Research Notes

Measuring Credit Constraints for Irish SMEs

Conor O'Toole, Petra Gerlach-Kristen and Brian O'Connell

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Introduction

Small- and medium-sized enterprises (SMEs), firms with less than 250 employees, are the backbone of the Irish business economy. The most recent CSO Business in Ireland survey (2010) indicates that SMEs constitute 99.8 per cent of active enterprises, 69.1 per cent of persons engaged, 51.5 per cent of turnover and 46.8 per cent of gross value added in the non-financial business economy[1]. Determining the factors that support or hinder SME performance, and developing a supportive business environment for their successful operation, is critical to a sustained, employment-intensive, recovery. Within this context and given the scale of the banking sector crisis in Ireland, there has been considerable research, both academic and policy oriented, which has identified access to credit as a core constraint to SME performance (Forfás, 2012; Holton et al., 2012; Holton & McCann, 2012; Lawless & McCann, 2011 and 2012; NESC, 2012). As a policy response, a number of measures have been undertaken to date including SME lending targets for the main pillar banks, AIB and Bank of Ireland, the establishment of the Credit Review Office, the continued development of non-bank financing initiatives, and the detailed measures presented in the *Action Plan for Jobs* 2012 and 2013.

This research Note builds on the ongoing ESRI work in the area of SME financing. We first review what fraction of firms in Ireland view access to finance as a growth impediment. We then discuss what establishes a credit constraint and estimate the share of affected firms using survey data. Correctly establishing the degree to which constraints are binding is necessary to estimate the effect of constraints on the macro economy as well as evaluating the credit requirements to support economic recovery.

Problems facing Irish SMEs

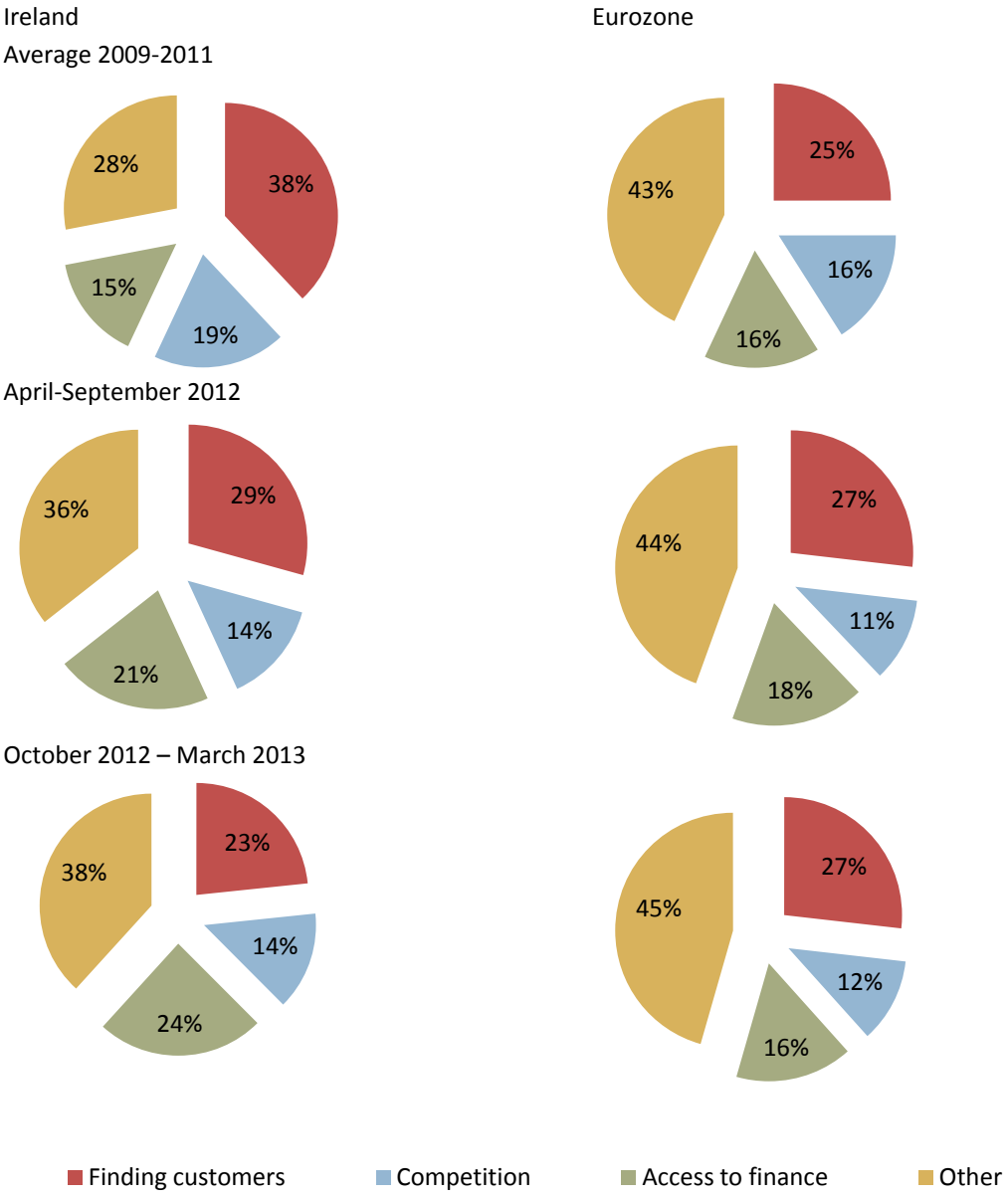
There are many factors that determine the profitability and success of SMEs, of which access to finance is only one aspect. From a policy development perspective, determining the relative importance and the impact of these factors is essential to target the correct response. In this section, we review data from

[1] These statistics are calculated by the CSO as a share of the business economy. Not included are agriculture, financial intermediation, insurance and the public sector.

the ECB SAFE survey to gain a sense what SMEs view as the largest obstacle to their growth and development.

In SAFE, firms are asked to identify which of the following issues is the greatest challenge they face: finding customers, competition, access to finance, cost of production or labour, availability of skilled staff or experienced managers, regulation or other factors. Figure 1.1 outlines the results reported by firms in Ireland and the Eurozone for three time periods: 1) average between 2009 and 2011, 2) April 2012-September 2012, and 3) the most recent SAFE data, October 2012-March 2013.

FIGURE 1.1 Problems facing SMEs in Ireland and the Eurozone since 2009



Source: Authors' calculations using ECB SAFE Data.

The figures indicate that, on average, the main problem that firms have faced since the onset of the crisis in Ireland (until September 2012) has been finding customers for their products and services. Over the period 2009-2011, nearly 40 per cent of firms indicated that finding customers was the biggest problem they faced. Between April 2012 and September 2012, finding customers was again noted as the biggest problem that firms reported (29 percent of firms). Both of these figures are higher than the Eurozone average. Given the scale of the decline in aggregate Irish household consumption, and the fact that the majority of SMEs are solely reliant on domestic demand, this is unsurprising. Recent research by O'Connell, O'Toole and Žnuderl (2013) estimate the peak to trough fall in aggregate consumption in Ireland at nearly 20 per cent. This is much larger than experienced by all other Eurozone countries.

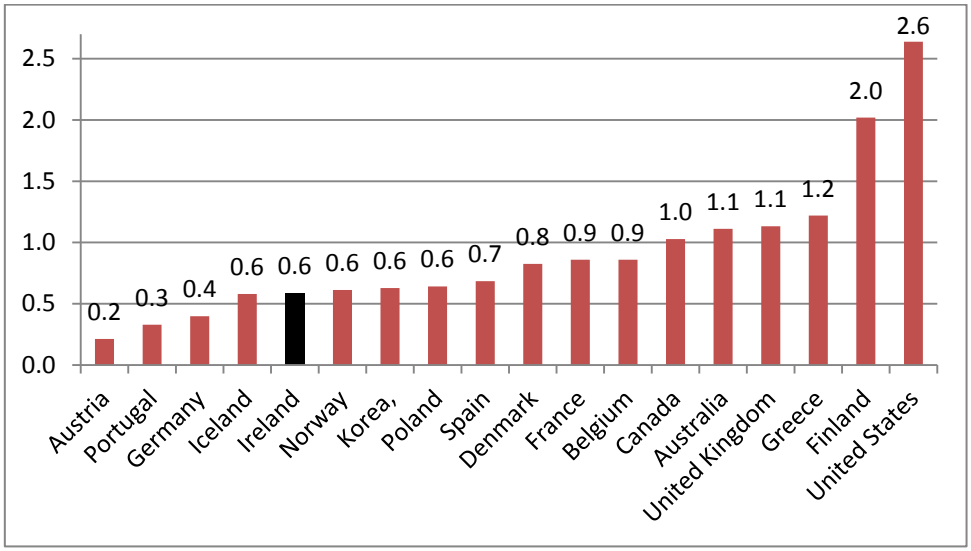
Access to finance has been the third most reported problem facing firms in Ireland on average between 2009 and 2011. Circa 16 per cent of firms indicated it as the biggest obstacle to their growth. This increased slightly in the period April 2012 – September 2012 to 21 per cent, and to 24 per cent for October 2012 – March 2013. This upward trend suggests either that it may be becoming easier for Irish SMEs to find customers, or that the access to finance has become more difficult, or both.

Bank credit for Irish SMEs

While external financing options for firms contain a range of bank and non-bank alternatives, Irish SMEs have traditionally been heavily reliant on bank-based lending. Figure 1.2 presents for a range of countries the ratio of stock market capitalisation to bank credit over the period 1996 to 2006. A ratio of one implies that stock market funds and bank loans are equally important. The smaller the ratio, the more dominant are bank loans as financing source.

The value for Ireland is one of the lowest of the countries presented and highlights the fact that for formal external finance, bank credit is the most important source for Irish firms. This is also highlighted in forthcoming research by Lawless, McCann, and O'Toole (2013) who find that, of the mix of available external financing used by firms in Ireland, bank credit is the most important source for SME investment and the second most important for SME working capital (behind trade credit).

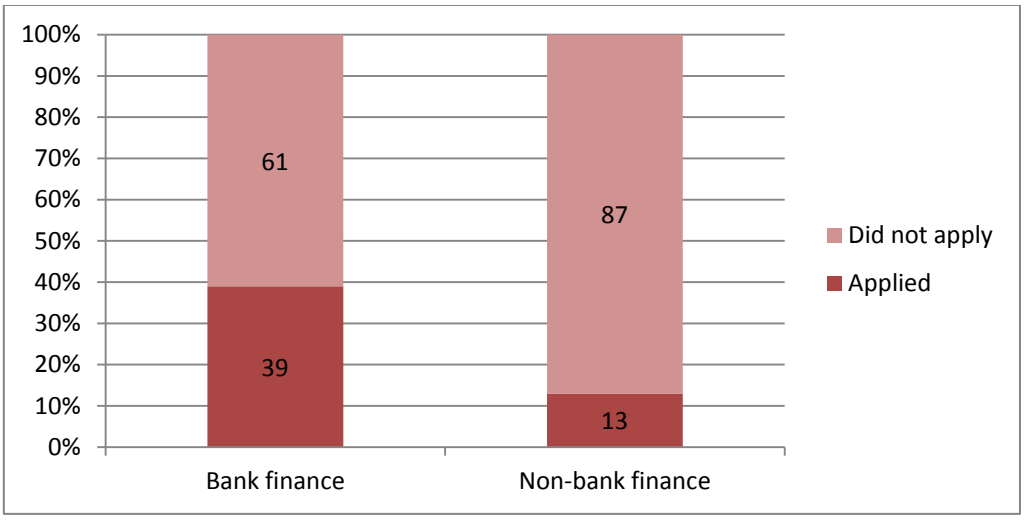
FIGURE 1.2 Stock market capitalisation-to-bank credit ratio – Average 1996-2006 – Selected Countries



Source: Authors' calculations using World Bank Financial Development Indicators database.
Note: Ratio is calculated as in Levine (2005).

Reviewing more recent data, this importance of bank credit for Irish firms is reflected in the application rates across financing type in the recent RedC/Department of Finance data presented in Figure 1.3. In the most recent survey, April-September 2012, 39 per cent of SMEs applied for bank finance which is considerably higher than the 13 per cent applications for non-bank finance. Non-bank finance includes government financial support, loans/equity from family or friends, or business partners, venture capital and business angels. This highlights the importance of bank credit relative to such alternatives.

FIGURE 1.3 Application rates for bank and non-bank finance for SMEs in Ireland

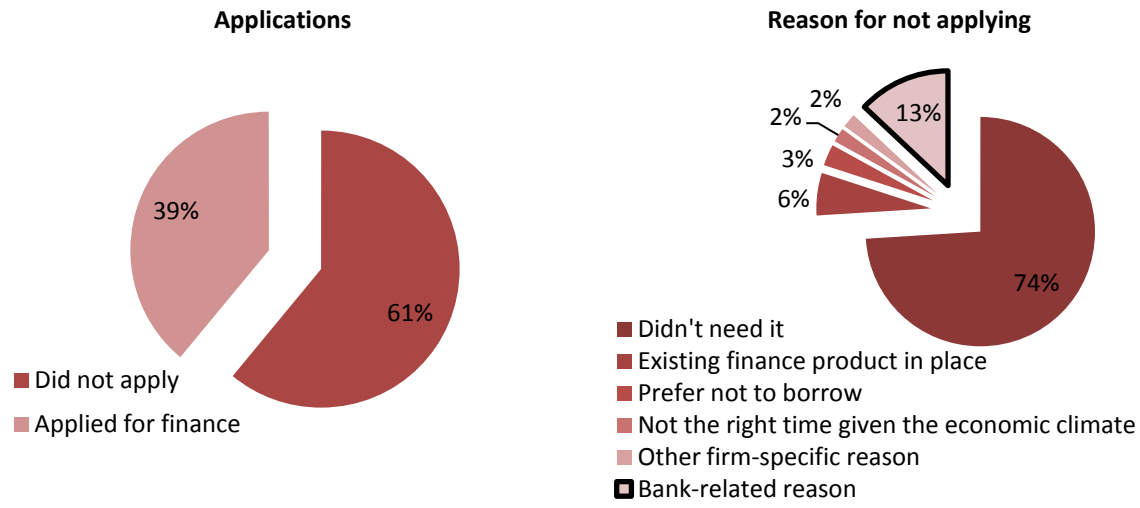


Source: Authors' calculations using DoF/RedC data for survey period April 2012-September 2012.

The recent RedC/Department of Finance data indicate that 39 per cent of firms applied for bank finance and 61 per cent made no application. Given the scale of the decline in the domestic economy, it is pertinent to evaluate both the reasons for not applying as well as the outcome of applications to get a sense of both credit supply and demand sides.

Figure 1.4 presents the share of firms that applied and did not apply for finance as well as a breakdown of the reasons given by those that did not apply. Of the non-applicants, 74 per cent of firms noted that they just did not need finance. This equates to just over 50 per cent of all firms in the sample: one in every two firms did not apply for finance because they didn't need it. This low credit demand may reflect the difficult trading conditions and the lack of aggregate demand for SME products and services.[2] Of interest to our discussion of credit constraints, 13 per cent of non-applicants noted that they did not apply for bank-related reason. We return to this group in the next section.

FIGURE 1.4 Application rates and reason for not applying – April 2012 – September 2012



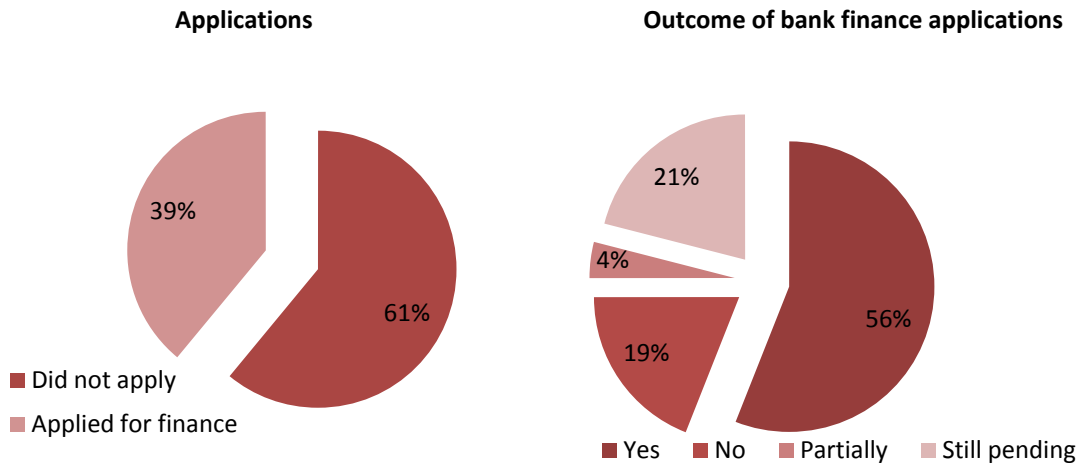
Source: Authors' calculations using DoF/RedC data for survey period April 2012-September 2012.

Figure 1.5 sheds light on credit supply. Of the 39 per cent of firms that applied for credit, 56 per cent were completely successful. A further 4 per cent were partially successful and 19 per cent were rejected in full. Our concern in relation to credit constraints lies with the group of firms rejected outright or only partially

[2] In the RedC/Department of Finance survey, firms were also asked whether or not they thought they would apply for finance in the next six months. Of this group we find again the majority (68 per cent) indicated that they would not be applying for finance with no need being the biggest reason provided.

successful. We now examine what share of these rejections was due to credit constraints.

FIGURE 1.5 Success rates for financial applications – April 2012 – September 2012



Source: Authors' calculations using DoF/RedC data for survey period April 2012-September 2012.

Credit constraints

There is considerable debate in the international literature concerning how to identify if a firm is credit constrained. In a functioning market system of efficient capital allocation, a banks' function is to channel credit to firms with profitable operations and investment opportunities and to reject credit to those without. The bank should, therefore, evaluate each credit application on its own merits and make its allocation decisions on borrower-based factors such as profitability. An application should be successful if the firm has either a) a profitable investment opportunity that has a positive net present value at the current market cost of capital or b) a profitable ongoing operation which requires normal credit facilities. If such a firm is denied finance, it must be to a bank-related reason, such as a policy not to invest in certain sectors. We refer to this kind of credit constraint as credit rationing.

A second kind of credit constraint exists if firms do not apply for credit due to a bank-related factor, such as their belief that the banks are not lending. The literature refers to this group of SMEs as discouraged borrowers.

We apply this logic to the RedC/Department of Finance survey data and identify the two types of credit constraints using the categorisations spelt out in Table 1.

TABLE 1 Overview of SME credit constraint definitions

Constraint	Definition
Denied finance (credit rationed)	Constrained if applied for bank finance, were refused finance or received less than 70 per cent of the amount sought and refusal was a bank-related reason, i.e. • Change in bank's lending policy; • No longer a sector/business the banks lends too; • Granted a lower level than requested; or • Lack of collateral.
Did not apply (discouraged borrowers)	Did not apply due to a bank-related reason i.e.: • No trust in banks; • Believe banks not lending; or • Turned down before/possible or fear of rejection • Procedure too difficult or slow/too many terms and conditions
Overall credit constrained	Denied finance + did not apply for bank finance

Source: Authors' calculations.

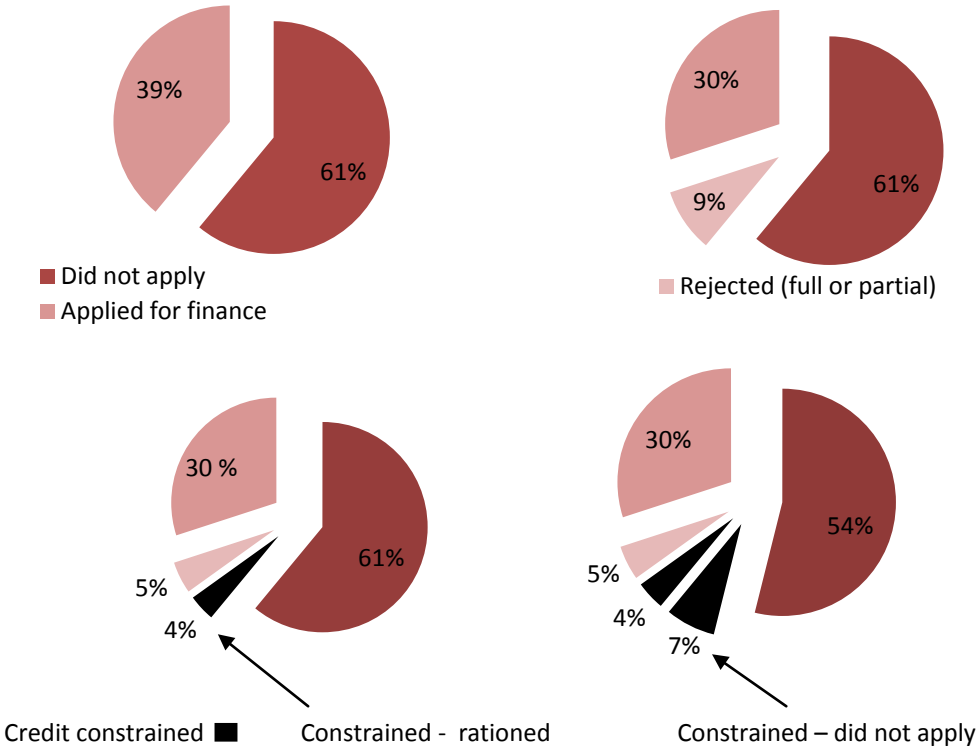
Note: All variables are binary indicators taking the value of one if the firm is constrained by that definition and 0 otherwise.

We count as credit rationing cases where a loan application was rejected for a bank-related reason. For instance, if the bank decides to change its lending policies and not to provide loans to certain sectors anymore, a case of rationing exists. Rationing also captures cases in which the bank only grants a fraction of the requested loan. If the bank thinks an application is worthwhile, it should grant the requested loan in full, possibly at a higher interest rate. Not granting the full amount requested means the bank is rationing. Similarly, we count loan rejections on the grounds of poor collateral as credit rationing, because in normal circumstances the bank simply should charge a higher interest rate to take account of the relevant risk.[3]

[3] We do not include firms who did not take up the finance because the interest rate offered was too high. To be constrained, firms must be able to deliver the project or finance current operations at the market cost of capital. Therefore this group of firms, given they were offered credit in the market, are demonstrating they cannot work the capital at this price.

Figure 1.6 presents our estimates of credit constraints using the above definitions. Starting with credit applications, while 39 per cent of firms applied for bank finance, 20 per cent of those were rejected in full or partially. This represents approximately 9 per cent of all firms. If we apply our definition above on credit rationing, we estimate that under half of this group or 4 per cent of all firms are constrained by this measure. We can add to this the group of firms who did not apply for a bank-based reason which is 13 per cent of the non-applications or 7 per cent of all firms. This provides an estimate of credit constraints in the Irish economy of approximately 11 per cent of, or one in nine, firms.[4]

FIGURE 1.6 Estimating credit constraints in Ireland – April 2012 – September 2012



Source: Authors' calculations using DoF/RedC data for survey period April 2012-September 2012.

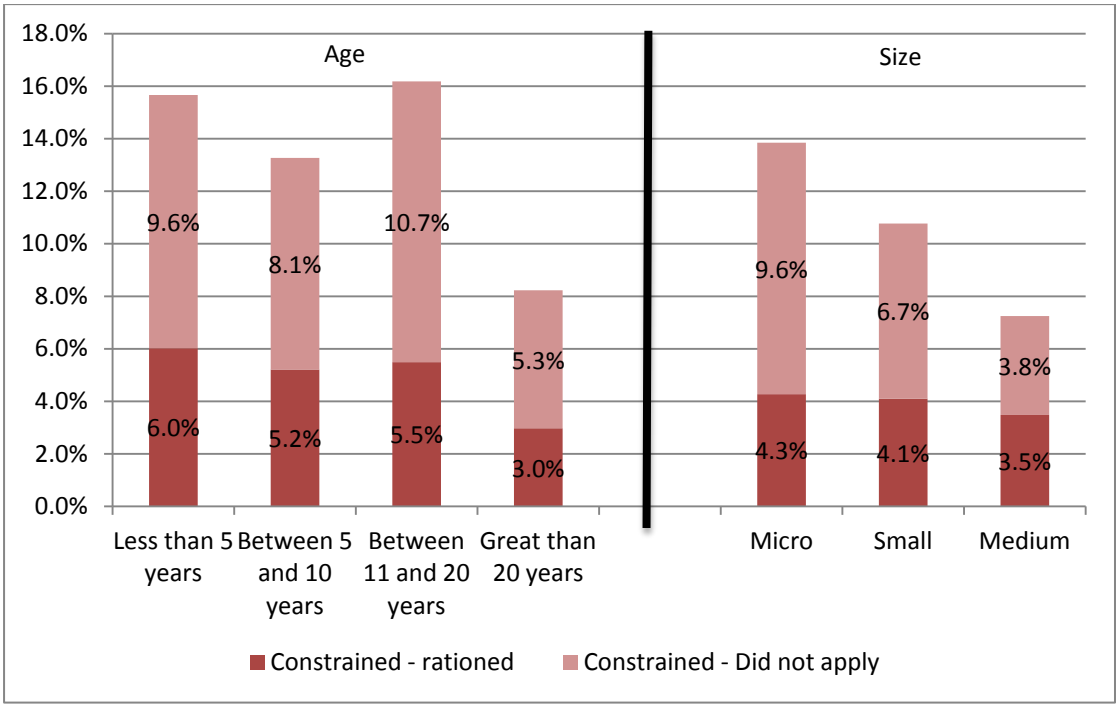
Breakdown of constraints by age, size, sector and exporting

Figure 1.7 illustrates the breakdown of credit constraints by firm age. The youngest firms appear to be the most credit rationed, while firms between 11 and 20 years old appear to constitute the largest portion of discouraged

[4] If we exclude the group of firms that provide turned down before as a reason for not applying, the share of constrained firms drop from 7.1 per cent to 6.5 per cent of all firms.

borrowers. The oldest firms, those more than 20 years old, display the lowest portion of credit rationed and discouraged borrowers and so constitute the least overall credit constrained age bracket. This would conform to our theoretical expectations of older firms having a longer banking relationship with their lender, which may work in their favour once rationing sets in.

FIGURE 1.7 Share of constrained firms by firm age and size – April 2012 – September 2012



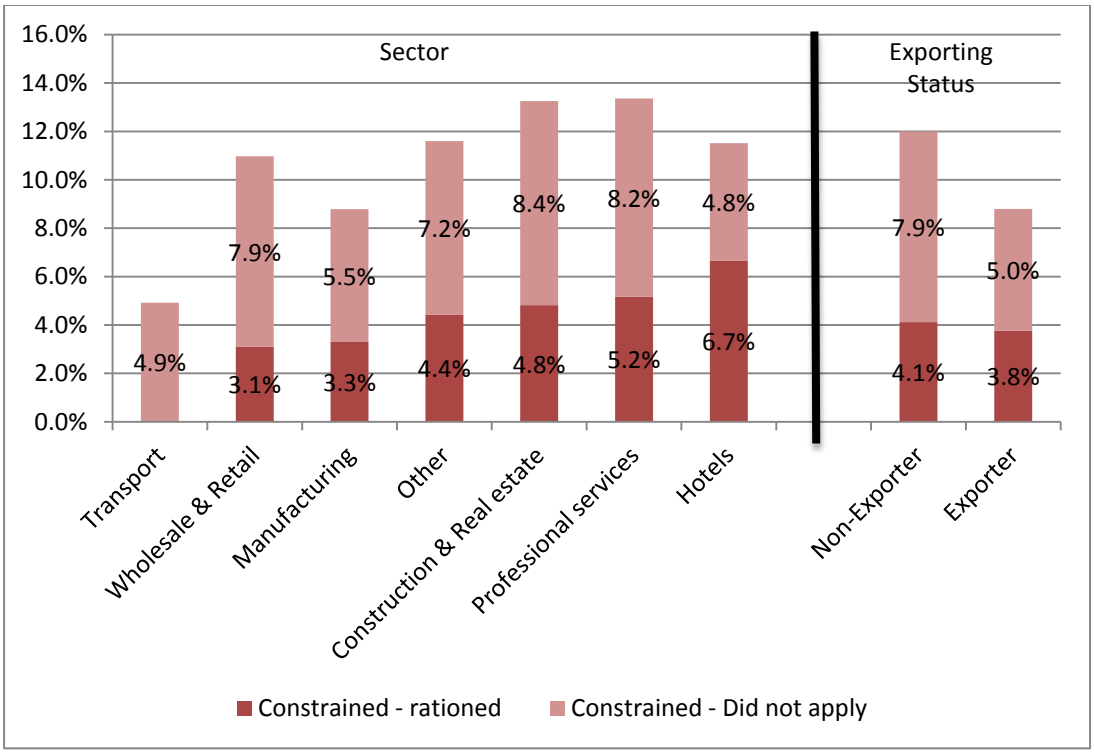
Source: Authors' calculations using data from Department of Finance/Red C survey. Micro-sized firms are defined as in Red C as having less than 10 employee's, small-sized firms have between 10 and 50 employee's and medium-sized firms have between 50 and 250 employee's.

Figure 1.7 also outlines the breakdown of credit constraints by firm size. By both measures, medium sized firms appear to be the least constrained. Micro- and small-sized firms appear to be suffering from credit rationing to more or less the same degree. Micro-firms however display by far the largest proportion of discouraged firms. This may be due to a tightening of banks' application procedures since the end of the boom, which very small firms with little financial manpower find difficult to master.

Figure 1.8 illustrates the prevalence of credit constraints across the different sectors of the economy populated by SMEs. As expected, construction and real estate represents one of the most constrained sectors and is the sector with the highest portion of discouraged firms. The most constrained sector overall appears to be professional services. The hotels sector represents the sector suffering most from credit rationing. The constraints faced by firms in the construction industry

and the hotel sector are unsurprising considering the high exposure banks had built during the boom.

FIGURE 1.8 Share of constrained firms by sector and exporting status – April 2012 – September 2012



Source: Authors' calculations using data from Department of Finance/Red C survey. Note: Other sector refers to firms in primary agriculture, human, health and social work and administration and support services. We have not included the firms in the financial intermediation and insurance sectors.

One of the least constrained sectors in Figure 1.8 appears to be manufacturing. The relatively strong performance of manufacturing firms may reflect their access to finance abroad.[5] This is also confirmed by Figure 1.8, which displays the breakdown of constraints between exporting and non-exporting firms. The non-exporting firms appear to be significantly more credit constrained than their exporting counterparts. Exporting firms have a marginally smaller proportion of credit rationed firms and a significantly smaller proportion of discouraged firms. However, this could be due to a potential selection bias whereby exporting firms are, from the outset, more productive and profitable.

Conclusions

Since 2009 Irish SMEs have reported that finding customers has represented the biggest challenge faced by their business. However, an ECB survey that uses data

[5] The low level of constraints in the transport sector is something of an anomaly and may be associated with the relatively small number of firms surveyed from that sector.

up to March 2013 suggests that this problem's relative importance is declining, with access to finance concerns becoming equally important.

Using Irish survey data collected up to September 2012, we estimate that only one in nine Irish SMEs seems credit constrained. We count as constrained both firms that are suffering from credit rationing by lenders and those that are discouraged from application for credit in the first place. We find that constraints are most prevalent for both younger and smaller firms and for firms operating in the construction and real estate sector and the hotels sector. Conversely, exporting firms are less likely to be credit constrained, perhaps due to selection bias whereby exporting firms are more profitable and productive.

The shift in the concerns of Irish SMEs away from finding customers and towards access to finance may be an important indicator for the future of SME performance in Ireland. As the economy recovers, demand for credit is likely to grow as well. This expansion in credit demand would come at a time when the banking sector still is undergoing major restructuring and balance sheet consolidation. Policy responses such as SME lending targets for the pillar banks and the establishment of the Credit Review Office have tried to ensure an adequate flow of credit to the SME sector to date. Whether further policy actions need to be taken as recovery takes hold, and if so, which, is a key issue. As such, optimal credit provision in a recovery scenario is a vital area of future research.

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