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## Article

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Christa Hainz and Nikolay Hristov

# Credit Crunch Indicator: Perceptions of the Willingness of Banks to Lend and Firms' Experience in the Credit Market

## INTRODUCTION



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Since 2003 the ifo Institute has been publishing the credit crunch indicator. It measures the willingness of the banking sector to grant loans to German firms. The reasons for the introduction of the credit crunch indicator were complaints by many firms about difficulties in financing after the burst of the Dot-Com bubble in 2001.

The indicator is based on the so-called credit question, which is part of the ifo Business Survey:

*“How do you assess the readiness of banks to provide loans to firms?”*

- Accommodating
- Normal
- Restrictive

The credit question was asked biannually until August 2008. Since November 2008, German firms have the opportunity to report their appraisal of banks' lending at a monthly frequency. The credit crunch indicator corresponds to the percentage of firms responding with 'restrictive'. Furthermore, it is possible to construct the indicator for different sectors like manufacturing, construction, retail trade etc. or various firm sizes separately.

The credit crunch indicator was at its highest value at the time of its introduction when more than 60 percent of German firms perceive the banks' lending behavior as 'restrictive'. Thereafter it declined continuously, reaching about 23 percent in August 2007 before rapidly rising again to about 45 percent as the global financial crisis unfolded. Between 2010 and 2011 the credit crunch indicator dropped continuously, surpassing its level just before the outbreak of the crisis. Since then, the fraction of firms reporting a 'restrictive' lending by banks has been modestly downward sloping. Currently, only about 15 percent of German firms

perceive lending as restrictive. Both, its high correlation with the change in the so-called 'bank lending standards' in Germany surveyed by the European Central Bank (see first graph in Figure 1) as well as its noticeable lead against the growth rate of loans to non-financial corporations (see second graph in Figure 1) validate the information content of the credit crunch indicator.

## SPECIAL QUESTION ON THE FIRM'S CREDIT MARKET EXPERIENCE

The data from the ifo Business Survey are used both for the construction of macroeconomic indicators, such as the credit crunch and the business climate, as well as for research based on micro data – i.e. observations at the level of the individual firm. However, unlike the other questions in the survey, the credit question asks about the general perception of lending standards rather than about an assessment of the individual, i.e. firm specific situation. Accordingly it is unclear whether a firm's response reflects its own credit-market experience or rather mirrors the access to credit of the firms in the same sector, region, or even the entire economy. This aspect is particularly important when the firm-level data is used in microeconomic analyses.

To investigate the extent to which the responses to the credit question reflect the firm-specific experience or the perception of the sectoral and/or macroeconomic situation on the credit market, in June 2016 the ifo survey was extended by a special question. The latter asked firms about their own credit marketing experience. It was formulated as follows:

*“Have you signed one or more loan contracts with banks in the past 12 months?”*

Yes:

- Amount and terms as expected
- Amount as expected, but worse terms
- Terms as expected, but lower amount
- Lower amount and worse terms

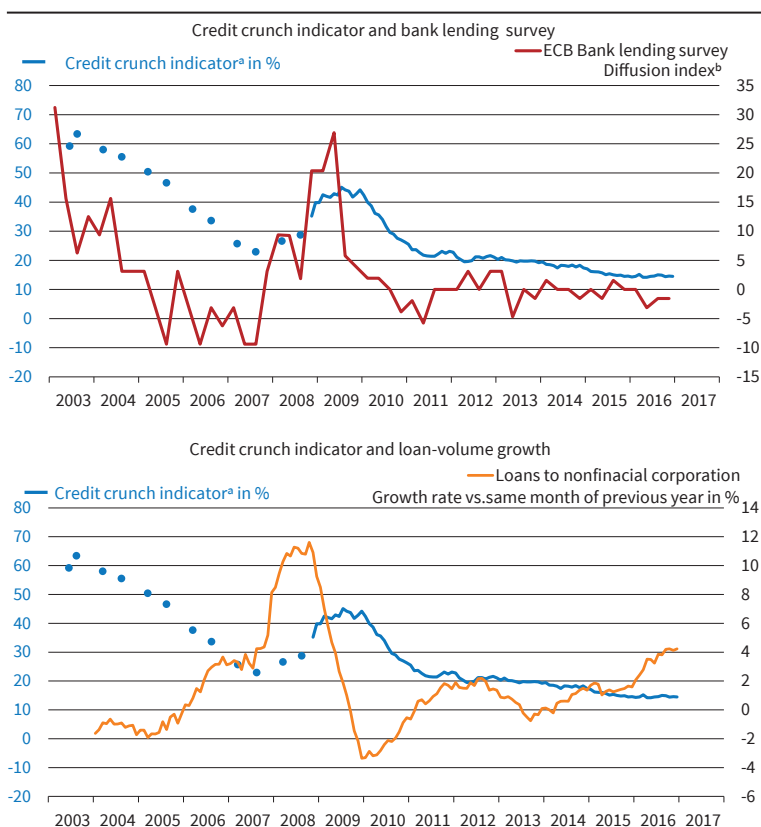
No, because:

- No need
- Terms unacceptable
- Rejection by banks
- No realistic chance of obtaining a loan

The answer categories 'yes' and 'no, because' are used to determine whether a firm has signed any loan contract in the past months or not. If one of these two main alternatives has been chosen, the four subcategories allow us to find out more about the results of the credit negotiations. In the case of 'yes', information is provided as to whether the credit agreement was characterised by the expected terms. In the case of 'no', the reasons for not signing a contract are given.

In contrast, the credit question asks for a general appraisal of banks' willingness to lend. A firm can form its judgment on banks' behavior based on information

Figure 1  
Credit Barrier, Changes in Credit Ratios and Credit Growth



<sup>a</sup> Fraction of firms, viewing banks' willingness to lend as restrictive.

<sup>b</sup> Change of credit standards in Germany.

Source: ECB; ifo Institute.

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from various sources, such as media reports, or private information resulting from firm-specific experience.<sup>1</sup>

If the assessment of bank lending reflects the individual situation, one would expect the following link between the special question and the credit question: firms that have received a loan in the expected amount and on the expected terms should not report a 'restrictive' access to loans. Firms that did not receive the loan

<sup>1</sup> The influence of different sources of information on expectations was examined above all for inflation expectations. Numerous studies use data from household surveys (Malmendier and Nagel 2016; Madaira and Zafar 2015; Kuchler and Zafar 2015; Lamla and Lein 2014). The study by Coibion, Gorodnichenko and Kumar (2015) is based on a company survey in New Zealand.

at the expected terms and those who, despite the need of credit, haven't signed a loan contract should not report an 'accommodative' behaviour of banks. If this is still the case, this serves as evidence that the appraisal of the firms is not based on their own credit market experience. The same holds if firms which did not need credit in the past twelve months answer the credit question (on the willingness of banks to lend).

### LINK BETWEEN THE CREDIT QUESTION AND FIRM-SPECIFIC CREDIT MARKET EXPERIENCE

Table 1 shows the relationship between the responses to the credit question and the individual categories of the special question on the individual credit market experience. The special question was answered by 2,070 firms. Among those able to sign one (or several) loan contracts, 21 percent stated that banks' willingness to provide loans was accommodative. 66 percent assessed lending terms as normal and

13 percent as restrictive (Table 1, last column).

regard to the individual credit market experience, the numbers show that the firms without credit needs constitute the largest group (57 percent) (Table 1, last line, alternative (5)). 39 percent of all firms were successful in signing a loan contract. The majority of them received the credit with the expected terms (33 percent of all firms, (1)). For a small proportion of firms, the terms were worse and/or the amount borrowed was lower than expected ((2)–(4)). 3.5 percent of firms reported contract terms not meet their expectations. About 1 percent of the survey participants reported to

Figure 1  
Link between Credit Demand and Credit Market Experience, in %

Credit question	Credit-market experience (special question)								
	(1) Con- ditions and amount as expected	(2) Amount as ex- pected, but worse con- ditions	(3) Con- ditions as expect- ed, but lower amount	(4) Lower amount and worse con- ditions	(5) No need	(6) Con- ditions unaccept- able	(7) Re- jection by bank(s)	(8) No realistic chance of ob- taining a loan	
Accommodative	10.8	0.1	0.1	0.0	9.3	0.1	0.0	0.0	20.5
Normal	20.1	1.9	0.6	0.4	41.8	0.8	0.3	0.3	66.3
Restrictive	1.7	1.4	0.3	1.0	6.0	0.9	0.9	0.9	13.1
	32.7	3.5	1.1	1.4	57.2	1.8	1.2	1.2	

Source: ifo Institute.

have been granted a smaller credit amount than expected. Slightly more than 1 percent of firms were confronted with both, a lower amount of money and less favorable terms than expected.

About 4 percent of all surveyed firms reported that they did not sign a loan contract despite having financing needs. These answers can be found in the last three columns of credit market experience ((6)–(8)). Almost half of the firms rejected a bank's offer because the latter was unacceptable. The other half comprises firms whose credit negotiations were unsuccessful, either due to the bank refusing to make an offer or because the firm itself did not start any credit negotiations as it expected that it would not obtain a loan.

It turns out that most firms that have received credit as expected (1) assess the banks' willingness to lend as 'normal'. Although such firms are relatively more likely to appraise banks as being 'accommodative', some of them consider banks to be restrictive. Among firms whose expectations regarding the terms and/or amount of credit were not met ((2)–(4)), the answer 'accommodative' occurs less often. However, such firms appraise banks' lending relatively more frequently as 'normal' than 'restrictive'.

Most firms without credit market experience in the past year (5) assess credit availability as normal. They give the answer 'accommodative' slightly more often than 'restrictive'. In the case of firms which rejected the bank's offer (6), the answers were distributed in almost equal proportions to the answers 'normal' and 'restrictive'. The participants with credit rejection by the bank and those without a realistic chance of getting a loan ((7) and (8)), mostly assess banks as 'restrictive'. However, among the firms that rejected the bank's offer or did not get credit for other reasons there is surprisingly high number of respondents appraising the banks' willingness to lend as 'normal'.

The descriptive table shows that there is a link between the credit market experience of a firm and its assessment of banks' willingness to lend. However, this relationship is far from perfect. For example, many firms that have received credit without restrictions respond that bank lending behavior is restrictive. Many participants view the behaviour of banks as normal, although they were only able to get a loan at worse terms or could not get one at all. The high proportion of the 'normal' response is mainly due to firms that did not have a credit market experience in the past year because they did not have need.<sup>2</sup>

### CHANGE OF CREDIT QUESTION

The evaluation of the special question suggests that the regular question about the banks' willingness to lend does not reflect solely the firm's individual credit experience. Therefore, the use of this question should

<sup>2</sup> Since 2011 the questionnaire of the Austrian business survey, which is conducted by WIFO, contains both the regular credit and the special question. The questions are asked quarterly. The empirical analysis in Fidrmuc, Hainz and Hölzl (2017) confirms our results.

be viewed as problematic in many microeconomic analyses – especially when it is intended to serve as an explanatory variable.

For these reasons, the regular credit request has been modified. In particular, from March 2017 on firms are explicitly asked whether they need a loan and how they assess the behavior of banks in the credit negotiations they conducted. The question is formulated as follows:

*Granting of credit*

*We have conducted credit negotiations with banks over the past 3 months*

1. Yes
2. No

*If yes, the behavior of the bank(s) was:*

- 1.1 Accommodative
- 1.2 Normal
- 1.3 Restrictive

*If not, due to:*

- 2.1 No need
- 2.2 Other reasons

This formulation ensures that the answers solely reflect the firm-specific situation. Nevertheless, the responses can easily be aggregated to interesting sectoral or macroeconomic indicators. One such indicator measures firms' credit demand by dividing the number of firms with credit demand (all categories except 2.1) by the total number of firms. Another indicator could measure the restrictiveness of banks' lending behavior by dividing the number of firms answering 'restrictive' (category 1.1) by the number of participants who have conducted credit negotiations (category 1.1 – 1.3). Compared to the previous credit indicator, this second indicator has the advantage of being only based on those firms which have actually conducted credit negotiations. A third indicator can be used to measure the degree of credit restrictedness in the economy. Credit restricted firms consist of those reporting that the bank was 'restrictive' in the recent negotiation (category 1.3) and those that have not conducted credit negotiations despite the need for credit (category 2.2). The indicator corresponds to the ratio of credit restricted firms to the number of all survey participants.

### CONCLUSION

The evaluation of the special question provides two important insights. First, more than half of the respondents have not been active in the credit market during the previous 12 months. Thus, their assessment of banks' lending is not based on their own experience. This is due to the formulation of the question, which is directed towards a general appraisal and thus differs from the other questions of the ifo Business Survey. Secondly, the responses of firms active in the credit market over the past 12 months to the credit question are positively correlated with their individual experience. However, this correlation is far from perfect, indi-

cating that in many cases the assessment is based on non-firm-specific information.

On the basis of these results, the credit question will be formulated differently in the future. It will be collected quarterly in March, June, September and December as part of the ifo survey. The newly formulated credit question has two main advantages. The first advantage is the information that reflects the individual situation of the firm. Thus, on the one hand, more precise overall economic indicators can be constructed. On the other hand, the data are more suitable for evaluating firm-level data. The second advantage is the possibility to form not only an indicator of banks' willingness to provide loans, such as the current credit crunch indicator, but also to calculate indicators for credit demand as well as for the degree of credit restrictedness in the German economy.

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