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SMEs' Perceptions of Availability of External Finance*

Florian Horky^{a, b}

Abstract

Our aim in this study is to investigate how SMEs perceive and expect the availability of bank loans, credit lines, and trade credits. Our findings highlight that past experiences and changing demands for financing are significant drivers in shaping both past perceptions and future expectations. Behavioral factors such as loss aversion and rational inattention play a crucial role in influencing managerial decisions. We use data from the semi-annually conducted Survey on the Access to Finance of Enterprises. The data covers the time-period from April 2014 to September 2022. Insights from our findings help explain the persistent low credit dynamics observed since the financial crisis and suggest similar trends may follow the current economic disruptions. Our results underscore the importance of considering behavioral elements and past experiences in designing effective monetary policies to support SMEs' access to finance.

JEL codes: D22, E51, F33, G21

Keywords: expectations, perceptions, loss aversion, pessimism bias, behavioral finance

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Non-technical Summary

Access to finance is essential for businesses, especially small and medium-sized enterprises (SMEs), as it influences investment, growth, and employment. This paper explores how SMEs perceive the availability of various external financing options including bank loans, credit lines, and trade credits. The analysis is based on data from the Survey on the Access to Finance of Enterprises (SAFE) conducted by the European Central Bank. Understanding these perceptions and future expectations is crucial, as SMEs' views on financing availability can shape their willingness to apply for external finance, significantly impacting their growth potential.

Our analysis reveals two major insights. First, past experiences significantly shape SME perceptions of finance availability. Second, behavioral factors, like loss aversion, play a crucial role. Negative experiences, such as loan rejection, have a stronger impact on SMEs' financing perceptions than positive outcomes, suggesting that SMEs tend to weigh losses more heavily than equivalent gains. Additionally, the need for financing is connected to expectations about future credit availability, with increased financing needs often negatively impacting expectations for bank loans and credit lines. The results further suggest different perception formation mechanisms between bank-based external financing and trade credit.

Based on the findings, policymakers should consider measures to mitigate the impact of past negative experiences, particularly during economic challenges, to support SMEs in accessing finance. Understanding the formation of SMEs' perceptions can guide targeted interventions to improve SMEs' financial stability and economic resilience.

1. Introduction

The access to finance is generally seen as one of the most important economic variables. Moreover, access to finance for firms has become a major concern for policy, since the financial crisis, as limited access to credit has shown severely negative effects on the investment, growth, and employment (Andrieu et al., 2018; Fidrmuc et al., 2024; Sette and Gobbi, 2015). More recently, the financing behavior of companies once again stands in the focus due to the Covid-19 pandemic (Didier et al., 2020) and the energy crisis. However, access to finance can be largely heterogenous, especially when comparing large and small enterprises. In fact, constrained access to bank lending majorly affects small and medium sized enterprises (SMEs) (Yang, 2021), mainly due to two reasons: Firstly, there is a greater information asymmetry between banks and SMEs than between banks and large companies. Secondly, SMEs are usually more dependent on loans as they are often unable to access capital markets (Andrieu et al., 2018). Furthermore, taking into account the prominent role of SMEs in the (European) economy, it is clear that SMEs' access to finance is of outstanding interest for research as well as for policymakers (Andrieu et al., 2018; Lukacs, 2005).

While direct access to finance is a crucial factor, understanding SMEs' perception of the availability of external financing sources is equally important. Perception in the case of this paper is the concept of whether firms' managers believe that the availability has improved, of different external financing sources has improved, remained unchanged or deteriorated over a specific time horizon. SMEs' views on the ease of obtaining external financing can significantly impact their willingness to seek loans or other forms of credit. These perceptions are presumably shaped by a range of factors, including past experiences, economic conditions, and the overall financial environment. Recent studies highlight that SMEs' concerns about financing availability can lead to conservative investment behaviors, potentially hindering growth and innovation (Casey and O'Toole, 2014; Cowling et al., 2016). In the wake of the Covid-19 pandemic and the ongoing energy crisis, it is ever more important to understand how such perceptions are shaped. Additionally, economic theory and empirical research suggest that decisions are made as a result of behavioral processes and the formation of perceptions and expectations follows behavioral models (Kahneman and Tversky, 1979; Taylor, 1991; Thaler, 2005). Recent research has extensively explored the formation of financial perceptions on the household (Guiso et al., 2008) and the corporate level (Bertrand and Schoar, 2003; Frydman and Camerer, 2016). Moreover, it has been investigated that experience is an important source of information for building perceptions and expectations (Fidrmuc et al., 2024; Levitt and March, 1988). In this paper, a special focus is put on the role of experience on the SME level. The formation of financing perceptions based on experience at the SME level has not yet been extensively explored. While Fidrmuc and Horky (2023) have examined the influence of past experience on actual bank loan application behavior, there remains a gap in understanding how these experiences shape SMEs' perceptions of external financing availability. This research therefore complements the literature by specifically focusing on the formation of financing perceptions and outlooks, thus providing a more comprehensive view of how SMEs navigate their financing environments.

To conduct this investigation, we use unique data from the Survey on the Access to Finance of Enterprises (SAFE) collected by the European Central Bank (ECB, 2019). This dataset offers the possibility to investigate different forms of (external) financing, but also provides data on the perception of the previous availability and the future prospects of the availability of external financing sources. The SAFE survey is a reliable source of data with a considerable body of literature already created around it (Martinez et al., 2022). Nevertheless, especially when it comes to behavioral investigations for which surveys are a superior source, the SAFE is not used to its full potential.

Our contribution to the existing research is twofold. First, we show that experience is a major driver in building up perceptions for three different sources of external financing. Second, we confirm that behavioral factors have an essential impact on the perception formation. We can see that negative experiences exert a far more pronounced effect than positive perceptions. This behavioral asymmetry may correspond to the loss aversion. Our analysis also indicates that factors such as rational inattention transmitted via changes in the Need for external financing contribute significantly to perception formation. The results are strongly robust towards country and time effects as well as for different country samples. The paper is organized as follows. In section 2 we review the related literature and derive the testable hypotheses. An overview on the data with descriptive statistics is presented in section 3. The empirical strategy, including methodology and results are shown in section 4. We conclude in the last section.

2. Literature Review

The formation of perceptions and decision-making processes in corporate finance are rooted in several key theories. Behavioral Finance is the overarching keyword, emphasizing how psychological influences and biases affect the financial behaviors of individuals and firms. One foundational theory in this regard is Prospect Theory, introduced by Kahneman and Tversky (1979). This theory challenges the traditional rational agent model by introducing psychological elements into decision-making. The central concept of loss aversion, posits that individuals experience losses more intensely than gains of equivalent size. This asymmetry in the perception of gains and losses significantly influences financial decisions. Subsequent studies (Tversky and Kahneman, 1991; 1992) have expanded on this idea, illustrating that this behavior cannot be explained solely by income effects or changes in risk aversion. Another significant theory for the present research is Rational Inattention, proposed by Sims (2003). This theoretical strand suggests that due to the costs associated with acquiring information, individuals and firms often make decisions based on incomplete information. Rational inattention leads to two main mechanisms: people build their decisions on limited information when acquiring more information is costly, and individuals start acquiring relevant information only when it becomes necessary. This theory aligns well with observations in corporate finance, where firms pay closer attention to credit markets only when they need a loan (Fidrmuc et al., 2024). Theories of Organizational Learning (Levitt and March, 1988; Tyler and Steensma, 1998) propose that past experiences form the basis for heuristic rules and decision-making processes within organizations. These theories argue against the notion of a fully rational agent with access to complete information, highlighting the role of sticky information, information frictions, and limited human cognitive capacities (Cyert and March, 1963; March and Simon, 1958; Thaler, 2005). Finally, in economic and finance theory, Bayesian updating is a standard method through which agents revise their beliefs based on new information (Armantier et al., 2016; Caskey, 1985). This process is crucial in forming perceptions and expectations, particularly in the context of corporate finance where new financial information continually influences managerial decisions. All of these theories allow the assumption that experience plays a role when it comes to forming future-oriented perceptions.

Coming to some empirical evidence, perceptions and decisions, overextrapolation, and personal history are closely interlinked, especially in corporate finance (Frydman and Camerer, 2016). Our research particularly considers the formation of perceptions and asymmetries between different dimensions of the models (positive and negative perceptions, past perceptions, and future expectations). Especially, experience is seen as an important source of information in forming perceptions and expectations (Fidrmuc et al., 2024; Levitt and March, 1988; Tyler and Steensma, 1998).

For example, in the context of inflation expectations, Cavallo et al. (2014) found that individuals in low-inflation environments have weaker perceptions than those in high-inflation environments. Additionally, Coibion et al. (2015) discovered a statistically significant positive correlation between beliefs concerning recent values and forecasts of future economic developments of a firm.

Similarly, Shin (2020) demonstrated that learning from experience generates heterogeneity in expected future returns. More recently, Fidrmuc and Horky (2023) highlighted the influence of past experiences on firms' financial application behavior. This finding aligns with theories of organizational learning and behavioral finance, emphasizing the importance of historical context in shaping financial perceptions and decisions. Frimanslund et al. (2023) further contribute to this body of knowledge by examining the role of finance within entrepreneurial ecosystems, indicating how financial perceptions can influence entrepreneurial activities and ecosystem dynamics.

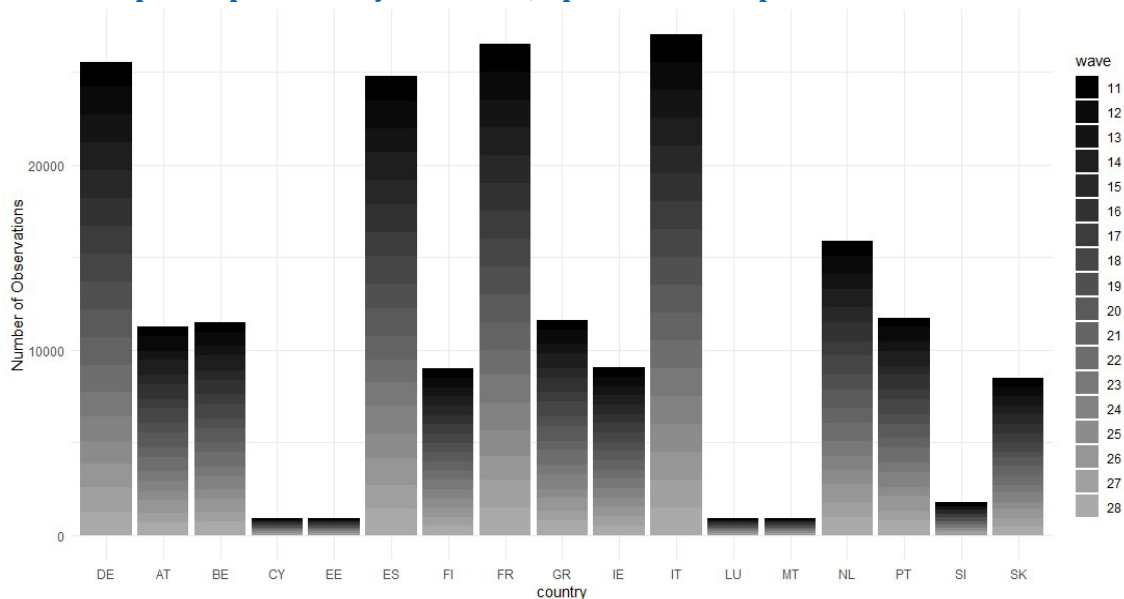
Nevertheless, there is a gap in assessing the role of experience in forming SMEs' perception of the availability of external finance, especially in the recent period with granular micro-data. Empirical studies have shown that SMEs often face unique challenges in accessing finance, which can be exacerbated by their previous financial experiences. Understanding these processes can provide valuable insights into the financial decision-making behaviors of SMEs and contribute to more effective policy formulation aimed at improving access to finance for these companies. This is particularly relevant in the current economic climate, where SMEs are still affected by the aftermath of the Covid-19 pandemic and the ongoing energy crisis, which have both significantly impacted their financial strategies and perceptions.

3. Data

We use data from the Survey on the Access to Finance of Enterprises (SAFE) collected by the European Central Bank (ECB, 2019) in cooperation with the European Commission. The data provides information on the latest developments in the financial situation of enterprises and is conducted in various ways semi-annually since 2009. Mainly due to two reasons, we use only a part of the whole data set. First, major reformulations were conducted for waves 10 (2013_H2, October 2013 – March 2014) and 11 (2014_H1, April 2014 – September 2014). Therefore, we decided to only use data from wave 11 onwards, so that our subsample covers 18 waves and the period from April 2014 to September 2022. Second, as we focus on availability of financing sources in the euro area, we only use data from the euro countries. Moreover, we want to avoid the effects of the euro introduction in the most important accession countries. We therefore use data from the Euro-17 and exclude countries that joined the monetary union shortly before the start of the observation period namely Latvia, January 2014 or during the observation period (Lithuania, January 2015).

Four countries (Germany, France, Italy, Spain) with more than 10,000 observations play a prominent role. The participation per country is about equally distributed over the different waves (see Figure 1). In Table 1 we show the mean values of our dependent variables per country. A positive value signifies a higher fraction of positive perceptions and expectations, while a negative value indicates a higher fraction of negative perceptions and expectations. Nearly all countries perceive in average the availability of external finance as positive.

Figure 1 Participation per Country and Wave, April 2014 to September 2022



Note: Country codes: DE – Germany, AT – Austria, BE – Belgium, CY – Cyprus, EE – Estonia, ES – Spain, FI – Finland, FR – France, GR – Greece, IE – Ireland, IT – Italy, LU – Luxembourg, MT – Malta, NL – Netherlands, PT – Portugal, SI – Slovenia, SK – Slovakia.

Source: ECB; own presentation.

Questions on bank lending policy are an important source of information, as direct data is often unavailable (Fidrmuc et al., 2024). The SAFE features Questions about experience with and need for different types of financing. Moreover, the survey covers two time-dimensions, asking for the perception of the availability of different financing categories in the past six months, and for the expectations in the upcoming six months. The most important survey questions we use for the formation of our variables can be found in Table A2. For our analysis we use the answers for bank loans, credit lines and trade credit as external financing sources to cover a broad and realistic variety (Andrieu et al., 2018; Moritz et al., 2015). A general overview on the composition of the dataset can be found in Table A3. Using the original data, we define binary variables for the perception of the availability of a certain type of external financing over the past six months and for the expectations about the availability in the next six months, as our dependent variables of interest.

Table 1 Average Financing Perceptions and Expectations by Countries

Country	Perceptions			Expectations		
	<i>Bank Loan</i>	<i>Credit Line</i>	<i>Trade Credit</i>	<i>Bank Loan</i>	<i>Credit Line</i>	<i>Trade Credit</i>
DE	0.100	0.094	0.073	-0.028	-0.016	-0.024
AT	0.022	0.047	0.020	-0.114	-0.091	-0.083
BE	0.051	0.064	0.003	-0.016	0.007	-0.064
CY	0.062	0.065	0.042	0.139	0.133	0.085
EE	-0.034	0.021	0.074	-0.060	0.041	-0.020
ES	0.185	0.166	0.168	0.076	0.076	0.086
FI	0.014	0.043	0.049	0.007	0.033	0.004
FR	0.054	0.010	-0.009	-0.063	-0.053	-0.075
GR	-0.054	-0.028	-0.027	-0.039	-0.018	-0.065
IE	0.112	0.107	0.182	0.086	0.090	0.099
IT	0.094	0.042	0.073	0.058	0.055	0.049
LU	-0.002	0.042	-0.036	-0.104	-0.061	-0.161
MT	0.023	0.060	0.077	0.049	0.078	0.042
NL	0.035	0.070	0.114	0.038	0.075	0.082
PT	0.126	0.118	0.090	0.023	0.023	0.006
SI	0.101	0.106	0.048	0.043	0.054	0.015
SK	0.111	0.128	0.045	0.066	0.084	0.000

Note: Country codes: DE – Germany, AT – Austria, BE – Belgium, CY – Cyprus, EE – Estonia, ES – Spain, FI – Finland, FR – France, GR – Greece, IE – Ireland, IT – Italy, LU – Luxembourg, MT – Malta, NL – Netherlands, PT – Portugal, SI – Slovenia, SK – Slovakia.

Source: ECB; own presentation.

4. Empirical Analysis

4.1. Summary of Expected Effects

As we showed in the theory and literature section Experience is a known, crucial driver in the formation of financial perceptions. Given the complexity of financial markets and the costs associated with information acquisition and transactions, perceptions often form under conditions of imperfect information (Binks and Ennew, 1996). Consequently, we hypothesize that past experiences significantly influence perceptions on several time horizons, i.e. past-oriented as well as future-oriented. Behavioral factors also play a critical role in shaping financial perceptions. Loss aversion, a central concept, suggests that individuals place greater weight on potential losses than on equivalent gains (Kahneman and Tversky, 1979; Bokhari and Geltner, 2011; Genesove and Mayer, 2001; Balcombe et al., 2019). Therefore, we anticipate that negative financial experiences will have a more pronounced impact on SMEs' perceptions of availability of external finance than positive experiences. This extends beyond the current state of art that negative experiences simply lead to negative perceptions by considering the effect on different horizons of the perceptions. Furthermore, rational inattention, as proposed by Sims (2003), posits that individuals make decisions based on incomplete information due to the costs of acquiring and processing information. This concept is particularly relevant to the formation of financial perceptions, where executives selectively focus on the most important information in response to changing financial needs (Moscarini, 2004; Tyler and Steensma, 1998). We expect that varying demands for external financing will significantly affect the formation of financial expectations.

Using the SAFE dataset, we analyze the influence of former experience with, and current demand for, trade credit, credit lines, and bank loans on SMEs' financial perceptions. While the dataset primarily captures subjective self-assessments, we augment our analysis with firm characteristics such as size and age, acknowledging the limitations in the absence of detailed financial and accounting data.

4.2. Methodology

We focus on analyzing perceptions and expectations of the availability of different types of external finance using a Heckman probit model. This model is particularly well-suited for our analysis because it addresses potential sample selection bias that may arise when specific financing sources are not applicable to a firm because of some underlying firm-specific factors. By modeling this selection process explicitly, we can correct for any biases that might distort our estimates of the determinants of perceived availability of external finance. For the estimation, we utilize survey questions on perceptions on two time-dimensions. First, past-oriented perceptions asking for the previous 6 months. Second, future-oriented perceptions, i.e. the outlook for the coming 6 months. Both perceptions are measured in four categories: *improved*, *stayed the same*, *deteriorated*, and *instrument not applicable*. We split these categories into two partial variables describing different steps of applications for external finance. Using the category *instrument (not) applicable*, we identify firms with sufficient information on external finance. Thus, we code a binary variable that takes the value 1 if the specific type of loan is applicable (i.e., improved or deteriorated) and 0 if the instrument is not applicable. The selection equation includes identification variables related to firms' previous application behavior as well as information on the firm size. Firm age (dummy variables for young and old firms) is used as a distinct selection instrument only present in the selection equation.

The selection model has the following form:

$$P(F = 1) = \Phi_F(\beta_1 application_{t-1} + \beta_2 size + \beta_3 age + u_F),$$

Application, is a categorical variable containing information on whether a firms applied for the specific type of external finance in the past, or whether it did not apply because of the fear of possible rejection or enough internal funds. The second step equation provides our main results:

$$P(Y = 1|F = 1) = \Phi_Y(\beta_1 experience_{t-1} + \beta_2 need + \beta_3 \mathbf{Z} + \theta + \tau + u_Y),$$

where the dependent variable is the probability that the perceived evaluation of availability of external finance of firm i in wave t has improved. The explanatory variables include experience, need for financing, and selected controls, along with time and country-specific effects. Both equations include normally distributed and uncorrelated residuals

Our main explanatory variables include eight different categories of past experience (see Table 3), with firms having sufficient internal funds as the base category. Additionally, we include the need for a specific source of financing as a categorical variable with four levels (increased, unchanged, decreased, non-applicable), with non-applicable responses as the base category. Following earlier literature, we control for size of the company. López-García and Sogorb-Mira (2008) show that larger SMEs are less affected by financial constraints than smaller SMEs. Hence, we include dummy variables for small (1 to 49 employees) and large companies (more than 250 employees), using medium-sized firms (50 to 250 employees) as the base category. Furthermore, we consider alternative forms of financing. Companies considering alternative sources, like crowdfunding, may have different perceptions of traditional financial services. This is supported by van Klyton and Rutabayiro-Ngoga (2018), who state that entrepreneurs perceiving financing shortages as the banks' fault are pushed to use alternative financing. We use the probit estimation method, as employed in similar applications, sometimes with the same dataset (Andrieu et al., 2018). Our estimations are calculated using Stata's heckprobit

command. We report average marginal effects and standard errors clustered by country for all estimations.

4.3. Core Results

Tables 4 to 6 show the results for perceptions over the last six months and for expectations for the next six months, respectively, for the external financing sources investigated. The dependent variables are defined as binary ones, equal to 1 if the perception or expectation improved and 0 otherwise. The results show clear and significant effects of experience on the formation of perceptions and expectations, where negative experiences cause negative impacts, and positive experiences come along with positive parameter values.

It can be observed that a rejection shows the strongest negative parameter values across all financing sources. For instance, in Table 4, being discouraged due to a potential or anticipated rejection reduces the probability of improved perception by approximately 41.5% to 42%, and the probability of improved expectation by 17.8% to 18.6%. Similarly, termination of the process by the company due to a lack of prospects of success (Refused) and a rejection by the bank have similarly strong negative marginal effects on lending policy perceptions. Comparing the parameter values of positive experiences with the ones of negative experiences, it is evident that for bank financing, the effects of negative experiences are far more pronounced than those of positive experiences. For example, receiving everything positively affects the probability of improved perception by 23.2% to 22.2% (Table 4), while a rejection negatively impacts it by 53.0% to 53.3%. This suggests a certain degree of loss aversion in the formation of availability perceptions and expectations, as a former negative experience equals a loss from negative application or at least a felt loss from missing returns due to impossible investments.

Generally, the effects of experience on availability perceptions and expectations are quite similar across all investigated external financing sources. Bank loans and credit lines show more or less equal effects, as seen in Table 4 and Table 5. For example, the discouraged due to rejection variable reduces the probability of improved perception by about 41.5% to 42% for bank loans and by 33.7% to 41.9% for credit lines. However, when comparing the effects of experience on bank financing against the effects on trade credits, some minor yet interesting deviations occur. First, the resulting parameter values are somewhat smaller than the effects for bank financing and also operate at lower significance levels, as seen in Table 6.

Table 2 Results for Bank Loans

	First Step Estimation		Perception		Expectation	
<i>Bank Loan applicable</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Firm applied</i>	0.244*** (0.004)	0.243*** (0.004)	0.218*** (0.038)	0.086*** (0.002)	0.086*** (0.002)	0.081*** (0.003)
<i>Discouraged – rejection</i>	0.155*** (0.008)	0.155*** (0.008)	0.161*** (0.020)	0.052*** (0.006)	0.052*** (0.006)	0.055*** (0.005)
<i>Enough internal funds</i>	-0.010 (0.006)	-0.011 (0.006)	-0.051 (0.047)	0.000 (0.003)	0.000 (0.003)	-0.010** (0.004)
<i>Size small</i>	-0.031*** (0.008)	-0.031*** (0.008)	-0.037* (0.015)	-0.003 (0.005)	-0.003 (0.005)	-0.004 (0.005)
<i>Size large</i>	0.018 (0.010)	0.018 (0.010)	0.016 (0.011)	-0.009 (0.005)	-0.010 (0.005)	-0.010* (0.005)
<i>Age – young (< 5y)</i>	-0.022 (0.011)	-0.022 (0.011)	-0.018* (0.007)	0.002 (0.007)	0.002 (0.007)	0.007 (0.007)
<i>Age – old (> 10y)</i>	-0.000 (0.009)	-0.000 (0.009)	0.002 (0.008)	-0.003 (0.002)	-0.003 (0.002)	0.004 (0.003)
	Second Step Estimation		Perception		Expectation	
<i>Improved</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Discouraged – rejection</i>	-0.415*** (0.028)	-0.420*** (0.029)		-0.178*** (0.027)	-0.186*** (0.028)	
<i>Enough internal funds</i>	0.190*** (0.012)	0.199*** (0.011)		0.056*** (0.009)	0.065*** (0.010)	
<i>Received everything</i>	0.232*** (0.025)	0.222*** (0.028)		0.020 (0.019)	0.002 (0.017)	
<i>Received parts</i>	-0.071* (0.030)	-0.089** (0.031)		-0.084** (0.027)	-0.107*** (0.026)	
<i>Refused by firm</i>	-0.319*** (0.031)	-0.326*** (0.032)		-0.173*** (0.031)	-0.186*** (0.030)	
<i>Rejected by bank</i>	-0.530*** (0.025)	-0.533*** (0.026)		-0.240*** (0.023)	-0.252*** (0.023)	
<i>Pending application</i>	-0.131*** (0.027)	-0.145*** (0.030)		0.019 (0.024)	0.004 (0.025)	
<i>Need decreasing</i>	0.078*** (0.014)		0.128*** (0.030)	0.085*** (0.014)		0.087*** (0.014)
<i>Need increasing</i>	-0.011 (0.020)		0.060** (0.022)	-0.026* (0.011)		-0.025* (0.012)
<i>Need unchanged</i>	0.008 (0.013)		0.048* (0.020)	0.012 (0.016)		0.018 (0.015)
<i>Other sources needed</i>	-0.056*** (0.011)	-0.059*** (0.011)	-0.126*** (0.018)	0.004 (0.005)	0.000 (0.006)	-0.014* (0.007)
<i>Other sources used</i>	-0.006 (0.018)	-0.005 (0.018)	0.006 (0.025)	-0.027 (0.028)	-0.027 (0.028)	-0.030 (0.026)
<i>Size small</i>	-0.078*** (0.009)	-0.082*** (0.009)	-0.168*** (0.021)	-0.077*** (0.011)	-0.080*** (0.010)	-0.092*** (0.014)
<i>Size large</i>	0.013 (0.010)	0.014 (0.010)	0.050*** (0.015)	0.010 (0.007)	0.010 (0.007)	0.009 (0.007)
Country, sector and wave	Yes	Yes	Yes	Yes	Yes	Yes
Observations	44,662	44,662	44,662	49,285	49,285	49,285
Selected Observations	37,941	37,941	37,941	46,421	46,421	46,421
Log Pseudo-Likelihood	-33504	-33618	-37493	-37709	-37841	-38185

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations. We use Stata's heckprobit command for estimation.

Table 3 Results for Credit Lines

First Step Estimation	Perception			Expectation		
<i>Credit line applicable</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Firm applied</i>	0.159*** (0.005)	0.159*** (0.005)	0.133*** (0.005)	0.056*** (0.002)	0.056*** (0.002)	0.052*** (0.002)
<i>Discouraged – rejection</i>	0.077*** (0.012)	0.081*** (0.011)	0.090*** (0.008)	0.022*** (0.006)	0.022*** (0.006)	0.027*** (0.005)
<i>Enough internal funds</i>	-0.029*** (0.008)	-0.030*** (0.007)	-0.073*** (0.008)	-0.007* (0.003)	-0.008* (0.003)	-0.017*** (0.003)
<i>Size small</i>	-0.030*** (0.004)	-0.033*** (0.005)	-0.039*** (0.004)	-0.007 (0.004)	-0.007 (0.004)	-0.007 (0.004)
<i>Size large</i>	0.016 (0.009)	0.021* (0.010)	0.023** (0.008)	0.004 (0.004)	0.004 (0.004)	0.004 (0.003)
<i>Age – young (< 5y)</i>	-0.031** (0.011)	-0.039*** (0.009)	-0.026*** (0.006)	-0.004 (0.005)	-0.004 (0.005)	-0.004 (0.006)
<i>Age – old (> 10y)</i>	-0.005 (0.005)	-0.010 (0.006)	-0.003 (0.003)	-0.010** (0.003)	-0.010** (0.003)	-0.003 (0.003)
Second Step Estimation	Perception			Expectation		
<i>Improved</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Discouraged – rejection</i>	-0.337*** (0.017)	-0.419*** (0.031)		-0.147*** (0.024)	-0.158*** (0.023)	
<i>Enough internal funds</i>	0.136*** (0.029)	0.188*** (0.013)		0.071*** (0.008)	0.081*** (0.008)	
<i>Received everything</i>	0.324*** (0.016)	0.227*** (0.041)		0.049** (0.015)	0.031 (0.016)	
<i>Received parts</i>	-0.012 (0.029)	-0.126** (0.049)		-0.075*** (0.018)	-0.104*** (0.018)	
<i>Refused by firm</i>	-0.222*** (0.037)	-0.322*** (0.063)		-0.204*** (0.033)	-0.222*** (0.031)	
<i>Rejected by bank</i>	-0.416*** (0.013)	-0.508*** (0.042)		-0.244*** (0.019)	-0.264*** (0.016)	
<i>Pending application</i>	-0.078** (0.027)	-0.185*** (0.045)		0.005 (0.017)	-0.018 (0.017)	
<i>Need decreasing</i>	0.072** (0.022)		0.116*** (0.026)	0.088*** (0.018)		0.093*** (0.016)
<i>Need increasing</i>	-0.040 (0.027)		0.009 (0.037)	-0.042** (0.015)		-0.050** (0.016)
<i>Need unchanged</i>	0.040 (0.022)		0.088** (0.030)	0.027 (0.014)		0.036* (0.015)
<i>Other sources needed</i>	-0.051*** (0.013)	-0.054*** (0.012)	-0.101*** (0.011)	0.005 (0.011)	0.002 (0.010)	-0.016 (0.012)
<i>Other sources used</i>	0.006 (0.028)	0.005 (0.028)	-0.009 (0.033)	-0.036 (0.024)	-0.038 (0.024)	-0.044 (0.023)
<i>Size small</i>	-0.103*** (0.008)	-0.093*** (0.009)	-0.154*** (0.011)	-0.062*** (0.011)	-0.065*** (0.011)	-0.078*** (0.013)
<i>Size large</i>	0.0366*** (0.010)	0.031** (0.010)	0.071*** (0.009)	0.012 (0.008)	0.012 (0.008)	0.020* (0.009)
Country, sector and wave	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30,532	30,532	30,532	35,432	35,432	35,432
Selected Observations	27,371	27,371	27,371	34,007	34,007	34,007
Log Pseudo-Likelihood	-21449	-21582	-24064	-25656	-25791	-26045

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations. We use Stata’s heckprobit command for estimation.

Table 4 Results for Trade Credits

First Step Estimation		Perception			Expectation	
<i>Trade credit applicable</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Firm applied</i>	0.244*** (0.005)	0.244*** (0.005)	0.251*** (0.004)	0.124*** (0.003)	0.124*** (0.003)	0.125*** (0.003)
<i>Discouraged – rejection</i>	0.121*** (0.016)	0.120*** (0.015)	0.093* (0.036)	0.058*** (0.010)	0.058*** (0.010)	0.055*** (0.011)
<i>Enough internal funds</i>	0.010 (0.007)	0.009 (0.007)	0.027*** (0.007)	0.012** (0.004)	0.012** (0.004)	0.013*** (0.004)
<i>Size small</i>	-0.016* (0.007)	-0.016** (0.006)	-0.015* (0.006)	0.002 (0.005)	0.002 (0.005)	0.002 (0.005)
<i>Size large</i>	0.017 (0.010)	0.011 (0.010)	0.019 (0.010)	0.003 (0.008)	0.003 (0.008)	0.002 (0.008)
<i>Age – young (< 5y)</i>	-0.022* (0.010)	-0.021** (0.008)	-0.023 (0.012)	0.001 (0.011)	0.001 (0.011)	0.000 (0.011)
<i>Age – old (> 10y)</i>	0.005 (0.010)	0.007 (0.007)	0.000 (0.007)	-0.002 (0.009)	-0.002 (0.009)	-0.003 (0.007)
Second Step Estimation		Perception			Expectation	
<i>Improved</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Discouraged – rejection</i>	-0.277*** (0.075)	-0.234*** (0.021)		-0.152*** (0.019)	-0.151*** (0.020)	
<i>Enough internal funds</i>	0.167*** (0.025)	0.137*** (0.030)		0.054*** (0.008)	0.052*** (0.008)	
<i>Received everything</i>	0.347*** (0.091)	0.405*** (0.018)		0.097** (0.031)	0.103*** (0.027)	
<i>Received parts</i>	0.096 (0.090)	0.157*** (0.021)		-0.018 (0.027)	-0.010 (0.022)	
<i>Refused by firm</i>	-0.073 (0.132)	-0.017 (0.080)		-0.133** (0.043)	-0.129** (0.042)	
<i>Rejected by bank</i>	-0.365*** (0.098)	-0.314*** (0.023)		-0.217*** (0.022)	-0.212*** (0.019)	
<i>Pending application</i>	-0.038 (0.081)	0.019 (0.013)		0.024 (0.029)	0.030 (0.027)	
<i>Need decreasing</i>	0.008 (0.023)		0.029 (0.029)	0.067*** (0.018)		0.073*** (0.020)
<i>Need increasing</i>	0.075** (0.028)		0.102** (0.032)	0.074*** (0.017)		0.079*** (0.017)
<i>Need unchanged</i>	0.047 (0.027)		0.089** (0.032)	0.052* (0.022)		0.067** (0.023)
<i>Other sources needed</i>	-0.049*** (0.008)	-0.044*** (0.009)	-0.098*** (0.011)	0.009 (0.011)	0.009 (0.011)	-0.011 (0.012)
<i>Other sources used</i>	-0.003 (0.028)	0.002 (0.026)	-0.010 (0.032)	-0.014 (0.037)	-0.013 (0.037)	-0.015 (0.036)
<i>Size small</i>	-0.047** (0.016)	-0.048*** (0.014)	-0.081*** (0.015)	-0.039*** (0.010)	-0.040*** (0.010)	-0.053*** (0.013)
<i>Size large</i>	0.014 (0.015)	0.018 (0.014)	0.020 (0.018)	-0.003 (0.016)	-0.003 (0.016)	0.001 (0.017)
Country, sector and wave	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21,680	21,680	21,680	24,374	24,374	24,374
Selected Observations	18,552	18,552	18,552	22,470	22,470	22,470
Log Pseudo-Likelihood	-16167	-16190	-17460	-18904	-18913	-19142

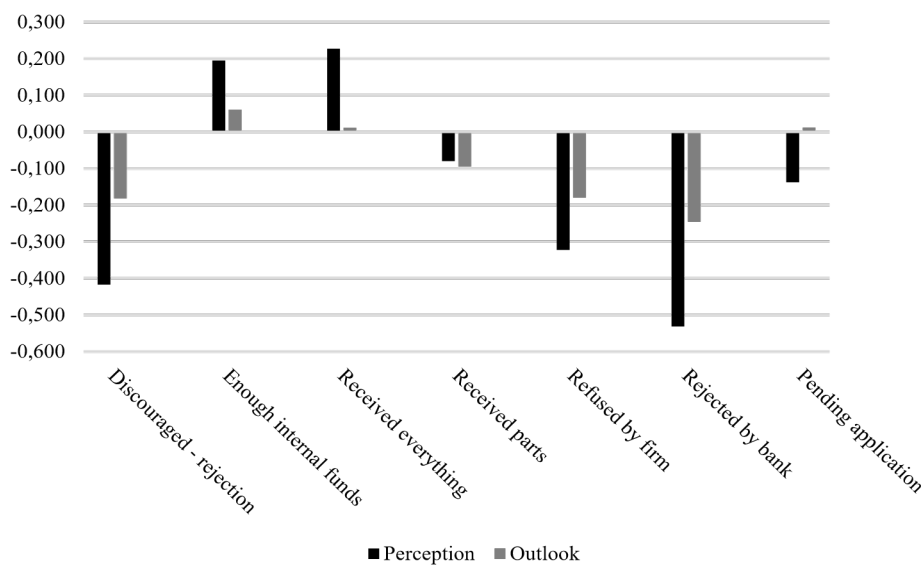
Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations. We use Stata's heckprobit command for estimation.

For example, the discouraged category reduces the probability of improved perception by 27.7% to 23.4% for trade credits, compared to 41.5% to 42% for bank loans. Keeping the institutional perspective in mind, this result seems easily explainable, as trade partners and suppliers are usually a larger and more heterogeneous group than banks. Thus, the role of experience can be assumed to be less important, as other factors like personal connections and long inter-firm relationships, which are not included here, might be of higher importance in these lending relationships. Second, the parameter for receiving parts shows at least in one specification a significant and positive value for trade credits, contrasting the results for the bank financing sources. Specifically, receiving parts increases the probability of improved perception by 15.7% (Table 6), whereas it has a negative impact for bank loans. This can be interpreted based on the institutional differences between the lenders (banks vs. trading partners) and the associated different approaches and expectations. It seems that the expectations on banks are stricter than on trading partners. If the bank approves only parts of an often-complex application, this is tantamount to disappointment, while the same partial support from trading partners is perceived positively as help.

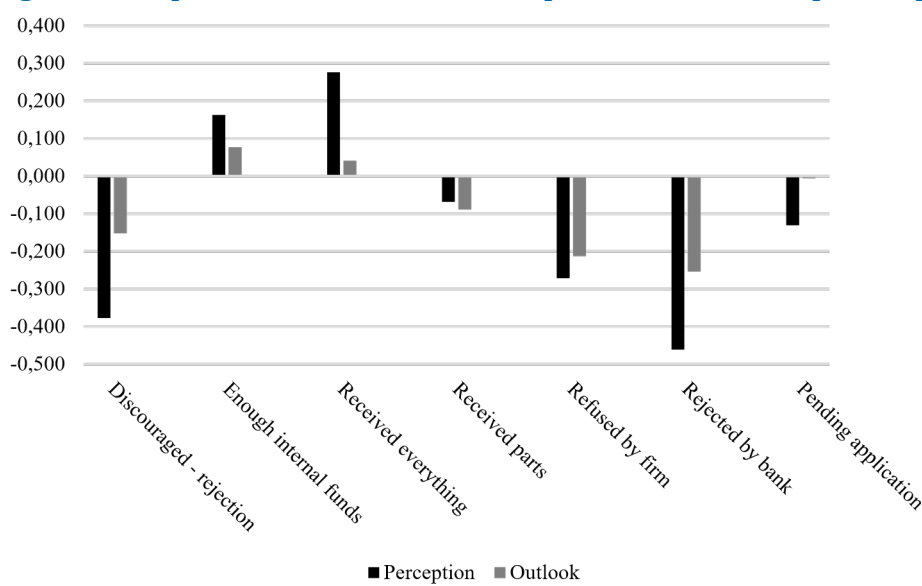
Finally, it is worth comparing the effects for past-oriented perceptions and future-oriented expectations. One of the specific properties of the SAFE dataset is that it allows us to investigate the effects in different time-dimensional directions. The comparison across all external financing sources allows the conclusion that experience exerts a stronger influence on past-oriented perceptions than on future oriented expectations. Figures 2 to 4 show the difference between the average parameters for past-oriented and future-oriented perceptions. We can see, that the parameter values for the future-oriented perceptions are much smaller than the ones for the past-oriented perceptions. This effect is most pronounced for the received everything category and least pronounced for the rejected category again hinting at some sort of loss-aversion. However, there are still large and significant effects of former experience on the future availability perceptions of external financing. These results, as well as insights into even longer-term effects than we have investigated, could be subjects of exciting further research.

Figure 2 Comparison of Coefficients in Expectation and Perception Equations for Bank Loans



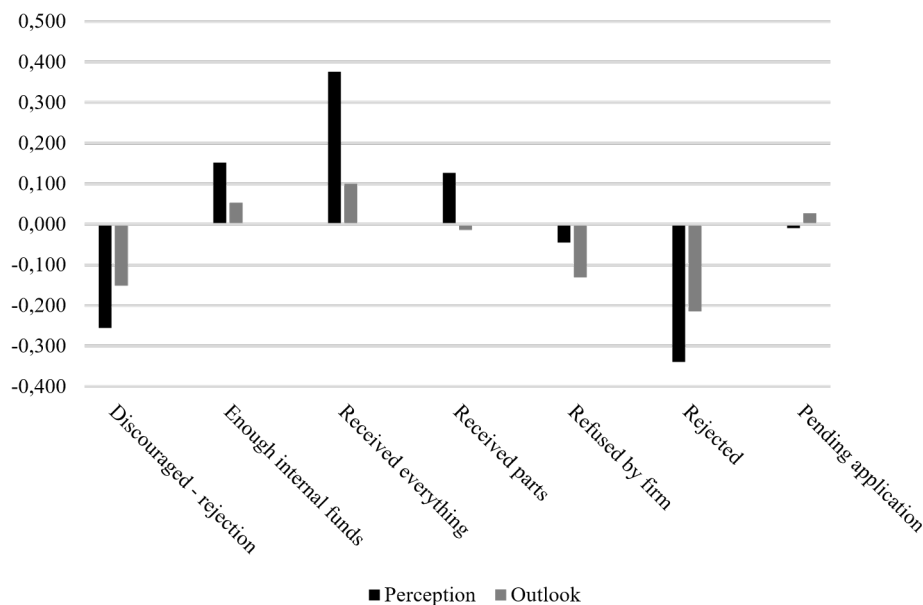
Source: Own representation.

Figure 3 Comparison of Coefficients in Expectation and Perception Equations for Credit Lines



Source: Own representation.

Figure 4 Comparison of Coefficients in Expectation and Perception Equations for Trade Credits



Source: Own representation.

In summary, the results show that experience significantly impacts the formation of perceptions. These results align with other empirical research that establishes a link between experience and perceptions across the whole economy, particularly concerning inflation expectations (Fidrmuc et al., 2024; Madeira and Zafar, 2015; Tyler and Steensma, 1998).

When we look at the effects for Need, it is immediately apparent that Need seems to play a much weaker role compared to Experience. Nevertheless, it is worth taking a look at the results of the estimations. First, across all funding sources, Need appears to exert a stronger influence on future-oriented Expectations than on past-directed Perceptions. The correspondingly higher parameter values as well as significance levels can be considered as follows. On the one hand, we have already shown in the previous section that experience is less relevant for future-oriented expectations than for past-oriented perceptions. Conversely, we must assume that other factors, such as need, play a greater role in the formation of expectations. On the other hand, Need itself is also a future-oriented variable. Even if Need has undergone a change in the past period, the resulting action is yet to occur. According to the hypothesis of rational inattention, mental activity will only follow from an increased need or vice versa a decreased mental activity in the case of a decreased need. This mental activity is more interesting for expecting some future outcome, but not for evaluating past actions.

When interpreting the marginal effects, it becomes clear that Need indeed has varied influences across different types of external financing. For bank loans, as seen in Table 4, a decreasing need increases the probability of improved perception by approximately 7.8% to 8.7% and improves expectations by about 12.8%. Conversely, an increasing need shows a significant negative effect, particularly for expectations, where it decreases the probability of improved expectations by around 2.5% to 6.0%. Unchanged need shows a weaker influence, with some positive effects on expectations (4.8%), though generally less significant. For credit lines (Table 5), the pattern is similar. A decreasing need significantly increases the probability of improved perceptions by about 7.2% to 8.8% and expectations by 11.6% to 9.3%. An increasing need, on the other hand, has a negative impact on perceptions and expectations, with a notable decrease of around 4.2% to 5.0% for expectations. Unchanged need also positively influences perceptions and expectations, but the effects are smaller and less consistent, with the most significant positive effect being 8.8% on expectations.

Trade credits present a different scenario (Table 6). Here, an increasing need has a significant and positive impact, improving perceptions by about 7.5% and expectations by 10.2% to 7.9%. This contrasts with bank-based external financing, where an increasing need generally has negative effects. A decreasing need shows positive effects on expectations (6.7% to 7.3%) but is less impactful on perceptions. The unchanged need category also shows positive effects on perceptions and expectations, with significant increases noted in expectations (8.9% to 6.7%). This discrepancy between bank-based external financing and trade credits can be attributed to institutional differences. For bank-based external financing, a decreasing need signifies a strengthened economic position of the respective company, which enhances access to bank-associated funding sources and reduces the managerial focus on relevant conditions, aligning with the rational inattention hypothesis. Bank-based financing is often more complex and disappointing compared to accessing trade credits, explaining why decreased need positively influences perceptions and expectations more for bank financing. In contrast, trade credits are influenced more by the increasing need, reflecting the reliance on ongoing and growing business relationships with trade partners.

Finally, the comparison of past-oriented perceptions and future-oriented expectations reveals that Need influences expectations more significantly. This aligns with the rational inattention hypothesis, suggesting that future-oriented mental activity is more responsive to changing needs. Thus, the Need variable plays a crucial role in shaping future expectations, even if its immediate impact on past perceptions is less pronounced.

4.4. Robustness Analysis

The main results remain highly robust to various robustness checks. Using our preferred specification, we perform several robustness checks. Firstly, we compare the results for different regional subsamples. The impact of the crisis has been highly different between North (DE, NL, BE, LU, FI, SI, AT, SK, EE) and South European and peripheral (FR, IE, IT, GR, ES, PT, MT, CY) countries (Wyplosz, 2016; Campos et al., 2018), which are compared in Tables A7 to A9.

For bank loans (Table A7), the coefficients for experience tend to be slightly higher in absolute size and more significant for the South than for the North European countries. For instance, being discouraged due to rejection reduces the probability of improved perception by approximately 43.0% in the South compared to 35.7% in the North. Similar patterns are observed for expectations, with a decrease of 19.0% in the South versus 13.9% in the North. The firms' size shows a more pronounced effect in the South, with small firms experiencing stronger negative impacts. For example, the marginal effect of being refused by the firm is -35.3% for perceptions in the South compared to -25.0% in the North. For credit lines (Table A8), the results are consistent with those for bank loans. The discouraged due to rejection variable reduces the probability of improved perception by 38.1% in the South compared to 43.3% in the North. Interestingly, the parameter for received everything is significantly positive for the South (30.0% for perception), whereas it is non-significant in the North. This may reflect the higher reliance on personal relationships and long-term business ties in Southern Europe. For trade credits (Table A9), the effects of experience are generally less pronounced than for bank-based financing. However, being rejected still has a substantial negative impact, reducing the probability of improved perception by 26.5% in the South compared to 37.6% in the North. An interesting deviation is seen with the variable received everything, which increases the probability of improved perception by 36.8% in the South, indicating a higher value placed on complete trade credit approvals in these regions.

Need also shows varying effects between North and South European countries. For bank loans, a decreasing need significantly increases the probability of improved perception by 10.3% in the North compared to 5.5% in the South. Conversely, increasing need has a minor and often

non-significant impact. For credit lines, decreasing need also has a positive effect on perception (7.2% in the North and 6.9% in the South). However, an increasing need negatively impacts expectations in the North (-6.0%) but has no significant effect in the South. For trade credits, the pattern diverges, with an increasing need significantly boosting perceptions and expectations in the South (8.1% for perceptions and 6.8% for expectations), reflecting different operational dynamics and dependencies.

Secondly, we perform a sample split based on legal origins, distinguishing between countries with French and German legal origins (Table A10 to Table A12). All included countries are having a bank-based financial system (Levine and Zervos, 1998; Levine, 2002). However, we can differ between the euro area countries with French (BE, ES, FR, GR, LU, IT, NL, PT) and German (AT, DE, EE, SI, SK) legal origin (La Porta et al., 1998; 2008; Gökhan and İlhan, 2021), while we drop Scandinavian (Finland), common law (Ireland) and non-classified (Malta and Cyprus) countries. Not surprisingly, the majority of the North and South European euro area countries have German and French legal origins, respectively, but the overlap is not perfect (e.g. Belgium, Netherlands and Luxembourg belong to the North European group but with French legal origins).

Despite the overlap, we see some interesting aspects. For bank loans (Table A10), the discouraged due to rejection variable shows a significant negative impact for both German (-36.9% for perception) and French (-40.2% for perception) legal origin countries, but the effects are slightly more pronounced for French legal origin countries. The effect of having enough internal funds is consistently positive and significant, with French legal origin countries showing a higher positive impact (21.1% for perception). For credit lines (Table A11), the results similarly show stronger negative impacts for French legal origin countries. Being discouraged due to rejection reduces the probability of improved perception by 32.6% in French legal origin countries compared to 41.9% in German legal origin countries. The positive impact of receiving everything is also higher in French legal origin countries (35.2% for perception), highlighting the importance of full approval in these contexts. For trade credits (Table A12), the differences are notable. Being rejected has a substantial negative impact in both regions, but the impact is larger in German legal origin countries (-55.4% for perception). The positive effect of receiving everything is again more pronounced in French legal origin countries (39.3% for perception), suggesting that trade credits and therefore business relationships are well valued in these countries.

4.5. Impact of the Covid-19 Pandemic

To assess the robustness of our results in light of the significant economic turbulence caused by the Covid-19 pandemic, we conduct a sample split based on the time dimension. We split our sample into a pre-Covid period (until wave 22, September 2019) and a post-Covid period (wave 23 to 28, starting April 2020). The results are presented in Tables 13 to 15.

Table 5 Robustness Results for Bank Loan – Pre and Post Covid

First Step Estimation	Pre Covid		Post Covid	
Bank Loan applicable	Perception	Outlook	Perception	Outlook
<i>Firm applied</i>	0.231*** (0.007)	0.079*** (0.003)	0.270*** (0.008)	0.100*** (0.006)
<i>Discouraged – rejection</i>	0.139*** (0.011)	0.044*** (0.006)	0.203*** (0.015)	0.067*** (0.011)
<i>Enough internal funds</i>	-0.012 (0.009)	-0.006 (0.004)	-0.006 (0.014)	0.011 (0.008)
<i>Size small</i>	-0.027*** (0.008)	0.001 (0.005)	-0.037** (0.011)	-0.011 (0.008)
<i>Size large</i>	0.015 (0.009)	-0.007 (0.005)	0.027 (0.018)	-0.015 (0.010)
<i>Age – young (< 5y)</i>	-0.023 (0.014)	0.002 (0.008)	-0.025 (0.015)	0.002 (0.011)
<i>Age – old (> 10y)</i>	-0.001 (0.009)	-0.007 (0.004)	-0.007 (0.013)	0.003 (0.006)
Second Step Estimation	Pre Covid		Post Covid	
Improved	Perception	Outlook	Perception	Outlook
<i>Discouraged – rejection</i>	-0.438*** (0.025)	-0.198*** (0.021)	-0.308*** (0.057)	-0.124*** (0.029)
<i>Enough internal funds</i>	0.173*** (0.014)	0.067*** (0.008)	0.187*** (0.021)	0.031** (0.010)
<i>Received everything</i>	0.195*** (0.022)	0.033 (0.023)	0.271*** (0.043)	-0.040* (0.019)
<i>Received parts</i>	-0.114** (0.036)	-0.106*** (0.023)	-0.006 (0.046)	-0.074*** (0.022)
<i>Refused by firm</i>	-0.384*** (0.029)	-0.189*** (0.034)	-0.175*** (0.047)	-0.149*** (0.032)
<i>Rejected by bank</i>	-0.611*** (0.024)	-0.293*** (0.023)	-0.384*** (0.044)	-0.167*** (0.030)
<i>Pending application</i>	-0.172*** (0.018)	0.009 (0.019)	-0.076 (0.041)	0.001 (0.036)
<i>Need decreasing</i>	0.049** (0.016)	0.078*** (0.012)	0.152*** (0.027)	0.086*** (0.018)
<i>Need increasing</i>	-0.009 (0.015)	-0.018* (0.008)	-0.008 (0.035)	-0.042 (0.022)
<i>Need unchanged</i>	0.006 (0.010)	0.021 (0.015)	0.017 (0.026)	-0.010 (0.022)
<i>Other sources needed</i>	-0.046*** (0.010)	-0.005 (0.013)	-0.072*** (0.020)	0.021 (0.019)
<i>Other sources used</i>	-0.011 (0.017)	-0.044 (0.032)	-0.017 (0.034)	0.019 (0.035)
<i>Size small</i>	-0.080*** (0.011)	-0.089*** (0.009)	-0.056*** (0.012)	-0.050*** (0.014)
<i>Size large</i>	0.028* (0.012)	0.012 (0.011)	-0.020 (0.020)	0.011 (0.020)
Country, sector and wave	Yes	Yes	Yes	Yes
Observations	30,950	32,130	13,712	17,155
Selected Observations	26,560	30,368	11,381	16,053
Log Pseudo-Likelihood	-21926	-24407	-11177	-12852

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations. We use Stata's heckprobit command for estimation.

Table 6 Robustness Results for Credit Lines – Pre and Post Covid

First Step Estimation		Pre Covid		Post Covid	
<i>Credit lines applicable</i>		<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>
<i>Firm applied</i>		0.147*** (0.006)	0.049*** (0.002)	0.194*** (0.009)	0.070*** (0.004)
<i>Discouraged – rejection</i>		0.076*** (0.012)	0.018*** (0.006)	0.107*** (0.020)	0.030*** (0.008)
<i>Enough internal funds</i>		-0.027** (0.009)	-0.013*** (0.003)	-0.035** (0.013)	0.003 (0.008)
<i>Size small</i>		-0.028*** (0.006)	-0.003 (0.005)	-0.046*** (0.008)	-0.016*** (0.004)
<i>Size large</i>		0.016 (0.010)	0.005 (0.005)	0.035* (0.015)	0.001 (0.009)
<i>Age – young (< 5y)</i>		-0.044*** (0.011)	-0.003 (0.009)	-0.021* (0.010)	-0.003 (0.011)
<i>Age – old (> 10y)</i>		-0.010 (0.010)	-0.013*** (0.004)	-0.013 (0.012)	-0.003 (0.008)
Second Step Estimation		Pre Covid		Post Covid	
<i>Improved</i>		<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>
<i>Discouraged – rejection</i>		-0.468*** (0.026)	-0.145*** (0.020)	-0.255*** (0.049)	-0.133*** (0.035)
<i>Enough internal funds</i>		0.174*** (0.029)	0.094*** (0.007)	0.165*** (0.022)	0.026 (0.016)
<i>Received everything</i>		0.205** (0.075)	0.063** (0.023)	0.306*** (0.051)	-0.007 (0.038)
<i>Received parts</i>		-0.133 (0.078)	-0.074*** (0.020)	0.001 (0.059)	-0.090* (0.036)
<i>Refused by firm</i>		-0.396*** (0.093)	-0.197*** (0.048)	-0.126 (0.106)	-0.218*** (0.059)
<i>Rejected by bank</i>		-0.560*** (0.079)	-0.267*** (0.018)	-0.355*** (0.046)	-0.189*** (0.046)
<i>Pending application</i>		-0.197** (0.074)	0.013 (0.015)	-0.076 (0.055)	-0.016 (0.033)
<i>Need decreasing</i>		0.048* (0.020)	0.076*** (0.019)	0.136*** (0.032)	0.113*** (0.030)
<i>Need increasing</i>		-0.040 (0.025)	-0.043** (0.016)	-0.019 (0.046)	-0.033 (0.029)
<i>Need unchanged</i>		0.032 (0.017)	0.037* (0.015)	0.067 (0.035)	0.004 (0.023)
<i>Other sources needed</i>		-0.043** (0.014)	-0.005 (0.015)	-0.080*** (0.016)	0.029 (0.023)
<i>Other sources used</i>		0.001 (0.025)	-0.055* (0.024)	0.027 (0.055)	0.031 (0.038)
<i>Size small</i>		-0.092*** (0.018)	-0.075*** (0.012)	-0.065*** (0.015)	-0.030 (0.019)
<i>Size large</i>		0.035** (0.013)	0.011 (0.014)	0.015 (0.028)	0.021 (0.019)
Country, sector and wave	Yes	Yes	Yes	Yes	Yes
Observations	22,198	24,088	8,334	11,344	
Selected Observations	20,148	23,208	7,223	10,799	
Log Pseudo-Likelihood	-14471	-17054	-6776	-8328	

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations. We use Stata’s heckprobit command for estimation.

For bank loans (Table 13), the coefficients indicate that the negative impact of being discouraged due to rejection was somewhat reduced post-Covid, from -43.8% (perception) and -19.8% (outlook) pre-Covid to -30.8% and -12.4% respectively post-Covid. This suggests a slight easing in the severity of negative perceptions and expectations following rejection during the pandemic. The positive impact of having enough internal funds remained significant in both periods, though slightly reduced post-Covid (18.7% pre-Covid vs. 15.2% post-Covid for perceptions). Interestingly, the parameter for received everything decreased post-Covid, indicating less positive perceptions and even negative expectations. For credit lines (Table 14), the discouraged due to rejection variable also shows a reduced negative impact post-Covid, with perceptions decreasing from -46.8% pre-Covid to -25.5% post-Covid and expectations from -14.5% to -13.3% . The effect of having enough internal funds was significant pre-Covid (17.4% for perceptions) but slightly diminished post-Covid (16.5% for perceptions).

Additionally, the positive effect of received everything on perceptions was reduced, indicating a possible shift in the firms' confidence in obtaining full credit line approvals during the pandemic. For trade credits (Table 15), the discouraged due to rejection variable remained consistently negative, with perceptions and expectations slightly less impacted post-Covid (-26.7% pre-Covid vs. -25.7% post-Covid for perceptions). The positive effect of having enough internal funds also remained significant, though the impact on expectations was reduced post-Covid. Notably, the received everything variable continued to show a strong positive impact on perceptions in both periods, reflecting the continued importance of full approvals from trade partners. The need variable's effects also shifted during the pandemic. For bank loans, a decreasing need had a stronger positive impact on perceptions post-Covid (15.2% post-Covid vs. 4.9% pre-Covid). For credit lines, the positive impact of decreasing need on perceptions remained significant but was more pronounced post-Covid (13.6% post-Covid vs. 4.8% pre-Covid). For trade credits, the need decreasing variable showed a significant positive impact on expectations post-Covid (10.9% post-Covid), indicating heightened importance of trade credit stability during the pandemic.

Overall, these results highlight that while the negative impacts of rejection were somewhat mitigated during the Covid-19 pandemic, the importance of having enough internal funds and the role of trade credit stability became even more pronounced. Given the crisis, firms might have anticipated more constraints and therefore were not more negatively influenced by rejections, as their expectations were already adjusted to a more constrained financial environment. Additionally, the perception of external finance availability might have already been at an absolute low due to the crisis, limiting further deterioration. This could explain the slightly reduced negative impacts of rejection observed post-Covid. Furthermore, the increased positive impact of having enough internal funds and trade credit approvals suggests that during crises, firms place even greater value on financial stability and certainty. This underscores the adaptability of SMEs in response to economic shocks and highlights the critical role of external finance in maintaining business operations during periods of economic uncertainty. Further research could explore the mechanisms behind these observations in more detail. For instance, studies could investigate how expectations of financial constraints evolve during crises and how firms' past experiences shape their perceptions and strategic decisions in such contexts. Additionally, examining the role of government interventions and support measures during the pandemic could provide insights into how policy actions can mitigate the negative impacts of economic shocks on SMEs.

Table 7 Robustness Results for Trade Credits – Pre and Post Covid

First Step Estimation	Pre Covid		Post Covid	
<i>Trade credit applicable</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>
<i>Firm applied</i>	0.240*** (0.008)	0.121*** (0.004)	0.256*** (0.011)	0.130*** (0.006)
<i>Discouraged – rejection</i>	0.121*** (0.019)	0.055*** (0.015)	0.122*** (0.028)	0.062*** (0.016)
<i>Enough internal funds</i>	0.011 (0.014)	0.004 (0.006)	0.010 (0.017)	0.029** (0.011)
<i>Size small</i>	-0.015* (0.008)	0.003 (0.008)	-0.019 (0.011)	0.000 (0.006)
<i>Size large</i>	0.012 (0.012)	0.002 (0.012)	0.023 (0.020)	0.003 (0.012)
<i>Age – young (< 5y)</i>	-0.019 (0.012)	0.003 (0.012)	-0.031 (0.024)	0.001 (0.015)
<i>Age – old (> 10y)</i>	0.009 (0.010)	-0.007 (0.008)	0.000 (0.022)	0.012 (0.018)
Second Step Estimation	Pre Covid		Post Covid	
<i>Improved</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>
<i>Discouraged – rejection</i>	-0.267*** (0.050)	-0.163*** (0.023)	-0.257*** (0.039)	-0.101*** (0.027)
<i>Enough internal funds</i>	0.165*** (0.025)	0.063*** (0.009)	0.153*** (0.020)	0.029 (0.017)
<i>Received everything</i>	0.361*** (0.047)	0.117*** (0.033)	0.320*** (0.043)	0.054 (0.038)
<i>Received parts</i>	0.121* (0.052)	-0.013 (0.028)	0.063 (0.049)	-0.012 (0.042)
<i>Refused by firm</i>	-0.036 (0.099)	-0.082 (0.059)	-0.106 (0.145)	-0.175* (0.085)
<i>Rejected by bank</i>	-0.362*** (0.054)	-0.216*** (0.037)	-0.332*** (0.048)	-0.173*** (0.035)
<i>Pending application</i>	-0.060 (0.046)	0.051 (0.028)	0.043 (0.053)	-0.007 (0.045)
<i>Need decreasing</i>	-0.016 (0.023)	0.045 (0.025)	0.079 (0.056)	0.109*** (0.016)
<i>Need increasing</i>	0.063** (0.023)	0.068*** (0.014)	0.115 (0.062)	0.085* (0.035)
<i>Need unchanged</i>	0.037 (0.022)	0.050** (0.018)	0.072 (0.060)	0.054 (0.035)
<i>Other sources needed</i>	-0.034*** (0.008)	0.013 (0.017)	-0.098*** (0.029)	0.003 (0.017)
<i>Other sources used</i>	-0.020 (0.027)	-0.024 (0.033)	0.024 (0.056)	0.001 (0.063)
<i>Size small</i>	-0.053*** (0.014)	-0.051*** (0.013)	-0.034 (0.018)	-0.016 (0.009)
<i>Size large</i>	0.036 (0.021)	-0.001 (0.014)	-0.029 (0.025)	-0.004 (0.026)
Country, sector and wave	Yes	Yes	Yes	Yes
Observations	15,495	16,364	6,185	8,010
Selected Observations	13,345	15,092	5,207	7,378
Log Pseudo-Likelihood	-10905	-12423	-5116	-6232

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations. We use Stata's heckprobit command for estimation.

5. Conclusions

Utilizing the Survey on the Access to Finance of Enterprises (SAFE) dataset collected by the European Central Bank (ECB), we focused on three primary types of external finance: bank loans, credit lines, and trade credits. Our analysis was based on a Heckman probit model to account for potential sample selection bias regarding the use of external financing sources. The importance of understanding SMEs' perceptions of financial availability cannot be overstated. SMEs play a crucial role in the European economy, contributing significantly to innovation, employment, and economic growth. However, they often face greater difficulties in accessing finance compared to larger firms. This is primarily due to information asymmetries and their limited access to capital markets. These challenges have been amplified by recent economic shocks, such as the Covid-19 pandemic and the ongoing energy crisis, making it important to understand how SMEs perceive changes in financial availability.

Our main findings highlight the significant role of past experiences in shaping SMEs' perceptions of financial availability. Negative experiences, such as being discouraged by potential rejection or outright rejection by lenders, have a substantial and more pronounced negative impact on perceptions than positive experiences. This asymmetry suggests the presence of loss aversion, where SMEs weigh negative experiences more heavily than positive ones. Additionally, our analysis shows that while experience significantly influences past-oriented perceptions, its impact on future-oriented expectations is somewhat less pronounced. This finding hints at the importance of other factors. Our results further indicate that a decreasing need for financing positively influences perceptions and expectations, particularly for bank loans and credit lines.

Conversely, an increasing need negatively impacts expectations, highlighting the challenges SMEs face when their financing needs rise. Interestingly, for trade credits, an increasing need has a positive impact. We assume this being due to different dynamics and relationships involved in trade credit arrangements compared to bank-based financing. Our robustness checks confirm the validity of our main results across different regional subsamples, legal origins, and time periods. Notably, the impact of the Covid-19 pandemic revealed that while the negative effects of rejection were somewhat mitigated, the importance of having enough internal funds and the stability of trade credits became even more pronounced.

The findings of this study call for several policy implications for politicians and central banks. Firstly, policymakers should recognize the significant impact of past negative experiences on SMEs' perceptions and take steps to mitigate these effects. This could involve implementing support measures aimed at improving SMEs' access to finance, particularly in times of economic distress. For example, providing guarantees or subsidies for loan applications could help reduce the perceived risk of rejection and encourage more SMEs to seek external financing. Secondly, the role of financial stability and sufficient internal funds highlights the need for policies that support SMEs' financial health. Thirdly, the distinct dynamics of trade credits compared to bank-based financing suggest that policymakers should tailor their approaches to different types of financing. Supporting trade credit arrangements through measures such as credit insurance or incentives for timely payments can help maintain the flow of trade credits. Finally, understanding the regional and institutional differences in SMEs' perceptions can help policymakers design more targeted interventions. For instance, countries with higher negative impacts from financial rejections might benefit from more robust financial education programs or advisory services to help SMEs navigate the financing landscape more effectively.

In conclusion, our study highlights the importance of understanding SMEs' perceptions of financial availability and the factors that shape these perceptions. By addressing the challenges

identified in our analysis, policymakers can help improve SMEs' access to finance and improve the financial literacy of the acting agents in such companies.

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Appendix

Table A1 Survey Questions Used for the Definition of Analyzed Variables

	Question	Possible Answers
<i>Experience</i>		
Variables built: Application Exp	Have you applied for the following types of financing in the past six months? (Please take into account renewal of the existing contracts)	Applied Did not apply because of possible rejection Did not apply because of sufficient internal funds Did not apply for other reasons DK/NA
Exp	If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome? Please provide a separate answer in each case.	Received everything Received 75% and above Received below 75% Refused because the cost was too high Was Rejected Application is still pending DK/NA
<i>Need for external financing</i>		
	For each of the following types of external financing, please indicate if your needs increased, remained unchanged or decreased over the past six months.	Increased Remained unchanged Decreased Instrument not applicable to my enterprise DK/NA
<i>Perceptions and expectations of availability of external finance</i>		
	For each of the following types of financing, would you say that their availability has improved, remained unchanged or deteriorated for your enterprise over the past six months?	Improved Remained unchanged Deteriorated Instrument not applicable to my enterprise DK/NA
	Looking ahead, for each of the following types of financing available to your enterprise, please indicate whether you think their availability will improve, deteriorate or remain unchanged over the next six months.	Improved Remained unchanged Deteriorated Instrument not applicable to my enterprise DK/NA
Note: DK – don't know, NA – not available. Source: ECB; own presentation.		

Table A2 General Overview on the Composition of Answers

Variable	Description	Positive Cases
<i>Bank Loan Application</i>		
Sufficient internal funds	<i>Sufficient internal funds</i>	83993
Discouraged – rejection	<i>No application because of possible rejection</i>	11139
Discouraged – other	<i>No application because of other reasons</i>	42557
Received everything	<i>Received everything</i>	37720
Received parts	<i>Received parts</i>	8008
Refused by firm	<i>Refused because the costs were too high</i>	926
Rejected by bank	<i>Was rejected</i>	4266
Pending application	<i>Application still pending</i>	3050
<i>Credit Line Application</i>		
Sufficient internal funds	<i>Sufficient internal funds</i>	72633
Discouraged – rejection	<i>No application because of possible rejection</i>	8110
Discouraged – other	<i>No application because of other reasons</i>	36827
Received everything	<i>Received everything</i>	29965
Received parts	<i>Received parts</i>	7456
Refused by firm	<i>Refused because the costs were too high</i>	677
Rejected by bank	<i>Was rejected</i>	3244
Pending application	<i>Application still pending</i>	2021
<i>Trade Credit Application</i>		
Sufficient internal funds	<i>Sufficient internal funds</i>	55751
Discouraged – rejection	<i>No application because of possible rejection</i>	5430
Discouraged – other	<i>No application because of other reasons</i>	42058
Received everything	<i>Received everything</i>	23402
Received parts	<i>Received parts</i>	8310
Refused by firm	<i>Refused because the costs were too high</i>	332
Rejected by bank	<i>Was rejected</i>	1501
Pending application	<i>Application still pending</i>	760
<i>Need for Bank Loan</i>		
Need not applicable	<i>Instrument not applicable to my enterprise</i>	23320
Need decreasing	<i>Need decreased over the past 6 months</i>	29657
Need increasing	<i>Need increased over the past 6 months</i>	40157
Need unchanged	<i>Need remained unchanged over the past 6 months</i>	102295
<i>Need for Credit Line</i>		
Need not applicable	<i>Instrument not applicable to my enterprise</i>	18990
Need decreasing	<i>Need decreased over the past 6 months</i>	20641
Need increasing	<i>Need increased over the past 6 months</i>	35215
Need unchanged	<i>Need remained unchanged over the past 6 months</i>	89793
<i>Need for Trade Credit</i>		
Need not applicable	<i>Instrument not applicable to my enterprise</i>	30403
Need decreasing	<i>Need decreased over the past 6 months</i>	11631
Need increasing	<i>Need increased over the past 6 months</i>	23830
Need unchanged	<i>Need remained unchanged over the past 6 months</i>	76194
<i>Firm Size</i>		
Size small	<i>Up to 49 Employees</i>	180169
Size large	<i>More than 250 Employees</i>	22694
<i>Firm Age</i>		
Age young	<i>Up to 5 year old</i>	15267
Age old	<i>Older than 10 years</i>	226322
<i>Other sources of financing</i>		
Other sources relevant	<i>Other sources of financing (e.g. Crowdfunding) are relevant</i>	9887
Other sources used	<i>Other sources of financing (e.g. Crowdfunding) obtained in the past 6 months</i>	1997

Source: Own calculations.

Table A3 Robustness Results for Bank Loan – Regional Subsamples

First Step Estimation		North		South	
<i>Bank Loan applicable</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>	
<i>Firm applied</i>	0.223*** (0.008)	0.081*** (0.004)	0.254*** (0.005)	0.089*** (0.002)	
<i>Discouraged – rejection</i>	0.145*** (0.015)	0.040** (0.013)	0.158*** (0.009)	0.057*** (0.006)	
<i>Enough internal funds</i>	-0.006 (0.008)	-0.002 (0.005)	-0.012 (0.009)	0.001 (0.003)	
<i>Size small</i>	-0.035*** (0.008)	-0.009 (0.007)	-0.029* (0.013)	0.001 (0.006)	
<i>Size large</i>	0.043*** (0.007)	0.003 (0.006)	-0.002 (0.010)	-0.018*** (0.004)	
<i>Age – young (< 5y)</i>	-0.024 (0.014)	0.014* (0.007)	-0.021 (0.016)	-0.005 (0.010)	
<i>Age – old (> 10y)</i>	-0.018 (0.014)	-0.009 (0.005)	0.008 (0.011)	-0.001 (0.002)	
Second Step Estimation		North		South	
<i>Improved</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>	
<i>Discouraged – rejection</i>	-0.357*** (0.044)	-0.139*** (0.016)	-0.430*** (0.042)	-0.190*** (0.037)	
<i>Enough internal funds</i>	0.163*** (0.016)	0.050*** (0.011)	0.205*** (0.014)	0.058*** (0.013)	
<i>Received everything</i>	0.175*** (0.034)	-0.026 (0.024)	0.266*** (0.028)	0.043* (0.021)	
<i>Received parts</i>	-0.173*** (0.045)	-0.141*** (0.030)	-0.026 (0.013)	-0.063 (0.033)	
<i>Refused by firm</i>	-0.250*** (0.057)	-0.054*** (0.013)	-0.353*** (0.032)	-0.232*** (0.020)	
<i>Rejected by bank</i>	-0.545*** (0.020)	-0.243*** (0.033)	-0.514*** (0.035)	-0.237*** (0.031)	
<i>Pending application</i>	-0.120** (0.047)	-0.029*** (0.007)	-0.126** (0.046)	0.046 (0.033)	
<i>Need decreasing</i>	0.103*** (0.016)	0.072*** (0.014)	0.055** (0.019)	0.085*** (0.020)	
<i>Need increasing</i>	-0.021 (0.017)	-0.047* (0.021)	-0.006 (0.028)	-0.015 (0.013)	
<i>Need unchanged</i>	-0.006 (0.013)	-0.025 (0.017)	0.018 (0.017)	0.032 (0.022)	
<i>Other sources needed</i>	-0.056** (0.021)	0.008 (0.007)	-0.057*** (0.007)	-0.001 (0.008)	
<i>Other sources used</i>	-0.037 (0.028)	-0.058** (0.022)	0.028 (0.018)	0.014 (0.048)	
<i>Size small</i>	-0.068*** (0.009)	-0.067*** (0.012)	-0.084*** (0.012)	-0.082*** (0.016)	
<i>Size large</i>	0.027 (0.022)	0.009 (0.011)	0.003 (0.004)	0.011 (0.008)	
Country, sector and wave	Yes	Yes	Yes	Yes	
Observations	15,363	17,153	29,299	32,132	
Selected Observations	13,079	16,116	24,862	30,305	
Log Pseudo-Likelihood	-12004	-13133	-21359	-24464	

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations.

Table A4 Robustness Results for Credit Line – Regional Subsamples

First Step Estimation	North		South	
Credit lines applicable	Perception	Outlook	Perception	Outlook
<i>Firm applied</i>	0.162*** (0.007)	0.062*** (0.002)	0.158*** (0.004)	0.052*** (0.002)
<i>Discouraged – rejection</i>	0.117*** (0.010)	0.037*** (0.005)	0.062*** (0.008)	0.014* (0.007)
<i>Enough internal funds</i>	-0.010 (0.009)	0.001 (0.004)	-0.042*** (0.006)	-0.013*** (0.003)
<i>Size small</i>	-0.031*** (0.008)	-0.009 (0.007)	-0.036*** (0.006)	-0.005 (0.003)
<i>Size large</i>	0.048*** (0.009)	0.011 (0.006)	0.000 (0.011)	-0.001 (0.003)
<i>Age – young (< 5y)</i>	-0.053*** (0.009)	0.003 (0.008)	-0.027 (0.015)	-0.008 (0.007)
<i>Age – old (> 10y)</i>	-0.024* (0.012)	-0.013** (0.005)	-0.002 (0.008)	-0.009* (0.004)
Second Step Estimation	North		South	
Improved	Perception	Outlook	Perception	Outlook
<i>Discouraged – rejection</i>	-0.433*** (0.023)	-0.144*** (0.012)	-0.381*** (0.053)	-0.150*** (0.036)
<i>Enough internal funds</i>	0.124*** (0.011)	0.065*** (0.005)	0.196*** (0.028)	0.070*** (0.013)
<i>Received everything</i>	0.148*** (0.030)	0.005 (0.016)	0.300*** (0.044)	0.069*** (0.018)
<i>Received parts</i>	-0.210*** (0.047)	-0.107*** (0.022)	-0.034 (0.053)	-0.063** (0.023)
<i>Refused by firm</i>	-0.407*** (0.051)	-0.167*** (0.039)	-0.244*** (0.073)	-0.229*** (0.045)
<i>Rejected by bank</i>	-0.564*** (0.033)	-0.205*** (0.020)	-0.452*** (0.055)	-0.262*** (0.026)
<i>Pending application</i>	-0.197*** (0.038)	-0.004 (0.038)	-0.130 (0.067)	0.008 (0.020)
<i>Need decreasing</i>	0.066*** (0.019)	0.078** (0.025)	0.069* (0.029)	0.088*** (0.023)
<i>Need increasing</i>	-0.095*** (0.017)	-0.060** (0.021)	0.004 (0.042)	-0.032 (0.019)
<i>Need unchanged</i>	-0.009 (0.011)	0.004 (0.018)	0.080** (0.030)	0.039* (0.018)
<i>Other sources needed</i>	-0.063*** (0.018)	0.004 (0.016)	-0.037** (0.012)	0.004 (0.014)
<i>Other sources used</i>	-0.002 (0.043)	-0.065* (0.029)	0.020 (0.042)	0.002 (0.026)
<i>Size small</i>	-0.068*** (0.011)	-0.056*** (0.011)	-0.104*** (0.006)	-0.065*** (0.018)
<i>Size large</i>	0.028* (0.012)	0.003 (0.014)	0.023 (0.014)	0.019* (0.010)
Country, sector and wave	Yes	Yes	Yes	Yes
Observations	11,971	13,832	18,561	21,600
Selected Observations	10,693	13,233	16,678	20,774
Log Pseudo-Likelihood	-8635	-9995	-12692	-15585

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations.

Table A5 Robustness Results for Trade Credit– Regional Subsamples

First Step Estimation		North		South	
<i>Trade credit applicable</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>	
<i>Firm applied</i>	0.299***	0.160***	0.225***	0.111***	
	(0.009)	(0.008)	(0.005)	(0.002)	
<i>Discouraged – rejection</i>	0.142***	0.049	0.113***	0.059***	
	(0.028)	(0.031)	(0.020)	(0.008)	
<i>Enough internal funds</i>	0.017	0.009	0.009	0.013***	
	(0.012)	(0.010)	(0.009)	(0.004)	
<i>Size small</i>	-0.017	0.001	-0.018*	0.001	
	(0.010)	(0.010)	(0.008)	(0.006)	
<i>Size large</i>	0.031	0.012	0.009	-0.001	
	(0.017)	(0.011)	(0.015)	(0.011)	
<i>Age – young (< 5y)</i>	-0.040	0.032	-0.017	-0.006	
	(0.026)	(0.025)	(0.009)	(0.012)	
<i>Age – old (> 10y)</i>	-0.028*	-0.016	0.012	0.000	
	(0.012)	(0.016)	(0.009)	(0.010)	
Second Step Estimation		North		South	
<i>Improved</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>	
<i>Discouraged – rejection</i>	-0.376***	-0.171***	-0.265***	-0.151***	
	(0.037)	(0.027)	(0.066)	(0.025)	
<i>Enough internal funds</i>	0.106***	0.036	0.176***	0.056***	
	(0.023)	(0.020)	(0.036)	(0.007)	
<i>Received everything</i>	0.154*	-0.015	0.368***	0.114***	
	(0.074)	(0.046)	(0.080)	(0.029)	
<i>Received parts</i>	-0.117	-0.075*	0.123	-0.018	
	(0.075)	(0.034)	(0.077)	(0.026)	
<i>Refused by firm</i>	-0.168	-0.113	-0.083	-0.170***	
	(0.143)	(0.070)	(0.150)	(0.040)	
<i>Rejected by bank</i>	-0.522***	-0.200***	-0.355***	-0.240***	
	(0.089)	(0.036)	(0.089)	(0.019)	
<i>Pending application</i>	-0.226*	-0.010	-0.019	0.020	
	(0.090)	(0.087)	(0.070)	(0.024)	
<i>Need decreasing</i>	0.011	0.093*	0.000	0.052***	
	(0.038)	(0.039)	(0.022)	(0.015)	
<i>Need increasing</i>	0.044	0.088**	0.081	0.068**	
	(0.024)	(0.030)	(0.043)	(0.023)	
<i>Need unchanged</i>	-0.040	0.018	0.072	0.063*	
	(0.025)	(0.028)	(0.038)	(0.028)	
<i>Other sources needed</i>	-0.052***	-0.010	-0.043***	0.014	
	(0.015)	(0.024)	(0.009)	(0.012)	
<i>Other sources used</i>	0.027	-0.029	-0.028	0.010	
	(0.057)	(0.073)	(0.029)	(0.030)	
<i>Size small</i>	-0.025	-0.009	-0.056**	-0.051***	
	(0.022)	(0.016)	(0.020)	(0.012)	
<i>Size large</i>	-0.003	-0.021	0.019	0.009	
	(0.032)	(0.027)	(0.016)	(0.018)	
Country, sector and wave	Yes	Yes	Yes	Yes	
Observations	5,560	6,222	16,120	18,152	
Selected Observations	4,523	5,537	14,029	16,933	
Log Pseudo-Likelihood	-4521	-5082	-11588	-13750	

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations.

Table A6 Robustness Results for Bank Loan – Legal Origins

First Step Estimation		DE		FR	
<i>Bank Loan applicable</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>	
<i>Firm applied</i>	0.248*** (0.003)	0.095*** (0.004)	0.245*** (0.004)	0.000 (0.006)	
<i>Discouraged – rejection</i>	0.162*** (0.013)	0.046** (0.016)	0.150*** (0.009)	-0.013* (0.006)	
<i>Enough internal funds</i>	0.002 (0.004)	-0.005 (0.006)	-0.019** (0.007)	0.084*** (0.002)	
<i>Size small</i>	-0.041** (0.013)	-0.014* (0.007)	-0.030* (0.012)	0.050*** (0.007)	
<i>Size large</i>	0.041*** (0.010)	-0.001 (0.009)	0.009 (0.014)	-0.002 (0.003)	
<i>Age – young (< 5y)</i>	-0.033 (0.022)	0.018** (0.006)	-0.015 (0.015)	0.001 (0.009)	
<i>Age – old (> 10y)</i>	-0.031 (0.021)	-0.015* (0.007)	0.013 (0.009)	0.001 (0.001)	
Second Step Estimation		DE		FR	
<i>Improved</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>	
<i>Discouraged – rejection</i>	-0.369*** (0.059)	-0.124*** (0.014)	-0.402*** (0.051)	-0.181*** (0.034)	
<i>Enough internal funds</i>	0.157*** (0.010)	0.064*** (0.006)	0.211*** (0.012)	0.057*** (0.012)	
<i>Received everything</i>	0.133*** (0.023)	-0.015 (0.034)	0.282*** (0.038)	0.036 (0.022)	
<i>Received parts</i>	-0.219*** (0.006)	-0.119** (0.043)	-0.018 (0.022)	-0.071* (0.032)	
<i>Refused by firm</i>	-0.266** (0.084)	-0.037* (0.018)	-0.306*** (0.055)	-0.214*** (0.027)	
<i>Rejected by bank</i>	-0.595*** (0.011)	-0.212*** (0.047)	-0.491*** (0.043)	-0.238*** (0.028)	
<i>Pending application</i>	-0.181*** (0.047)	-0.031** (0.012)	-0.104 (0.058)	0.039 (0.031)	
<i>Need decreasing</i>	0.098*** (0.016)	0.092*** (0.017)	0.069*** (0.019)	0.086*** (0.020)	
<i>Need increasing</i>	-0.030 (0.025)	-0.036 (0.039)	-0.002 (0.026)	-0.018 (0.014)	
<i>Need unchanged</i>	0.001 (0.011)	0.005 (0.010)	0.019 (0.017)	0.020 (0.023)	
<i>Other sources needed</i>	-0.095*** (0.008)	-0.011* (0.006)	-0.049*** (0.007)	0.004 (0.007)	
<i>Other sources used</i>	0.018 (0.019)	-0.040 (0.041)	-0.007 (0.030)	-0.019 (0.043)	
<i>Size small</i>	-0.078*** (0.005)	-0.079*** (0.007)	-0.080*** (0.012)	-0.083*** (0.015)	
<i>Size large</i>	0.014 (0.026)	-0.001 (0.017)	0.010 (0.011)	0.014* (0.007)	
Country, sector and wave	Yes	Yes	Yes	Yes	
Observations	8,867	9,515	31,695	34,995	
Selected Observations	7,365	8,823	26,994	33,074	
Log Pseudo-Likelihood	-6996	-7393	-23233	-26715	

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations.

Table A7 Robustness Results for Credit Line – Legal Origins

First Step Estimation	DE		FR	
	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>
<i>Firm applied</i>	0.180*** (0.004)	0.074*** (0.004)	0.156*** (0.005)	0.052*** (0.002)
<i>Discouraged – rejection</i>	0.134*** (0.006)	0.045*** (0.006)	0.060*** (0.011)	0.146483* (0.007)
<i>Enough internal funds</i>	0.002 (0.005)	0.002 (0.006)	-0.046*** (0.006)	-0.012*** (0.003)
<i>Size small</i>	-0.033** (0.011)	-0.013* (0.005)	-0.034*** (0.005)	-0.006 (0.005)
<i>Size large</i>	0.040*** (0.004)	0.006 (0.006)	0.012 (0.014)	0.002 (0.005)
<i>Age – young (< 5y)</i>	-0.049*** (0.012)	-0.001 (0.008)	-0.021* (0.011)	-0.005 (0.007)
<i>Age – old (> 10y)</i>	-0.028 (0.020)	-0.015* (0.007)	0.001 (0.004)	-0.009 (0.005)
Second Step Estimation	DE		FR	
<i>Improved</i>	<i>Perception</i>	<i>Outlook</i>	<i>Perception</i>	<i>Outlook</i>
<i>Discouraged – rejection</i>	-0.419*** (0.046)	-0.131*** (0.021)	-0.326*** (0.018)	-0.147*** (0.032)
<i>Enough internal funds</i>	0.113*** (0.008)	0.073*** (0.003)	0.126*** (0.019)	0.071*** (0.010)
<i>Received everything</i>	0.106*** (0.027)	-0.010 (0.011)	0.352*** (0.019)	0.068*** (0.018)
<i>Received parts</i>	-0.271*** (0.028)	-0.125*** (0.031)	0.018 (0.033)	-0.057* (0.024)
<i>Refused by firm</i>	-0.478*** (0.029)	-0.193*** (0.042)	-0.179*** (0.037)	-0.199*** (0.047)
<i>Rejected by bank</i>	-0.613*** (0.028)	-0.199*** (0.048)	-0.396*** (0.010)	-0.243*** (0.025)
<i>Pending application</i>	-0.244*** (0.014)	-0.054 (0.041)	-0.069* (0.034)	0.027 (0.023)
<i>Need decreasing</i>	0.059* (0.025)	0.112*** (0.020)	0.062* (0.027)	0.087*** (0.022)
<i>Need increasing</i>	-0.094*** (0.023)	-0.032 (0.024)	-0.031 (0.034)	-0.041* (0.019)
<i>Need unchanged</i>	-0.009 (0.011)	0.022 (0.021)	0.047 (0.029)	0.034 (0.018)
<i>Other sources needed</i>	-0.097*** (0.024)	-0.018* (0.009)	-0.026*** (0.006)	0.016 (0.014)
<i>Other sources used</i>	0.026 (0.046)	-0.079 (0.042)	-0.014 (0.034)	-0.027 (0.027)
<i>Size small</i>	-0.072*** (0.009)	-0.057*** (0.010)	-0.105*** (0.008)	-0.065*** (0.016)
<i>Size large</i>	0.032 (0.017)	0.016 (0.022)	0.033* (0.013)	0.017 (0.010)
Country, sector and wave	Yes	Yes	Yes	Yes
Observations	7,255	8,023	20,405	23,733
Selected Observations	6,454	7,625	18,285	22,812
Log Pseudo-Likelihood	-5160	-5862	-14192	-17262

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations.

Table A8 Robustness Results for Trade Credit – Legal Origins

First Step Estimation	DE		FR	
	Perception	Outlook	Perception	Outlook
<i>Firm applied</i>	0.400*** (0.008)	0.227*** (0.015)	0.242*** (0.007)	0.119*** (0.004)
<i>Discouraged – rejection</i>	0.165*** (0.044)	0.030 (0.037)	0.123*** (0.021)	0.062*** (0.010)
<i>Enough internal funds</i>	0.020* (0.009)	0.015 (0.023)	0.007 (0.010)	0.011* (0.005)
<i>Size small</i>	-0.011 (0.018)	0.011 (0.013)	-0.018* (0.008)	0.000 (0.005)
<i>Size large</i>	0.015 (0.016)	0.001 (0.014)	0.025 (0.016)	0.005 (0.009)
<i>Age – young (< 5y)</i>	-0.051 (0.050)	0.043 (0.043)	-0.022** (0.009)	0.003 (0.010)
<i>Age – old (> 10y)</i>	-0.038 (0.020)	-0.034 (0.022)	0.005 (0.009)	0.008 (0.007)
Second Step Estimation	DE		FR	
<i>Improved</i>	Perception	Outlook	Perception	Outlook
<i>Discouraged – rejection</i>	-0.351*** (0.048)	-0.162*** (0.023)	-0.243* (0.097)	-0.110*** (0.033)
<i>Enough internal funds</i>	0.115*** (0.016)	0.015 (0.020)	0.164 (0.085)	0.060*** (0.005)
<i>Received everything</i>	0.093** (0.030)	-0.057 (0.040)	0.393** (0.121)	0.174*** (0.011)
<i>Received parts</i>	-0.167*** (0.027)	-0.059* (0.029)	0.140 (0.111)	0.041** (0.015)
<i>Refused by firm</i>	-0.254*** (0.040)	-0.157 (0.106)	-0.030 (0.181)	-0.073* (0.037)
<i>Rejected by bank</i>	-0.554*** (0.086)	-0.093*** (0.019)	-0.325** (0.123)	-0.171*** (0.017)
<i>Pending application</i>	-0.351*** (0.096)	-0.171** (0.060)	-0.010 (0.104)	0.101*** (0.023)
<i>Need decreasing</i>	-0.036 (0.046)	0.080 (0.058)	0.026 (0.034)	0.064** (0.020)
<i>Need increasing</i>	0.025 (0.019)	0.105** (0.041)	0.084 (0.070)	0.069*** (0.019)
<i>Need unchanged</i>	-0.034 (0.030)	0.031 (0.042)	0.064 (0.060)	0.053* (0.024)
<i>Other sources needed</i>	-0.086*** (0.025)	-0.059 (0.044)	-0.040*** (0.010)	0.006 (0.007)
<i>Other sources used</i>	0.106* (0.046)	0.133* (0.063)	-0.012 (0.024)	-0.030 (0.038)
<i>Size small</i>	-0.001 (0.017)	0.017 (0.014)	-0.058** (0.018)	-0.048*** (0.012)
<i>Size large</i>	0.059*** (0.009)	0.004 (0.035)	0.009 (0.023)	0.007 (0.015)
Country, sector and wave	Yes	Yes	Yes	Yes
Observations	2,431	2,686	16,468	18,651
Selected Observations	1,808	2,267	14,119	17,260
Log Pseudo-Likelihood	-2031	-2287	-12368	-14555

Note: Average marginal effects for the selection equation and the second step equation are reported. Clustered standard errors at the firm level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Source: Own calculations.