	2022	2021	✓	✓	✓
	2023	2022	✗	✗	✗
7	2024	2023	✓	✓	✓

Note: **When it comes to the questions on investment levels, the surveys always referred to the previous full calendar year. The only exception was the 2021 survey which, in addition to all 2020 investments, also asked about digital investments in 2019, the full calendar year two years prior.*

TABLE A.2 SAMPLE SIZE BY SURVEY AND SIZE CATEGORY

#	Survey year	Micro	Small	Medium	Total
1	2017	611	600	324	1,535
2	2018	645	585	275	1,505
3	2019	661	609	231	1,501
4	2020	767	586	150	1,503
5	2021	869	544	87	1,500
6	2022	951	461	92	1,504
7	2024	834	537	129	1,500

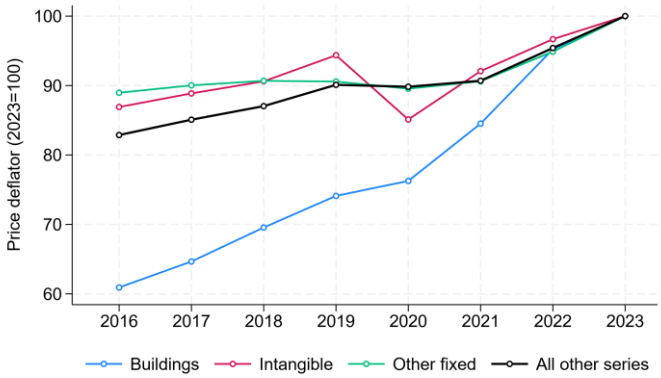
As in previous investment reports, we focus primarily on nominal investments, which are the values reported by enterprises in the survey. For additional context and reference, we also provide price-adjusted means and medians. We use four deflators that we believe are most suitable for the context of SME investments. They are: a) an index for buildings derived from domestic non-dwelling buildings and structure capital formation, b) an index for other fixed assets derived from combined two machinery and equipment series, c) an index for intangibles based on intellectual property products, and d) an index for all other series (including total capital formation) derived from non-construction modified investments. The latter is calculated by excluding the construction sector and transfer costs from the modified gross domestic fixed capital formation. All four indexes are constructed from CSO quarterly national accounts data on gross fixed capital formation and rebased such that the index value in 2023 equals 100. The underlying CSO time series are listed in Table A.3, and the final indexes are presented in Figure A.1.

TABLE A.3 LIST OF DEFLATORS

Asset type	Deflator	Source
Buildings	'Domestic – Other buildings and structures'	CSO NAQ10
Other fixed assets	'Machinery and equipment + weapon systems' (N11MG) and 'Other machinery and equipment + weapon systems' (N11OG)	CSO NAQ10
Intangibles	'Intellectual property products (gross)' (N117G)	CSO NAQ10
All other series	Non-construction modified investments*	CSO NAQ05

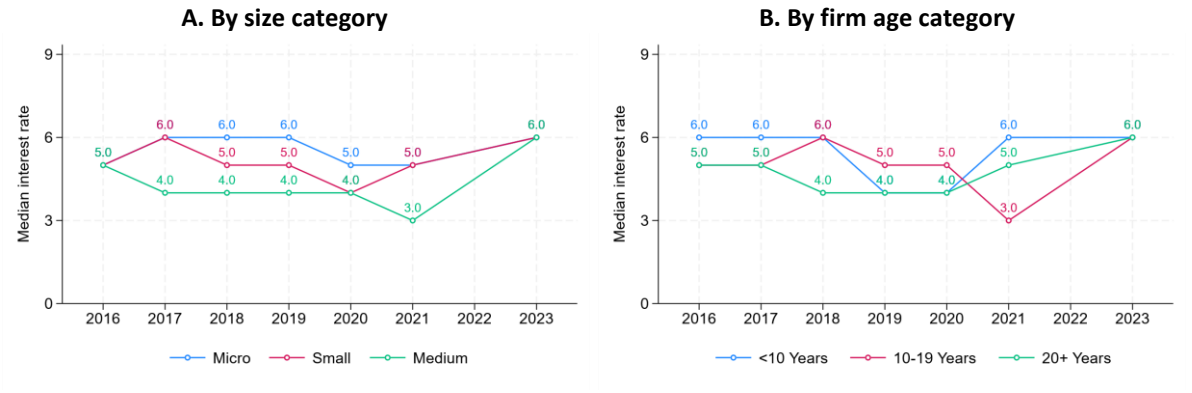
Note: **Non-construction modified investments calculated as 'Modified gross domestic fixed capital formation', excluding 'Dwellings', 'Improvements', 'Other building and construction' and 'Transfer costs'.*

FIGURE A.1 INVESTMENT DEFLATOR



Sources: *Calculations based on CSO NAQ05 and NAQ10 datasets.*

FIGURE A.2 MEDIAN INTEREST RATE BY SIZE AND AGE CATEGORY



Sources: *Department of Finance Credit Demand Surveys, 2017–2024.*

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