Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

SME Market Report

2018

SME Market Report 2018

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Overview[1]

- Credit outstanding to non-financial, non-real estate SMEs stands at €16.2 billion in Q1 2018. Gross new lending increased 2.7 per cent in the year to 2018 Q1, driven by Primary Industries (11 per cent) and Hotels and Restaurants (3.7 per cent) with declines in other sectors.
- Market share among the top three lenders remains high, at 86 per cent of new lending flows as of Q1 2018, but concentration has trended downwards since Q1 2016.
- The application rate for bank finance among SMEs was 23 per cent in September 2017.
- In March 2018, Irish SMEs applied for loans and overdrafts at about half the rate of SMEs in comparator countries.
- SME bank finance rejection rates stood at 17 per cent in September 2017, a gradual increase since March 2016. The highest rejection rate is recorded among Micro firms at 28 per cent in September 2017, compared to 11 and 15 per cent for Small and Medium firms, respectively.
- Bank rejection rates for SME loans and/or overdrafts in Ireland are more than twice the rates in comparator countries.
- The interest rate for Non-financial Corporation (NFC) loans of less than €0.25 million is 5.2 per cent as of March 2018 while the comparable interest rates in EA1 countries and EA2 countries is 2.6 per cent for both.
- More Irish SMEs continue to reduce their debt-to-asset ratio than increase it with a net rate of -9.4 per cent in March 2018, below countries in EA1 (-11.4 per cent) but more than in EA2 (-3.4 per cent).
- As of December 2017, the default rate for SMEs was 22.6 per cent, weighted by loan size. SME transitions into default over the period June 2017 to December 2017 were 1.3 per cent.
- Box 1 examines Venture Capital in Ireland and finds that annual funds raised have reached €994 million in 2017, a fifth of the value of SME bank financing, but this funding is limited to a small number of firms operating in high-technology sectors.
- Box 2 explores SME-bank relationships noting that Irish SMEs typically have only one or two bank relationships with 76 per cent of SMEs with any debt holding more than half of that debt with their main lender, a higher share than many comparator countries.
- Box 3 presents an index of SME access to finance for Ireland relative to the EU 28 countries and Box 4 explores the distribution of SME interest rates.

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1 Central Bank of Ireland *Credit, Money and Banking Statistics*

Figure 1 | New SME lending (4 quarter rolling summation, by quarter), Q4 2010 - Q1 2018

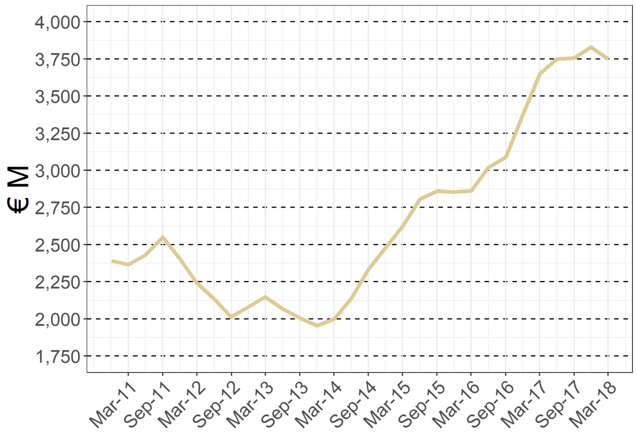


Figure 1 presents annual gross new lending to non-financial, non-real estate SMEs since 2010.[2] Annual lending in Q1 2018 (latest data point) totalled €3.7 billion, unchanged from the previous report. As of Q1 2018, new lending is 2.7 per cent higher than Q1 2017 and 31 per cent higher than Q1 2016.

Figure 2 | New SME lending by sector (4 quarter rolling summation, by quarter), Q4 2010 - Q1 2018

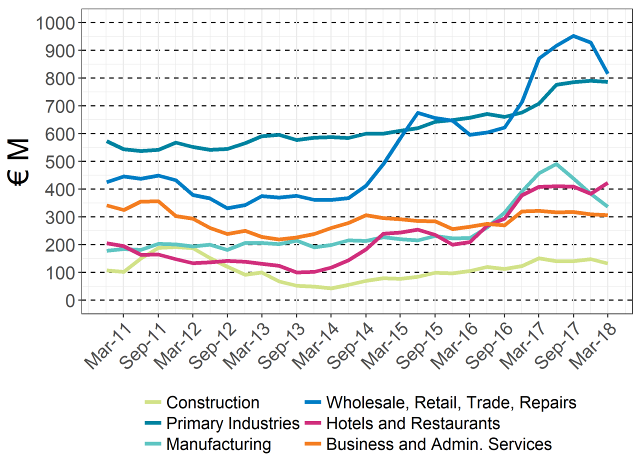
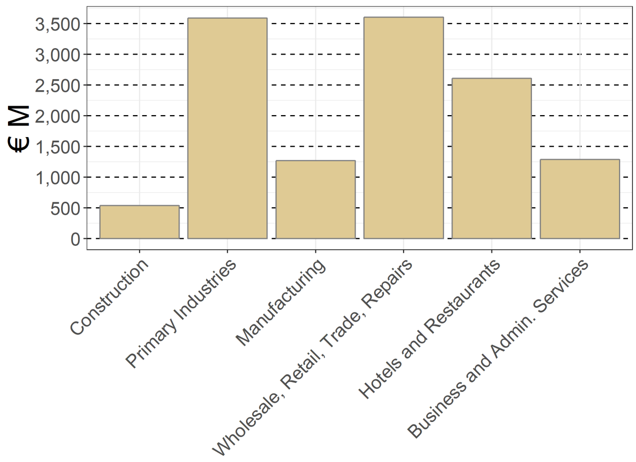


Figure 2 presents annual gross new lending trends for the six main non-financial, non-real estate sectors. The Primary Industries and Wholesale, Retail, Trade and Repairs sectors consistently show the highest levels of new lending. Compared to Q1 2017, annual new lending in Q1 2018 has increased in only two sectors, namely Primary Industries (11 per cent) and Hotels and Restaurants (3.7 per cent).[3] Annual declines in gross new lending have occurred in Manufacturing (-26.5 per cent), Construction (-12.6 per cent), Wholesale, Retail, Trade and Repairs (-6.4 per cent) and Business and Administrative Services (-5 per cent).

[2] Gross new lending is defined as the 'amount of new credit facilities drawn-down during the quarter by SME counterparties, i.e. where this credit facility was not part of the outstanding amount of credit advanced at the end of the previous quarter'. These data exclude renegotiations. Construction lending is included in these data but real estate activities are excluded.

[3] Primary Industries is primarily composed of the sub sector Agriculture but also Forestry, logging, mining and quarrying and Fishing and aquaculture.

Figure 3 | Credit outstanding to SMEs by sector, Q1 2018



As of Q1 2018, total non-financial, non-real estate outstanding credit is €16.2 billion. Figure 3 presents the value of outstanding credit to SMEs for six main SME sectors. Outstanding credit in the Primary Industries and Wholesale, Retail, Trade and Repairs sectors stood at €3.6 billion each, above that of Hotels and Restaurants which amounted to €2.6 billion. Manufacturing and Business and Administrative Services have lower levels of outstanding credit at €1.3 billion each while the lowest stock of outstanding credit of the sectors shown is found in the Construction sector at €0.5 billion.

Figure 4 | Annual SME credit growth by sector, Q3 2011 - Q1 2018

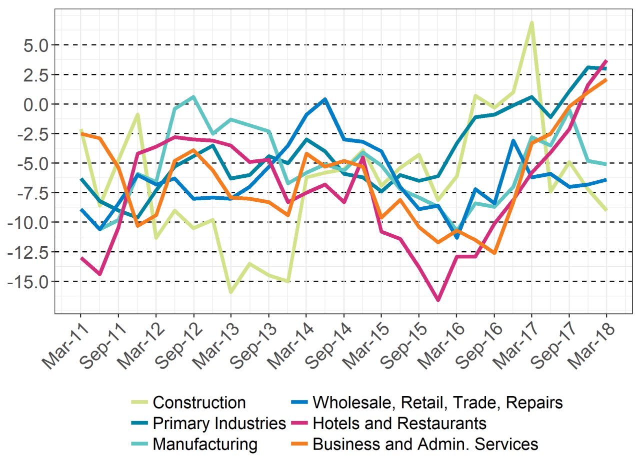


Figure 4 presents annual growth rates for credit in the six main non-financial, non-real estate SME sectors. As of Q1 2018, positive annual credit growth was recorded in a number of sectors such as the Hotels and Restaurants sector (3.7 per cent), Primary Industries (3 per cent) and the Business and Administrative Services sector (2.1 per cent) sectors. Other sectors experienced declines in credit, the largest of which occurred in the Construction sector at -9 per cent annually. Annual declines in credit were also recorded in the Wholesale, Retail, Trade and Repairs and Manufacturing sectors at -6.4 and -5.1 per cent respectively.

Figure 5 | Herfindahl-Hirschman index for non-financial, non-real estate SME lending, Q4 2010 - Q1 2018

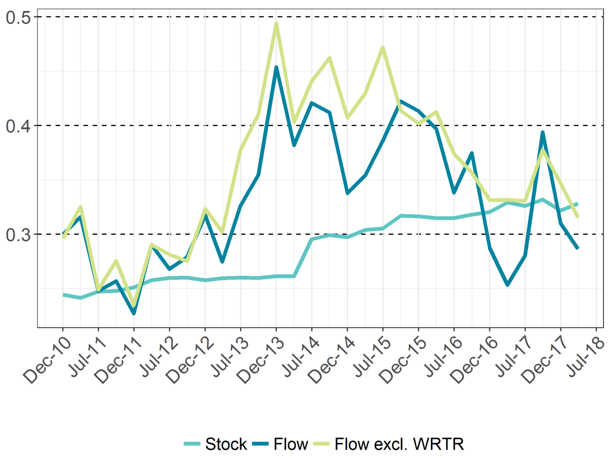


Figure 5 presents the Herfindahl-Hirschman index, which measures the concentration of lending 'stocks' (outstanding balance) and 'flows' (gross new lending) for non-financial, non-real estate SME lending of all resident credit institutions.[4] Since Q1 2016, concentration in the flow of new lending has trended downward. As a result, the stock of SME lending market, which has generally become more concentrated since 2010, has stabilised. Figure 5 also shows the concentration of the flow of new lending when excluding the Wholesale, Retail Trade and Repairs (WRTR) sector. The latter is presented as an additional measure of flow concentration which is not subject to the same degree of short-term volatility found in the Wholesale, Retail Trade and Repairs sector. The share of the three largest banks in new lending flows excluding the WRTR sector was 93 per cent in Q1 2018. The share falls to 86 per cent when including the WRTR sector.

[4]The Herfindahl-Hirschman index is calculated as the sum of the squared market shares. Higher values indicate higher market concentration or lower levels of competition.

Box 1: The growth of Irish SME Venture Capital funding[1]

Policymaker initiatives following the economic crisis, such as the Capital Markets Union in Europe, have focused on reducing exposure to bank financing in favour of other funding sources, such as equity, with the aim of increasing the resilience of the SME sector. One type of non-bank equity funding is Venture Capital (VC). VC targets a small number of new and existing SMEs with innovative and high-growth business plans but which consequentially also have a higher risk profile.

VC funding differs from bank funding as it is a type of equity (as opposed to debt) financing. Equity is advantageous for growing firms as it does not include an obligation to repay the initial investment through loan amortisation, although future profits may be returned to shareholders through dividends. Investors often take an active role in management and facilitate knowledge transfer. VC funding involves a high risk of failure as companies often lack a track record of operation or high-growth performance. Investors typically exit their investment after a few years.

Industry data from the Irish Venture Capital Association demonstrates strong growth in Irish VC funding. VC funds raised in Ireland have increased by 362 per cent over the period 2011-17, and 170 per cent in 2016 alone, reaching €994 million in 2017 (Figure 6). VC funding is substantial at around a fifth of the value of total annual gross new lending by banks (€5.1 billion), albeit limited to a fluctuating but small number of firms (between 142 and 221 compared to 248,842 active enterprises in Ireland in 2015 – the latest available year of data) over the period 2011-2016 (Figure 7). SMEs raising VC funds are obtaining larger amounts, on average. In 2011, the average amount an SME raised was €1.7 million, increasing to €4 million in 2016 (Figure 6). International comparisons prepared by the OECD place Irish VC as a share of GDP at fifth out of thirty-three countries (behind Israel, the United States, Canada and South Korea) and the highest share in the EU in 2016. Expressing Irish VC as a share of GNI* (to remove distortion from the activities of multinational companies) ranks Ireland in fourth place among OECD countries.

Figure 6: Annual Venture Capital funding, 2011-2017

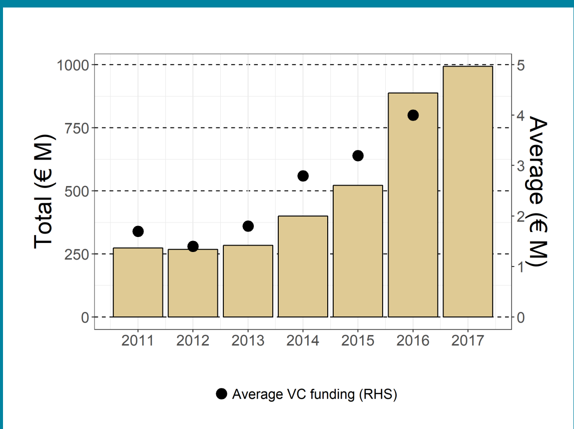
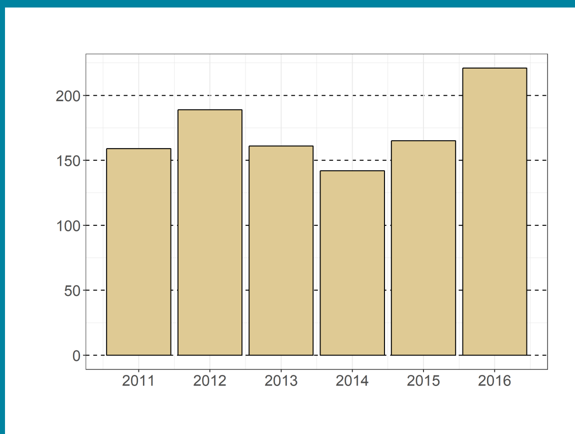


Figure 7: Annual count of firms obtaining Venture Capital funding, 2011-2016



A feature of VC funding in Ireland is the increasingly international nature of the funding. The investor profile of VC in Ireland indicates a majority of funding (63 per cent) was sourced internationally in 2017. International VC for Irish SMEs has increased eight-fold from €65 million in 2011 to €548 million in 2016 and has become a majority source of VC funding since 2015.

SMEs obtaining VC funding are concentrated in high-technology sectors. In 2017, the majority of SMEs operated in sectors such as Software (28 per cent) and Life Sciences (23 per cent), while FinTech (18 per cent) has recently grown in importance. VC in Ireland has become a funding source which primarily expands investment and increases scale in existing SMEs rather than funding new firm creation such as seed, start-up and early stage funding as was the case previously.

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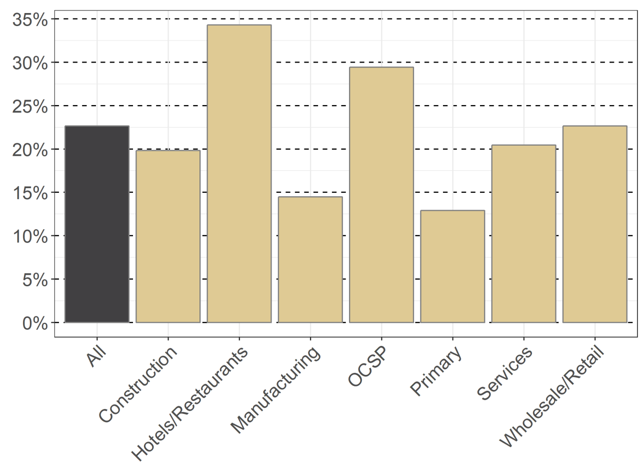
2 Central Bank of Ireland Loan-Level Data

Figure 8 | SME default rates by sector, December 2017



Loan-level data from Allied Irish Banks, Bank of Ireland, Permanent TSB and Ulster Bank are employed to describe loan performance.[5] Figure 8 presents the share of outstanding balances in default (22.6 per cent overall in default) across the main economic sectors as of December 2017.[6] The highest default rates are found in the Hotels/Restaurants (34.3 per cent) and OCSP (29.4 per cent) sectors whereas the Primary (12.9 per cent, dominated by Agriculture) and Manufacturing (14.5 per cent) sectors record the lowest default rates.

Figure 9 | SME default rates by region, December 2017

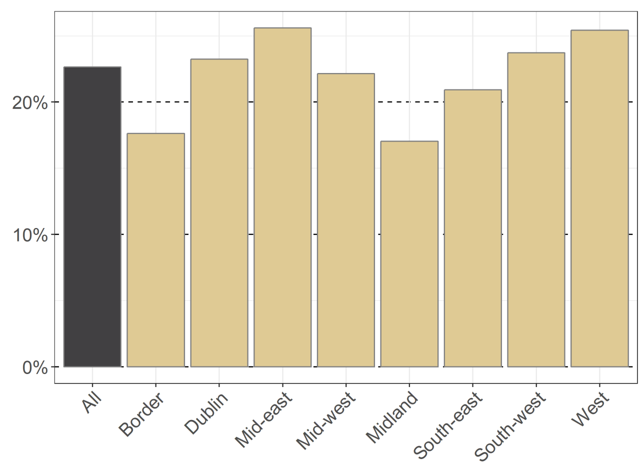


Figure 9 reports default rates across regions.[7] Variation of default rates across regions is less than across sectors. In the latest data (December 2017), default rates are highest in Mid-East (25.6 per cent) and West (25.4 per cent) while the lowest default rates are found in the Midlands (17 per cent) and the Border (17.6 per cent).

[5]These data are collected every six months. The latest data are from December 2017. The finance types are predominantly comprised of loans, overdrafts, hire-purchasing and leasing. 'Default' is defined as loans greater than 90 days past due, or deemed unlikely to replay without giving up collateral. This version of the data has been updated since the 2017 H2 Market Report in line with the European Banking Authority Implementing Technical Standards definition.

[6]Sectors with small exposures are subsumed into larger sectors for exposition purposes. The Electricity, Gas, Steam and Air Conditioning Supply, and Water Supply, Sewerage, Waste Management and Remediation Activities sectors are included with the Manufacturing sector; the Transportation and Storage sector is included with Wholesale and Retail; the Human Health and Social Work, and Education sectors are included with the Other Community, Social and Personal (OCSP) sector; the Information and Communication sector and Business and Administrative Services sector are combined into Services.

[7]Nomenclature of Territorial Units for Statistics (NUTS) regions - 'Border': Donegal, Sligo, Leitrim, Cavan, Monaghan; 'Mid-East': Wicklow, Kildare, Meath, Louth; 'Mid-West': Clare, Tipperary, Limerick,; 'Midlands': Laois, Longford, Offaly, Westmeath; 'South-East': Carlow, Kilkenny, Waterford, Wexford; 'South-West': Cork,

Figure 10 | SME percentage of performing loan balances entering default between June 2017 and December 2017 by sector

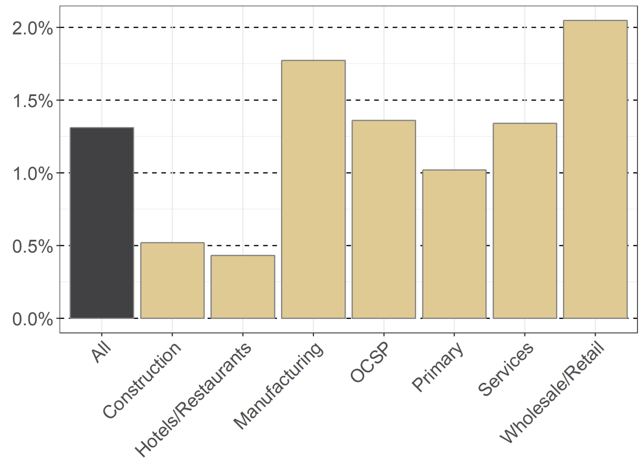


Figure 10 presents loan transition rates into default across the main economic sectors. The percentage of June 2017 performing balance that enters default by December 2017 is reported. The overall transition rate is 1.3 per cent varying by sector from as high as 2 per cent in Wholesale/Retail and 1.8 per cent in Manufacturing to as low as 0.4 per cent in Hotels/Restaurants and 0.5 per cent in the Construction sector.

Figure 11 | SME percentage of performing loan balances entering default between June 2017 and December 2017 by region

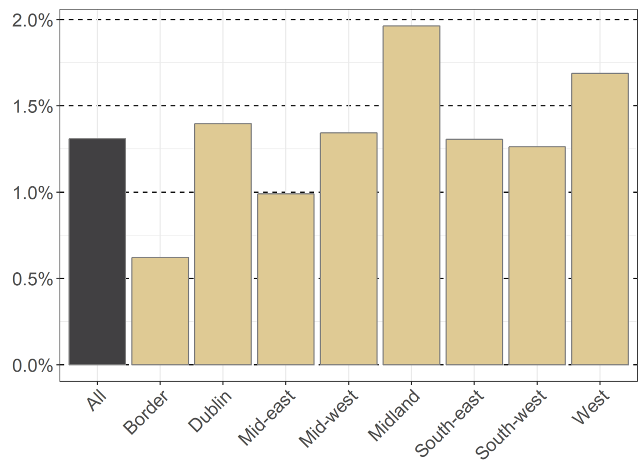


Figure 11 shows transition rates entering default by regions. In the latest data, transition rates from June 2017 to December 2017 are highest in the Midlands (2 per cent) and the West (both 1.7 per cent) while the Border (0.6 per cent) and the Mid-west (1 per cent) reported the lowest transition rates.

Kerry, 'West': Galway, Mayo, Roscommon.

3 Department of Finance SME Credit Demand Survey

Figure 12 | Application rate for bank finance, September 2013 - September 2017

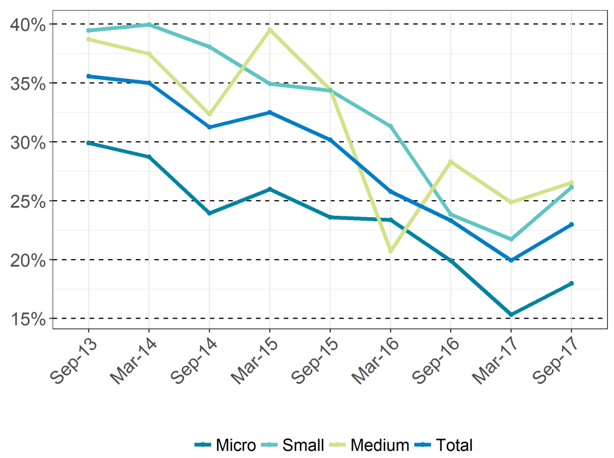


Figure 12 presents the share of SMEs that applied for any bank finance facility (loans, overdrafts, leasing, hire-purchasing and invoice discounting) in each wave of the Department of Finance *SME Credit Demand Survey* since September 2013.[8] In the latest available survey covering the period April to September 2017, 23 per cent of firms applied for bank finance, up from a low point of 20 per cent of firms recorded in the previous survey. Demand for financing is most common among Medium firms and lowest among Micro firms.

Figure 13 | Application rate for bank finance by product type, September 2013 - September 2017

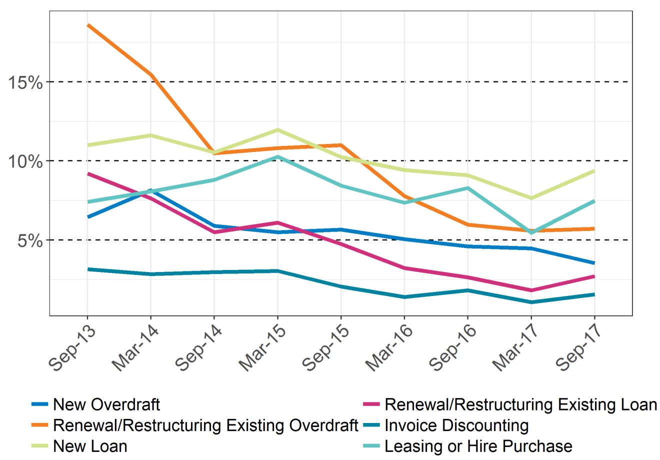


Figure 13 presents the share of bank finance applications by product type. As of September 2017, the highest application rates were for new loans (9 per cent) and leasing or hire purchase (8 per cent). Credit applications for renewal and restructuring of existing loans or overdrafts have fallen substantially since 2013 with demand for other product types falling only marginally.

[8] The survey is conducted twice yearly: October to March (labelled 'March' in this report) and April to September (labelled 'September'). This nationally representative survey collects information on a range of economic and financial factors including firms' demand for credit, their success in applying for credit and their trading performance. 'Micro' firms have 1-9 employees and turnover or balance sheet value up to €2 million. 'Small' firms have 10-49 employees and turnover or balance sheet value up to €10 million. 'Medium' firms have 50-250 employees and turnover up to €50 million or a balance sheet value up to €43 million.

Figure 14 | Purpose of credit application, September 2013 - September 2017

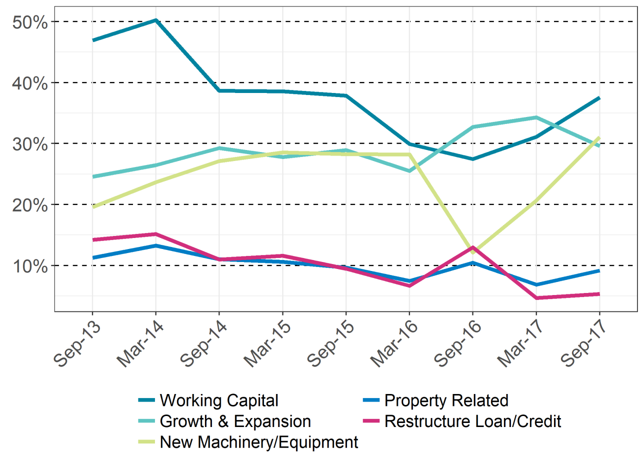


Figure 14 illustrates how the purpose of SME bank credit applications has changed over time. Working capital remains the most important reason at 38 per cent of credit applications, down from 50 per cent in March 2014. However, Growth & Expansion (30 per cent) and New Machinery/Equipment (31 percent) have also become important reasons for credit applications as of September 2017, up from 25 per cent and 20 per cent, respectively in September 2013.[9]

Figure 15 | Purpose of credit application by firm size, September 2017

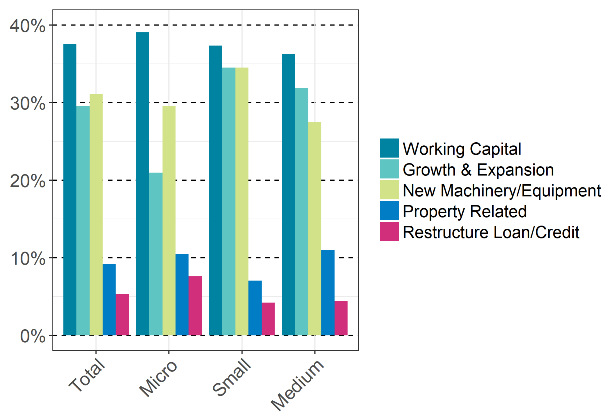
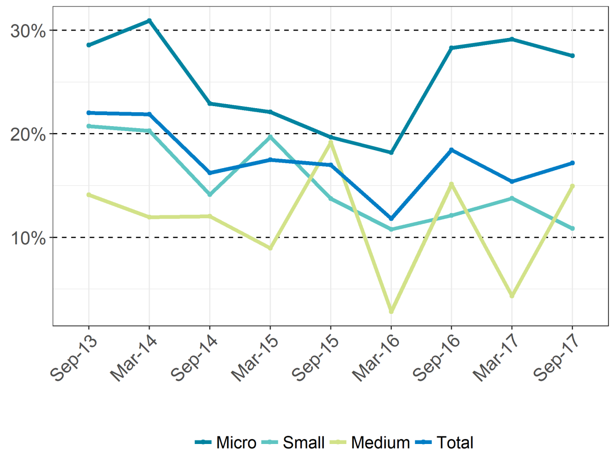


Figure 15 illustrates the purpose of SME credit applications for the latest survey round. Working capital is the most important stated purpose for credit applications and is particularly important among micro firms. The next two most important responses both relate to firm investment (Growth & Expansion and New Machinery/Equipment). Micro firms are notable for applying for a smaller share of Growth & Expansion credit.

[9] Totals across stated reasons may sum to more than 100 per cent because firms may respond with multiple reasons for requesting bank finance. Growth & Expansion includes new business ventures, acquisition of assets and expansion.

Figure 16 | Bank finance rejection rates by firm size, September 2013 - September 2017



Following a steady decline from September 2013 to March 2016, bank finance rejection rates have tended to gradually increase once again. SME bank finance rejection rates stand at 17 per cent as of September 2017.[10] Micro firms have experienced higher rejection rates for financing, rising from 18 per cent in March 2016 to reach 28 per cent in September 2017. In contrast, rejection rates among bank applications from Small and Medium firms remain lower at 11 and 15 per cent respectively.

[10]Rejection rates are for those SMEs applying for credit and having received a decision in the last six months. These rates are for all finance types (loans, overdrafts, leasing, hire-purchasing and invoice discounting).

Box 2: SME-Bank relationships in Ireland[1]

The relationship between an SME and its lender can be an important channel through which soft information about business planning and the financial viability of the borrower is obtained via repeated interactions. On the borrower side, an SME-Bank relationship may result in lower interest cost or larger amounts of funding through reduced information asymmetries. Gambacorta et al (2014) show that this was particularly the case during the recent financial crisis.[2] On the other hand, an SME's loyalty or exclusivity to a single bank may be such that disadvantages may emerge from a lack of consideration given to competitive alternatives with a lower cost of credit or greater funding opportunities. For instance, 45 per cent of SMEs in 2014 cited an existing relationship with a bank as the reason for choosing a bank for a loan according to the CSO Access to Finance survey.

Data from the ECB/EC SAFE survey presented in Figure 17 demonstrates that Irish SMEs have comparatively fewer bank relationships than SMEs in other Euro Area countries.[3] Irish SMEs have on average one or two (point average of 1.6) active bank relationships. This may partly be explained by a lack of suitable alternative lenders rather than necessarily strong loyalty to one or two banks. Figure 18 shows that two in three SMEs (68 per cent) with debt hold more than 75 per cent of their debt with their main bank, comparatively more than in other Eurozone countries with the exception of the Netherlands and Finland. A further 9 per cent of SMEs with any debt hold at least half of their debt with their main bank. These findings indicate that as many as three in four SMEs (76 per cent) holding debt in Ireland hold the majority of their debt with their main bank.

Figure 17: Average number of active bank relationships per SME, March 2018

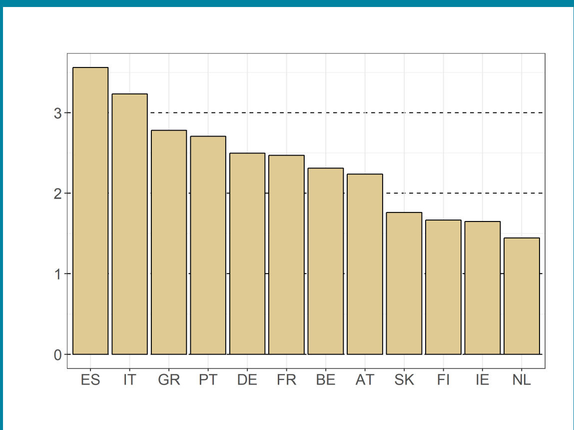
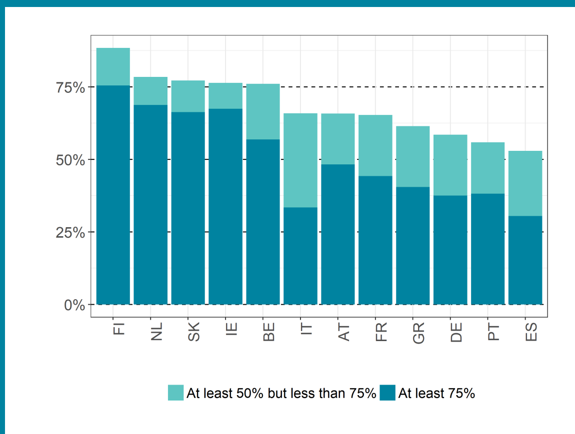


Figure 18: Share of SMEs by proportion of debt held at main bank, March 2018



The findings from the data presented above indicate that the average SME maintains a relationship with one or two lenders and most SMEs borrow the majority of their debt from their main lender. Exclusive SME-bank relationships may suggest gains from reduced information asymmetries but may also be due to a lack of competitive alternatives. This concentration in SME-borrower relationships may mean that some firms do not benefit from the lowest possible interest rates or credit conditions available. Further research must be done to ascertain the net benefits and costs to Irish firms from their limited number of banking relationships.

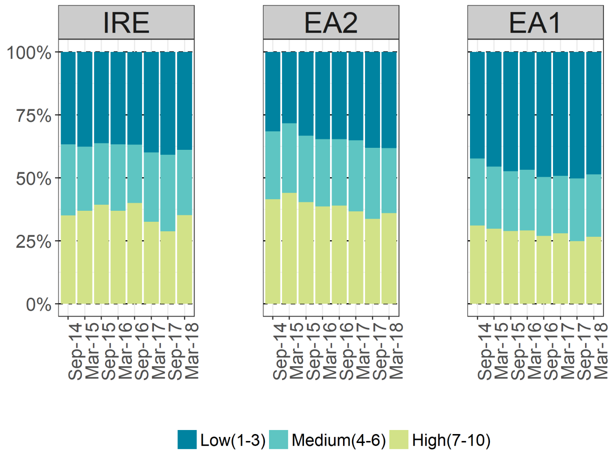
[1] Box author: John McQuinn. Email: john.mcquinn@centralbank.ie

[2] Gambacorta, Leonardo and Poalo Emilio Mistrulli, (2014), "Bank Heterogeneity and Interest Rate Setting: What Lessons Have We Learned since Lehman Brothers?", *Journal of Money Credit and Banking*., 46,(6)

[3] AT: Austria, BE: Belgium, DE: Germany, ES: Spain, FI: Finland, FR: France, GR: Greece, IT: Italy, NL:

4 ECB/EC SAFE Survey

Figure 19 | Importance of access to finance to SMEs, September 2014 - March 2018



The ECB/EC *Survey on the Access to Finance of Enterprises* (SAFE) is used to compare credit conditions in Ireland to those of the euro area.[11] In the latest survey, the share of Irish SMEs ranking access to finance as a 'high' importance problem for their enterprise is 35 per cent, up from 29 percent in September 2017 (Figure 19).[12] Irish SMEs rank access to finance similarly to EA2 countries (36 per cent) and of greater importance than in EA1 countries (27 per cent).

Figure 20 | SME perceptions of bank credit availability, September 2014 - March 2018

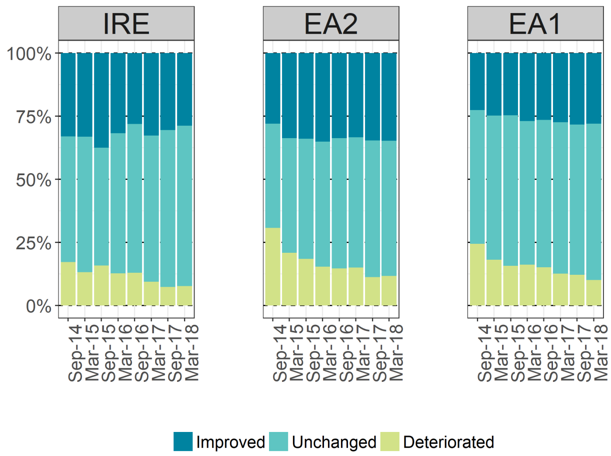


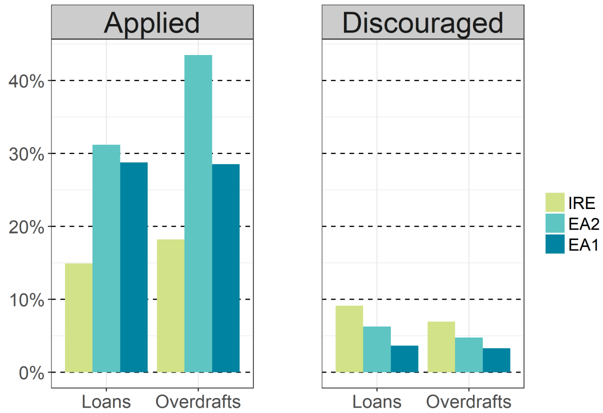
Figure 20 describes SME perceptions of bank willingness to provide credit (credit line, bank overdraft or credit card overdraft). The share of SMEs reporting a 'deterioration' in Ireland and the euro area has changed little since the last report. In the latest survey, the net improvement (the share of improvements minus the share of deteriorations) in Ireland is 21 per cent, below that of EA2 countries (23 per cent) but higher than EA1 countries (18 per cent).

Netherlands, PT: Portugal, SK: Slovakia

[11]The survey is conducted twice-yearly with the most recent survey covering the period from October 2017 to March 2018. Ireland is compared to two groups of countries: EA1 countries which comprises of Austria, Belgium, Germany, Finland, The Netherlands and France, and EA2 countries which comprises of Portugal, Italy, Spain and Greece.

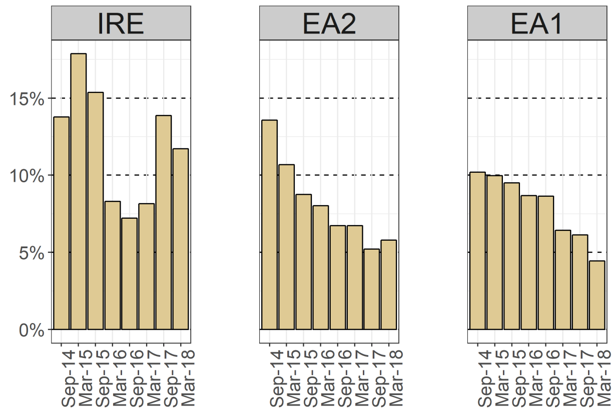
[12]Responses range from 10 ('extremely pressing') to 1 ('not at all pressing') and finance includes bank loans, trade credit, equity, debt securities and other external financing.

Figure 21 | Application and discouraged borrower rates for loans and overdrafts, March 2018



In the latest survey, loan and overdraft application rates are considerably lower than the euro area average.[13] For example, the loan application rates in Ireland, EA2 countries and EA1 countries are 15 per cent, 31 per cent and 29 per cent respectively. Ireland records a higher rate of discouraged borrowers (i.e. SMEs that did not apply because of fear of rejection) for loans (9 per cent) than both EA2 countries (6 per cent) and EA1 countries (4 per cent). A similar patter is observed for overdrafts.

Figure 22 | Rejection rates for loan and/or overdraft applications, September 2014 - March 2018

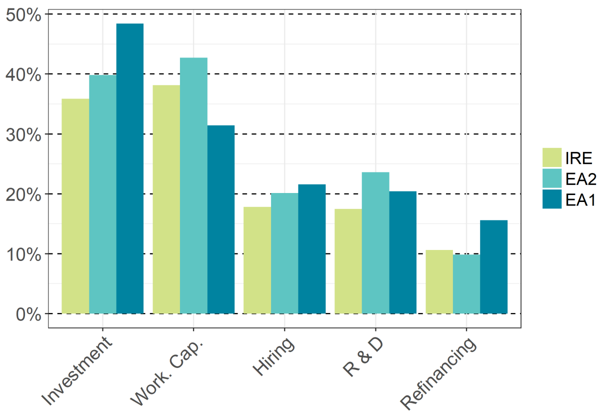


According to data from the SAFE survey, rejection rates on loan/overdraft applications in Ireland remain elevated in contrast to euro area averages. The latest rejection rate in Ireland (11.7 per cent in March 2018) continues to be more than twice the rate experienced in EA2 countries (5.8 per cent) and EA1 countries (4.4 per cent).[14]

[13] Following the the approach taken in the ECB/EC SAFE reports, Figure 21 only includes SMEs which identify bank loans and overdrafts as relevant to their firm.

[14] SMEs that applied for both a loan and an overdraft but received a rejection for either are treated as rejected for Figure 22. SMEs whose applications are “still pending” or “don’t know” are excluded from calculations. Figures for Ireland within this European survey may differ from those reported in Figure 16 due to smaller sample size used in the SAFE survey, the sampling frame, and the definitions employed.

Figure 23 | Purpose of financing, March 2018



For SMEs that used financing in the previous six months, Figure 23 describes the purpose of these funds.[15] While the largest share is accounted for by 'working capital' in Ireland and EA2 countries, 'fixed investment' is the main purpose in EA1 countries. The 'fixed investment' share in Ireland has decreased since the last report (from 42 per cent to 36 per cent) and is below the EA2 country average of 40 per cent and the EA1 country average of 48 per cent.

Figure 24 | Net percentage change in debt-to-assets, September 2014 - March 2018

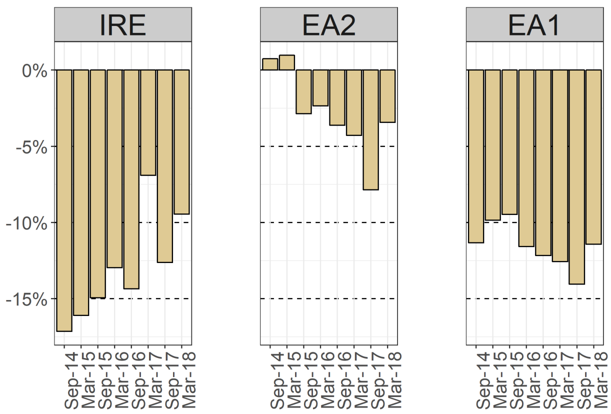


Figure 24 illustrates the net percentage change in the debt-to-assets ratio among SMEs.[16] SMEs in Ireland continue to deleverage at rates comparable to EA1 countries and more than EA2 countries. As of March 2018, the reported net change in SME debt-to-assets for Ireland was -9.4 per cent while EA1 countries and EA2 countries reported net changes of -11.4 per cent and -3.4 per cent respectively.

[15] In SAFE, financing refers to 'external sources or from funds generated by your enterprise'. Financing may be used for multiple purposes so that the total may exceed 100 per cent. In Figure 23, 'Investment' refers to investment in property, plant, machinery or equipment, 'Work. Cap' refers to inventory or working capital, 'Hiring' refers to hiring and training of employees, 'R & D' refers to developing and launching new products or services and 'Refinancing' refers to refinancing or paying off obligations. The shares presented exclude SMEs who responded with 'don't know' or 'not applicable'.

[16] The net percentage change in the debt-to-assets ratio is defined as the share of firms increasing their debt-to-assets ratio less the share of firms decreasing their debt-to-assets ratio.

Figure 25 | No application for bank loan because of sufficient internal funds, September 2014 - March 2018

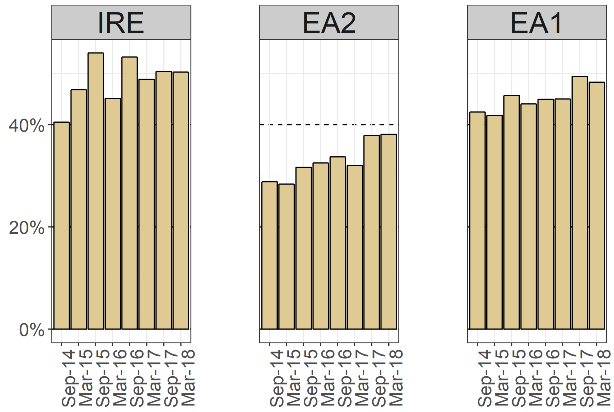


Figure 25 shows the share of all SMEs reporting they did not apply for bank loans because of sufficient internal funding. As of March 2018, the share of firms reporting sufficient internal funding as the reason they did not apply for a bank loan in Ireland was 50.3 per cent, slightly above EA1 countries (48.3 per cent) and higher than EA2 countries (38.1 per cent).

Box 3: The European Investment Fund SME Access to Finance Index[1]

The European Investment Fund (EIF) prepares a composite measure of SME financing conditions for the EU 28 countries – the SME Access to Finance Index (ESAF).[2] This index benchmarks access to finance in Ireland to comparator countries within the EU by incorporating many aspects of firm financing into one measure. The index enables comparison at an aggregate level and greater detail in the sub-components of the index.

The methodology of the EIF ESAF involves a number of steps and caveats. Indicators of the sub-indices are weighted equally, geometrically aggregated and normalised using a min-max method.[3] The normalisation method means interpretation should be in comparison to the poorest and best performing countries. An increase in the index for a given country over time does not necessarily mean improving financing conditions over time in absolute terms; rather it means an improvement in finance conditions relative to the worst and best performing countries over time. The ESAF is composed of four sub-indices:

- Loans – shares of loan use including subsides or grants, discouraged borrowers and interest rates including the spread between small SME loans and larger corporate loans.
- Equity – the extent of the IPO market, Venture Capital investment and availability and the share of SMEs using equity financing.
- Credit and leasing – shares of credit and leasing use, discouraged borrowers and interest rates.
- Macro factors – the gap between GDP and potential GDP, share of non-performing loans, perception of financing obstacles, strength of legal rights, depth of credit information and availability of financial services.

Figure 26: EU28 ESAF, 2013 to 2017

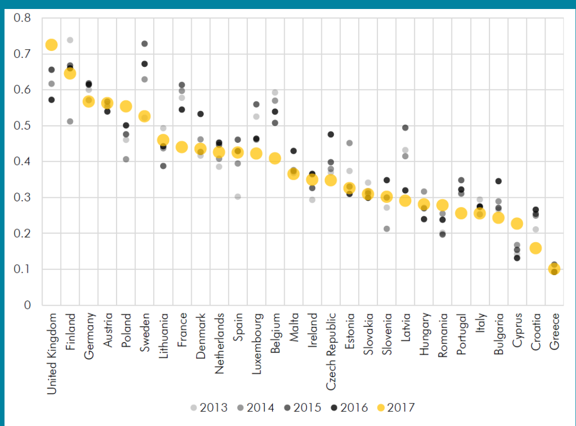


Figure 26 shows the EIF ESAF ranks Ireland as 15th in terms of access to finance in 2017 relative to the best performer, the United Kingdom, and the worst performer, Greece. Among the sub-components of the index (not shown), Ireland performs poorly for loans and credit, above average for equity (discussed in Box 1) and average for macroeconomic conditions. Ireland's ranking has improved by six places since 2013, the second largest improvement after Spain. However, when the value of the ESAF is considered, Ireland has experienced only the sixth largest increase. The difference between the latter and the former is due to a clustering of ESAF values such that small improvements in the value of the ESAF result in large increases in the ranking.

[1]Box author: John McQuinn. Email: john.mcquinn@centralbank.ie
[2]Wouter Torfs, (2018), "EIF SME Access to Finance Index - June 2018 update", Working Paper 2018/49,

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Figure 27 | Interest rates on new NFC loans (3-month moving average), Ireland, August 2010 - March 2018

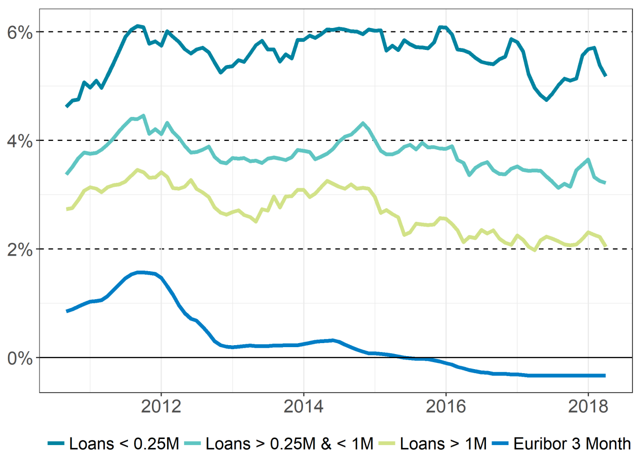
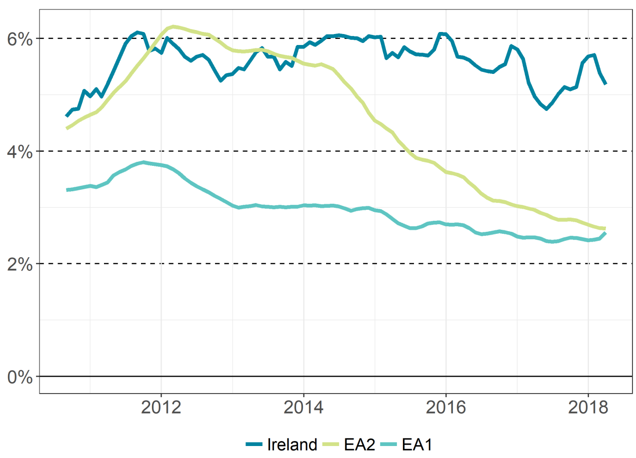


Figure 27 illustrates new lending interest rates on Irish NFC loans of varying originating balances.[17] We use rates on the smallest loans under €0.25 million as a proxy for the cost of SME credit[18]. Interest rates are higher for smaller loans. The interest rate for SMEs in the latest month of data (March 2018) is 5.2 per cent, which is 3.2 percentage points higher than that for loans above €1 million and 2 percentage points higher than that for loans between €0.25 million and €1 million. The most recent SME interest rate is little changed from the previous report (5.1 per cent – September 2017).

Figure 28 | Interest rates on new NFC loans under €0.25 million (3-month moving average), euro area, June 2010 - March 2018



Interest rates on new NFC loans below €0.25 million (our proxy for SME lending) in Ireland, EA1 countries and EA2 countries are shown in Figure 28.[19] As in previous reports, interest rates in Ireland are substantially above euro area averages.[18] The interest rate in Ireland in March 2018 is 5.2 per cent and 2.6 per cent in both EA1 and EA2 countries.

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[3]The min max method transforms the data such that values range between a minimum value of zero and a maximum of one according to the following formula for a set of x data values : x* = (x - x min)/(x max - x min).

[17]In this section, interest rates and lending volumes are for ‘new business’ lending to NFCs. This data excludes revolving loans and overdrafts, convenience and extended credit card debt. ‘New business’ is defined as any new agreement between the customer and the credit institution. This agreement covers all financial contracts that specify, for the first time, the interest rate of the loan, *including any renegotiation of existing loans*.

[18]Average interest rates are balance-weighted. Box 4 shows the dispersion in interest rates across firms.

[19]This figure is created by first calculating the three-month moving average in each country. For the com-

Figure 29 | Difference between interest rates on small and large NFC loans (3-month moving average), August 2010 - March 2018

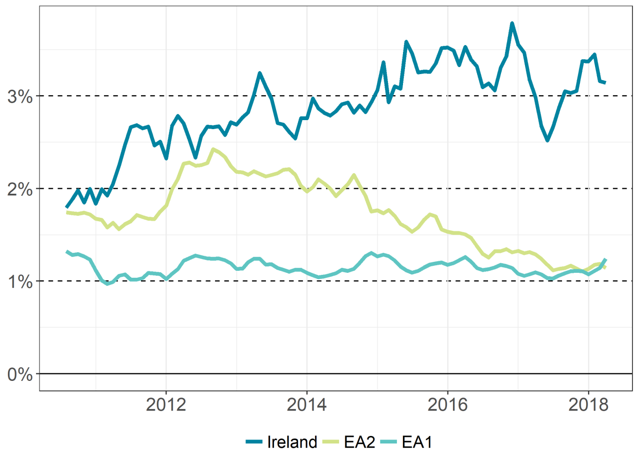


Figure 29 displays the difference in interest rates between small loans (below €0.25 million – proxy for SMEs) and large loans (above €1 million – proxy for larger corporates).[20] In March 2018, the interest rate gap in Ireland (3.1 per cent) continues to remain higher than EA1 (1.2 per cent) and EA2 (1.1 per cent) countries even as the interest gap for EA2 countries converges to EA1 country levels.

Figure 30 | New lending to NFCs (loans up to and including €1 million) as a proportion of domestic demand, Q1 2003 - Q4 2017

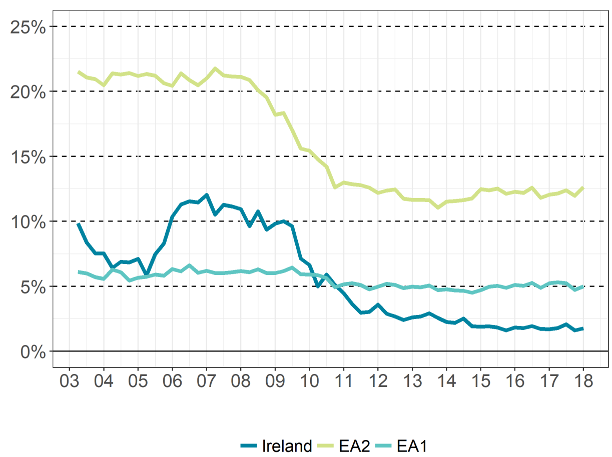


Figure 30 presents the ratio of NFC lending to domestic demand to understand the relative growth in credit and real economic activity. Lending flow data are for loans on amounts up to and including €1 million.[21] The current ratio for Ireland (1.8 per cent in Q4 2017) remains below both EA1 countries (5 per cent) and EA2 countries (12.6 per cent). Other Member States with ratios currently less than 5 per cent include Austria (3.9 per cent), Finland (4.2 per cent), France (4.6 per cent), Germany (4.4 per cent) and the Netherlands (1.9 per cent).

parison country groupings (EA1 countries and EA2 countries), a direct unweighted average is then used. This figure excludes Greece and the Netherlands due to missing data.

[20] This figure is created by first calculating the three-month moving average for the two interest rate series in each country. The data presented is then the difference between these two moving averages, by month. For the comparison country groupings (EA1 countries and EA2 countries), a direct unweighted average is used. These averages exclude Greece and the Netherlands due to missing data.

[21] This higher loan threshold is chosen as lending data for loans on amounts up to €0.25 million are not available pre-2010. Euro area (excluding Ireland) quarterly domestic demand data (final consumption expenditure and gross capital formation) are from *Eurostat*. Irish domestic demand data are from the Central Statistics Office using a modified measure of domestic demand defined as domestic demand less the effects of trade in aircraft by aircraft leasing companies and the imports of intellectual property. All data are at current market prices and are non-seasonally adjusted. Monthly new lending data are aggregated to quarterly for comparison. EA2 countries excludes Greece due to missing data.

Box 4: The distribution of SME interest rates in Ireland[1]

The cost of SME finance is a key topic of interest for entrepreneurs and policymakers. In this box, I use loan-level data to examine the distribution of SME interest rates in Ireland. These data are collected from four major Irish banks and relate to the stock of outstanding loans as of 2017Q4.

Figure 31 shows the distribution of interest rates as a histogram. 54 per cent of loans have interest rates between 5 and 8 per cent per annum, while 80 per cent of loans have interest rates between 4 and 9 per cent. The median interest rate is 6.5 per cent, while the mean is 6.1 per cent.

I next examine how interest rates vary with outstanding balances. To do this, I sort all loans from lowest to highest outstanding balance and then assign each loan into quintiles. The first (fifth) quintile contains the 20 per cent of loans with the lowest (highest) outstanding balances. The quintile breakpoints are €2,361, €7,629, €16,311, and €41,689. Figure 32 presents a boxplot for each quintile. The median interest rate for the lowest balance quintile is 7.9 per cent, while the median for the highest balance quintile is 4.2 per cent. It is clear that loans with higher outstanding balances typically have lower interest rates.

Figure 31: Distribution of SME interest rates

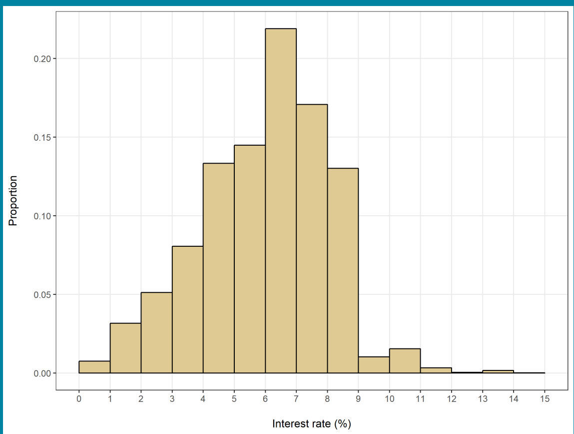
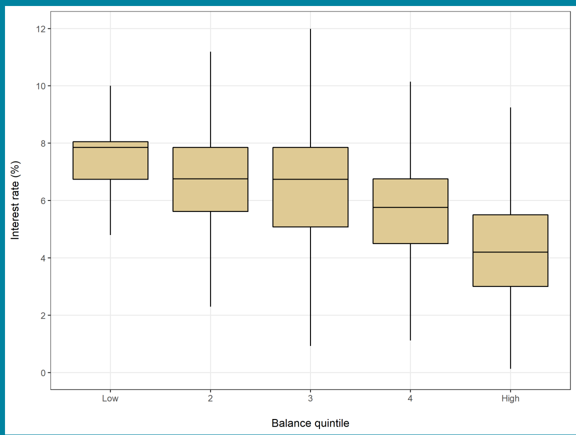


Figure 32: Interest rate distributions by balance



Lastly, I find that the balance-weighted average interest rate for all loans in the sample is 3.8 per cent. This is significantly lower than both the 6.1 per cent simple average and the median rate of the highest balance quintile. The explanation for this is that a small set of loans with low interest rates and very large balances drive down the balance-weighted average.

A complete analysis of the cost of credit for firms should involve an understanding of aggregated and disaggregated data. A balance-weighted average interest rate may not provide an accurate estimate of the cost of funding for a typical SME. Even a simple average could differ considerably from the median interest rate. This highlights the need to examine the full distribution of interest rates and to link it to the economic fundamentals of firms. A recent example of work moving in this direction is Carroll and McCann (2018) who study interest rate differentials between the Irish and UK loans of Irish banks while controlling for other loan characteristics.[2] Further work on this topic ought to study the determinants of SME interest rates by focusing on firm characteristic data.

[1] Box author: Niall McGeever. Email: niall.mcgeever@centralbank.ie

[2] Carroll, James, and Fergal McCann (2018), "Observables and Residuals: Exploring Cross-Border Differences in SME Borrowing Costs", *Journal of Financial Services Research*, forthcoming.

Appendix 1: Data Sources

The Central Bank of Ireland's *SME Market Report* is compiled by the Macro-Financial Division and aims to collate information from a range of internal and external sources to give an up-to-date picture of developments in the Irish Small and Medium Enterprise (SME) credit market. The report provides information on credit demand, credit access, loan terms and conditions, loan default, interest rates and credit market concentration. The report is released annually. The information in this report draws from the following sources:

- Central Bank of Ireland *Credit, Money and Banking* statistics, Q1 2010 to Q1 2018. This source contains outstanding lending and new lending by quarter and sector for all Irish credit institutions. See Business Credit and Deposits Explanatory Notes on the Central Bank of Ireland website for more details.
- Department of Finance *SME Credit Demand Survey*, September 2012 to September 2017. This nationally representative survey of 1,500 Irish SMEs is carried out on a six-monthly basis, and collects information on firms' demand for credit, success in applying for credit, trading performance and views on Government interventions in the SME credit market.
- European Central Bank (ECB) / European Commission (EC) *Survey on the Access to Finance of Enterprises* (SAFE), September 2014 to March 2018. The Irish component of this European survey contains information for 500 SMEs. The cross-country nature of the survey allows credit conditions faced by Irish SMEs to be placed in an international context.
- Central Bank of Ireland loan-level data, June 2017 and December 2017. This dataset provides information on a wide range of loan characteristics including outstanding balances, sector of activity and loan repayment for the population of enterprise loans outstanding at Allied Irish Banks, Bank of Ireland and Permanent TSB and Ulster Bank. 'Default' is defined according to the European Banking Authority Implementing Technical Standard definition.
- Monthly euro area interest rates and new lending data to non-financial corporations are based on the ECB's *Monetary and Financial Statistics* (MFI interest rates). These data are for loans other than revolving loans and overdrafts, convenience and extended credit card debt (at all maturities), and include renegotiations.

Appendix 2: Classification of SMEs

For the purposes of the Central Bank of Ireland aggregate statistical series and the Department of Finance SME Credit Demand Survey, an SME counterparty is defined as any entity engaged in an economic activity, irrespective of legal form (i.e. corporation, partnership, sole-trader, etc.), which employs fewer than 250 persons and whose annual turnover does not exceed €50 million or whose annual balance sheet does not exceed €43 million. This is consistent with the SME definition in the Central Bank's SME Lending Regulation and used by the Credit Review Office.

In the SAFE survey, SMEs are defined solely by their employment size. Three categories of SME are analysed: Micro firms, with less than 10 employees, Small firms with 10 to 49 employees, while Medium firms are those with 50 to 249 employees. All firms with more than 250 employees are considered to be Large firms and are removed from the analysis.

The Central Bank of Ireland loan-level data do not contain the relevant information on borrowing firms to define SMEs in a similar fashion. All firms whose exposures are managed in retail and business banking units of the subject banks are modelled as SMEs, while all exposures managed in corporate banking divisions are considered to be Large firms and excluded from the analysis.

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