



# Focus on Enterprise

## BETWEEN THE NEEDS AND AVAILABILITY: THE EXTERNAL FINANCING GAP INDICATOR

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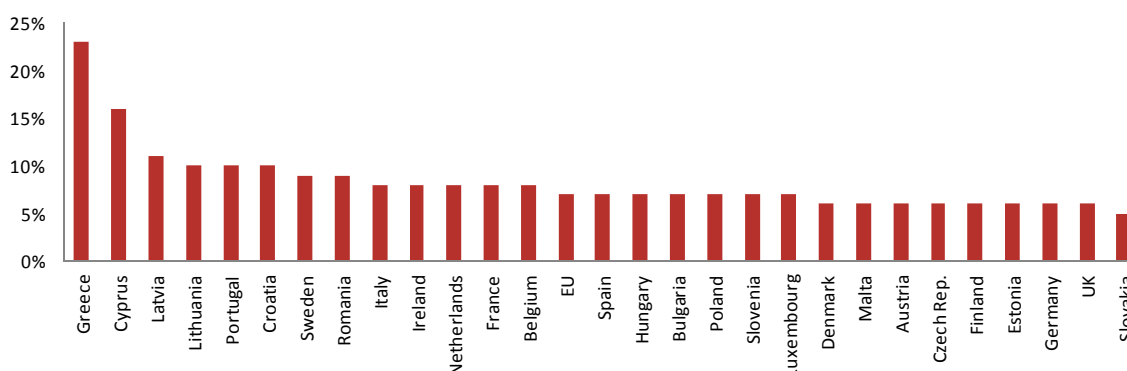
*This paper considers the (mis)match between the financing needs of European MSMEs and the perception of availability of external financing. Our question is: how do changes in the perceived need for external financing (and its availability) line up with the patterns of external finance use? We also explore the evolution of the perception of availability of financing and changes in the perceived needs between 2009–2017.*

### INTRODUCTION

Micro, small and medium-sized enterprises (MSMEs) are important for economic growth and employment—and to grow, they need access to funding. Yet, MSMEs often face financing constraints due to a lack of business data, an inability to put up collateral and loan providers wary of high transaction costs. While access to finance is ranked as the most important concern for only 7 percent of EU MSMEs,

this figure varies between countries: in Greece and Cyprus, as many as 23 and 16 percent of MSMEs, respectively, view access to finance as their most pressing business problem, according to the SAFE survey.<sup>1</sup> Overall percentages of MSMEs reporting access to finance challenges have fallen in recent years, but the number still may be as high as 1.6 million companies across the EU.

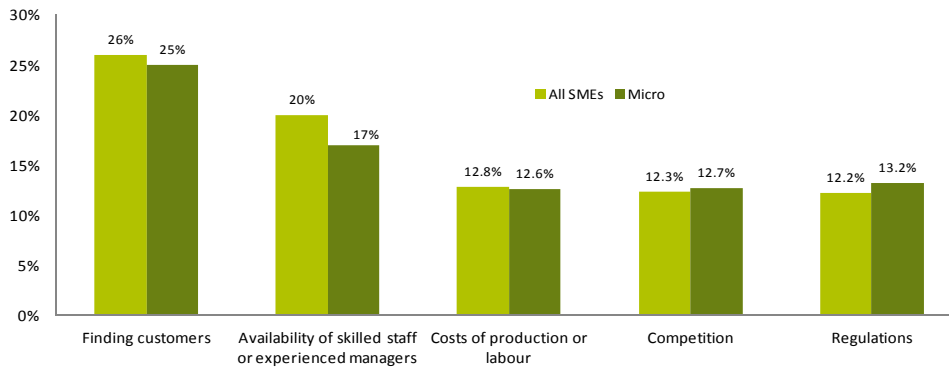
Figure 1: Share of MSMEs reporting access to finance as their most important problem (% firms)



Source: 'SME Access to Finance Conditions. 2017 SAFE Results – EU'

<sup>1</sup> European Commission. 'SME Access to Finance Conditions. 2017 SAFE Results – EU'

**Figure 2: Three most important problems faced by all MSMEs and microenterprises (% firms)**



Source: Own calculations from SAFE Wave 17 data

Key differences are also seen in problems reported by micro-enterprises versus SMEs. For instance, SMEs report ‘finding customers’ as their most acute challenge, followed by the availability of skilled staff and operating costs (ranking second and third, respectively)—challenges less keenly felt by microenterprises. Competition and regulation issues, on the other hand, rank higher for microenterprises than for SMEs. We assess the degree to which MSMEs face financing constraints based on the gap between their perceived external financing needs (e.g. investment and working capital), and the perceived availability of that financing (through bank loans, overdrafts, trade credit, debt securities and equity) as reported by MSMEs in the SAFE study. Where MSMEs report a high demand for external financing (especially in the context of limited supply), we expect to see significant adverse implications for business such as delayed corporate investment and hiring, and increased MSMEs liquidity risk.<sup>2</sup>

In this paper, we examine how the gap between the need for finance and the availability of financing instruments (called the financing gap) has changed over time, and how these changes correlate with actual use of external financing. We use firm-level data for MSMEs in 28 EU countries, which is collected annually by the European Central Bank and the European Commission through the "Survey on Access to Finance for Enterprises" (SAFE).<sup>3</sup>

<sup>2</sup> European Central Bank. Monthly Bulletin August 8/2013

<sup>3</sup> We use the firm-level data from the 'Survey on the access to finance of enterprises' (SAFE survey) conducted by the European Central Bank (ECB) and the European Commission (EC). We use Wave 17 data for the period of April-September 2017 for the main analysis restricting the sample to firms working in the EU countries and employing less than 250 employees (10,887 firms). For the comparative analysis data from Wave 1 (2009H1),

Several studies have used the SAFE dataset to understand what types of institutions are the most financially-constrained, how the financing gap differs across countries and groups of countries with similar market and financial systems. These studies can be divided into two groups, based on the choice of indicator used to describe financial constraints. The SAFE dataset offers two key indicators: one is the perception of access to finance (access being an important problem), the other describes the financing gap (the mismatch between external financing needs and perceived availability). This current study builds on the research studies in the latter group by using the financing gap indicator to deepen our understanding of the changes on the demand side (needs) and supply side (availability), and the implications of these changes for the use of financing instruments.

This paper contributes to the literature on MSME access to finance in several ways. First, it uses the most recent SAFE data (collected between April–September 2017) to understand the changes in the financing gap in the 6 months prior to the survey, covering all 28 European Union countries—not only those in the Euro zone. Second, it deepens existing financing gap analysis by considering each financing instruments used by SMEs separately. Third, it analyzes the evolution of each of the components that make up the financing gap indicator. Finally, it deepens the understanding of the relationship between the components of the financing gap indicator (needs and availability) and finance use.

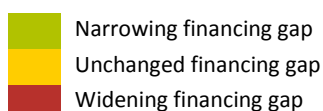
Wave 6 (2011H1), Wave 9 (2013H1), Wave 11 (2014H1), Wave 13 (2015H1), and Wave 15(2016H1) were used.

## FINANCING GAP INDICATOR

The financing gap indicator (FinGap), as defined by Ferrando et al. (2013), combines the reported perceptions of changes in needs and perceptions of changes in availability of external financing instruments. These instruments include: bank loans, bank overdrafts, trade credit, leasing and hire-purchase, other loans, equity and debt securities issued at the enterprise level.

**Figure 3: Methodology for determining the value of the FinGap**

		Perception of changes in the availability of external financing instrument		
		Increased ↑	Unchanged $\Theta$	Decreased ↓
Perception of changes in the needs for external financing instrument	Increased ↑	0 ↑↑	0.5 ↑ $\Theta$	1 ↑↓
	Unchanged $\Theta$	-0.5 $\Theta$ ↑	0 $\Theta\Theta$	0.5 $\Theta$ ↓
	Decreased ↓	-1 ↓↓	-0.5 ↓ $\Theta$	0 ↓↓



The indicator takes on a negative value when the financing gap narrows: that is, when the perception of finance availability change is more positive than the perception of finance need change. However, negative values also occur when needs remain level while the availability improves or remains the same. Conversely, when the financing gap widens, the indicator takes on a positive value.

This happens when perceptions of changes in the availability fall short of the perceptions of changes in

need. Figure 3 summarizes the calculation methodology for the financing gap indicator. Arrows denote the direction of changes (up or down) in needs and availability.

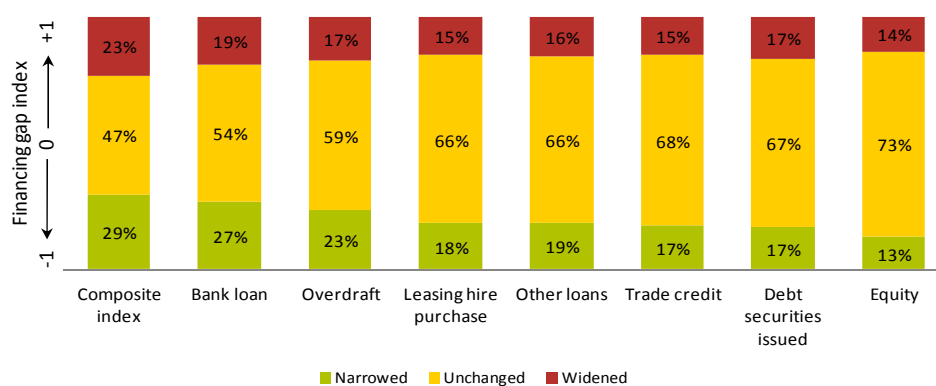
We consider the financing gap on two levels. First, the FinGap can be assessed for each individual financing instrument as the gap between perceived changes in need and availability. Second, a composite FinGap measure captures the perceived change in the overall gap of external financing for an individual firm, and is calculated as the average of the financing gap indicators for all instruments that are relevant to the respective firm. The details of the calculation method of the financing gap indicator are presented in Annex I.

## DYNAMICS OF THE FINANCING GAP INDICATOR

For almost half of the enterprises (47 percent) the composite financing gap indicator did not change in the 6 months prior to the survey (composite FinGap=0). This group is represented by the firms for which both needs and availability moved in the same direction (increased or decreased) or both remained unchanged. Microenterprises, more often than all SMEs, did not experience any changes in the financing gap (for 50 percent of microenterprises, the composite FinGap=0).

A narrowing financing gap (composite FinGap<0) was seen among 29 percent of MSMEs. These MSMEs perceive their demand for external finance remained the same, while supply improved or remained level. In case of microenterprises, 23 percent observed a similar narrowing of the financing gap.

**Figure 4: Direction of changes of the financing gap of all MSMEs by the type of a financial product (% MSMEs)**



Source: Own calculations from SAFE Wave 17 data

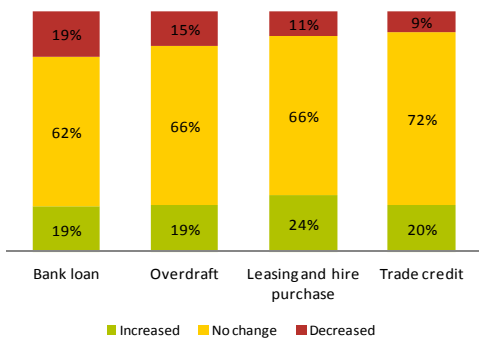
At the same time, 23 percent of MSMEs (and 28 percent of microenterprises) observed an increase in supply-demand mismatch (composite FinGap>0). This occurred either when availability fell or remained unchanged while needs increased, or when availability decreased while needs remained steady.

We noted important differences in the direction of financing gap changes among different financing instruments. The largest number of MSMEs observed changes in the financing gap for bank loans (27 percent of SMEs saw a narrowing gap, 19 percent saw a widening gap). For over half of the MSMEs, the financing gap indicator for bank loans equaled zero, indicating no change in the financing gap. A similar trend was observed for other products, with the most significant lack of movement in the financing gap indicator observed for equity and debt securities (FinGap=0 for 73 and 67 percent of firms, respectively).

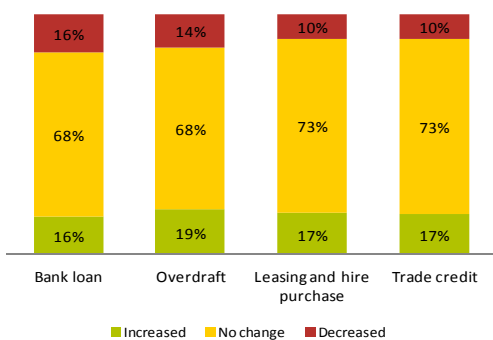
### COMPONENTS OF THE FINANCING GAP INDICATOR

The majority of MSMEs (between 62 and 72 percent, depending on the financial instrument) experienced no change in their need for financial instruments. Among all firms, microenterprises were most likely to report unchanged needs across each financing instrument.

**Figure 5: Direction of changes in needs of all MSMEs (% MSMEs)**



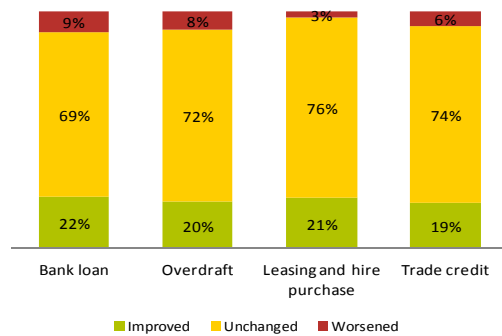
**Figure 6: Direction of changes in needs of microenterprises (% microenterprises)**



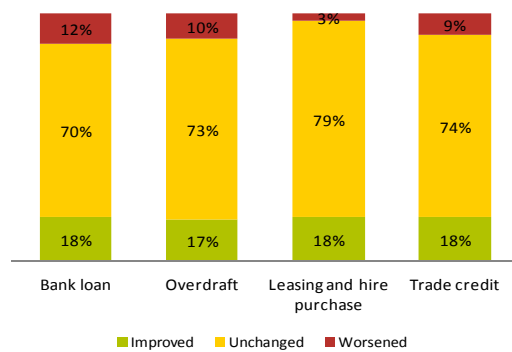
The net changes in the needs describes the difference between the share of all firms reporting increases versus decreases. (For instance, where 20 percent of firms report an increase and 8 percent of firms report a decrease, the net change is 12 percent.) In this study, the net change was particularly high for leasing and hire-purchase (13 percent net increase) and trade credit (11 percent). In terms of overdrafts, the increase was more modest but still positive (5 percent net increase) while it was almost zero (0.1 percent) for bank loans. Among microenterprises, net changes were also positive but smaller (7 percent for leasing/hire-purchase and trade credit, 5 percent for overdraft), however in case of bank loans, a slight negative net balance of -0.2% was observed, indicating more microenterprises decreased their needs for this instrument.

In 2017, the availability of different instruments increased more rapidly than needs. Again, most firms observe no changes in availability, but among those that did, they were more likely to notice improvements in availability. As with needs, microenterprises were slightly more likely to observe zero change in availability compared to all MSMEs.

**Figure 7: Direction of changes in availability of all MSMEs (% MSMEs)**



**Figure 8: Direction of changes in availability of microenterprises (% microenterprises)**

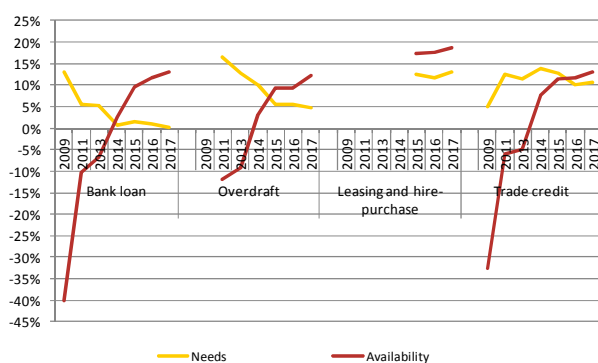


Source: Own calculations from SAFE Wave 17 data

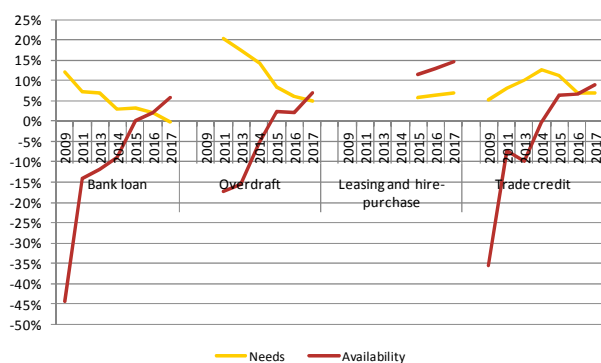
The largest net increase in financing availability was observed for leasing and hire-purchase (18 percent net increase). The net availability of the other three main instruments was smaller yet comparable (12–13 percent). In case of microenterprises, net changes were smaller, but the largest net increase was seen for leasing and hire-purchase (15 percent) and trade credit (9 percent).

The perceived availability of all four main financing instruments has steadily improved in recent years. Until 2013, more firms perceived worsening availability than improved availability (the net change for bank loans was -40% in 2009); in 2017 more firms saw increasing availability of the four main financing instruments (net change).

**Figure 9: Changes in needs and availability 2009–2017: all MSMEs (net % of MSMEs)**



**Figure 10: Changes in needs and availability 2009–2017: microenterprises (net % of microenterprises)**



Source: Own calculations from SAFE Waves 1, 5, 9, 11, 13, 15 and 17 data

In terms of the change of needs over time, two trends emerge. For bank loans and overdrafts, the difference between the share of MSMEs with increased and decreased needs for external finance was positive for all years—although that balance decreased over time until 2017, when the same

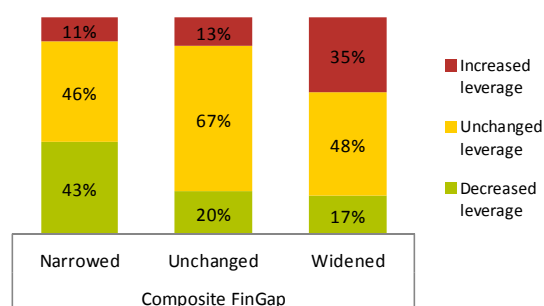
percentage of firms reported either increased or decreased needs. In the case of leasing and hire-purchase, and trade credit: the net difference between increasing and decreasing needs has remained relatively stable over time. Since 2015 (2016 in the case of trade credit), overall net availability has been higher than the net needs.

Similar trends in the movements of needs and availability are seen among microenterprises. Over the years, an increasing share of microenterprises report improvements in the availability of financial instruments while fewer firms (net) reported increased needs. The one exception is leasing and hire-purchase, where needs have slightly increased.

## CHANGES IN THE FINANCING GAP AND FIRM LEVERAGE

Changes in firm leverage (the ratio of debt to assets) broadly mirror changes in the financing gap. Firms that experienced a narrowing of the supply-demand gap (a positive FinGap indicator) more often deleveraged in the same period (by decreasing their debt-to-assets ratio). Conversely, a widening of the gap (a negative FinGap indicator) was matched by an increase of the share of debt in the financing structure. This result is in line with findings from earlier studies, however it requires further exploration to better understand the precise nature of the relationship, which seems counterintuitive at first. One would expect that narrowing of the financing gap should lead to higher product use.

**Figure 11: Changes in leverage (debt-to-asset ratio) and in composite financing gap indicator (% MSMEs)**



Source: Own calculations from SAFE Wave 17 data

In order to explore this question, we considered financial product use in each of the nine different combinations of changes between needs and availability. This allowed us to observe which

**Figure 12: Incidence of external financing usage in each supply-demand change category (% MSMEs obtaining external financing in the last 6 months)**

Overdraft			
Availability Needs	Increased ↑	Unchanged ∅	Decreased ↓
Increased ↑	92%	87%	77%
Unchanged ∅	68%	66%	66%
Decreased ↓	68%	65%	69%

Leasing and hire-purchase			
Availability Needs	Increased ↑	Unchanged ∅	Decreased ↓
Increased ↑	93%	90%	64%
Unchanged ∅	54%	43%	40%
Decreased ↓	35%	29%	27%

Bank loan			
Availability Needs	Increased ↑	Unchanged ∅	Decreased ↓
Increased ↑	78%	70%	52%
Unchanged ∅	38%	31%	33%
Decreased ↓	35%	29%	35%

Trade credit			
Availability Needs	Increased ↑	Unchanged ∅	Decreased ↓
Increased ↑	86%	84%	70%
Unchanged ∅	68%	57%	51%
Decreased ↓	49%	49%	37%



Source: Own calculations from SAFE Wave 17 data

combination of the supply-demand change is most closely associated with obtaining financing from external sources.

The results presented in Figure 12 show that the highest share of users is seen among those firms in which financing needs increased. What we found is that increased need is what's driving increased use, rather than increased availability. In other words, a greater number of firms are reporting increased use than are reporting increased availability. Another way of looking at this is that without positive changes in needs, improved availability did not result in higher use.

**Figure 13: Value of the financing gap indicator and usage of external financing**

		Perception of changes in the availability of the for external financing instrument		
		Increased ↑	Unchanged ∅	Decreased ↓
Perception of changes in the needs for the external financing instrument	Increased ↑	0 ↑↑	0.5 ↑ ∅	1 ↑↓
	Unchanged ∅	-0.5 ∅↑	0 ∅∅	0.5 ∅↓
	Decreased ↓	-1 ↓↑	-0.5 ↓ ∅	0 ↓↓

-  Higher incidence of obtaining external financing
-  Lower incidence of obtaining external financing

The highest incidence of obtaining external financing is seen among firms reporting a financing gap indicator of zero (an unchanged financing gap), or greater than zero (interpreted as widening gap). As depicted in Figure 13, negative values of the financing gap (interpreted as narrowing gap) are seen in the groups with lower use of external finance.

## DISCUSSION AND CONCLUSIONS

In this paper, we used the firm-level data to observe changes in the financing gap and to assess the relationship between changes in the financing gap and the use of external debt instruments.

For the majority of MSMEs, our research reveals that the financing gap did not change—meaning that the direction of changes in needs mirrored changes in availability. When changes in needs and in availability moved in opposite directions, they more often than not resulted in a narrowing of the financing gap.

We considered the dynamics of the changes in perceived availability of external financing instruments which are most relevant to MSMEs: bank overdraft, leasing and hire-purchase, bank loan, and trade credit. We observe that a greater number of MSMEs report improvements in availability compared to a deterioration in availability: an overall widening in availability. At the same time, we



observe a downward trend in terms of reported needs for external financing. Although the number of firms reporting increased needs still outnumbers those with decreased needs, the needs gap is closing.

We also explored the relationship between changes in the financing gap and the use of external financing instruments. We have found that external finance use is strongly associated with positive changes in needs, as opposed to improved availability. Worsened availability was not significantly associated with lower use, a result that demonstrates that deteriorating access does not have detrimental effect on the level of use. However, as the SAFE survey only measures the direction of changes, rather than the actual level of access, it is possible be that the availability of external finance is sufficiently high, and small negative changes have little influence on use.

Additionally, if use is primarily driven by increased needs (which are seen only in cases of unchanged or widened gap), then a narrowing of the financing gap does not lead to increased usage. This conclusion has important implications for the interpretation of the financing gap indicator in forecasting the use of external financing instruments.

Our conclusions contribute to a deeper understanding of the dynamics of the financing gap indicator. We recommend further research on the determinants of changes in the financing gap among the users of financial instruments. Future research could also encompass the terms and conditions associated with each product, and whether the availability of financing (the quantitative change) is accompanied by improved product features (qualitative changes). Finally, with the increased prevalence of non-bank financing, it would be interesting to capture the dynamics between the bank and the non-bank sector, as well as between traditional and non-traditional sources of finances.

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*This initiative has received financial support from the European Union Programme for Employment and Social Innovation “EaSI” (2014-2020). For further information please consult: <http://ec.europa.eu/social/easi>*

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## ANNEX I: CALCULATION FORMULA OF THE FINANCING GAP INDICATOR

The financing gap indicator calculation formula from Ferrado et al 2013.<sup>4</sup>

The financing gap is calculated from answers to Q5, which asks firms to assess whether their financing needs for seven different financing instruments (i.e. bank loan, overdraft, leasing and hire-purchase, trade credit, factoring, equity, debt securities issued) have increased, remained unchanged or decreased during the previous 6 months—as well as from the answers to Q9, in which firms state whether the availability of the respective instrument has improved, remained unchanged or deteriorated in the same period.

The indicator is computed only for those firms for which the respective type of external financing is relevant, i.e. those firms which have previous experience with that source of external financing (captured through question Q4 of the SAFE).

A composite measure,  $FinGap_i$ , describes the perceived change in the overall gap of external financing of an individual firm (i), and is calculated as

the average of all financing gap indicators across those instruments that are relevant to the respective firm:

$$FinGap_i = \frac{1}{k} \sum_{j=BL}^{OvD} InstrGap_{j,i}$$

where

k equals the number of the relevant external financing instruments

j denotes the instruments, from bank loan (BL) to overdraft (OvD), including also trade credit, equity, debt securities, if relevant

i is an individual firm

$InstrGap$  is the financing gap for each instrument (j)

The resulting indicator therefore also ranges between -1 (decreasing gap on both sides with respect to all relevant financing instruments) and 1 (increasing gap on both sides with respect to all relevant instruments).

**Table 1: Indicator of perceived change in the gap between financing needs and availability**

Coding	Change in Financing Gap	Conditions
1	Increasing financing gap (both sides)	- increased needs & deteriorated availability
0.5	Increasing financing gap (one side)	- increased needs & unchanged availability - unchanged needs & deteriorated availability - increased needs & availability don't know
0	Situation unchanged	- needs don't know & deteriorated availability - increased needs & improved availability - decreased needs & deteriorated availability - needs & availability unchanged - needs unchanged & availability don't know
-0.5	Decreasing financing gap (one side)	- needs don't know & availability unchanged - decreased needs & unchanged availability - unchanged needs & improved availability - decreased needs & availability don't know
-1	Decreasing financing gap (both sides)	- needs don't know & improved availability - decreased needs & improved availability
.	Instrument not applicable	- not applicable for needs or availability
99	Don't know	- needs & availability don't know

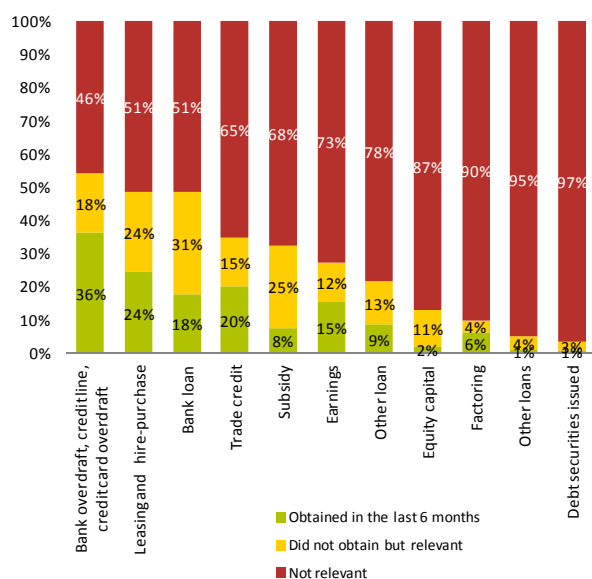
<sup>4</sup> Ferrando, A., Griesshaber, S., Köhler-Ulbrich, P., Perez-Duarte, S., Schmitt, N., Measuring the opinion of firms on the supply and demand of external financing in the euro area, in: Bank for International Settlements, Proceedings of the Sixth IFC Conference on "Statistical issues and activities in a changing environment", Basel, 28-29 August 2012, IFC Bulletin No 36, February 2013.



## ANNEX II: Relevance and use of various financing instruments

Three external financing instruments are most relevant for MSMEs: (i) credit line, bank overdraft, credit card overdraft, (ii) leasing and hire-purchase, and (iii) bank loan with around 50 percent of MSMEs finding each of these three instruments relevant. The relevance refers to the usage of the instrument in the past, at present, or in the future.

**Figure 1: Distribution of MSMEs by experience in usage and relevance of financial sources in the last 6 months (% MSMEs)**

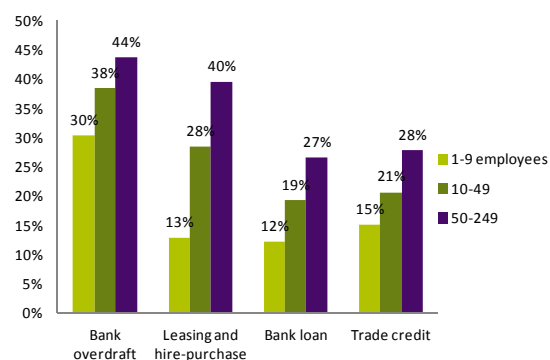


Source: Own calculations from SAFE Wave 17 data

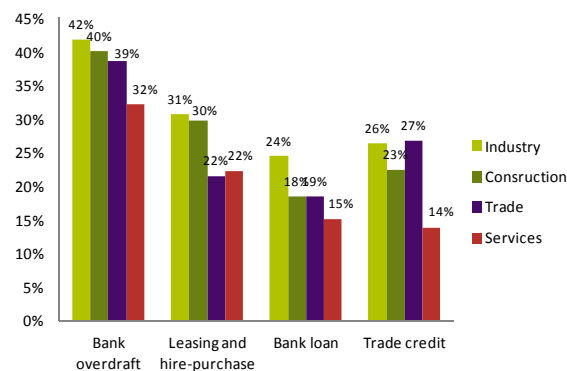
In terms of the use of these instruments (defined as obtaining one of them in the 6 months leading up to the survey): short-term bank instruments (such as a credit line, bank overdraft or a credit line overdraft) were the most popular, used by 36 percent of MSMEs. Leasing and hire-purchase was used by 24 percent of firms, while bank loans were used by 18 percent. The fourth instrument (trade credit) was less often relevant than the other three instruments, but was used by 20 percent of MSMEs, and used more often than a bank loan.

There are differences in the level of use of the financial instruments by firms of different sizes. Fewer microenterprises (1–9 employees) use external financing than larger firms. Additionally, microenterprises tend to predominantly use bank overdrafts compared with other instruments. Small firms (10–49 employees) and medium-sized firms (50–249 employees) use external financing more often than microenterprises, especially when it comes to leasing and hire-purchase.

**Figure 2: Share of MSMEs obtaining main four types of external financing in the 6 months prior to the survey by firm size (% MSMEs)**



**Figure 3: Share of MSMEs obtaining main four types of external financing in the 6 months prior to the survey by industry (% MSMEs)**



Source: Own calculations from SAFE Wave 17 data

In the SAFE survey, the reasons for irrelevance of the financing instrument were only explored when it came to bank loans. The analysis shows that the main cause of not taking bank loans is the lack of need, rather than the lack of availability.