



Bank credit: Dutch versus European firms

In this background document to the Policy Brief ‘Dutch SME-bank financing in a European perspective’ we aim to shed light on the differences in access to finance, especially bank loans, for Dutch SMEs in comparison to the rest of the Eurozone.

We also explore some plausible explanations for the differences. However, we study correlations in this document, not causal relationships.

We find that Dutch firms apply less and are rejected more for bank loans than SMEs elsewhere in the Eurozone, also when controlling for background characteristics.

The results are robust to several sensitivity analyses.

1 Introduction

This background document presents and discusses the empirical results included in the CPB Policy Brief ‘SME-bank financing in a European perspective’. We aim to shed light on the differences in access to finance, especially bank loans, for Dutch SMEs in comparison to SMEs in the rest of the Eurozone. The reason for this is that these differences could be an indication of a possible finance gap in the Netherlands. A finance gap is difficult to ascertain as we do not know how well the projects that do not get funding would have done if they had received financing; we do not know the counterfactual. Ergo, we approach the problem from a different angle and use the rest of the Eurozone as a benchmark. Furthermore, we aim to explore different possible underlying mechanisms that lead to our results.

In this analysis we use the ECB’s *Survey on Access to Finance of Enterprises (SAFE)* over the period 2009-2018.¹ It is a panel of over 200,000 firms of which around 160,000 are SMEs. SAFE aims to assess the access to finance for these firms through an extensive set of questions. All answers are self-reported. Unfortunately, a lot of the questions have a subjective character. In order to safeguard the reliability of the results we will stick to the most objective questions.

The first step in the analysis is to shed light on the differences in access to bank loans. We estimate a linear probability model with controls in application rates, successful application rates and the total prevalence of bank loans in the population (the ‘total effect’: a combination of probability to apply and probability to have been successful). Our results show that Dutch SMEs apply for bank loans less often and are rejected more often than SMEs in the rest of the Eurozone. In total, the percentage of SMEs receiving bank loans is smaller in the Netherlands than in other Eurozone countries.

In order to test the robustness of our results we conduct a sensitivity analysis. We test whether the results hold when we use different comparison samples (Netherlands vs. EU and Netherlands vs. countries with market-based financial systems).² Moreover, we do split-sample regressions with different two-year time periods and firm size. We find that the results are robust to all these tests. Therefore we are fairly confident that firms in the Netherlands are indeed applying less and are being rejected more than firms in other Eurozone countries.

Next, we explore several underlying mechanisms. Unfortunately, SAFE does not include reliable information on the financial position of the firms, or detailed information on their investment behavior. Therefore, we have to stick with the reasons firms give for not applying, and their application behavior and rejection rates for other types of financing. Some of our results could mean that Dutch firms simply have a lower demand for financing: they indicate that they have sufficient internal funds more often than in other Eurozone countries, also they use other types of financing less and invest less in physical capital. Unfortunately, we do not know much about investment in other types of assets. However, this does not explain the substantially higher rates of rejection for Dutch firms. On top of that, we also see that Dutch firms indicate that they do not apply because they expect that they will be rejected anyways more often than firms in the rest of the Eurozone.

¹ A week before the publication date the newest wave (Spring 2019) was available to us for research purposes. Unfortunately it was too late to incorporate the newest data into the results in this background document. However, we did run the analysis again using the newest data and we see that the results are robust and similar to the latest wave in 2018.

² Market-based financial systems: Belgium, Denmark, Finland, France and the UK. As defined by Kalara and Zhang (2018) ([link](#)).

2 Data

Our main analysis is based on a sample of 160,432 SMEs from all 19 Eurozone countries covering the period 2009-2018. The data was collected semi-annually during this time by the ECB in their *Survey on Access to Finance of Enterprises* (SAFE). It aims to assess the access to finance for these firms through an extensive set of questions. All answers are self-reported. Therefore, this analysis gives an indication of the financing issues as experienced by the enterprises themselves.

SAFE is an unbalanced panel with respect to both the countries and firms included. SAFE started in 2009. The questionnaire has two rounds: the ECB round and the Common Round. The ECB round includes a selected number of Eurozone countries.³ The Common round surveys all EU countries and a selection of neighboring ones.⁴ The number of firms interviewed therefore differs per wave. The ECB round varies between 5000 in the earlier years to 11,000 firms more recently. The common round started with 8000 in 2009 and now encompasses 15,000 firms per wave (Table 15). Only a few firms are interviewed more than once.⁵

The firms are randomly selected from the Dun & Brandstreet business register,⁶ conditional on size.⁷ Firm size is measured in terms of the number of employees. Firms with solely an owner are not included in the SAFE database. Due to the fact that selection is conditional on size, each country will have a similar representation of micro (1-9), small (10-50), medium (50-249) and large (>250) firms.⁸ Compared to the actual population, large enterprises are somewhat overrepresented in the sample (Table 16). For example, in the Netherlands 99% of the population of firms has between 1 and 49 employees.⁹ In SAFE, it is only 66%. It is a conscious decision by the survey architects to oversample relatively large firms ensuring that comparison between larger and smaller firms is possible.¹⁰

There are some slight differences in the characteristics of enterprises between the Netherlands and the rest of the Eurozone (table 1).¹¹ Most importantly, firms differ in the sector in which they operate: for Dutch firms the services sector is more prevalent whilst in the rest of the Eurozone more firms are active in the industry sector. We control for such background characteristics.¹²

³ The smallest euro area countries - namely Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta and Slovenia - are excluded from the ECB round. Since 2014 Slovakia has been included in all rounds.

⁴ For more information, see Methodological Information on SAFE ([link](#)).

⁵ We checked for autocorrelation due to the possible repetition of firms in the dataset. This was not an issue.

⁶ If this results in an insufficient sample, local sources are used to fill the gap.

⁷ For more information, see Methodological Information on SAFE ([link](#)).

⁸ Table 1.

⁹ Source: CBS ([link](#)).

¹⁰ For more information, see Methodological Information on SAFE ([link](#)).

¹¹ Table 1.

¹² See paragraph 3.2.

Table 1 Descriptive Statistics

Characteristic		Netherlands	Eurozone
Employees	Micro (1-9)	35.46%	36.44%
	Small (10-49)	30.17%	30.43%
	Medium (50-249)	26.21%	24.79%
	Large (>250)	8.16%	8.34%
Sector	Industry	14.25%	22.35%
	Construction	10.40%	10.22%
	Trade	23.74%	24.52%
	Services	43.45%	34.58%
	Missing (for large companies)	8.16%	8.34%
Age	>10 years	78.37%	79.81%
	5-9 years	12.67%	11.89%
	2-4 years	6.167%	5.12%
	<2	1.894%	1.47%
	Missing	0.91%	1.72%
Turnover	<€500.000 (2014 onwards)	12.63%	14.64%
	€500.000 – €1 million (2014 onwards)	7.51%	7.36%
	€1 million – €2 million (2014 onwards)	6.64%	6.87%
	€2 million (before 2014)	16.49%	19.70%
	€2 million - €10 million	22.99%	23.73%
	€10 million - €50 million	19.29%	16.81%
	>€50 million	11.30%	8.22%
	Missing	3.16%	2.68%

3 Methodology

Our research question is whether there are differences in access to bank loans between Dutch SMEs and SMEs in the rest of the Eurozone. In order to shed light on this issue, we estimate a linear probability model with controls using the ECB's *Survey on Access to Finance of Enterprises (SAFE)* over the period 2009-2018:

$$Y_{it} = \beta_0 + \beta_1 \times Netherlands_{it} + \beta_2 \times X_{it} + \varepsilon_{it}$$

Where Y denotes the different proxies for access to finance we look at (see paragraph 3.1). "Netherlands" is a dummy which takes a value of 1 when a firm is Dutch and 0 if it is not. X is a vector of control variables (see paragraph 3.2). All variables differ per firm ('i') and per wave ('t'). The error term ε_{it} is corrected for heteroskedasticity.

Unfortunately this analysis cannot be interpreted causally in the sense that being a Dutch firm is the reason in itself for the difference in access to bank finance. The firms are not distributed randomly across countries and

are not always comparable on unobservable characteristics.¹³ The differences in outcomes between the Netherlands and the rest of the Eurozone could therefore be due to omitted variable bias.

We have a three step methodology. First, we look at access to (bank) finance. We estimate the difference in loan applications, successful applications and total use of bank loans for Dutch firms as compared to Eurozone firms. Then we explore different possible underlying mechanisms, as can be found in SAFE. Afterwards, we conduct a sensitivity analysis for the difference in access to bank loans. We run the regressions with different comparison groups, run a split-sample regression for different firm sizes and look at the different coefficients for different countries. Lastly, we do the entire analysis again for 2017-2018, as the most recent results are the most relevant for policy purposes.

3.1 Outcome variables

SAFE is a very extensive questionnaire. However, most of the answers are in essence subjective evaluations by the owner of the business. In order to safeguard the reliability of this analysis, we aim to solely look at the questions and answers that can be determined relatively objectively and are based on what is happened in the past and not what the business owner think will happen in the future.

Using subjective questions can steer your results in a certain direction depending on how the question and answers are interpreted. For example, firms are asked to score a set of possible issues (i.e. access to finance, availability of skilled staff, finding customers, regulation) on a scale of 1-10. When comparing the absolute score Dutch firms give, they score access to finance a lot lower than their Eurozone counterparts. However, if one looks at which problem they assign the highest score, then suddenly Dutch firms pick access to finance more often as the biggest problem than firms in the rest of Eurozone do. As such, we avoid using such questions in our analysis. The manner of interpretation can namely bias our results.

SAFE gives insight into 4 types of financing. All will be evaluated in this analysis:

- Bank Loan (which excludes overdrafts and credit lines)
- Credit lines, bank overdraft or credit cards overdraft
- Trade credit
- Other (can include: loans from a related company, shareholders or family and friends, leasing, factoring, grants, subordinated debt instruments, participating loans, peer-to-peer lending, crowdfunding, and issuance of equity and debt securities).

Per type of financing, firms are asked whether they applied in the past 6 months.¹⁴ The answer possibilities are:

- a) Applied
- b) Did not apply because of possible rejection
- c) Did not apply because of sufficient internal funds
- d) Did not apply for other reasons

If they applied for a loan, they are asked what the outcome was.¹⁵ Possible answers are:

- a) Received everything
- b) Received 75% and above

¹³ Table 1.

¹⁴ Question 7A SAFE.

¹⁵ Question 7B SAFE.

- c) Received below 75%
- d) Refused because the cost was too high
- e) Was rejected
- f) Application still pending

From these two questions we construct the outcome variables that are proxies for measuring access to finance. All of them are dummies:

- **Applied:** Takes the value of 1 if they applied and 0 otherwise.
- **Applied successfully:** Takes the value of 1 if they received everything and 0 if they were rejected, received only a part of what they asked for, or if they refused because the cost was too high. If the application was still pending they were excluded from the analysis. Firms that did not apply for a loan are also excluded from the analysis.
- **Total prevalence of bank loans (or total effect):** Takes the value of 1 if a firm has received a bank loan, fully or partially, in the past 6 months and 0 for all other firms. It is therefore an indication of the percentage of firms that use bank loans as a means of financing their business.

We also construct some variables in order to explore possible reasons for why firms did not apply for loans. These are also all dummy variables:

- **Fear of rejection:** takes the value of 1 if firms indicate they did not apply due to possible rejection and 0 if they did not apply due to sufficient internal funds or 'other reasons'.
- **Sufficient internal funds:** is 1 if the firm indicates they did not apply because they had sufficient internal funds and 0 for the other two reasons.
- **Other reasons:** 1 for 'other reasons' and 0 for the answers 'due to possible rejection' and 'sufficient internal funds'.

Another possible reason for differences in rates of applying is investment needs. Unfortunately, SAFE only includes one objective, backward-looking question on investment behavior. Firms are asked whether their stock in investments in tangible assets grew over the past six months. This includes investment in property, plant or equipment.¹⁶ For this outcome variable we construct a dummy that takes the value of 1 if firms indicate that their investment in tangible assets increased over the past six months and 0 if it remained the same or decreased.

Lastly, we look at the use of other means of financing. Namely, it could be the case that certain types of financing are simply more or less popular in certain countries. For 'credit lines, bank overdraft or credit cards overdraft', trade credit and 'other' we also have information on application behavior and rejection rates. As such, we construct the dummies *applied* and *applied successfully* for the other three types of financing as well.

3.2 Control variables

Similar to the outcome variables, with the control variables we restrict ourselves to the characteristics that can be determined objectively. In SAFE these are: number of employees, turnover, age of the company and the sector in which it operates.¹⁷ All control variables are categorical which means that we are able to capture non-linearities better.¹⁸ Furthermore, we can control for period effects conditions on a semi-annual level by including the round in which was interviewed as a control.¹⁹ This is only a time dimension, therefore we run

¹⁶ Question 2 SAFE.

¹⁷ Table 1 for the distribution of the background characteristics.

¹⁸ Different categories within the control groups can be seen in Table 1.

¹⁹ Table 15 for the number of observations per wave.

all the main regressions again while also including economic growth in that country for the past half year. This way the specific moment in the business cycle per country is also taken into account. The results are robust when also including this control in the regressions.

The default categories of the control variables determine the constants in the regression. In this case the default categories are:

- Employees: micro-enterprises
- Wave: 2009 wave 1
- Age: 10 years or older
- Turnover: <€2 million
- Sector: industry

4 Results

In this section we present our results on the differences in access to bank loans, possible underlying mechanisms and the conducted sensitivity analysis. In order to give meaning to the coefficients presented in the tables, we supply the average levels for all outcome variables in table 2. Our analysis shows that Dutch firms apply less and are rejected more for bank loans as compared to SMEs in other Eurozone countries (table 3). These results are robust to the sensitivity analysis.

We also explore the underlying mechanisms that could be leading to these results. Regarding reasons for not applying we see that Dutch firms both more often indicate that they anticipate being rejected and that they have sufficient internal funds and therefore do not need bank loans. It does not seem to be the case that Dutch firms are substituting other types of financing for bank loans. Part of the story may be that demand for financing is less in the Netherlands than in the rest of the Eurozone. We do see that investment in physical capital is less in the Netherlands. However, this does not explain the lower rates of rejection. Ergo, further research is necessary to determine why exactly there is such a large difference between Eurozone firms and Dutch firms in their application behavior and the subsequent rates of rejection.

4.1 Main Analysis

4.1.1 Access to bank loans

The results of our linear probability model indicate that Dutch SMEs are facing more difficulties in accessing bank loans than SMEs in other Eurozone countries (table 3).²⁰ Among Dutch SMEs prevalence of bank financing is about 12 percentage points lower than the total Eurozone average. Furthermore, Dutch SMEs apply for loans 13 percentage points less often and are rejected 21 percentage points more often than the average Eurozone SME. Compared to the Eurozone averages of total bank loan prevalence of 22%, with 28% of firms applying for a bank loan in the past 6 months and 69% of them being accepted for the full amount (table 2),²¹ this is a substantial difference.

²⁰ Estimating a probit model instead of a linear probability model does not change the significance or the direction of the results. Furthermore, though some firms appear more than once in the dataset, the results are robust to controlling for autocorrelation.

²¹ We also ran the analysis for partially successful applications. The patterns in the results are the same, as can be seen in table 17.

As there are slight differences in the composition of SMEs, we control for all objectively observable characteristics. When controlling for sector, turnover, number of employees, age of the firm and the wave, the results continue to hold. These results are also steady across different two year periods (table 4).

Table 2 Average level of all outcome variables for all Eurozone SMEs

Variables		2009-2018	2017-2018
Types of financing			
Bank Loans	Applied	28%	30%
	Success	69%	74%
	Prevalence (total effect)	22%	25%
Credit line or overdraft	Applied	26%	33%
	Success	66%	75%
Trade Credit	Applied	23%	35%
	Success	68%	73%
Other financing	Applied	14%	18%
	Success	76%	78%
Reasons for not applying			
	Fear of rejection	9%	8%
	Sufficient internal funds	60%	61%
	Other reasons	31%	30%
Investment behavior			
	Investment in tangible assets	27%	28%

Table 3 Access to bank loans for Eurozone SME's (2009-2018)

Variables	Applied for a loan		Successful Application		Prevalence of bank loans (total effect)	
	(1)	(2)	(3)	(4)	(5)	(6)
Netherlands	-0.13***	-0.13***	-0.21***	-0.21***	-0.14***	-0.14***
	(0.004)	(0.005)	(0.016)	(0.015)	(0.004)	(0.004)
Constant	0.28***	0.27***	0.69***	0.78***	0.23***	0.16***
	(0.001)	(0.007)	(0.003)	(0.014)	(0.001)	(0.006)
Observations	123,747	123,747	32,264	32,264	123,747	123,747
R-squared	0.004	0.031	0.006	0.041	0.006	0.039
Controls	NO	YES	NO	YES	NO	YES
Observations NL	7258	7258	1040	1040	7258	7258

Table 4 Access to bank loans for Eurozone SME's per period

	Variables	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018
Applied for a Loan	Netherlands	-0.14***	-0.12***	-0.11***	-0.13***	-0.15***
		(0.014)	(0.008)	(0.009)	(0.011)	(0.010)
	Constant	0.26***	0.22***	0.21***	0.36***	0.38***
		(0.011)	(0.008)	(0.008)	(0.012)	(0.013)
	Observations	15,458	28,697	28,358	26,023	25,211
	R-squared	0.021	0.024	0.028	0.032	0.037
	Observations NL	729	1828	1761	1480	1460
Successful Application	Netherlands	-0.15***	-0.20***	-0.29***	-0.22***	-0.14***
		(0.051)	(0.037)	(0.030)	(0.029)	(0.032)
	Constant	0.75***	0.62***	0.59***	0.68***	0.75***
		(0.022)	(0.017)	(0.017)	(0.022)	(0.021)
	Observations	3,585	6,521	7,060	7,772	7,326
	R-squared	0.053	0.021	0.043	0.039	0.035
	Observations NL	85	179	253	285	238
Prevalence of bank loans (total effect)	Netherlands	-0.11***	-0.13***	-0.14***	-0.15***	-0.16***
		(0.010)	(0.006)	(0.007)	(0.009)	(0.009)
	Constant	0.16***	0.16***	0.17***	0.30***	0.31***
		(0.009)	(0.006)	(0.007)	(0.011)	(0.011)
	Observations	15,458	28,697	28,358	26,023	25,211
	R-squared	0.025	0.029	0.034	0.044	0.044
	Observations NL	729	1828	1761	1480	1460

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

4.1.2 Exploring underlying mechanisms

SAFE provides some insight as to why Dutch firms may be applying less than firms in other Eurozone countries. First of all, to the question why they did not apply, Dutch firms answer more often than firms from other Eurozone countries that they fear being rejected or that they have sufficient internal funds (table 5). Compared to our other results, the reasons why firms do not apply for bank loans are not as stable over different periods. For sufficient internal funds and other reasons, the dummy coefficient even switches signs depending on the period (table 6). Further research is therefore necessary to determine what the underlying mechanisms are exactly.

We also see that Dutch firms invest slightly less in tangible assets compared to other Eurozone firms. Consequently, it may be the case that Dutch firms simply have a lower demand for bank loans. However, this does not explain that even though they apply less, they are still rejected more often. Their fear of being rejected may therefore be warranted. Further research is necessary to determine what the underlying mechanisms are that lead to our main results.

Another possible explanation of why bank financing is less prevalent among Dutch SMEs is that they could be using other means of financing more often. Our results do not support this hypothesis. They not only apply less and are rejected more for bank loans, we see the same pattern in (successful) applications for credit lines, trade credit and any other types of financing (table 7). It is therefore unlikely that Dutch firms are substituting bank loans for other types of financing.

Neither the possible lower need for financing, nor the absence of substitution for other types of credit explains the higher rejection rates we see for Dutch firms. Dutch firms are also rejected at relatively high rates for credit lines and overdrafts and trade credit. 'Other types of financing' does see lower rejection rates but is still a 9% difference with the rest of the Eurozone (table 7). Unfortunately, SAFE does not provide information on the financial position of the firms or any other possible reasons why rejection rates for Dutch firms are so high compared to the rest of the Eurozone. Future research is necessary to explore what is going on in the Netherlands.

Table 5 Reasons for not applying & investment in physical capital, for SMEs in the Eurozone (2009-2018)

Variables	Did not apply due to:			Investment in physical capital
	Fear of rejection	Sufficient internal funds	Other reasons	
Netherlands	0.03*** (0.004)	0.04*** (0.006)	-0.06*** (0.005)	-0.02*** (0.005)
Constant	0.10*** (0.005)	0.48*** (0.009)	0.42*** (0.009)	0.26*** (0.007)
Observations	89,633	89,633	89,633	93,642
R-squared	0.017	0.031	0.016	0.026
Observations NL	6116	6116	6116	7312

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Table 6 Reasons for not applying for SMEs in the Eurozone per period

	Variables	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018
Fear of rejection	Netherlands	0.05***	0.01**	0.03***	0.03***	0.01
		(0.013)	(0.008)	(0.009)	(0.010)	(0.008)
	Constant	0.10***	0.12***	0.12***	0.11***	0.10***
		(0.008)	(0.007)	(0.007)	(0.010)	(0.009)
	Observations	11,068	21,775	20,960	18,089	17,741
	R-squared	0.011	0.014	0.019	0.022	0.016
	Observations NL	622	1606	1484	1189	1215
Sufficient internal funds	Netherlands	-0.05**	0.06***	-0.02	0.07***	0.10***
		(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
	Constant	0.50***	0.60***	0.57***	0.58***	0.61***
		(0.015)	(0.011)	(0.011)	(0.016)	(0.016)
	Observations	11,068	21,775	20,960	18,089	17,741
	R-squared	0.030	0.021	0.029	0.041	0.031
	Observations NL	622	1606	1484	1189	1215
Other reasons	Netherlands	-0.002	-0.07***	-0.02	-0.10***	-0.11***
		(0.020)	(0.011)	(0.012)	(0.013)	(0.012)
	Constant	0.40***	0.28***	0.31***	0.31***	0.29***
		(0.014)	(0.010)	(0.011)	(0.051)	(0.015)
	Observations	11,068	21,775	20,960	18,089	17,741
	R-squared	0.022	0.010	0.011	0.019	0.016
	Observations NL	622	1606	1484	1189	1215

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Table 7 Access to finance for all types of credit for SMEs in the Eurozone (2009-2018)

	Variables	Bank loan	Credit line or overdraft	Trade credit	Other	
Applied for this type of financing	Netherlands	-0.13*** (0.005)	-0.14*** (0.004)	-0.11*** (0.005)	-0.03*** (0.004)	
	Constant	0.27*** (0.007)	0.20*** (0.007)	0.12*** (0.005)	0.05*** (0.004)	
	Observations	123,747	105,918	98,684	120,999	
	R-squared	0.031	0.033	0.067	0.025	
	Observations NL	7258	7360	6133	8253	
	Successfully applied for this type of financing	Netherlands	-0.21*** (0.015)	-0.20*** (0.016)	-0.15*** (0.018)	-0.09*** (0.016)
	Constant	0.78*** (0.014)	0.57*** (0.018)	0.79*** (0.022)	0.72*** (0.025)	
Observations	32,264	26,886	21,598	16,330		
R-squared	0.041	0.044	0.027	0.027		
Observations NL	1040	989	777	944		

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

4.2 Sensitivity Analysis

4.2.1 Comparison Sample

The results are robust with regard to the comparison group which is used (table 8). It doesn't matter whether we extend the sample to the entire EU or limit it to just the European countries that are categorized in a recent paper as having a relatively market-based financial system (Belgium, Denmark, Finland, France and the UK).²² In all cases Dutch firms apply for fewer loans, are rejected more often when they do apply and as a result in total bank loans are less prevalent in the Netherlands than in other European countries.

4.2.2 Split-sample regression by firm size

We test whether our results are driven by firms of a particular size. As such, we run a split-sample linear probability model per firm size. For each size, all coefficients are still statistically significant (table 9). Interestingly enough, even large firms seem to be applying less and rejected more in the Netherlands. We also see some heterogeneity in the size of the coefficients. Application rates are closest to the Eurozone average for the smallest firms and the difference grows the larger the firm. The opposite is true for rejection rates, the smallest firms are rejected the most and the biggest firms are rejected a lot less, though still more than in the rest of the Eurozone.²³

²² As defined by Kalara and Zhang (2018) ([link](#)).

²³ Running a pooled regression with interaction terms in order to test whether the difference between the coefficients is statistically significant did not change our results. In most cases the coefficients differ significantly from each other, though not in all. Therefore, one must practice caution when interpreting the coefficients of the different split samples as differences.

Table 8 Access to bank finance for different comparison samples for SMEs in the Eurozone (2009-2018)

	Variable	Eurozone	EU	Market-Based Financial Systems ²⁴
Applied for a bank loan	Netherlands	-0.13***	-0.12***	-0.13***
		(0.005)	(0.004)	(0.005)
	Constant	0.27***	0.24***	0.21***
		(0.007)	(0.006)	(0.011)
	Observations	123,747	147,505	44,414
	R-squared	0.031	0.031	0.038
	Observations NL	7258	7258	7258
Successfully applied for a bank loan	Netherlands	-0.21***	-0.21***	-0.30***
		(0.015)	(0.015)	(0.016)
	Constant	0.76***	0.75***	0.80***
		(0.014)	(0.013)	(0.023)
	Observations	32,264	36,635	11,203
	R-squared	0.041	0.040	0.079
	Observations NL	1040	1040	1040
Prevalence of bank loans (total effect)	Netherlands	-0.14***	-0.13***	-0.15***
		(0.004)	(0.004)	(0.004)
	Constant	0.16***	0.14***	0.14***
		(0.006)	(0.005)	(0.010)
	Observations	123,747	147,505	44,414
	R-squared	0.039	0.039	0.050
	Observations NL	7258	7258	7258

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

²⁴ Belgium, Denmark, Finland, France & the UK.

Table 9 Effects split by firm size (2009-2018)

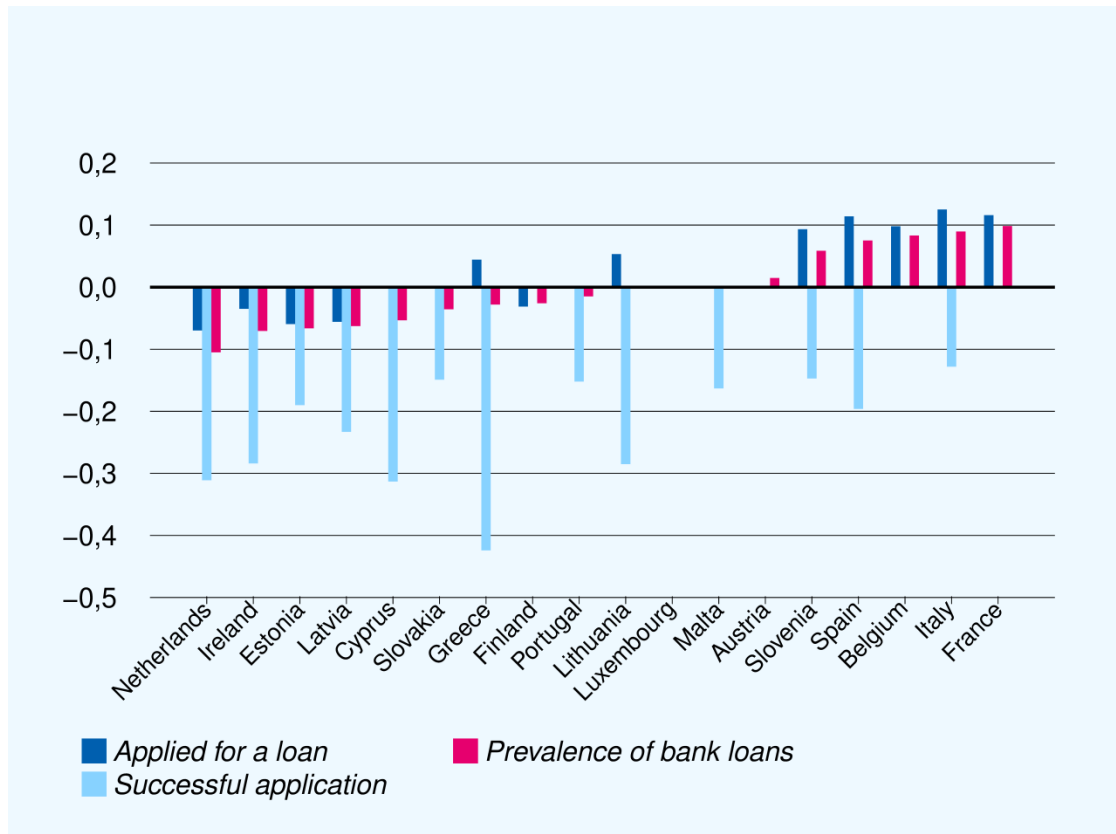
	Variables	Micro	Small	Medium	Large
Applied for a bank loan	Netherlands	-0.08***	-0.14***	-0.18***	-0.17***
		(0.007)	(0.007)	(0.009)	(0.017)
	Constant	0.24***	0.33***	0.34***	0.32***
		(0.010)	(0.012)	(0.019)	(0.056)
	Observations	46,448	42,679	34,620	11,484
	R-squared	0.013	0.018	0.019	0.015
	Observations NL	2650	2521	2087	702
Successful Application	Netherlands	-0.28***	-0.21***	-0.14***	-0.06*
		(0.026)	(0.026)	(0.026)	(0.035)
	Constant	0.70***	0.84***	0.86***	0.94***
		(0.026)	(0.021)	(0.034)	(0.097)
	Observations	9,106	11,710	11,448	4,402
	R-squared	0.040	0.029	0.027	0.038
	Observations NL	322	361	357	162
Prevalence of bank loans (total effect)	Netherlands	-0.10***	-0.15***	-0.18***	-0.17***
		(0.005)	(0.006)	(0.008)	(0.016)
	Constant	0.14***	0.22***	0.21***	0.19***
		(0.0082)	(0.010)	(0.017)	(0.052)
	Observations	46,448	42,679	34,620	11,484
	R-squared	0.015	0.022	0.022	0.022
	Observations NL	2650	2521	2087	702

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

4.2.3 Eurozone Country Coefficients

For the analysis in the Policy Brief it is interesting to see how the different countries in the Eurozone perform. We take Germany as a baseline. We see that on average bank funding is more common in Austria, Slovenia, Spain, Belgium, Italy and France than it is in Germany. The countries in which bank funding is less common than in Germany are: the Netherlands, Ireland, Estonia, Latvia, Cyprus, Slovakia, Greece, Finland and Portugal (see figure 1).

Figure 1 Country coefficients with Germany as a baseline for Eurozone SME's (2009-2018)



Only statistically significant differences between the coefficients of the country in question and Germany are presented, Controls: Number of employees, sector, age & turnover & wave.

4.3 2017-2018

For policy purposes, and therefore for the analysis in the Policy Brief, the most recent results are the most interesting. Consequently we run the entire analysis to see what the coefficients are in the period 2017-2018. Interestingly enough, we see that for almost all results the coefficients for 2017-2018 are qualitatively similar to those for the entire period. Only fear of rejection is no longer statistically significant for the latest period.

Table 10 Access to Bank finance for Dutch SME's vs. the rest of the Eurozone (2017-2018)

VARIABLES	Applied for a loan	Successful Application	Prevalence of bank loans (total effect)
Netherlands	-0.15*** (0.010)	-0.14*** (0.032)	-0.16*** (0.009)
Constant	0.38*** (0.013)	0.75*** (0.023)	0.31*** (0.011)
Observations	25,211	7,326	
R-squared	0.037	0.035	25,211
Observations NL	1460	238	0.044

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Table 11 Reasons for not applying & investment in physical capital, for SMEs in the Eurozone (2017-2018)

VARIABLES	Did not apply due to:			Investment in physical capital
	Fear of rejection	Sufficient internal funds	Other reasons	
Netherlands	0.012 (0.008)	0.097*** (0.013)	-0.11*** (0.012)	-0.03*** (0.008)
Constant	0.01*** (0.009)	0.61*** (0.016)	0.29*** (0.015)	0.27*** (0.009)
Observations	17,741	17,741	17,741	41,675
R-squared	0.016	0.031	0.016	0.026
Observations NL	1215	1215	1215	3292

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Table 12 Access to different types of financing for SMEs in the Eurozone (2017-2018)

		Bank Loan	Credit Line or Overdraft	Trade Credit	Other
Applied	Netherlands	-0.15***	-0.21***	-0.18***	-0.05***
		(0.010)	(0.009)	(0.014)	(0.008)
	Constant	0.38***	0.37***	0.42***	0.18***
		(0.013)	(0.014)	(0.017)	(0.011)
	Observations	25,211	22,069	14,547	24,387
	R-squared	0.037	0.024	0.048	0.011
	Observations NL	1460	1693	955	2008
Successful Application	Netherlands	-0.14***	-0.15***	-0.13***	-0.08***
		(0.032)	(0.031)	(0.035)	(0.029)
	Constant	0.75***	0.75***	0.73***	0.76***
		(0.023)	(0.023)	(0.028)	(0.030)
	Observations	7,326	6,997	4,869	4,128
	R-squared	0.035	0.025	0.021	0.031
	Observations NL	238	239	195	252

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Table 13 Access to bank finance for different comparison samples for SMEs in the Eurozone (2017-2018)

		Eurozone	EU	Market Based Financial Systems
Applied for a loan	Netherlands	-0.15***	-0.15***	-0.18***
		(0.010)	(0.010)	(0.011)
	Constant	0.38***	0.38***	0.40***
		(0.013)	(0.012)	(0.021)
	Observations	25,211	29,807	8,843
	R-squared	0.037	0.036	0.047
	Observations NL	1460	1460	1460
Successful Application	Netherlands	-0.14***	-0.14***	-0.21***
		(0.032)	(0.031)	(0.032)
	Constant	0.75***	0.75***	0.84***
		(0.023)	(0.021)	(0.034)
	Observations	7,326	8,308	2,697
	R-squared	0.035	0.035	0.044
	Observations NL	238	238	238
Prevalence of bank loans (total effect)	Netherlands	-0.16***	-0.15***	-0.19***
		(0.009)	(0.0089)	(0.010)
	Constant	0.33***	0.33***	0.35***
		(0.012)	(0.011)	(0.020)
	Observations	25,211	29,807	8,843
	R-squared	0.044	0.043	0.053
	Observations NL	1460	1460	1460

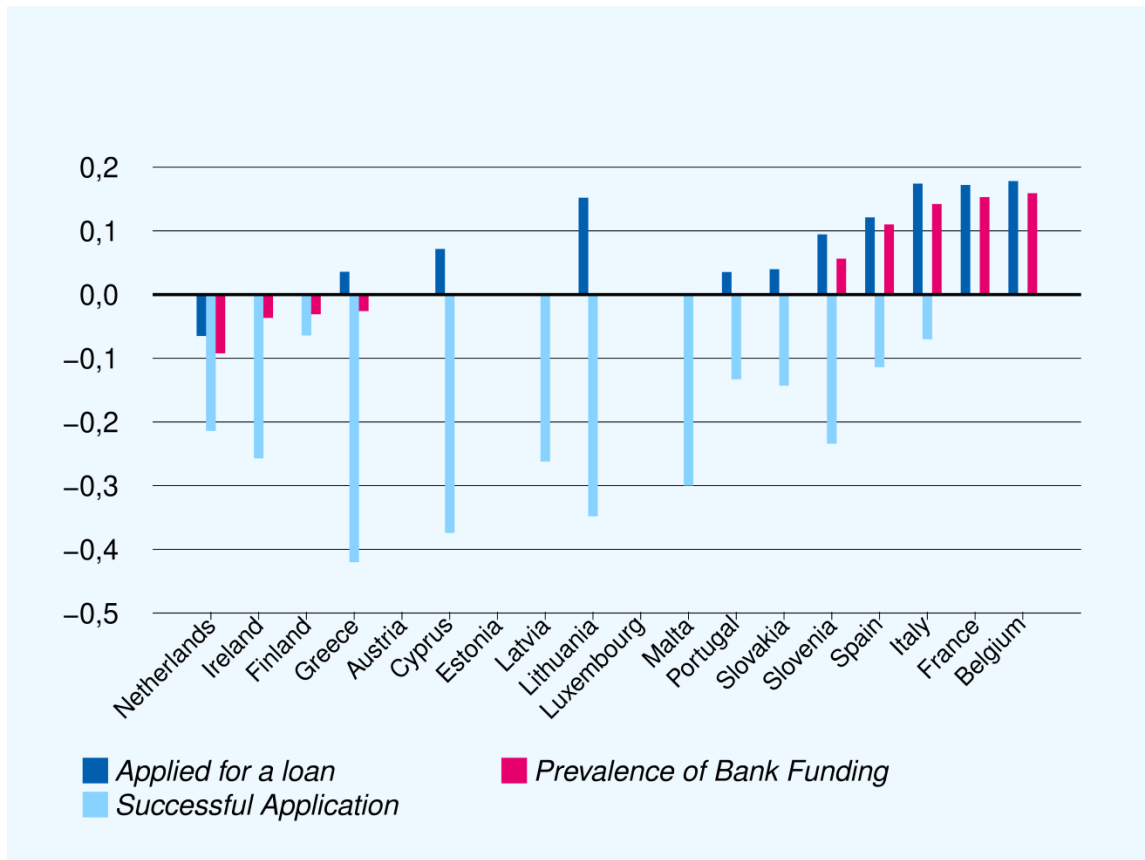
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Table 14 Effects split by firm size (2017-2018)

VARIABLES		Micro	Small	Medium	Large	
Applied for a bank loan	Netherlands	-0.09*** (0.017)	-0.16*** (0.019)	-0.21*** (0.018)	-0.22*** (0.032)	
	Constant	0.36*** (0.024)	0.40*** (0.015)	0.40*** (0.016)	0.37*** (0.049)	
	Observations	9,659	8,275	7,277	2,668	
	R-squared	0.019	0.024	0.020	0.019	
	Observations NL	491	457	512	189	
	Successful Application	Netherlands	-0.12* (0.060)	-0.25*** (0.057)	-0.063 (0.048)	-0.004 (0.055)
Constant		0.59*** (0.049)	0.79*** (0.022)	0.75*** (0.023)	0.63*** (0.081)	
Observations		2,095	2,586	2,645	1,135	
R-squared		0.026	0.039	0.026	0.039	
Observations NL		70	78	90	42	
Prevalence of bank loans (total effect)		Netherlands	-0.10*** (0.014)	-0.19*** (0.015)	-0.20*** (0.017)	-0.21*** (0.031)
	Constant	0.27*** (0.022)	0.35*** (0.014)	0.35*** (0.016)	0.31*** (0.047)	
	Observations	9,659	8,275	7,277	2,668	
	R-squared	0.020	0.033	0.024	0.020	
	Observations NL	491	457	512	189	

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.

Figure 2 Country coefficients with Germany as a baseline for Eurozone SME's (2017-2018)



Only statistically significant differences between the coefficients of the country in question and Germany are presented, Controls: Number of employees, sector, age & turnover & wave.

5 Appendix

Table 1 Observations per wave

Wave	Netherlands	Eurozone	EU
2009 Fall (Common round)	293	5947	8159
2010 Spring (ECB round)	227	4786	4786
2010 Fall (ECB round)	230	4906	4906
2011 Spring (ECB round)	466	6941	6941
2011 Fall (Common round)	470	8140	12930
2012 Spring (ECB round)	470	6969	6969
2012 Fall (ECB round)	466	6959	6959
2013 Spring (ECB round)	470	6960	6960
2013 Fall (Common round)	470	8123	12807
2014 Spring (ECB round)	474	6969	6969
2014 Fall (Common round)	730	10068	15217
2015 Spring (ECB round)	912	10707	10707
2015 Fall (Common round)	732	10238	15579
2016 Spring (ECB round)	913	10709	10709
2016 Fall (Common round)	733	10245	15668
2017 Spring (ECB round)	913	10712	10712
2017 Fall (Common round)	731	10210	15092
2018 Spring (ECB round)	914	10720	10720
2018 Fall (Common round)	734	10033	15148
Total	11,348	160,342	197,938

Table 2 Observations per wave by firm size (Eurozone)

Wave	Micro	Small	Medium	Large
2009 Fall (Common round)	2675	2038	1234	476
2010 Spring (ECB round)	1546	1621	1619	534
2010 Fall (ECB round)	1602	1674	1630	406
2011 Spring (ECB round)	2510	2615	1816	591
2011 Fall (Common round)	2924	2969	2247	676
2012 Spring (ECB round)	2549	2547	1873	542
2012 Fall (ECB round)	2539	2556	1864	555
2013 Spring (ECB round)	2547	2548	1865	550
2013 Fall (Common round)	2907	2948	2268	683
2014 Spring (ECB round)	2544	2549	1876	551
2014 Fall (Common round)	4207	3122	2739	983
2015 Spring (ECB round)	4593	3297	2817	1013
2015 Fall (Common round)	4210	3212	2816	988
2016 Spring (ECB round)	4593	3297	2819	1016
2016 Fall (Common round)	4209	3215	2821	988
2017 Spring (ECB round)	4587	3306	2819	1012
2017 Fall (Common round)	4183	3209	2818	992
2018 Spring (ECB round)	4594	3303	2823	1013
2018 Fall (Common round)	4097	3163	2773	987
Total	63,616	53,189	43,537	14,556

Table 3 Fully successful application vs. partially successful application (2017-2018)

Variables	Fully Successful Application	Partially Successful Application
Netherlands	-0.14*** (0.032)	-0.16*** (0.029)
Constant	0.75*** (0.023)	0.89*** (0.018)
Observations	7,326	7,326
R-squared	0.035	0.038
Observations in NL	238	238

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Controls: Number of employees, sector, age & turnover & wave.