SME Market Report





The Central Bank of Ireland's *SME Market Report* is compiled by economists in the Financial Stability 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.¹ 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 twice yearly. This edition updates previous reports using the latest available data. The data sources are detailed in Appendix 1 and the SME definition adopted in each data source is defined in Appendix 2.

Overview

- Annualised quarterly gross new lending to non-financial, non-real-estate SMEs in Q1 2016 is 4.8% higher than Q1 2015 and 38% higher than Q1 2014. The SME lending market continues to be highly concentrated in the latest quarter, the combined market share (new lending) of the three main banks is 95%.
- The stock of SME credit shows further declines and has reduced 5.3% since the last report. Declines are due to a number of factors, including repayments outstripping new lending, revaluations and bank loan sales. Survey evidence shows that debt-to-turnover ratios are declining and the share of SMEs with no debt is increasing.
- Loan performance is improving at year-end 2015, 26% of SME outstanding stock was in default, down from 41% in 2013. The share of loans transitioning to default (six-monthly basis) has also improved and is currently at 1.8%.
- Interest rates on non-financial corporation loans under €250,000 (proxy for SME lending rates) remain high relative to euro area averages.
- The share of SMEs applying for bank credit has declined from 30% to 26% since the last report. Declines are
 observed across all SME size categories, but are particularly large for Medium SMEs. Loan and overdraft application
 rates are lower than euro area averages.
- Rejection rates show further declines. Across all finance types, the rejection rate has declined from 15% to 11% since the last report. Rejection rates are now in line with euro area averages.
- Box 1 describes initial lending flows by the Strategic Banking Corporation of Ireland while Box 2 describes lending by Microfinance Ireland. Box 3 summarises recent Central Bank of Ireland research which explores factors driving interest rate differences in the euro area.

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1 Central Bank of Ireland Credit, Money and Banking Statistics

Figure 1 presents annualised gross new lending to non-financial, non-real estate SMEs since $2010.^2$ Lending has grown strongly since the start of 2014. Annualised lending in Q1 2016 totalled \leq 2.7 billion; 4.8% higher than Q1 2015 and 38% higher than Q1 2014.

Figure 1. New SME lending (4 quarter rolling summation, by quarter), Q4 2010 - Q1 2016

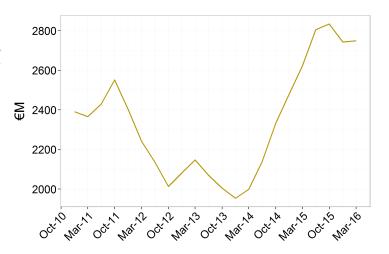
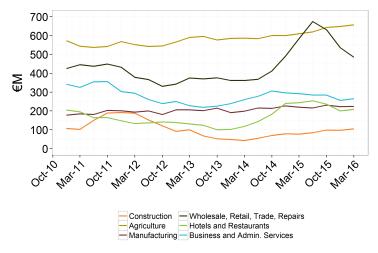


Figure 2 presents annualised gross new lending trends for the six main non-financial sectors. Compared to the Q1 2015, annualised new lending in Q1 2016 has increased in the Construction (36%), Agriculture (7.7%) and Manufacturing (1.8%) sectors but declined in the Whole-sale/Retail (-17%), Hotel/Restaurant (-14%) and Services (-9.2%) sectors. The share of new lending is highest in the Agriculture and Wholesale/Retail sectors.

Figure 2. New SME lending, by sector (4 quarter rolling summation, by quarter), Q4 2010 - Q1 2016



²Annualised data are a rolling summation over the previous four quarters. 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.

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Figure 3. Credit outstanding to SMEs, Q1 2010 - Q1 2016

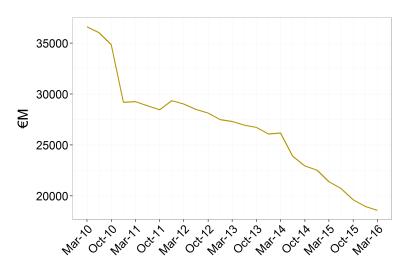


Figure 3 presents the value of outstanding credit to non-financial, non-real-estate SMEs. Stocks have declined by 53% since Q1 2010.³ Since the last report, stocks have declined by 5.3% (Q1 2016 versus Q3 2015).

Figure 4. Credit outstanding to SMEs, by sector, Q1 2010 - Q1 2016

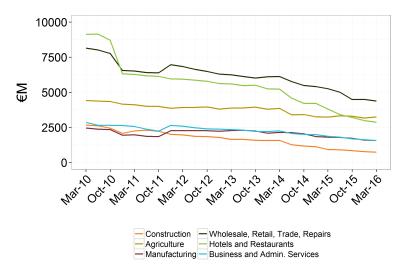


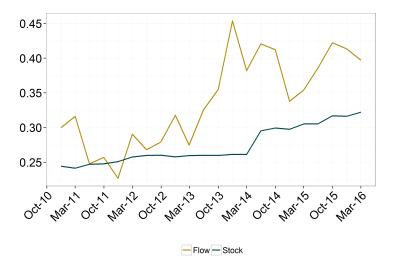
Figure 4 presents trends in outstanding credit for the six main non-financial, non-real estate SME sectors. Since the last report, stocks have declined in all sectors, particularly the Construction (-13.3%), Hotel/Restaurant (-10.5%), Manufacturing (-9.2%) and Services (-7.6%) sectors (Q1 2016 versus Q3 2015).

³Declines in outstanding credit are due to a number of factors, including repayments outstripping new lending, revaluations, loan sales and bank exits.



Figure 5 reports the movement in the Herfindahl-Hirschman index, which measures the concentration of lending 'stocks' (outstanding balance) and 'flows' (gross new lending) for non-financial, non-property-related lending of all domestic banks.⁴ Flow concentration has declined slightly since the last report (Q3 2015) while stock concentration has increased. In the latest quarter, the combined market share (flow) of the three main lenders is 95% (not shown).

Figure 5. Herfindahl-Hirschman index for non-financial, non-real estate SME lending, Q4 2010 - Q1 2016



⁴The 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 Strategic Banking Corporation of Ireland

The Strategic Banking Corporation of Ireland (SBCI) began lending to SMEs in March 2015 with the goal of promoting competition in the SME lending market and reducing the cost of credit for SMEs. The SBCI is funded by the European Investment Bank, KfW (the German promotional bank) and the Ireland Strategic Investment Fund. A number of SBCI products are available, including investment and working capital loans, agricultural investment loans, leasing and hire-purchasing, contract hire agreements and refinancing facilities. Funds are channelled through a number of bank and non-bank 'On-Lending' partners; at the end of 2015, the SBCI had committed \in 751 million to three bank lenders – Allied Irish Banks (\in 400M), Bank of Ireland (\in 200M) and Ulster Bank (\in 75M) – and two non-bank lenders – Merrion Fleet Management (\in 25M) and Finance Ireland (\in 51M).

Figure 6. SBCI and CBI lending shares (loan numbers) by region, March - December 2015

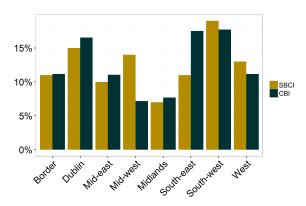
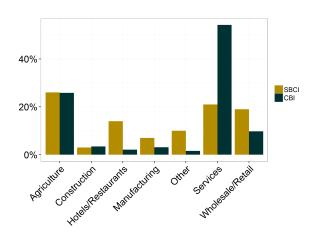


Figure 7. SBCI and CBI lending shares (loan numbers) by sector, March - December 2015



Between March and December 2015, 4,619 Irish SMEs drew down €172M in SBCI loans. This volume represents 9% of total new SME lending for this period.⁵ There are a number of compositional differences relative to the analysis of this report. For example, SBCI lending is more investment focused, with just 9% of SBCI loans used for working capital purposes (compared to 39% for the SME market in general). In terms of regional spread (Figure 6), the SBCI shows similar shares relative to CBI Loan-Level data for this period, although SBCI has a higher share in the Mid-West and a lower share in the South-East.⁶ By sector (Figure 7), the SBCI has lower shares in Services, similar shares in Agriculture and Construction, and higher shares in Manufacturing, Wholesale/Retail, Hotels/Restaurants and Other.⁷ The mean loan balance in the SBCI (€37,000) is similar to that observed in this report (€36,387).



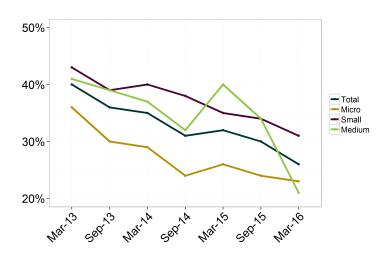
⁵Gross new lending to non-financial, non-property SMEs for the last three quarters of 2015 was €1.9 Bn.

⁶We use new lending between March and December from the latest Loan-Level data (December 2015) for comparison with the SBCI.

⁷For SBCI 'services' shares we have combined 'Health', 'Professional and Scientific' and 'Administration and Support'. Furthermore, we have added 'Transport and Storage' to 'Wholesale and Retail' for consistency with the Loan-Level data.

2 Red C SME Credit Demand Survey

Figure 8. Application rate for bank finance, March 2013 - March 2016



The demand for credit continues to decline – in the latest survey (covering the period October 2015 to March 2016), 26% of SMEs applied, down from 30% in the previous survey.⁸ While declines are observed for all SME size categories, they are particularly evident for Medium firms (declined from 34% to 21%).

Figure 9. Application rate by product, March 2013 - March 2016

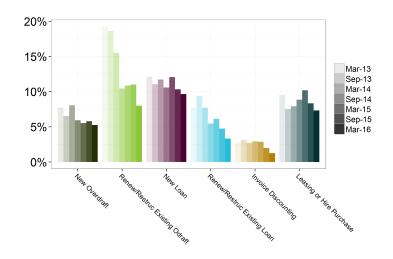


Figure 9 presents application rates for each bank finance product (all SME size categories combined). Since March 2013, large declines in applications for renewed/restructured products are observed. In the latest survey, new loans are the most requested product with 9.7% of SMEs applying on a six-monthly basis.

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⁸The survey is conducted twice-yearly: October to March (labelled 'March in this report') and April to September (labelled 'September').

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Similar to previous reports, the latest survey shows that the majority of credit applications are for working capital purposes (39% of all applications across all SME size categories), and this rate is similar across SME sizes. This is followed by new vehicles/equipment (28%) and growth/expansion (22%). Applications for growth/expansion increase with firm size.

Figure 10. Purpose of credit application, March 2016

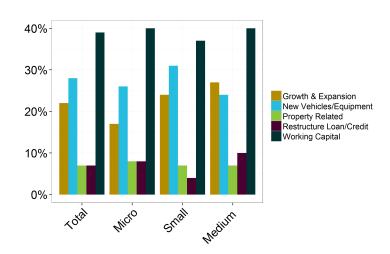
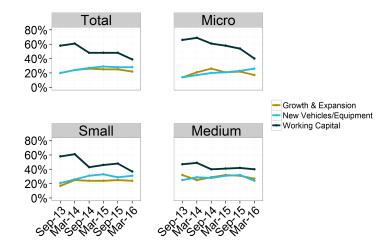


Figure 11 shows how the three main reasons given for credit applications have changed over time. Across all SME size categories, the share of applications for working capital has decreased since 2013 while the share of applications for growth/expansion and vehicles/equipment has increased slightly. These trends are generally observed across all SME size categories, although more pronounced for Micro and Small firms.

Figure 11. Purpose of credit application, September 2013 - March 2016



⁹ 'Working capital' refers to requests for the purposes of cash flow management, decline in business revenues, delayed customer payments, increased supplier costs and increased bad debts. Totals sum to greater than 100% as firms may respond with multiple reasons for requesting bank finance

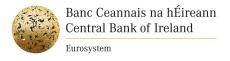
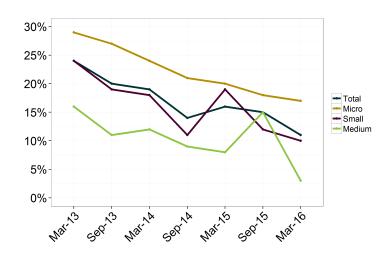


Figure 12. Bank finance rejection rates, March 2013 - March 2016



Rejection rates have declined in the latest survey. Across all SME sizes, the rejection rate has declined from 15% in September 2015 to 11% in March 2016. Declines are observed for all SME sizes, but are larger for Medium firms who currently have a rejection rate of 3%.

Figure 13. Collateral and personal guarantee rates, September 2013 - March 2016

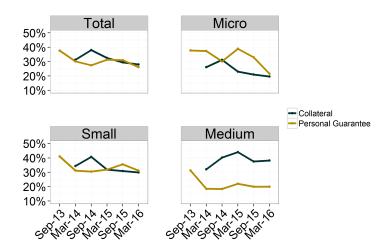


Figure 13 displays collateral and personal guarantee rates for successful and partially successful finance applications. Across all SME sizes, collateral and personal guarantee rates have declined slightly since 2013. In the latest survey, collateral rates are highest for Medium firms (38%), followed by Small (30%) and Micro (20%). For personal guarantees, rates are highest for Small firms (31%), followed by Micro (22%) and Medium (20%).

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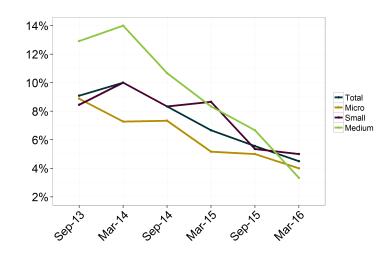
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¹⁰Rejection rates are for those SMEs applying for credit and having received a decision in the last six months. These rates are for all finance types described in Figure 9.

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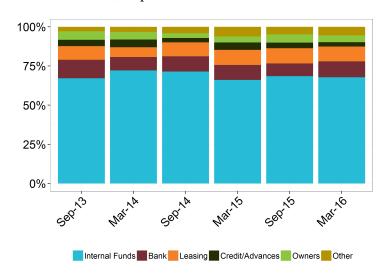
Similar to Figure 3, Figure 14 shows that SME indebtedness is declining. 11 Across all SME sizes, the median debt-to-turnover ratio has declined from 5.5% in September 2015 to 4.5% in March 2016 (peak of 10% in March 2014). While Medium firms had a significantly higher ratio in earlier survey waves, all firm sizes are now between 3.3% and 5%. The share of firms with no debt has increased from 23% in September 2013 to 37% in the latest survey.

Figure 14. Median debt-to-turnover ratio, September 2013 - March 2016



For firms that acquired fixed assets in each survey wave, Figure 15 presents the share of investment financed by internal funds/retained earnings, bank loans, leasing, credit/advances, owner's contribution and other sources (all firm sizes). The majority of SME investment is financed through internal funds/retained earnings – 69% across all survey waves – and this share has been relatively stable since 2013. The share of bank financing in the latest survey is 10% (also stable over time).

Figure 15. Average share of financing source in fixed asset investments, September 2013 - March 2016



¹² Other' includes the issue of equity shares, the issue of debt (including commercial paper and debentures), loans from friends and family, informal loans, and borrowing from non-bank financial institutions. 'Owners' refers to contributions from the owners of the firm.



¹¹The debt-to-turnover ratio is calculated using a significantly reduced sample. This is the result of missing debt and turnover information (19% and 33% of firms respectively), leading to a missing debt-to-turnover ratio for 41% of firms.

Box 2: Microfinance Ireland – Summary of Lending Trends

Backed by the Irish Government's Microfinance Loan Fund, Microfinance Ireland (MFI) is a not-for-profit lender which provides unsecured, 3-5 year term loans of up to €25,000 to Irish Micro-SMEs (fewer than ten employees and turnover of less than €2 million). Analysis of this report shows that while rejection rates have improved for such smaller firms, they generally remain the most credit constrained SMEs (see Figure 12).

MFI loans can be used by both start-up and established businesses for investment and working capital purposes. About half of all loan applications are directed through Local Enterprise Offices (LEOs), which act as the main referral partner for MFI. These LEO applications receive a one percentage point interest rate reduction (7.8% versus 8.8% for non-LEO applications).

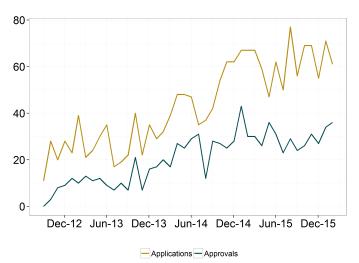


Figure 16. Microfinance Ireland – monthly numbers of applications and approvals

Since lending commenced in October 2012, MFI approved 867 loans (from 1,826 applications) leading to €13.1 million in new lending to Micro-SMEs (to March 2016). Of these successful applicants, 53% were sole traders and 56% were start-ups. The main sectors of activity were Wholesale/Retail (23%), Manufacturing (14%), Construction (8%) and Arts/Entertainment (8%), and 78% of loans were granted outside of Dublin. The latest *RED C SME Credit Demand Survey* shows that 31% of Micro firms are aware of MFI.



¹³Microfinance Ireland lending statistics available here.

3 Central Bank of Ireland Loan-Level Data

Loan-level data from Allied Irish Banks, Bank of Ireland and Permanent TSB are employed to describe lending trends and loan performance. ME default rates have improved. By loan count (share of loans in default), the rate has declined from 26% in 2013 to 18.5% in 2015. By balance (share of loan balances in default), the rate has declined from 41% to 26%.

Figure 17. SME default rates, December 2013 - December 2015

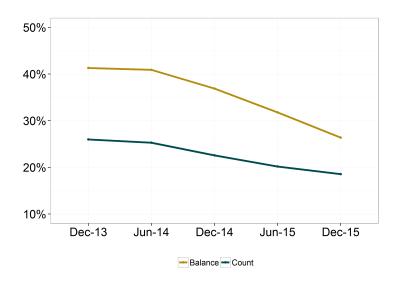
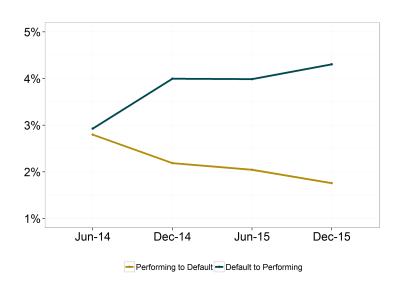


Figure 18 presents the share of SME loans that transitioned between performing/default status in each period (sixmonthly transitions). For example, 1.8% of performing loans in June 2015 transitioned to default in December 2015. This share is declining over time. Similarly, the share of defaulted loans transitioning to performing is increasing. Between the latest two datasets, 4.3% of defaulted loans switched to performing.

Figure 18. Share of loans switching performance status (six-monthly transitions), June 2014 - December 2015



¹⁴These data are collected every six months with the latest data from December 2015. 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 repay without giving up collateral.



Figure 19. SME default rates by sector, December 2015

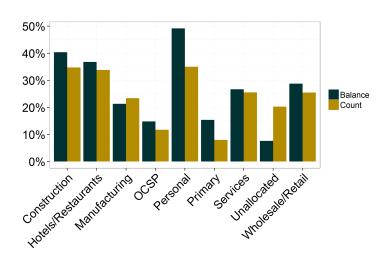
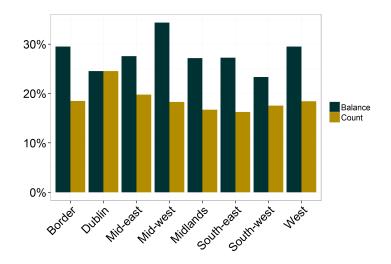


Figure 19 presents default rates across the main economic sectors. Similar to the last report, default rates are highest in the Construction, Hotels/Restaurants and Personal sectors and lowest in the Manufacturing, Primary (mostly agriculture), and Other Community, Social and Personal Services (OCSP) sectors.

Figure 20. SME default rates by region, December 2015



Default rates are more evenly spread across regions. By balance, default rates are highest in Mid-West (34%), West and Border (both 30%), and lowest in the South-West (23%) and Dublin (25%). By count, default rates are highest in Dublin (25%) and the Mid-East (20%) and lowest in the South-East (16%) and Midlands (17%). All regions show an improvement compared to the last report (not shown).

¹⁶Nomenclature of Territorial Units for Statistics (NUTS) regions - 'Border': Cavan, Donegal, Leitrim, Louth, Monaghan, Sligo; 'Mid-East': Kildare, Meath, Wicklow; 'Mid-West': Clare, Limerick,; 'Midlands': Laois, Longford, Offaly, Westmeath; 'South-East': Carlow, Kilkenny, Tipperary, Waterford, Wexford; 'South-West': Cork, Kerry, 'West': Galway, Mayo, Roscommon.



¹⁵Sectors 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 sector; the Information and Communication sector is included in Services. The Personal sector involves lending for the purposes of house purchase, property investment and consumer lending that is managed in the business banking units of the subject banks.

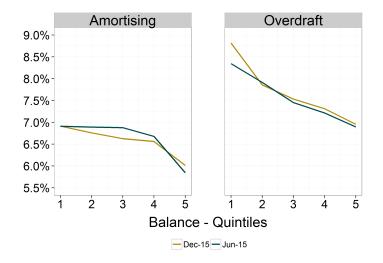
Figure 21 provides summary statistics for new lending.¹⁷ New lending is defined as that which originated since July 1st 2015. The average new amortising loan balance is currently \in 36,387, while the average new overdraft balance is \in 14,664. Interest rates on overdrafts (6.95%) are higher than amortising loans (5.54%).¹⁹

Figure 21. Description of new amortising loans and overdrafts, December 2015

Amortising:	
Average Balance (€)	36,387
Median balance (€)	16,383
Weighted average interest rate (%) ¹⁸	5.54
Overdrafts:	
Average balance (€)	14,664
Median balance (€)	7,000
Weighted average interest rate (%) ¹⁸	6.95

Figure 22 displays the mean interest rate by loan balance quintile on new amortising loans and overdrafts for the latest two datasets. In the latest wave, the average overdraft rate declines from 8.8% to 7% between the bottom and top quintiles. For amortising loans, the rate drops from 6.9% to 6%. Interest rates in December 2015 are similar to June 2015.

Figure 22. Mean interest rate on new lending by loan balance quintile, June 2015 - December 2015



¹⁹The unweighted average interest rate is 6.57% for amortising loans and 7.73% for overdrafts.



¹⁷The balance in Figure 21, for both amortising loans and overdrafts, is the summation of current outstanding and undrawn balances (for overdrafts, this summation equates to the total credit limit). Amortising finance products are comprised of loans, hire-purchasing and leasing. Renegotiations or restructuring of existing loans are included in these data.

¹⁸Average interest rates are weighted by outstanding balance

Figure 23. New amortising loan distribution, December 2015

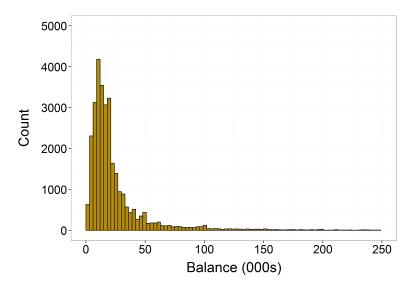


Figure 23 displays the distribution of new amortising loans.²⁰ New lending is defined as that which originated since July 1st 2015. Loans with balances above $\le 0.25M$ (1.5% of the sample) are excluded for exposition purposes. The majority (88%) of new SME loans have balances of less than $\le 50,000$.

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²⁰As with Figure 21, loan balance is the summation of current outstanding and undrawn balances. Amortising finance products are comprised of loans, hire-purchasing and leasing.

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4 ECB/EC SAFE Survey

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.²¹ Figure 24 describes how pressing a problem access to finance is for SMEs in the last six surveys.²² Since the last report, there is a decline in the share of Irish SMEs stating a 'high' concern - from 39% to 37%. The current share is above EU1 (29%) but below EU2 (39%).

Figure 24. Concerns on access to finance, September 2013 - March 2016

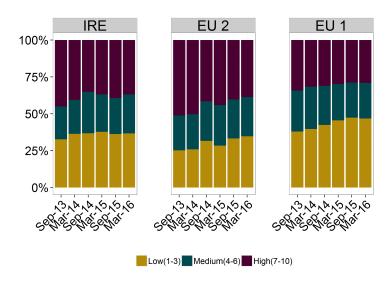
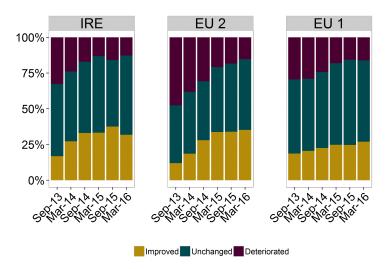


Figure 25 describes SME perceptions on bank willingness to provide credit. An improving situation is evident in Ireland and the euro area over the past three years with declining shares of SMEs reporting deteriorations and increasing shares reporting improvements. In the latest survey, the net improvement (share of improvements minus share of deteriorations) in Ireland (19%) is similar to EU2 (20%) but higher than EU1 (11%).

Figure 25. SME perceptions of bank willingness to provide credit, September 2013 - March 2016

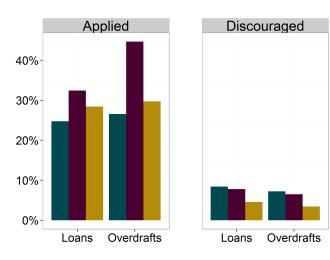




²¹The survey is conducted twice-yearly with the most recent survey covering the period from October 2015 to March 2016. Ireland is compared to two groups of countries: EU1 which comprises of Austria, Belgium, Germany, Finland, The Netherlands and France, and EU2 which comprises of Portugal, Italy, Spain and Greece.

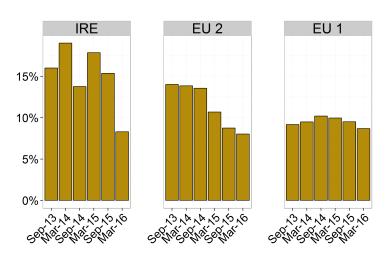
²²Responses range from 10 ('extremely pressing') to 1 ('not at all pressing')

Figure 26. Application and discouraged borrower rates for loans and overdrafts, March 2016



Loans application rates in Ireland are slightly lower than euro area averages - in the latest survey, 25% of SMEs applied compared to 28% in EU1 and 32% in EU2.²³ Overdraft application rates (27%) are also lower than EU1 (30%) and EU2 (45%). Ireland and EU2 show a higher share of discouraged borrowers (SMEs that did not apply because of fear of rejection) than EU1.

Figure 27. Rejection rates for loan and/or overdraft applications, September 2013 - March 2016



Rejection rates on loan/overdraft applications in Ireland have declined considerably in the latest survey (from 15.3% in September 2015 to 8.3% in March 2016).²⁴ The current rate is similar to EU1 (8.7%) and EU2 (8%).

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²³Following the SAFE reports, Figure 26 only includes SMEs for which bank loans and overdrafts are relevant.

²⁴SMEs that applied for both a loan and an overdraft but received a rejection for either are treated as rejected for Figure 27. The methodology has changed to the previous report - SMEs whose applications are "still pending" or "don't know" are now excluded from calculations (applied to all waves).

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For SMEs that used financing in the previous six months, Figure 28 describes the purpose of these funds.²⁵ While most finance applications in Ireland and EU2 are for 'working capital', 'fixed investment' is the main purpose in EU1. The 'fixed investment' share in Ireland has increased slightly since the last report (from 38% to 43%) and is currently similar to EU2 but considerably behind EU1 (56%).

Figure 28. Purpose of financing, March 2016

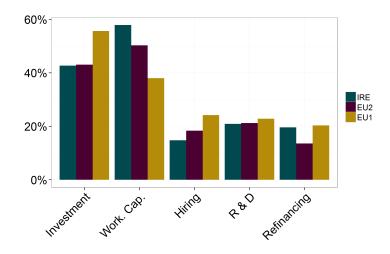
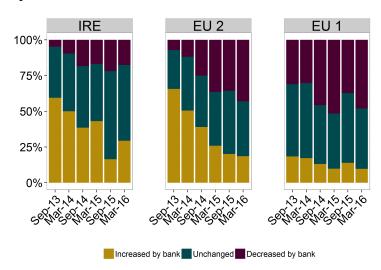


Figure 29 describes the share of SMEs that reported increased, decreased or unchanged interest rates (as reported by SMEs that applied for a new loan and/or overdraft in each survey). In the latest survey, while most Irish SMEs report an unchanged situation, the share of increases is higher than the share of decreases. This is contrary to the situation in both EU1 and EU2 where more SMEs reported decreases than increases.

Figure 29. Change in credit conditions: interest rates, September 2013 - March 2016



²⁵In SAFE, financing refers to 'external sources or from funds generated by your enterprise'. In Figure 28, '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'.



Figure 30. Change in credit conditions: loan size, September 2013 - March 2016

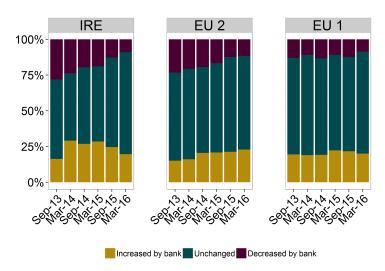


Figure 30 presents changes in loan size availability, as reported by SMEs. The share of SMEs reporting decreased loan size has consistently declined in Ireland and EU2. In the latest survey, the share of increases is higher than the share of decreases in all regions, implying that loan size availability is increasing. However, the majority of firms report an unchanged situation.

Figure 31. Change in credit conditions: collateral, September 2013 - March 2016

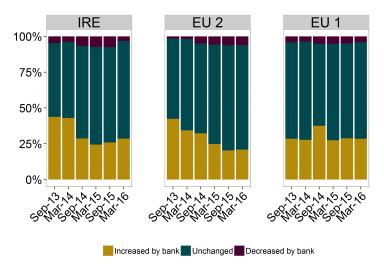


Figure 31 presents changes in collateral requirements, as reported by SMEs. In all surveys and regions, more SMEs report increased collateral requirements than decreased, implying that collateral requirements are tightening. The rate of increase has generally slowed in Ireland and EU2 (declining shares reporting increases).



5 ECB Monetary and Financial Statistics

Figure 32 presents interest rates on loans to Irish non-financial corporations (NFCs) for various originating values. We use rates on loans under ≤ 0.25 million as a proxy for SME cost of credit. The average interest rate for SMEs for the latest 6 months of data (October to March) is 5.9%, which is 3.5 percentage points higher than that for loans above ≤ 1 million and 2.1 percentage points higher than that for loans between ≤ 0.25 million and ≤ 1 million.

Figure 32. Interest rates on NFC loans (3-month moving average), Ireland, January 2006 - March 2016

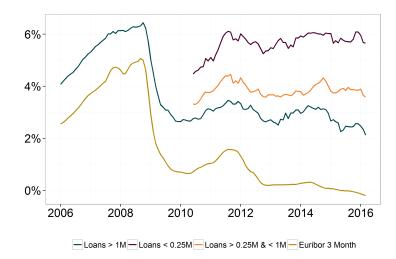
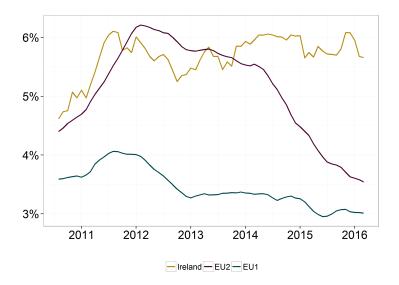


Figure 33 presents the trend in interest rates on new NFC loans below €0.25 million (our proxy for SME lending) in Ireland and EU1 and EU2 (see Appendix 2 for country groupings).²⁷ Interest rates in Ireland were similar to EU2 prior to 2014. Since then, rates in EU2 have declined while they have remained close to 6% in Ireland. Box 3 summarises recent Central Bank of Ireland research which explores factors driving interest rate differences in the euro area.

Figure 33. Interest rates on NFC loans under €0.25 million (3-month moving average), euro area, August 2010 - March 2016



²⁶In 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.

²⁷This figure is created by first calculating the three-month moving average in each country. For the comparison country groupings (EU1 and EU2), a direct unweighted average is then used. This figure excludes Belgium and Greece due to missing data.



Figure 34. Difference between interest rates on small and large NFC loans (3-month moving average), August 2010 - March 2016

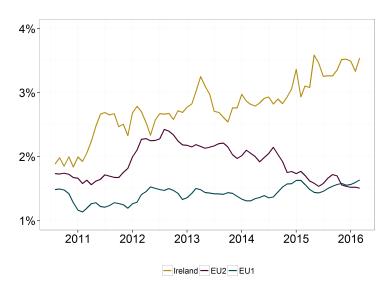


Figure 34 displays the difference in interest rates between small loans (below €0.25 million – proxy for SMEs) and large loans (above €1 million).²⁸ The interest rate gap is high and growing in Ireland, and is above 3 percentage points from late 2014. The corresponding figure for both EU1 and EU2 is approximately 1.5 percentage points.

Figure 35. New lending to NFCs (loans below €1 million) as a proportion of domestic demand, Q1 2003 - Q4 2015

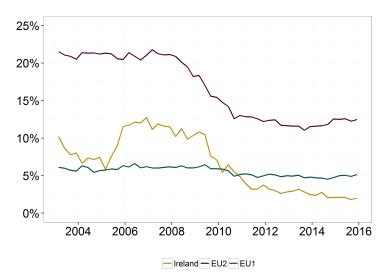


Figure 35 presents NFC lending as a proportion of domestic demand. Lending flow data are for loans on amounts up to and including $\in 1$ million.²⁹ The current ratio in Ireland (1.9% - average over last two quarters) is below EU1 (5%) and EU2 (12.4%). Other Member States with current ratios less than 5% include the Netherlands (2.6%), Austria (3.9%), Finland (4%), France (4.1%), and Germany (4.6%).

²⁹This 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 downloaded from *Eurostat*. Irish domestic demand data are downloaded from the Central Statistics Office and exclude "Intangible Assets" and "Machinery and Equipment of which: Other Transport". All data are at current market prices and are non-seasonally adjusted. Monthly new lending data are aggregated to quarterly for comparison. EU2 excludes Greece due to missing data.



²⁸This 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 (EU1 and EU2), a direct unweighted average is used. These averages exclude Belgium and Greece due to missing data.

Box 3: Understanding SME interest rate variation across Europe

Figure 33 of this Report shows that interest rates vary significantly across Europe. Recent research carried out at the Central Bank of Ireland explores the potential sources of this heterogeneity.³⁰ The aims of this research are twofold: first, to test whether interest rate differentials are explained by compositional differences in SME populations across countries; second, to explore the role played by country-level factors, including default rates, competition and banking sector stress.

Using cross-country data from the ECB/EC Survey on the Access to Finance of Enterprises, the authors find a number of firm characteristics which affect overdraft interest rates. For example, larger firms, in terms of employees and turnover, are charged less. They also find that rates are lower for older firms, firms that experienced recent turnover increases, and firms that borrowed to invest. However, it is found that controlling for such firm-level characteristics does not, in general, reduce overall country-level differences in interest rates.

Figure 36. Relationship between SME interest rates and SME default rates

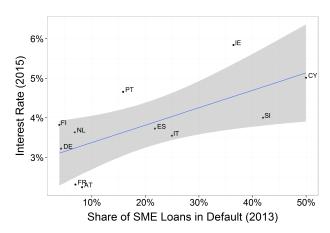
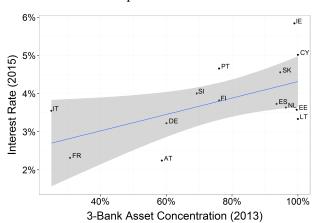


Figure 37. Relationship between SME interest rates and bank competition



The analysis is extended by examining whether country-level SME interest rates (using average monthly rates on NFC loans under €250,000 during 2015 as a proxy) are associated with the following factors: banking sector cost efficiency; institutional factors relating to recoverability of collateral; existing and predicted default rates on SME lending; competition in the banking sector; banking sector risk and cost of funds; general macroeconomic performance. Using simple univariate correlations, they observe a significant positive relationship between interest rates and past/predicted SME loan defaults, and a negative relationship with the level of bank competition – see Figure 36 and Figure 37.³¹ Interest rates are also higher where banking stress is high (measured using credit default swaps spreads and Government bond yields) and where unemployment is above historical levels. No correlation is observed between interest rates and banking sector profit/cost ratios, the cost of funds, or the efficiency of the insolvency system.

³¹Interest rate data sourced from ECB *Monetary and Financial Statistics*. Default and impairment rates calculated using the EBA 2014 stress test results. Bank concentration measures sourced from the World Bank *Global Financial Development* database.



³⁰Carroll, J. & McCann, F. Understanding cross-country interest rate variation in Europe *Central Bank of Ireland Quarterly Bulletin*, 2016, 2, April.

Appendix 1: Data Sources

- Central Bank of Ireland *Credit, Money and Banking* statistics, Q1 2010 to Q1 2016. This source contains lending stocks and flows by quarter and sector for all Irish banks.
- Department of Finance *Red-C SME Credit Demand Survey*, October 2012 to March 2016. This nationally representative survey of 1,500 Irish SMEs is carried out on behalf of the Department of Finance on a six-monthly basis, and collects information on a range of economic and financial factors including firms' demand for credit, their success in applying for credit, their trading performance and their 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), October 2012 to March 2016. 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. In this report, Ireland is compared to two groups of EU countries: EU2 is comprised of Portugal, Spain, Italy and Greece while EU1 is comprised of Austria, Germany, Belgium, Finland, The Netherlands and France.
- Central Bank of Ireland loan-level data, December 2013, June 2014, December 2014, June 2015, December 2015. This data set 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. 'Default' is defined as loans greater than 90 days past due, or deemed unlikely to repay without giving up collateral (Basel II).
- 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 (all maturities), and include renegotiations.

Appendix 2: Classification of SMEs

For the purposes of the Central Bank of Ireland aggregate statistical series and the *Red-C 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 the standard EU definition of an SME, and is consistent with that applied in the Code of Conduct on SME Lending and by the Credit Review Office.

In the SAFE survey data, 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. Rather, SMEs are separated from Large borrowers in the data in a manner similar to that used by the current EBA/SSM Asset Quality Review. 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.

