Firm Access to Finance in the European Crisis

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Abstract

This paper assesses the effect of the recent economic and sovereign debt crisis on credit demand and supply and the terms and conditions of bank financing for small and medium enterprises (SMEs) across euro area countries. We combine firm micro data with real and financial macroeconomic variables to examine which factors are important for supply and which for demand. We find that real economic variables such as changes in gross domestic product (GDP) are important drivers of credit demand, while financial variables such as sovereign yields have a significant effect on the supply of credit and the terms and conditions on bank loans.

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1 Introduction

Since the start of the financial turmoil in August 2007, the euro area has been experiencing serious economic problems. The outbreak of the U.S subprime crisis and uncertainty about banks' exposure to it caused lending in the interbank market to dry up. This led to tightening of credit conditions in the real economy and a slowdown in economic growth. The situation was exacerbated by the collapse of Lehman Brothers in September 2008. The escalation of financial stress affected the economy through a number of channels, documented by the IMF in 2009. One of the most crucial was the restriction of financing for the real economy, known as the "credit crunch", generated by banks funding troubles and the deleveraging pressures. This was accompanied by large declines in business and consumer confidence and falls in equity prices that diminished wealth and dampened aggregate demand and growth.[1] Tensions also emerged in the euro area sovereign bond market, as unsustainable fiscal deficits and high levels of debt sent yields of some government bonds to record highs (see Figure A). This paper looks at how these events have affected firms across the euro area in terms of the availability of bank credit in 2009 and 2010. We focus on bank credit as it has been shown to be the chief form of financing available to SMEs (see Beck et al. (2008)).

To address this issue, we combine firm-level data from a survey on the access to finance of SMEs in the euro area (SAFE) carried out by the European Central Bank (ECB) with macroeconomic predictors of firms' demand for and supply of credit. These predictors can be delineated into forces relating to the real economy (GDP changes, industrial order book changes), debt overhang (private credit to GDP) and sovereign/financial factors (sovereign bond yields, banks' credit default swaps (CDS)). We find significant evidence that countries' post-boom debt overhang is having a significant impact on the supply (both in terms of loan rejection and lending conditions) and demand for SME credit. We also find that a weaker real economy is associated with lower credit demand, but do not find a robust impact of sovereign and financial factors on demand. Our results also confirm that sovereign and banking crises are having a direct negative impact on both SME access to finance and lending conditions. This provides direct evidence of this micro-level lending channel through which sovereign and financial problems can exacerbate and prolong recessions by affecting the real economy.

There are many mechanisms through which decreased access to finance and tougher lending conditions for firms negatively impact the real economy. Campello et al. (2010) show that firms that are financially constrained planned lower employment and technology, capital and marketing expenditure than matched unconstrained firms. Mach and

[1] For a detailed overview of the financial crisis and the subsequent recession, see the IMF World Economic Outlook, 2009.

Wolken (2011) show that credit constraints were the most important factor in predicting which small firms exited the market in the US between 2003-2008. A large literature in international trade has also shown that credit constraints negatively impact firms' ability to both export and import.

The impact of debt overhang on all aspects of SME financing (rejection, demand, lending conditions) is notable throughout the paper. These findings confirm the fears of contributors such as Reinhart and Rogoff (2009), who have vociferously argued that the current global crisis can not be solved by traditional counter-recessionary policies. Due to the level of debt built up in most Western economies, Rogoff[2] has referred to the current crisis as a "Great Contraction", characterised by over-saving and balance sheet reduction of households and firms, which causes significant depression of demand. High levels of debt have been shown in Catao (1997) to make individuals reluctant to borrow and invest as they wish to unwind their stock of debt.

Our findings on sovereign bond yields confirm that they play an important role in determining both the cost and quantity of credit to the private sector particularly through the banking sector. There are three main channels by which sovereign bonds affect SMEs' bank financing (Gonzalez-Paramo, 2011).[3] First the yield on sovereign bonds serve as a benchmark, either explicitly or implicitly, for interest rates on loans charged by banks, and are generally seen as a floor for private sector funding costs (price channel). Secondly, given that sovereign bonds are the predominant source of collateral used in refinancing operations with the Eurosystem and in the interbank market, when the value of banks' collateral declines and they must either reduce the amount they borrow or provide more collateral. Restricted access to funds for banks will have implications for their ability to finance the private sector (liquidity channel). Finally a decrease in the price of sovereign bonds held by banks causes a decline in the value of their assets, and reduces their capital base, which could ultimately restrict the supply of credit to the private sector (balance sheet channel). Therefore we would expect the yields of government bond yields to have an effect on the supply and cost of firm financing, particularly from banks, which is the focus of this paper. We are unaware of work that has identified this channel at the micro firm level.

The important role of the financial sector in the wider economy is well documented. Previous work has identified the role of the banking sector in propagating real econ-

[2]See "The second great contraction", http://www.project-syndicate.org/commentary/rogoff83/English, accessed 11/11/2011

[3]Indeed the Securities Market Programme (SMP) introduced in May 2010 highlights the importance of sovereign yields. Lorenzo Bini Smaghi outlined the rationale, saying that, "as government securities are the basis for pricing all private debt instruments, our action in the sovereign bond markets aims to create the orderly conditions necessary for lenders to provide a steady flow of credit to the private sector" (ECB, 2010).

omy crises (Bernanke (1983)) and in contributing to real economy growth (see Rajan and Zingales (1998) for the effect of finance on growth and Wurgler (2000) for the role of finance in efficiently allocating capital to growth sectors). A related literature on the credit channel of the monetary policy tranmission mechanism has emphasised how banks' funding conditions can affect the supply of credit.[4] Both Mishkin (1995) and Bernanke and Gertler (1995) highlight that because "asymmetric information can be particularly pronounced for small companies" they are more likely to be "bank-dependent". This makes the bank lending channel all the more relevant for SMEs, echoing the findings of Beck et al. (2008), cited earlier in the paper. Our results on the effect of bank funding costs on SME credit conditions provide evidence for a micro firm-level channel through which these effects can transmit.

Finally, this paper contributes to the literature on the country-level, policy[5] determinants of SME financing. Using datasets spanning countries of widely varying institutional and economic development, most previous research has focused on the role of institutional quality (Beck et al. (2006)), financial liberalization (Laeven (2002)), financial development (Love (2003)), foreign bank penetration (Clarke et al. (2001)) in alleviating small firms' obstacles to credit access. This paper breaks from this literature in that it is the first to look solely at a sample of developed countries and to consider indicators of the financial and sovereign crisis. It expands on the work of Ferrando and Griesshaber (2011) who show, using the same data as the current paper, that country level factors (using country dummies) are important in explaining firms' access to credit.

The paper is organised as follows: Section 2 describes the data used. Section 3 reports results on firm demand for credit and experience in accessing bank loans. Section 4 reports results on changes in terms and conditions of credit access during the crisis period. Section 5 concludes.

[4]Hempell and Kok Sorensen (2010) show that, controlling for demand side factors and macroeconomic variables, supply side constraints such as bank deleveraging requirements are an important determinant of tightening loan supply conditions. Peek and Rosengren (1995) provide an overview of the bank lending channel and highlight the effect of banking structures on lending to firms.

[5]By this we mean those papers not focusing on banking market structure, which is a large and separate literature not considered here.

2 Data

2.1 Survey on Access to Finance of Small and Medium Enterprises (SAFE)

Since 2009, the ECB has conducted four half-yearly waves of the SAFE survey of Eurozone-area SMEs. The aim of the survey is to provide information on the financing needs of SMEs, their experience in attempting to access finance, along with information on their perceptions of current economic and financial conditions. The survey also asks firms to place their turnover, employment, ownership type, age and sector of activity into categories. As one can see from Table 1, the majority of the sample comes from four countries: Germany, Spain, France and Italy, for whom the sample of firms is representative. The overall sample for all countries is also representative of Eurozone SMEs, but for individual countries apart from those already mentioned, the samples are not representative.[6]

Figures 2 and 3 give an indication of the breakdown of the data. We see that over a third of firms can be categorised as service firms, with a quarter in manufacturing and a quarter in retail. In terms of size, one third of firms can be considered micro and small respectively, with a quarter of the sample being medium firms and 8% large firms.[7] In Figure 3, the age profile of firms is detailed. We see that almost three quarters of firms have been in existence for over ten years. On ownership, half of firms in the sample are owned by multiple owners who are either family members or business partners. A further quarter are sole traders. Public shareholding, venture capital and "other firms or business associates" make up the other quarter of the sample.

There are a number of questions that we consider in empirical analysis. Firms are asked the following question, which we use as a measure of changes in loan demand:

> For each of the following types of external financing, please tell me if your needs increased, remained unchanged or decreased over the past 6 months

On loan supply, firms are asked:

> If you applied and tried to negotiate for this type of financing over the past 6 months, did you: receive all the financing you requested; receive only part of the financing you requested; refuse to proceed because of unacceptable costs or terms and conditions; or have you not received anything at all?

We code as "Rejected" all firms who received less than 75% of the requested financing, refused to proceed or received nothing at all. Only firms that received all or more than

[6] The sample was stratified by firm size class, economic activity and country.

[7] A micro firm in this instance is a firm with less than 10 employees. Small firms have between 10 and 49 employees, medium firms have between 50 and 250 employees, while large firms have over 250.

75% of requested financing are coded as "Not Rejected". This is our measure of credit supply that will be used in the next section.

Firms are also asked two questions about lending conditions:

> We will now consider the terms and conditions of the bank financing (including bank loans, overdraft and credit lines) available to your firm. For each of the following items, could you please indicate whether they were increased, remained unchanged or were decreased over the past 6 months?

We will utilise the answers to this quesion for "level of interest rate" and "size of loan available" as two measures of lending conditions.

Finally, we also consider the perception of firms. Firms are asked:

> For each of the following factors, would you say that they have improved, remained unchanged or deteriorated over the past 6 months? - Willingness of banks to provide a loan.

Table 2 gives the share of firms in each country that take a 1 for each dummy that will be used as a dependent variable in our analysis. For example, 40.9 percent of Irish firms were rejected for a loan according to the data. Increases in interest rates on loans appear to be a very prevalent constraint, with roughly 60% of respondants reporting an increase in Portugal, Ireland, Greece and Spain.

In using all five of these variables as dependent variables, we are able to isolate the relative effects of sovereign, real and financial factors on perceptions, supply, conditions and demand for SME credit. This approach allows a wide-ranging understanding of the ways in which these wide economic phenomena effect individual firms.

2.2 Macroeconomic Variables

To capture the effect of economic activity we use the percentage change in seasonally adjusted GDP for each country over the 6 month period for each survey wave (GDP Change). We would expect an increase in economic activity to have a positive effect on the demand for loans and a negative effect on financing obstacles. For sovereign yields, we use the average level of the 10 year benchmark government bond yield for each country over the 6 month survey periods (GB10Y), which we would expect to adversely affect the supply of credit. To capture the effect of indebtedness levels in different countries we use the outstanding stock of credit to the private sector over GDP (Private Debt to GDP) and expect that it should have a positive relationship with financing obstacles and a negative relationship with demand, due to the financial and private sectors' need to deleverage. We also include another control for economic activity, which is taken from a survey of industrial and manufacturing enterprises which asks whether their order books have increased or decreased. The measure included in

the paper is the 6 month average for each period of the monthly net balance responses (Order Book Change). A final measure used to capture the extent to which stress in the financial sector affects firms' access to finance is the log of the price of the median covered default swap on bank bonds in different countries (Log CDS (Median)) for each period. We would expect this measure to be positively related to firms' obstacles to financing, as increases in banks' funding costs are likely to be passed on to borrowers.

3 Credit Supply and Demand

Our empirical strategy is to examine the questions outlined above on the firms' experiences of accessing credit, perceptions and changes in demand. The questions in the survey are predominantly qualitative in nature and we therefore use a probit specification in the following regressions. The independent variables are a combination of firm and country level characteristics. The firm characteristics incude indicators of firm size (measured by employment), an indicator of profits having fallen in the previous six months, a dummy for if the firm is a subsidiary (as opposed to a stand-alone business), age, perception of future prospects as improving or unchanged, ownership structure, measures of access to public funds, and change in capital. The country-level measures are as outlined in the previous section. All standard errors are clustered at the country-time level.

For each question on credit supply and demand, our base specification is a probit regression with all of the firm characteristics and country dummy variables. We then replace the country dummies with the macroeconomic variables discussed above. As there may be concerns about the correlations between the macroeconomic indicators for each country, we run separate specifications for each measure before pooling all of the variables to examine which has the strongest effects. Table 3 contains the coefficients on the country dummies from the baseline regressions for each dependent variable. They are all probit marginal effects and are measured as being relative to Germany.

Beginning with credit supply, Table 4 reports the results from a probit regression on whether the firm was rejected following an application for credit. The firm characteristics show that the larger and older firms were the least likely to be rejected. Access to other sources of funds, either from a public source or in terms of the firm's own capital, also reduced the probablility of loan rejection. The country dummies (shown in the first column of Table 3) are mostly significant - they are positive for five countries (Spain, Ireland, Greece, Netherlands and Portugal), showing a higher probability of credit being refused even after controlling for firm performance.

Replacing these country dummies with macro variables in Table 4, we find that, when entered separately, a decrease in GDP and a high sovereign bond yield are strongly

associated with being unsuccessful in obtaining credit. Higher outstanding stocks of debt to GDP increase the probability of individual firms being refused credit as does a higher median bank CDS, while an improvement in order book levels decreases the probability of rejection. When all of the macroeconomic indicators are entered simultaneously in column (6), we see that the funding channel picked up by bond yields is stronger than the effect of GDP growth, which is now found to be insignificant.

The survey also provides indicators of the firms' perceptions of how easy it is to access credit, which are analysed in Table 5. This question is useful in that it allows us to include credit perceptions from firms that did not formally apply for a loan and therefore captures any potentially discouraged borrowers. This is based on a question for bank loans, with firms asked; "would you say that their availability has improved, remained unchanged or deteriorated for your firm over the past 6 months?". We use a dummy variable equal to 1 if firms report a deterioration in loan availability, and 0 otherwise.

Age and size are less important for firms' perceptions of credit availablity than they were for actual experience of obtaining a loan. Falls in profits over the previous six months are significantly related to a firm reporting a reduction in credit availablility, as are negative prospects for the forthcoming six months. Access to alternative funds and own captial position have similar effects on perception as on actual rejection. The country dummies shown in column (2) Table 3 are broadly significant, with Ireland and Greece being particularly likely to report deteriorations in credit availability relative to Germany. Replacing the country dummies with observable indicators, we find the expected negative sign for GDP growth as firms in countries with positive growth are less likely to report deteriorating credit availability. Entered separately, the government bond yield and bank CDS are significantly related to higher perceptions of poor loan availablility. When all of the macroeconomic measures are entered together, the only one that is significant is the change in the order book, perhaps indicating that forward-looking prospects for the real economy have a stronger influence on perception than financial variables.

Turning to the demand side, firms were asked if their demand for various sources of funding had increased, decreased or stayed unchanged over the preceding six months. We focus on the reported demand for bank loans and categorise a demand fall dummy that equals 1 if demand has decreased and 0 if demand has remained unchanged or has increased. We run a probit regression on the demand fall using firm characteristics and country dummies. In the second specfication, we replace the country dummies with observable country variables to examine how much of the cross country variation can be explained by differences in the macroeconomic environment.

The third column of Table 3 shows that the country dummies are mainly highly

significant in explaining the changed demand for credit in the euro area. Looking at the firm characteristics in Table 6, we see that the smallest group of firms are the least likely to have reduced their demand. Replacing the country dummies with macroeconomic conditions, we see that GDP growth is significantly negative, so companies in countries with growing GDP are less likely to see a decrease in demand for loans. The 10-year government bond yield is also significantly positive, showing that the sovereign situation can affect firms' deamnd for credit and possibly their willingness to invest. When the country level variables are entered together, the most significant effect comes from the change in GDP and, to a slightly lesser extent, from the outstanding debt stock.

Drawing together the results from the three questions on credit supply and demand, real economic factors appear to more robustly affect demand for loans and perception of their availability. Financial variables capturing the sovereign crisis and bank CDS have had a greater effect on rejection rates for new loans. At the same time, debt overhang in the private sector appears to have affected most aspects of SME financing.

One additional point to note is that the combination of five macroeconomic indicators that we use come close to capturing the same level of explanatory power as using the country dummy variables. For example, column (6) in Table 4 shows a psuedo-R^2 of 0.154 for the specification containing the macro variables in explaining loan rejections, while the full set of country dummies (column 1 of Table 3) has a psuedo-R^2 of 0.164.

4 Terms and Conditions in Accessing Credit

Having looked at the determinants of credit suppy and demand in the previous section, we now turn to some measures of the terms and conditions firms face in accessing credit and if these have changed over the crisis period. The SAFE survey contains two measures of interest - the first related to the interest rate at which a loan was granted, and the second relates to the size of the credit facility available.

Relating specifically to bank financing, firms were asked if the rate of interest had increased, decreased or remained unchanged over the previous six months. We define a interest rate increase dummy equal to 1 if the rate for available credit was increased by the bank and 0 if it fell or remained unchanged. The firms reporting interest rate increases were likely to be those that had profit falls, had reduced prospects for future performance and had reductions in public sources of funding, as can be seen in Table 7.

When entered individually, the country level variables are all signficant. Lower economic growth and falls in order books are negatively associated with increases in interest rates. The current government bond yield, private debt stock and the median bank CDS are positively related to higher interest rates for firms. When all of

the macroeconomic variables are entered jointly, the dominant effect comes from the outstanding debt to GDP ratio and from the bank CDS measure.

Another avenue for tighening credit conditions is by restricting loan size. Table 8 presents results for a dummy variable capturing if the size of available loans or credit lines had increased in the prior six months. The main result from the firm level characteristics was that the smallest firms were least likely to have had loan size increase, whilest an improvement in access to public funds also increased the available size of bank loans. The coefficients on the country dummies (column (5) of Table 3) show negative signs on all of the effects relative to German loan sizes with most being significant, and these are particularly large for Portugal and Ireland. Looking at the different country characteristics in Table 8, GDP growth is positively related to the size of loan available, with higher bond yields and bank CDS having a negative effect. When all the measures are jointly entered into the specification, the negative effect of the government bond yield dominates.

5 Conclusions

This paper assesses the effect of the recent economic and sovereign debt crisis on demand, rejection rates and terms and conditions of bank financing for small and medium firms. It combines firm micro data from the ECB's SAFE survey with macroeconomic variables, focusing in particular on the effects of movements in GDP and the levels of sovereign bond yields. The cross-country dimension of the data allows us to contribute to the literature on firm level determinants of financing obstacles by highlighting how country level factors influence firms' interactions with the credit market.

In line with previous studies, we find that the larger and older firms face the lowest risk of having loan applications rejected. Firms that have potential access to other sources of funds also encountered a reduction in the probability of loan rejection. Age and size are less important for firms' perceptions of credit availability than they were for actual experience of obtaining a loan. Two key variables in explaining perceptions of a reduction in credit availability were if the firm reported falls in profits over the previous six months or negative prospects for the forthcoming six months.

Looking at the country level controls, we find that macroeconomic and financial variables do affect firm experience and perception of the credit markets. These macroeconomic variables had differing effects on the supply of credit compared to the demand. In particular, we find that financial variables such as high government bond yields and the level of private sector indebtedness are significant drivers of bank loan rejections across countries. For credit demand however, we find that real economy measures such as the change in GDP were more likely to have a significant effect. The level of the

interest rate on bank credit was also positively related to the sovereign bond yield, banks' CDS and private sector indebtedness, while firms in countries with growth in GDP and order books are more likely to have seen a reduction in their interest rate. In addition, debt overhang in the private sector appears to have affected almost all aspects of SME financing.

This paper raises a number of issues that merit further research. We have focused on the bank lending channel, which tends to be the dominant source of financing for SMEs. However, extensions could examine alternative funding sources and the extent to which they might expand to fill a gap left by reductions in bank credit. The impact of debt overhang is identified as important for the functioning of the bank credit market and more detailed firm balance sheet information would be extremely beneficial in understanding how this aggregate measure interacts with firms' own leverage positions.

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A Figures and Tables

Figure 1: 10 year sovereign bond yields

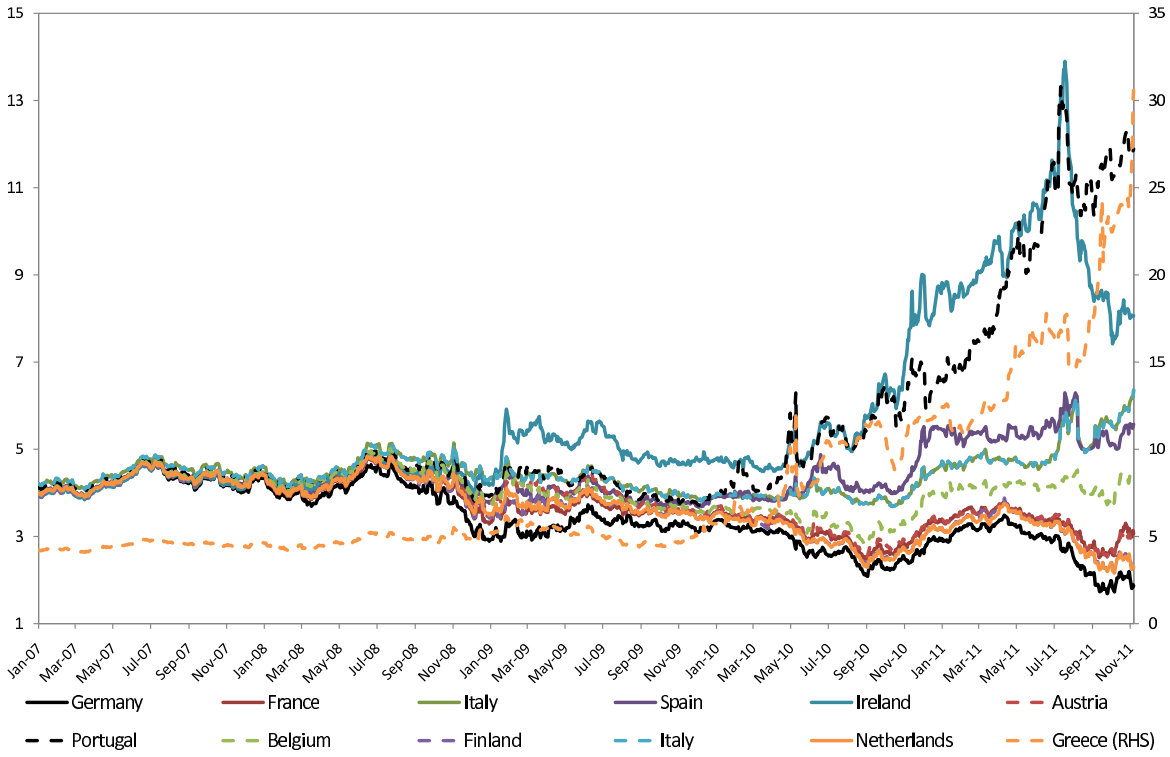

Figure 2: Composition of the survey across 4 waves

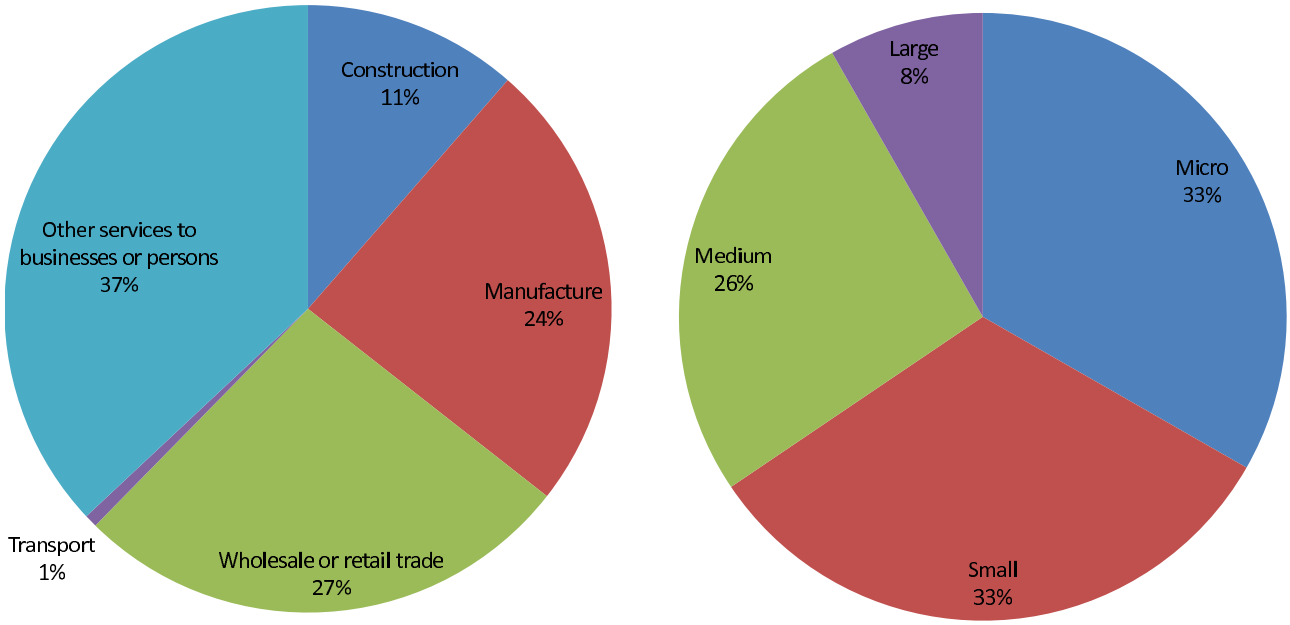

Figure 3: Other characteristics across 4 waves

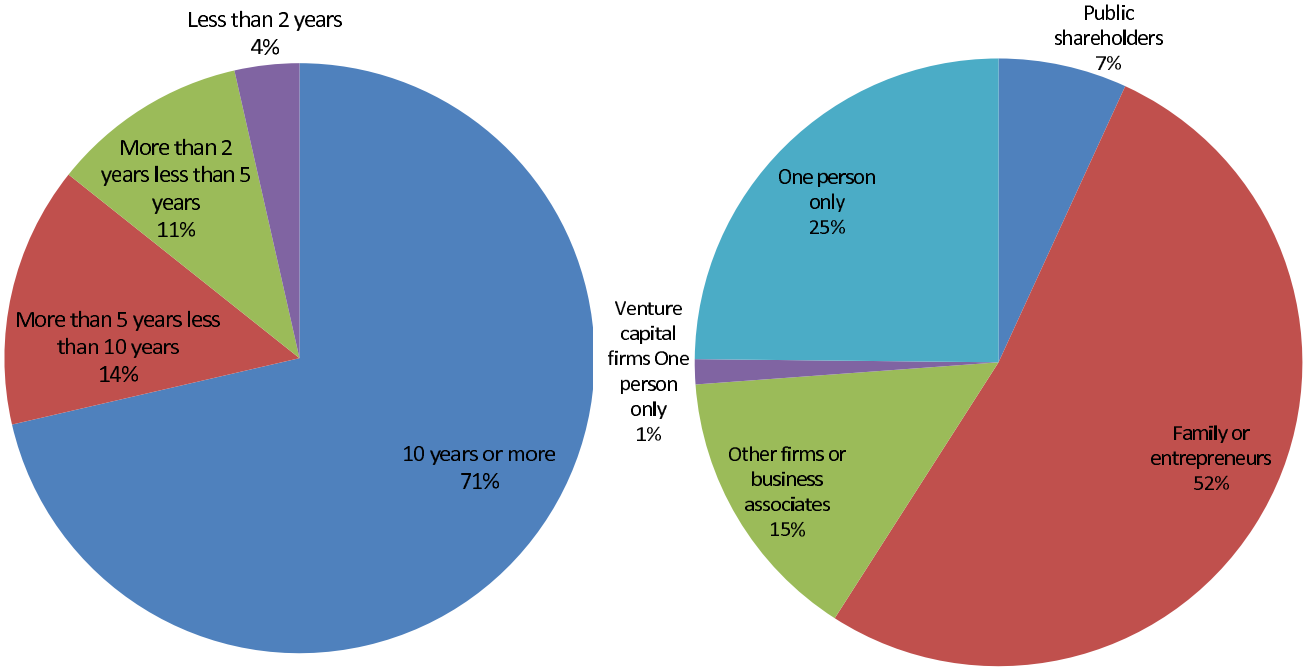

Table 1: Sample size by survey round and country.

	H1 2009	H2 2009	H1 2010	H2 2010	Total
Austria	224	203	200	500	1,127
Belgium	220	202	203	517	1,142
Germany	1,003	1,001	1,000	1,000	4,004
Spain	1,012	1,004	1,000	1,000	4,016
Finland	111	100	100	500	811
France	1,000	1,001	1,003	1,004	4,008
Greece	220	200	200	500	1,120
Ireland	110	101	100	500	811
Italy	1,006	1,004	1,000	1,000	4,010
Netherlands	323	252	256	502	1,333
Portugal	327	252	250	509	1,338
Total	5,556	5,320	5,312	7,532	23,720

Table 2: Percentage of total responses per country

Country	Loan Rejection	Perceived Deterioration	Demand Decrease	Int Rate Increase	Loan Size Increase
	(1)	(2)	(3)	(4)	(5)
Austria	9.9	23.5	20.2	33.5	20.5
Belgium	11.2	18.8	17.3	37.5	23.9
Germany	16.4	25.2	20.2	26.4	21.8
Spain	31.2	37.4	19.3	68.4	19.0
Finland	7.5	11.7	21.9	44.8	16.7
France	14.4	20.9	42.0	28.2	20.4
Greece	32.3	43.7	18.9	61.9	14.2
Ireland	40.9	47.8	19.9	59.4	10.7
Italy	18.0	25.0	16.2	40.8	16.9
Netherlands	32.9	32.9	23.6	43.8	21.7
Portugal	23.0	31.5	18.7	60.5	13.6
Total	20.8	28.3	18.2	44.8	18.8

Table 3: Probit, marginal effects reported on Country dummies replacing country explanatory variables. Coefficients relative to Germany.

Dep Var	Loan Rejection	Perceived Deterioration	Demand Decrease	Int Rate Increase	Loan Size Increase
	(1)	(2)	(3)	(4)	(5)
Austria	-0.0823	-0.00959	0.0199	-0.00803	-0.0471***
	(-1.33)	(-0.50)	(0.86)	(-0.19)	(-3.17)
Belgium	-0.113***	-0.0632***	-0.0101	0.0500	-0.0263
	(-4.30)	(-3.35)	(-0.32)	(1.36)	(-1.34)
Spain	0.0607**	-0.0347	0.0372***	0.393***	-0.0208
	(2.10)	(-1.10)	(3.69)	(16.69)	(-1.32)
Finland	-0.103***	-0.0979***	0.0425	0.0853***	-0.0514***
	(-3.64)	(-2.60)	(1.29)	(2.62)	(-3.00)
France	-0.0538	-0.0926***	-0.0376***	-0.00103	-0.0424***
	(-1.54)	(-3.13)	(-2.98)	(-0.04)	(-2.93)
Greece	0.156**	0.0782***	0.0367	0.268***	-0.0706***
	(2.38)	(3.37)	(1.32)	(10.34)	(-3.10)
Ireland	0.0983*	0.117***	0.0386***	0.222***	-0.110***
	(1.89)	(2.83)	(3.12)	(5.49)	(-6.07)
Italy	0.0117	-0.0708***	-0.00479	0.128***	-0.0307
	(0.38)	(-5.20)	(-0.21)	(3.43)	(-1.39)
Netherlands	0.171***	0.0198	0.0550**	0.0920	-0.0296
	(3.69)	(0.62)	(2.37)	(0.82)	(-0.80)
Portugal	0.0700*	0.0250	0.00797	0.312***	-0.112***
	(1.81)	(0.56)	(0.23)	(11.22)	(-4.40)
N	2999	8041	9168	4019	3994
r2_p	0.164	0.191	0.0504	0.148	0.0311

Marginal effects; t statistics in parentheses

Sector and Time Period dummies included in all regressions

Full vector of firm-level controls included in all regressions

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 4: Probit, marginal effects reported. Dependent variable: Loan rejection dummy

	(1)	(2)	(3)	(4)	(5)	(6)
1 to 9 employees	0.129***	0.129***	0.138***	0.133***	0.136***	0.141***
	(6.23)	(6.24)	(6.29)	(6.33)	(6.36)	(6.46)
10 to 49 employees	0.0434*	0.0437*	0.0454**	0.0390*	0.0456**	0.0419*
	(1.93)	(1.93)	(2.03)	(1.74)	(1.97)	(1.81)
Profit Margin Fall	0.00420	0.00570	0.00437	0.00503	0.00426	-0.00179
	(0.24)	(0.33)	(0.24)	(0.29)	(0.23)	(-0.10)
Subsidiary Dummy	-0.0430*	-0.0434*	-0.0480**	-0.0370	-0.0519**	-0.0530**
	(-1.75)	(-1.75)	(-2.00)	(-1.49)	(-2.08)	(-2.21)
Age 10+	-0.0750***	-0.0744***	-0.0779***	-0.0734***	-0.0770***	-0.0740***
	(-4.04)	(-4.18)	(-4.23)	(-3.95)	(-4.30)	(-3.94)
Improved prospects	0.0177	0.0150	0.0147	0.0137	0.0189	0.0190
	(0.61)	(0.52)	(0.50)	(0.50)	(0.66)	(0.66)
Unchanged prospects	-0.0766***	-0.0766***	-0.0722***	-0.0796***	-0.0710***	-0.0675***
	(-3.64)	(-3.65)	(-3.25)	(-3.83)	(-3.31)	(-3.19)
Owner Shareholder	0.00988	0.00890	0.0216	0.0307	0.0101	-0.00332
	(0.23)	(0.21)	(0.53)	(0.70)	(0.24)	(-0.08)
Owner Family	-0.0364	-0.0387	-0.0345	-0.0270	-0.0411*	-0.0405*
	(-1.55)	(-1.59)	(-1.49)	(-1.13)	(-1.73)	(-1.67)
Owner Associates	-0.0312	-0.0279	-0.0319	-0.0245	-0.0308	-0.0286
	(-0.86)	(-0.75)	(-0.89)	(-0.65)	(-0.84)	(-0.79)
Owner VC	0.0176	0.0239	0.0136	0.0287	0.0245	0.0174
	(0.37)	(0.50)	(0.32)	(0.59)	(0.53)	(0.40)
Improved public fund access	-0.195***	-0.196***	-0.194***	-0.194***	-0.194***	-0.189***
	(-12.01)	(-11.68)	(-11.52)	(-11.54)	(-11.27)	(-10.67)
Unchanged public fund access	-0.198***	-0.199***	-0.186***	-0.199***	-0.186***	-0.182***
	(-10.44)	(-11.05)	(-8.95)	(-10.81)	(-9.70)	(-8.67)
Improved capital	-0.133***	-0.133***	-0.126***	-0.131***	-0.133***	-0.130***
	(-6.39)	(-6.18)	(-6.64)	(-5.95)	(-6.49)	(-6.68)
Unchanged capital	-0.0924***	-0.0950***	-0.0824***	-0.0903***	-0.0946***	-0.0922***
	(-4.23)	(-4.30)	(-3.83)	(-4.05)	(-4.30)	(-4.32)
GDP Change	-0.0347***					-0.00729
	(-4.86)					(-0.41)
GB10Y		0.0290***				0.0393**
		(4.70)				(2.04)
Private Debt to GDP			0.0141***			0.0139***
			(5.05)			(2.63)
Order Book Change				-0.00279*		0.00374
				(-1.73)		(1.51)
Log CDS (Median)					0.102***	-0.0112
					(6.23)	(-0.20)
N	2999	2999	2999	2921	2941	2863
r2_p	0.151	0.151	0.150	0.145	0.150	0.154

Marginal effects; t statistics in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Sector and Time Period dummies included in all regressions

Table 5: Probit, marginal effects reported. Dependent variable: Perceived Loan Availability Deterioration dummy

	(1)	(2)	(3)	(4)	(5)	(6)
1 to 9 employees	0.0234	0.0219	0.0263	0.0196	0.0224	0.0176
	(1.38)	(1.31)	(1.54)	(1.09)	(1.32)	(0.96)
10 to 49 employees	0.0000401	-0.00149	0.00148	-0.00144	-0.00236	-0.00392
	(0.00)	(-0.13)	(0.13)	(-0.11)	(-0.20)	(-0.29)
Profit Margin Fall	0.0374***	0.0373***	0.0377***	0.0416***	0.0364***	0.0381***
	(3.69)	(3.69)	(4.03)	(4.01)	(3.74)	(3.89)
Subsidiary Dummy	-0.0169	-0.0180	-0.0200	-0.0183	-0.0213	-0.0246
	(-0.92)	(-0.97)	(-1.08)	(-1.00)	(-1.12)	(-1.31)
Age 10+	-0.0135	-0.0142	-0.0151	-0.0118	-0.0223*	-0.0192
	(-1.11)	(-1.17)	(-1.25)	(-0.97)	(-1.73)	(-1.47)
Improved prospects	-0.0436**	-0.0445**	-0.0448**	-0.0505**	-0.0459**	-0.0539***
	(-2.17)	(-2.19)	(-2.15)	(-2.55)	(-2.20)	(-2.59)
Unchanged prospects	-0.118***	-0.119***	-0.118***	-0.125***	-0.115***	-0.120***
	(-6.49)	(-6.42)	(-6.15)	(-6.73)	(-6.02)	(-6.34)
Owner Shareholder	-0.0365*	-0.0406**	-0.0328	-0.0353*	-0.0458**	-0.0569***
	(-1.86)	(-2.17)	(-1.56)	(-1.91)	(-2.43)	(-3.27)
Owner Family	-0.0375***	-0.0406***	-0.0353***	-0.0385***	-0.0468***	-0.0501***
	(-3.36)	(-3.68)	(-3.02)	(-3.71)	(-4.45)	(-5.02)
Owner Associates	-0.0658***	-0.0641***	-0.0647***	-0.0615***	-0.0683***	-0.0627***
	(-4.48)	(-4.28)	(-4.51)	(-4.39)	(-4.62)	(-4.56)
Owner VC	0.0446	0.0462	0.0455	0.0557	0.0432	0.0528
	(0.93)	(0.96)	(0.94)	(1.16)	(0.88)	(1.06)
Improved public fund access	-0.219***	-0.219***	-0.218***	-0.208***	-0.214***	-0.203***
	(-12.17)	(-12.75)	(-12.27)	(-13.43)	(-11.71)	(-11.89)
Unchanged public fund access	-0.279***	-0.279***	-0.276***	-0.270***	-0.274***	-0.266***
	(-16.03)	(-16.96)	(-16.36)	(-18.08)	(-15.98)	(-16.60)
Improved capital	-0.117***	-0.116***	-0.119***	-0.116***	-0.115***	-0.116***
	(-7.73)	(-7.61)	(-8.19)	(-7.66)	(-7.32)	(-7.30)
Unchanged capital	-0.132***	-0.132***	-0.131***	-0.129***	-0.133***	-0.131***
	(-9.92)	(-9.84)	(-9.99)	(-9.25)	(-9.74)	(-8.84)
GDP Change	-0.0228***					-0.00692
	(-2.86)					(-0.43)
GB10Y		0.0226***				0.0194
		(3.51)				(1.04)
Private Debt to GDP			0.00714			0.000562
			(1.49)			(0.12)
Order Book Change				0.000430		0.00474***
				(0.24)		(2.87)
Log CDS (Median)					0.0801***	0.0451
					(3.60)	(1.08)
N	8041	8041	8041	7637	7783	7379
r2_p	0.183	0.184	0.182	0.180	0.183	0.183

Marginal effects; t statistics in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Sector and Time Period dummies included in all regressions

Table 6: Probit, marginal effects reported. Dependent variable: Loan Demand Decrease dummy

	(1)	(2)	(3)	(4)	(5)	(6)
1 to 9 employees	-0.0501***	-0.0503***	-0.0482***	-0.0492***	-0.0530***	-0.0503***
	(-3.98)	(-4.02)	(-3.85)	(-3.79)	(-4.36)	(-4.05)
10 to 49 employees	-0.0152	-0.0156	-0.0142	-0.0145	-0.0199*	-0.0180
	(-1.31)	(-1.35)	(-1.23)	(-1.23)	(-1.80)	(-1.55)
Profit Margin Fall	-0.00596	-0.00615	-0.00842	-0.00534	-0.00618	-0.00815
	(-0.60)	(-0.61)	(-0.82)	(-0.53)	(-0.59)	(-0.75)
Subsidiary Dummy	-0.000576	-0.00113	-0.00296	-0.00924	-0.00265	-0.0112
	(-0.04)	(-0.07)	(-0.19)	(-0.62)	(-0.16)	(-0.80)
Age 10+	0.0113	0.0114	0.00961	0.0112	0.0122	0.0122
	(1.17)	(1.19)	(1.03)	(1.14)	(1.27)	(1.22)
Improved prospects	-0.00448	-0.00520	-0.00284	-0.00817	-0.00355	-0.00389
	(-0.26)	(-0.30)	(-0.16)	(-0.45)	(-0.20)	(-0.21)
Unchanged prospects	-0.0289**	-0.0291**	-0.0266**	-0.0323**	-0.0288**	-0.0293**
	(-2.21)	(-2.21)	(-2.04)	(-2.33)	(-2.18)	(-2.15)
Owner Shareholder	-0.0161	-0.0172	-0.0178	-0.00792	-0.0148	-0.0127
	(-0.93)	(-1.01)	(-1.08)	(-0.45)	(-0.89)	(-0.77)
Owner Family	-0.00617	-0.00666	-0.00780	-0.00232	-0.00788	-0.00707
	(-0.61)	(-0.65)	(-0.76)	(-0.23)	(-0.73)	(-0.65)
Owner Associates	-0.00973	-0.00905	-0.0123	-0.00746	-0.00739	-0.00902
	(-0.70)	(-0.65)	(-0.91)	(-0.52)	(-0.56)	(-0.68)
Owner VC	-0.000991	-0.000234	-0.00199	0.00764	0.00527	0.00999
	(.)	(-0.01)	(-0.06)	(0.23)	(0.16)	(0.29)
Improved public fund access	0.000392	0.000232	0.00602	-0.00193	0.00314	0.00563
	(0.02)	(0.01)	(0.30)	(-0.10)	(0.15)	(0.27)
Unchanged public fund access	-0.0260***	-0.0261***	-0.0196*	-0.0254***	-0.0211**	-0.0151
	(-2.71)	(-2.67)	(-1.84)	(-2.66)	(-2.05)	(-1.40)
Improved capital	0.108***	0.108***	0.109***	0.105***	0.107***	0.106***
	(4.59)	(4.61)	(4.76)	(4.44)	(4.41)	(4.38)
Unchanged capital	-0.0114	-0.0120	-0.0107	-0.0130	-0.0133	-0.0134
	(-0.75)	(-0.79)	(-0.72)	(-0.83)	(-0.89)	(-0.88)
GDP Change	-0.00969*					-0.0193**
	(-1.73)					(-2.25)
GB10Y		0.00775*				-0.00489
		(1.70)				(-0.49)
Private Debt to GDP			0.00658***			0.00522*
			(3.09)			(1.69)
Order Book Change				-0.000157		0.00129
				(-0.27)		(1.27)
Log CDS (Median)					0.0385***	0.0179
					(2.68)	(0.61)
N	9168	9168	9168	8726	8870	8428
r2_p	0.0456	0.0454	0.0471	0.0462	0.0490	0.0532

Marginal effects; t statistics in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Sector and Time Period dummies included in all regressions

Table 7: Probit, marginal effects reported. Dependent variable: Interest Rates Increase dummy

	(1)	(2)	(3)	(4)	(5)	(6)
1 to 9 employees	-0.0581*	-0.0598**	-0.0377	-0.0458	-0.0610*	-0.0343
	(-1.86)	(-2.00)	(-1.18)	(-1.46)	(-1.87)	(-1.01)
10 to 49 employees	-0.00727	-0.00934	-0.00328	-0.00468	-0.00748	0.00232
	(-0.34)	(-0.44)	(-0.14)	(-0.23)	(-0.34)	(0.10)
Profit Margin Fall	0.0681***	0.0690***	0.0530**	0.0731***	0.0553***	0.0426**
	(3.14)	(3.06)	(2.57)	(3.46)	(2.59)	(2.15)
Subsidiary Dummy	0.00189	-0.000361	-0.0186	0.0110	-0.0170	-0.0154
	(0.06)	(-0.01)	(-0.60)	(0.36)	(-0.61)	(-0.51)
Age 10+	0.0454	0.0454	0.0328	0.0519*	0.0297	0.0335
	(1.47)	(1.44)	(1.11)	(1.67)	(0.95)	(1.08)
Improved prospects	-0.0520**	-0.0562**	-0.0392	-0.0621**	-0.0397	-0.0374
	(-1.97)	(-2.01)	(-1.33)	(-2.44)	(-1.40)	(-1.30)
Unchanged prospects	-0.0534***	-0.0553***	-0.0327*	-0.0676***	-0.0381*	-0.0309*
	(-3.04)	(-2.79)	(-1.67)	(-3.69)	(-1.95)	(-1.69)
Owner Shareholder	0.0422	0.0335	0.0423	0.0516	0.0165	-0.00476
	(0.78)	(0.68)	(0.86)	(0.98)	(0.35)	(-0.10)
Owner Family	0.0657***	0.0587***	0.0502**	0.0677***	0.0453**	0.0358*
	(2.79)	(2.68)	(2.41)	(2.97)	(2.27)	(1.76)
Owner Associates	-0.0153	-0.00957	-0.0341	-0.0182	-0.0242	-0.0518
	(-0.37)	(-0.24)	(-0.99)	(-0.44)	(-0.71)	(-1.57)
Owner VC	0.0898	0.0984	0.0688	0.0969	0.102	0.0678
	(1.29)	(1.46)	(0.86)	(1.41)	(1.41)	(0.85)
Improved public fund access	-0.177***	-0.179***	-0.157***	-0.175***	-0.165***	-0.148***
	(-7.53)	(-7.94)	(-6.84)	(-7.43)	(-7.11)	(-6.13)
Unchanged public fund access	-0.177***	-0.179***	-0.136***	-0.176***	-0.162***	-0.132***
	(-10.11)	(-9.95)	(-7.63)	(-9.39)	(-8.78)	(-7.42)
Improved capital	-0.0625**	-0.0619**	-0.0431	-0.0570*	-0.0589**	-0.0447
	(-1.98)	(-2.05)	(-1.50)	(-1.84)	(-2.08)	(-1.61)
Unchanged capital	-0.0259	-0.0304	-0.0112	-0.0249	-0.0247	-0.0182
	(-1.16)	(-1.43)	(-0.52)	(-1.10)	(-1.18)	(-0.85)
GDP Change	-0.0700***					-0.00190
	(-2.97)					(-0.14)
GB10Y		0.0614**				0.0114
		(2.28)				(0.55)
Private Debt to GDP			0.0495***			0.0420***
			(8.82)			(7.38)
Order Book Change				-0.0073***		0.0006
				(-3.01)		(0.33)
Log CDS (Median)					0.278***	0.149***
					(5.25)	(2.98)
N	4019	4019	4019	3877	3954	3812
r2_p	0.0939	0.0939	0.129	0.0843	0.119	0.143

Marginal effects; t statistics in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Sector and Time Period dummies included in all regressions

Table 8: Probit, marginal effects reported. Dependent variable: Loan Size Increase dummy

	(1)	(2)	(3)	(4)	(5)	(6)
1 to 9 employees	-0.0300*	-0.0280	-0.0315*	-0.0298*	-0.0311*	-0.0310*
	(-1.76)	(-1.63)	(-1.85)	(-1.68)	(-1.81)	(-1.71)
10 to 49 employees	0.0116	0.0125	0.0117	0.0117	0.0105	0.0103
	(0.59)	(0.64)	(0.59)	(0.57)	(0.53)	(0.50)
Profit Margin Fall	-0.00963	-0.00870	-0.00972	-0.0124	-0.00843	-0.0124
	(-0.60)	(-0.54)	(-0.61)	(-0.75)	(-0.51)	(-0.75)
Subsidiary Dummy	0.0177	0.0180	0.0188	0.0244	0.0138	0.0208
	(0.86)	(0.88)	(0.89)	(1.13)	(0.69)	(0.98)
Age 10+	0.00319	0.00394	0.00372	0.00592	0.00582	0.00567
	(0.16)	(0.20)	(0.18)	(0.28)	(0.29)	(0.27)
Improved prospects	0.0158	0.0142	0.0170	0.0158	0.0203	0.0251
	(0.83)	(0.74)	(0.89)	(0.79)	(1.09)	(1.26)
Unchanged prospects	-0.0243	-0.0260	-0.0239	-0.0210	-0.0264	-0.0215
	(-1.34)	(-1.44)	(-1.33)	(-1.12)	(-1.47)	(-1.18)
Owner Shareholder	-0.00393	0.00421	-0.00694	-0.0119	0.000668	-0.00129
	(-0.13)	(0.14)	(-0.24)	(-0.40)	(0.02)	(-0.04)
Owner Family	-0.0231	-0.0188	-0.0238	-0.0264*	-0.0191	-0.0220
	(-1.48)	(-1.19)	(-1.54)	(-1.71)	(-1.22)	(-1.40)
Owner Associates	-0.0478**	-0.0475**	-0.0481**	-0.0513**	-0.0442**	-0.0522**
	(-2.22)	(-2.18)	(-2.28)	(-2.34)	(-1.99)	(-2.43)
Owner VC	-0.167***	-0.166***	-0.166***	-0.171***	-0.166***	-0.169***
	(-10.42)	(-10.81)	(-10.62)	(-11.31)	(-10.50)	(-12.07)
Improved public fund access	0.0949***	0.0937***	0.0945***	0.0864***	0.0964***	0.0878***
	(4.16)	(4.19)	(4.20)	(3.99)	(4.20)	(3.98)
Unchanged public fund access	0.00583	0.00479	0.00485	0.000680	0.00279	0.000149
	(0.30)	(0.24)	(0.26)	(0.03)	(0.14)	(0.01)
Improved capital	0.0371	0.0357	0.0370	0.0321	0.0391	0.0359
	(1.59)	(1.54)	(1.58)	(1.36)	(1.62)	(1.50)
Unchanged capital	-0.0189	-0.0166	-0.0202	-0.0223	-0.0162	-0.0164
	(-1.15)	(-1.01)	(-1.20)	(-1.30)	(-0.95)	(-0.94)
GDP Change	0.00954*					-0.0213*
	(1.66)					(-1.89)
GB10Y		-0.0186***				-0.0489***
		(-3.22)				(-3.62)
Private Debt to GDP			-0.00192			-0.00412
			(-0.65)			(-1.32)
Order Book Change				0.00112		-0.00158
				(1.05)		(-1.39)
Log CDS (Median)					-0.0340**	0.0505*
					(-2.15)	(1.86)
N	3994	3994	3994	3854	3930	3790
r2_p	0.0245	0.0269	0.0241	0.0237	0.0263	0.0278

Marginal effects; t statistics in parentheses

Sector and Time Period dummies included in all regressions

* $p < .1$, ** $p < .05$, *** $p < .01$