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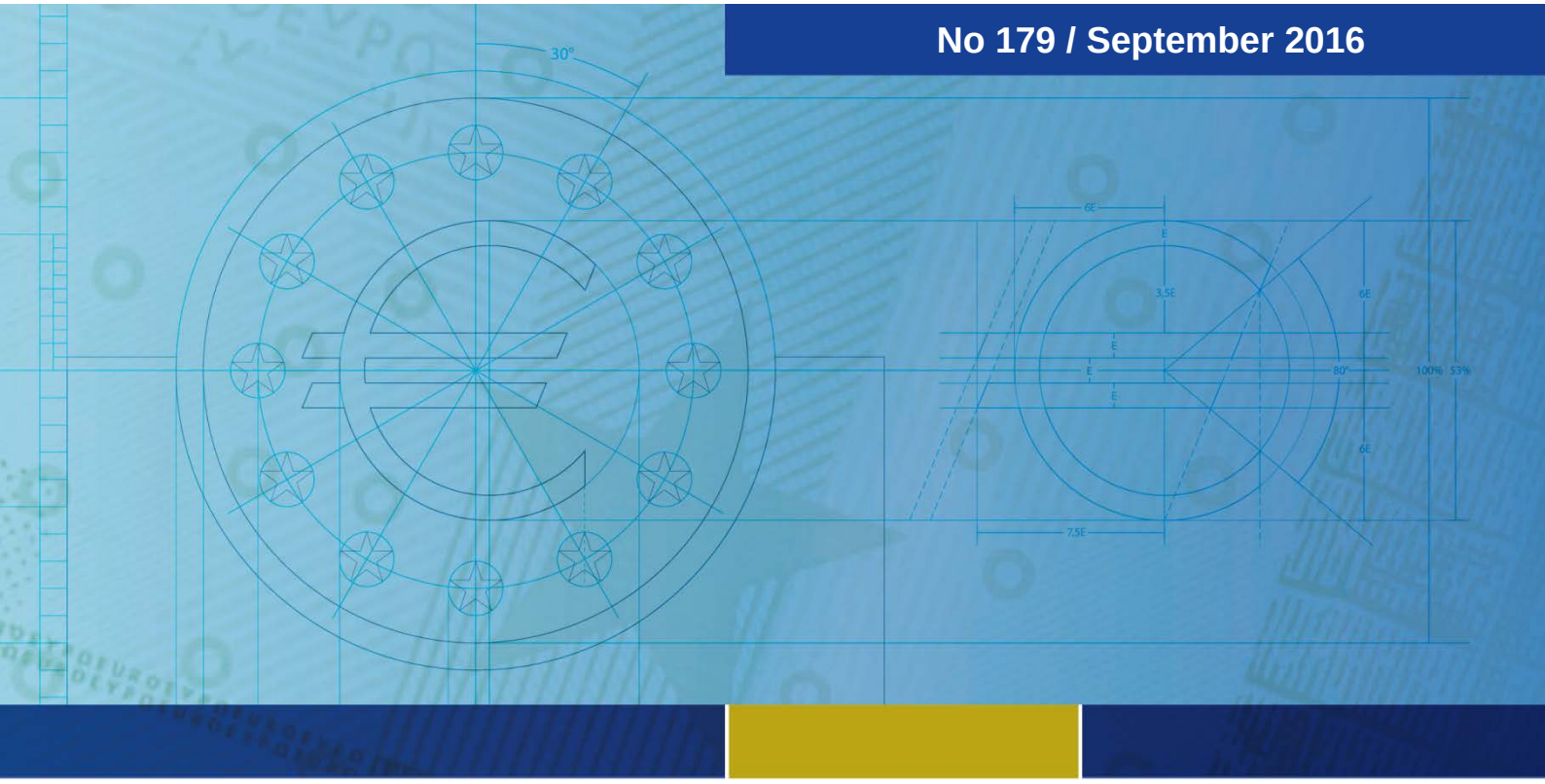
The euro area bank lending survey

Role, development and use in monetary policy preparation



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Abstract

The euro area bank lending survey (BLS) serves as an important tool in the analysis of bank lending conditions in the euro area and across euro area countries, providing otherwise unobservable qualitative information on bank loan demand and supply from/to euro area enterprises and households. Since its introduction in 2003, the BLS has received growing attention and has become of key importance for the analysis and assessment of bank lending conditions in the euro area and at the national level. In particular in the context of the financial crisis, the BLS was used to gather additional information on the impact of the crisis and of the ECB's monetary policy measures on banks' funding situation and bank lending conditions. Following a description of the design and development of the BLS, this paper focuses on the analysis of bank lending supply and demand in the euro area and on their contributing factors. The results of the BLS are put into a wider economic perspective by relating them to other macroeconomic and financial variables. Analyses based on individual bank replies complement the picture further by providing more granular evidence on loan developments. In addition, an overview of the use of the euro area BLS as an analytical tool for investigating bank lending conditions in the euro area is presented.

JEL codes: E44, E5, G21

Keywords: euro area, bank lending conditions, loan supply, loan demand, monetary policy, monetary policy transmission

Non-technical summary

Since its introduction in 2003, the euro area bank lending survey (BLS) has become an important tool in the reporting on and the analysis of bank lending conditions in the euro area and across euro area countries, providing otherwise unobservable qualitative information on bank loan demand and supply from/to euro area enterprises and households. In particular since the start of the financial crisis, the BLS has been used to gather additional information on the impact of the crisis on bank funding and bank lending conditions. It has received growing attention in this context as regards the monitoring of bank lending conditions in the euro area and across member countries for the purpose of monetary policy. The BLS also became increasingly useful as an analytical tool for investigating bank lending conditions in the euro area and at the national level to analyse financial fragmentation.

Against this background, the main objectives of this paper are threefold:

First, the conceptual design of the BLS and its development over time are described in order to reflect the increasing role which the BLS has assumed over time and especially during the financial crisis. This includes in particular the use of ad hoc questions in the BLS since 2006 and the introduction of an enhanced BLS questionnaire and compilation guide in April 2015, after taking stock of the interpretation of the BLS across reporting banks during 2013-14.

Second, the results of the BLS, for both the standard questions and the ad hoc questions, are analysed and combined with other macroeconomic and financial variables. Thereby, the results of the BLS are cross-checked and put into a wider economic perspective. In addition to the analysis based on data for the euro area as a whole, evidence is also provided on the developments across the largest four euro area economies. Analyses based on individual bank replies complement further the picture by providing more granular evidence on developments.

Third, an overview of the use of the euro area BLS for academic research investigating bank lending conditions in the euro area is presented.

The analysis of euro area bank lending conditions for enterprises and households between 2003 and 2016 shows that bank lending conditions reflected periods of strong economic growth, deep recession during the financial crisis and a very gradual recovery in the aftermath of the crisis, supported by the ECB’s standard and non-standard monetary policy measures. Banks responded to the changes in the economic environment by adjusting their credit standards, i.e. their loan approval criteria, and their credit terms and conditions at which they are willing to provide new loans. The importance of the individual factors contributing to changes in bank lending conditions changed during the financial crisis. While risk perceptions regarding the economic situation and borrowers’ creditworthiness as well as banks’ cost of funds and balance sheet constraints played a dominant role in tightening periods, competition played a more important role in easing periods. In addition, the

importance of banks' cost of funds and balance sheet constraints increased following the financial crisis until the end of 2011, reflecting banks' funding stress.

Turning to loan demand, loan demand by enterprises depends on a variety of factors. Financing needs for fixed investment as well as for inventories and working capital are the most important factors for firms' loan demand. Demand for mergers and acquisitions (M&As) contributed considerably to loan demand especially in periods of favourable financing conditions like before the financial crisis and in the most recent past. Financing needs of households mainly reflected favourable housing market developments and positive consumer confidence, as well as, with respect to consumption financing, spending on durable consumer goods, such as cars or furniture. For all loan categories, changes in the general level of interest rates have an impact on loan demand. In this respect, the current low interest rate environment fuels loan demand.

Banks' qualitative answers to the BLS are closely related to quantitative data on the macroeconomic and financial side of the economy as well as to qualitative evidence from other European surveys. Specifically, changes in credit standards, terms and conditions and loan demand as well as contributing factors display a close connection to real economic growth, bank loan growth, changes in industrial and consumer confidence, firms' profitability, borrowers' balance sheet situation, M&A activity and the unemployment rate. In addition, developments in bank lending conditions are related to developments in house prices and changes in bank lending spreads. This confirms that bank lending conditions, as collected in the context of the BLS, are well anchored in actual macroeconomic and financial developments and contribute to explaining loan developments with a view to disentangling loan supply and demand factors. This is of particular interest in the analysis of monetary policy transmission and the design of adequate monetary policy actions. In part, BLS indicators lead the developments in other indicators, such as bank lending and real GDP growth, thereby providing particularly useful information for forward-looking monetary policy.

The ad hoc questions included in the survey contribute to shedding further light on banks' funding situation, on the impact of supervisory and regulatory changes as well as on the impact of the ECB's standard and non-standard monetary policy measures taken in the context of the financial crisis on bank lending conditions. In addition, the ad hoc question on the level of credit standards provides evidence on the level of credit standards compared with the past and thereby makes it possible to cross-check the regular BLS results on changes in credit standards.

Finally, a literature review reflects the use of the BLS within models for analysing the impact of loan supply and demand factors on bank loan growth, and more broadly economic activity. Specifically, it provides an overview of the use of the BLS for analysing the impact of the financial crisis, the transmission of the ECB's monetary policy measures and the relationship between monetary policy, financial stability and macro- or microprudential policies.

Overall, the analyses and assessments presented in this paper highlight the importance of the BLS as a tool for analysing bank lending conditions in the euro area and, thereby, as a key input to the Eurosystem's monetary policy preparation.

1 Introduction

The bank lending survey (BLS) for the euro area was launched in 2003 with a sample of around 90 banks in 12 euro area countries and has expanded since then to a sample of more than 140 banks in 19 euro area countries in 2016. Its main objective is to enhance the Eurosystem's knowledge of financing conditions in the euro area in order to provide input into the ECB Governing Council's assessment of monetary, financial and economic developments, on the basis of which it takes its monetary policy decisions. Since 2003 the reporting on bank lending developments has developed substantially and analytical tools have been created to support the analysis of euro area bank lending with survey evidence. The BLS serves as a useful tool for analysing bank lending conditions in the euro area, complementing existing statistics on bank loans and bank lending rates with otherwise unobservable qualitative information on supply and demand conditions in the euro area credit markets and on the lending policies of euro area banks. In addition, since the financial crisis, which started in 2007-08, the analysis of bank lending conditions across euro area countries has received increasing attention in order to analyse dispersion in such conditions and financial fragmentation in the euro area. In April 2015 an enhanced BLS questionnaire and an updated compilation guide were introduced to enhance further the information content of the survey.

Why is it important to have a survey on bank lending conditions?

The euro area has a largely bank-based financial system. Bank loans account for more than 80% of non-financial corporations' (NFCs) outstanding amount of external debt financing (defined here as MFI loans and debt securities issued by NFCs; see **Chart 1**) and for the bulk of external financing for households. Therefore, banks play a particularly important role in the monetary policy transmission in the euro area. Given the asymmetric information between lenders and borrowers in credit markets, banks act as intermediaries to reduce the barriers to accessing credit. Thereby, they assume a key role in the financing of parts of the economy where information is opaque such as households and small firms.

While the traditional interest rate channel focuses on the impact of changes in key interest rates on short-term interest rates and money, the bank lending channel emphasises the importance of banks in the transmission of monetary policy.[1] It emphasises the impact of changes in monetary policy on bank lending conditions via changes in banks' retail and wholesale funding cost and in the availability of funds. Specifically, a hike in key interest rates by the central bank increases banks' funding cost and tends to dampen banks' profit margins (i.e. stemming from a maturity mismatch between short-term deposits and loans with longer-term interest rate fixation periods). As a consequence, banks tighten their lending conditions. Generally, the bank lending channel has a stronger impact on banks which have a

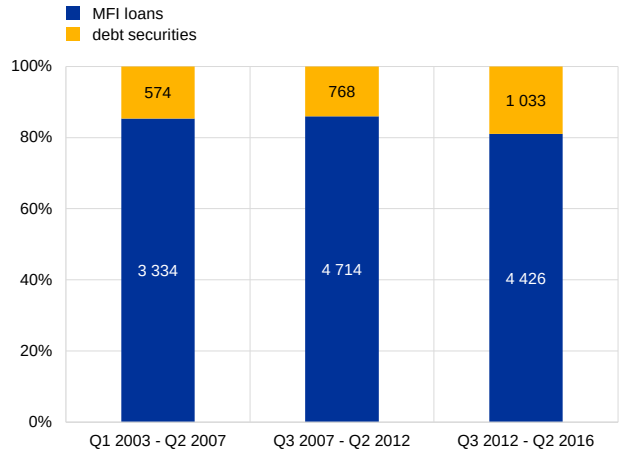
[1] See Bernanke and Gertler (1995), Gambacorta (2005) and Mishkin (1996). See also European Central Bank (2010).

larger maturity mismatch between assets and liabilities and are less well capitalised, i.e. as balance sheet constraints may become binding.[2]

Chart 1

Importance of MFI loans versus debt securities for euro area NFCs

(in percentages of the amount outstanding of MFI loans and debt securities issued by euro area NFCs and EUR billions for the figures in the bars)



Source: ECB.
Note: Figures in the bars indicate the average over the respective period.

In addition, and linked to the bank lending channel, monetary policy is transmitted via the balance sheet channel (or "broad credit channel"), which focuses on borrowers' balance sheet conditions. An increase in short-term interest rates increases borrowers' interest expenses and tends to reduce borrowers' net worth. Via this deterioration of their creditworthiness, financing conditions of borrowers generally become tighter following an increase in key interest rates by the central bank. Hence, the combination of the impact of monetary policy changes on banks' funding cost and the impact on borrowers' balance sheets leads to an overall tightening adjustment in the financing conditions of borrowers.

Moreover, the development of the financial system, including the deepening of financial markets, has intensified the link between monetary policy and market participants' perception of risk and the pricing of risk.[3] This channel is generally called the "risk-taking channel" and extends the traditional channels of monetary policy transmission to banks' ability and willingness to take risk on their balance sheets and to price risk. Specifically, the evolution of supervisory regulation and market participants' attention to the ease or difficulty of banks in fulfilling these requirements may have led to an increasing awareness of banks towards risk. Hence, changes in key interest rates and in the liquidity provision by the central bank can have consequences for banks' perception of risk and for their tolerance towards taking risk on their balance sheet. This in turn affects banks' credit approval and the terms and conditions at which banks are willing to provide loans.

Against this background, monitoring and assessing the impact of monetary policy decisions on bank lending conditions and, in turn, on credit and economic growth is of key importance for a central bank.

Statistical data on monetary financial institution (MFI) interest rates and MFI loans provide accurate and timely information about developments in lending volumes and prices, which allows for instance the pass-through of changes in short-term money market rates to bank lending rates to be assessed. At the same time, such data do not allow a distinction to be made between loan demand and supply. The ability of the BLS to disentangle credit supply and demand is valuable for complementing the assessment of bank loan growth and lending rates. In addition, the BLS has been particularly useful and proven to be a flexible tool in order to gain information on the

2 See Gambacorta and Mistrulli (2004) and Altunbas, Fazylov and Molyneux (2002).

3 See Borio and Zhu (2012).

impact of the financial crisis and of the ECB's non-standard measures on bank funding and bank lending conditions as well as on the dispersion of bank funding and lending conditions across euro area countries. Finally, the BLS provides relevant information on the impact of regulatory and supervisory changes on bank lending conditions.

Overall, the euro area BLS serves as a valuable tool for analysing bank lending conditions in the euro area as well as across euro area countries and contributes to improving the understanding of loan developments. The quarterly analysis of the BLS results for the euro area is used in the preparation of monetary policy decisions and, hence, forms an integral part of the monetary policy process.

Chapter 2 of this Occasional Paper focuses on the changing requirements over time as regards the design and the development of the BLS, which includes among others the sample, the addition of ad hoc questions and the enhancement of the questionnaire in 2015. Chapter 3 provides an analysis of bank lending conditions for enterprises and households in the euro area, their relationship with other economic variables and developments across the four largest euro area countries. Chapter 4 provides evidence on the main ad hoc questions introduced in the BLS, focusing in particular on the impact of the financial crisis on bank funding and bank lending conditions. Chapter 5 presents a review of the use of the BLS as an analytical tool. Finally, Chapter 6 concludes by providing an overall summary and an assessment of the use of the BLS in monetary policy preparation.

2 The design and development of the bank lending survey

2.1 A survey on bank lending conditions in the euro area – changing requirements over time

The bank lending survey for the euro area was launched in 2003 with a sample of around 90 banks in 12 euro area countries, with the aim of analysing bank lending conditions in the euro area.[4] It is conducted on a quarterly basis in January, April, July and October of each year. The information from the BLS is provided to the ECB's Governing Council for its monetary policy meetings in order to support the timely assessment of financing conditions in the euro area for the conduct of monetary policy.

Since the start of the survey, the BLS sample has expanded to above 140 banks in 2016. First, with additional countries joining the euro area, the number of participating banks increased. Up to 2016 the euro area has expanded to 19 member countries, of which all participate in the BLS. Second, some countries increased the size of their national sample to allow for a better representation of the national banking structure. The most important case for the latter was the increase of the German BLS sample in April 2008 from 17 banks to around 30 banks.[5]

The BLS sample is constructed in a way that ensures representativeness of the euro area banking system and, with some limitations owing to the sample size, also of the national banking systems in the euro area. Preference is given to including the largest banks in the sample. This notwithstanding, also smaller and specialised banks are included in the sample if their lending behaviour represents an important feature of the national banking system. In addition, the sample size for each country should be not far from its share in the amount outstanding of bank lending to euro area households and non-financial corporations. The BLS sample covers around 60% of the amount outstanding of loans to the private non-financial sector in the euro area. Actual coverage varies across countries, being high for countries with a concentrated banking system. At the same time, in countries with a low concentration of the banking system, small banks may be typical in their lending behaviour for a larger group of small banks, leading to a higher effective coverage of the overall BLS sample.

The results of the individual banks participating in the BLS sample are aggregated in two steps, since the number of banks in the national samples differs considerably and does not always reflect accurately the respective share in lending to euro area non-financial corporations and households. In a first step, individual bank results are

[4] See Berg et al. (2005).

[5] See Deutsche Bundesbank (2009 and 2016).

aggregated to national results for the euro area countries, and in a second step, the national BLS results are aggregated to euro area BLS results.

In the first step, banks' replies can either be aggregated to national results by applying an implicit weighting through the sample selection or, alternatively, banks' replies can be aggregated by applying an explicit weighting scheme. In the first case, while individual banks' replies are unweighted in the aggregation to national results, the equal weighting of small and large banks can be appropriate if smaller banks are representative of the lending behaviour of a larger group of small banks forming a specific bank type or in a specific region. The option of an explicit weighting scheme was introduced in the April 2014 BLS round and is used by a small number of countries (France, Malta, the Netherlands and Slovakia). In this case, individual banks' replies are weighted based on their share in the amounts outstanding of loans to non-financial corporations and households of the banks in the respective national samples. The common principle underlying the aggregation of national results is to ensure the best representativeness for the national results of the respective country.

In the second step of the aggregation, the national survey results are aggregated to euro area BLS results by applying an explicit weighting scheme based on the national shares in the amounts outstanding of loans to euro area non-financial corporations and households.

Since the start of the BLS in 2003 and in particular since the financial crisis, the attention paid to the results of the BLS has increased substantially. Related to this, the initial focus on the BLS results for the euro area as a whole has widened. Today, the BLS is also used for assessing lending conditions across euro area countries and the diversity of lending conditions across countries.

This is also reflected in the provision of aggregate BLS data in the ECB Statistical Data Warehouse (SDW), which includes since 2012 the national BLS results for most participating countries, as well as in the BLS website report, which includes since April 2012 in addition to the euro area results also the BLS results for the largest five euro area countries (in terms of GDP, which are Germany, France, Italy, Spain and the Netherlands).[6]

The increased importance of the BLS in monetary policy preparation during recent years is also reflected in the timing and adaptation of the survey in specific circumstances, especially in order to assess developments in financing conditions of enterprises[7] and households during the financial crisis.

Most prominently, since the financial crisis, the BLS has contained regularly ad hoc questions on specific topics of interest (see Section 2.3 and Chapter 4).

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6 See the ECB website report on the results of the bank lending survey and further information related to the BLS.

7 Throughout this Occasional Paper, the term "enterprises" is used to refer to the non-financial corporations (NFCs) sector of the European System of Accounts.

2.2 The BLS questionnaire – main objectives and enhancement in 2015

2.2.1 Main principles of the questionnaire

The BLS questionnaire is addressed to senior loan officers at the banks and covers supply and demand aspects of bank lending conditions. The questionnaire is accompanied by a compilation guide, which is provided to survey participants to support a common understanding of the BLS terms and to ensure consistent response behaviour of the participating banks.

Generally, in the BLS questionnaire, past developments cover the previous three-month period, while expected developments focus on the following three-month period. In addition, the survey may contain ad hoc questions on specific topics of interest.

The questions are classified according to the two borrower sectors that are the focus of the survey, i.e. enterprises and households, the latter being broken down into (i) loans for house purchase and (ii) consumer credit and other lending. The definitions and classifications used in the survey are consistent with other ECB and Eurostat statistics. For both enterprises and households, the questionnaire covers loan supply and loan demand factors.

With regard to loan supply, the focus is on changes in credit standards that the banks apply when approving loans to enterprises and households and on changes in credit terms and conditions of new loans. In addition, banks are asked to assess how specific factors may have contributed to changes in credit standards and terms and conditions.

For loan demand, the focus is on increases or decreases in loan demand. In this context, banks are asked to assess the impact of various factors on the financing needs of enterprises and households and the impact of the use of alternative means of financing on loan demand.

2.2.2 Enhancement of the questionnaire in 2015

After more than ten years of existence, the BLS survey questionnaire and compilation guide were revised in 2015 to improve further the information content of the survey. The enhanced BLS questionnaire[8] was launched in the April 2015 BLS round and contains 22 standard questions (18 backward- and 4 forward-looking questions) of a qualitative nature on past and expected credit market developments as well as one open-ended question. By comparison, when the survey was launched in 2003, the questionnaire consisted of 17 qualitative standard questions and one

[8] The enhanced BLS questionnaire is available in the BLS section of the ECB's website. Previous versions of the questionnaire are available in the annex of the respective BLS website report.

open-ended question. An overview of the changes in the bank lending survey questionnaire is available in Annex 1 of this Occasional Paper. In addition, the information provided in the compilation guide is displayed as the “Glossary” at the end of this Occasional Paper.

One main reason for the revision was that a survey among participants on the interpretation of BLS terms had revealed some heterogeneity in the understanding of the questionnaire. In addition, new factors and some new questions were added to the questionnaire, which were assessed as useful complements to the existing questions, while a few items were deleted because they had turned out to be less useful. The clarification of the definitions of some of the BLS terms in the compilation guide and the introduction of new factors and questions have increased overall the information content of the BLS. While the changes in the compilation guide have improved further the homogeneous understanding of BLS terms by survey participants, it needs to be kept in mind that the BLS is a qualitative survey and, hence, some divergence in banks’ answering behaviour cannot be avoided.

The enhanced BLS compilation guide draws a clearer distinction between the terms “credit standards” and “credit terms and conditions”. The compilation guide defines “credit standards” as the internal guidelines or loan approval criteria of a bank. They are established prior to the negotiation on the terms and conditions of a loan and the actual approval or rejection of a loan application. They define the types of loan a bank considers desirable and undesirable, the designated sectoral or geographical priorities, the collateral deemed acceptable and unacceptable, etc. Credit standards specify the required borrower characteristics (e.g. balance sheet conditions, income situation, age, employment status) under which a loan can be obtained. This definition implies that the bank’s general approach for its lending policy is laid down in its credit standards. Factors which influence the determination of banks’ credit standards are in particular the bank’s cost of funds and balance sheet constraints, competitive conditions, perception of risks related to the economic environment and the specific creditworthiness of the borrowers as well as the bank’s tolerance towards taking risk on its balance sheet. From these factors, banks’ cost of funds and balance sheet constraints (referring to cost of capital, access to funding and the bank’s liquidity position) and banks’ risk tolerance mainly determine banks’ loan supply, i.e. their willingness and ability to provide a loan. By contrast, risk perceptions (referring mainly to the general economic situation and outlook as well as to the creditworthiness of borrowers) may not only reflect supply but also demand considerations. Banks’ react to the economic circumstances and determine their lending policy based on their assessment of the risks surrounding their lending policy. Hence, there is an interaction between loan demand and loan supply in risk perceptions. Finally, competition also includes demand aspects, as the loan demand side has repercussions on the bank’s positioning in the competitive environment.

Based on the bank’s general lending policy, the bank’s credit terms and conditions are part of the actual implementation of its policy. “Credit terms and conditions” refer to the conditions of a new loan that a bank is willing to grant, i.e. to the terms and conditions of the loan as laid down in the loan contract between the bank (the lender) and the borrower. They generally consist of the agreed spread over a relevant

reference rate, the size of the loan, the access conditions and other terms and conditions in the form of non-interest rate charges (i.e. fees), collateral or guarantees which the respective borrower needs to provide, loan covenants and the agreed loan maturity. Typically, credit terms and conditions can be expected to change more frequently and to a larger extent than the internal guidelines or loan approval criteria of a bank.

In addition, the definition of "loan demand" has been clarified in the context of the enhancement of the BLS questionnaire. According to the BLS compilation guide, loan demand refers to the need of enterprises and households for bank loan financing, irrespective of whether or not this need results in a loan being granted. Hence, it should reflect the entire amount of loans which was either formally or informally requested at a bank, even if some loans were rejected.

Apart from the refinement of BLS definitions, the BLS questionnaire has been analysed with a view to revisions and useful additions to existing questions. Examples of additions to questions are "banks' risk tolerance" as a factor contributing to changes in credit standards, the summary indicator "overall terms and conditions", the "general level of interest rates" as a factor affecting loan demand, as well as further factors having an impact on demand for housing loans.

Specifically, the additional factor "banks' risk tolerance" having an impact on credit standards is related to banks' willingness to supply a loan and can vary with changes in the bank's underlying business strategy. It complements the factor "perception of risks"[9], which refers to the bank's perception of actual risks related to the economic environment and borrowers' creditworthiness. From a theoretical point of view, the two factors make it possible to more precisely cover the risk-taking channel in the monetary policy transmission.

Regarding credit terms and conditions, the addition of the summary indicator "overall terms and conditions" helps to provide an overall picture of the qualitative changes in the individual terms and conditions that are reported by banks.

For all loan categories, the new factor "general level of interest rates" contributing to loan demand has been particularly important since its introduction in the first quarter of 2015, in relation to the low interest rate environment, which fuels loan demand.

In addition, for loan demand by households for house purchase, a number of new factors provide further evidence on the underlying motivation of housing loan demand. For instance, "debt refinancing/restructuring and renegotiation" of a loan when it leads to an increase or prolongation of the amount borrowed, or changes in the "regulatory and fiscal regime of housing markets", can have an impact on

[9] Related to the general economic situation and outlook, the industry or firm-specific situation and outlook, borrowers' creditworthiness, as well as the collateral demanded.

housing loan demand. In addition, the factor "internal finance of house purchase out of savings/down payment" has replaced the previous factor "household savings".[10]

Moreover, for each loan category two additional standard questions were introduced in the context of the enhancement of the questionnaire: (i) on factors affecting banks' credit terms and conditions for new loans; and (ii) on the change in the share of rejected loan applications.

The factors affecting changes in terms and conditions provide additional insights into why such changes occurred. Compared with the factors affecting credit standards, the relative importance of the factors may be different, indicating their different role in banks' lending policy.

The inclusion of a question on the share of loan rejections reflects the relevance of this information for assessing credit supply constraints or potential credit rationing. A higher share of loan rejections may reflect a lower creditworthiness of borrowers or a lower willingness of banks to lend, for instance because of a decrease in banks' risk tolerance. Therefore, changes in rejection rates should be related to changes in credit standards.

Overall, the new questionnaire aims at striking a balance between on the one hand useful revisions and additions to the survey and on the other hand limiting the reporting burden of participating banks and ensuring the continuity of the survey, which is crucial for the economic analysis of the BLS results.

2.3 Extension of the standard questionnaire – ad hoc questions

The BLS questionnaire puts a large emphasis on the continuity of questions to be able to use the survey results for analytical purposes. At the same time, when specific topics of interest emerge, the BLS can be complemented with dedicated ad hoc questions. In contrast to the standard questions for which the results for the euro area and for most of the euro area countries are available, the ECB publishes the results of the ad hoc questions only for the euro area as a whole.[11]

While the economic analysis of the main ad hoc questions will be carried out in Chapter 4 of this Occasional Paper, the development of this conceptual extension of the BLS questionnaire is presented in the current section.

[10] The new factor refers more clearly to the substitution of external financing with internal financing out of household savings when purchasing a house. By contrast, "household savings" could have also been understood as a wealth effect, i.e. higher household wealth would have enabled the taking-out of a larger loan.

[11] Some selected results for the ad hoc questions are published by the national central banks (NCBs).

Table 1

Overview of ad hoc questions in the euro area BLS

Type of ad hoc question	Inclusion in the BLS		Frequency
	From	Until	
Situation in housing markets			
Share of loan to households secured by real estate used for other purposes than the acquisition of a principal residence	July 2006	July 2006	one-off question
Impact of the financial market turmoil / situation in financial markets			
Impact of the financial market turmoil on credit standards, degree to which the access to wholesale funding is hampered, bank lending and banks' capital position	October 2007	October 2009	quarterly
Additional question on the effect of government announcements of recapitalisation support and state guarantees on banks' access to wholesale funding	January 2009	January 2010	quarterly
Modification of the ad hoc question to the impact of the financial market situation on the change in banks' access to wholesale funding and impact on banks' capital position and lending	January 2010	January 2011	quarterly
Modification of the ad hoc question to the impact of the financial market situation on the change in banks' access to wholesale funding	April 2011	ongoing	quarterly
Addition of the access to retail funding	January 2012	ongoing	quarterly
Forward-looking questions with a longer time horizon			
Forward-looking question on credit standards and contributing factors with a 12-month horizon	January 2010	January 2010	one-off question
Impact of regulatory and supervisory changes			
Impact of the Capital Requirements Regulation/Capital Requirements Directive IV (CRR/CRD IV) and other regulatory actions relating to capital on banks' financial situation and bank lending conditions	July 2011	ongoing	bi-annual (January and July)
Addition of the impact on credit margins	January 2013	ongoing	bi-annual (January and July)
Addition of the impact on bank funding conditions	January 2014	ongoing	bi-annual (January and July)
Addition of the impact of leverage or liquidity requirements and of the impact on total and liquid assets	January 2015	ongoing	bi-annual (January and July)
Impact of the sovereign debt crisis			
Impact of the sovereign debt crisis on bank funding and bank lending conditions	January 2012	October 2014	quarterly
Impact of the 3-year longer-term refinancing operations (LTROs)			
Impact of the 3-year longer-term refinancing operations (LTROs) on bank lending conditions	February 2012	February 2012	one-off question (confidential)
Level of credit standards			
Level of credit standards compared with the midpoint of a historical range of credit standards	April 2014	ongoing	annual
Impact of the targeted longer-term refinancing operations (TLTROs)			
Participation, reasons to participate or not, purposes for which funds are used and impact of the TLTROs on banks' financial situation and bank lending conditions	October 2014	ongoing	bi-annual since January 2015 (January and July)
Impact of the ECB's expanded asset purchase programme (APP)			
Impact of the ECB's expanded APP on banks' financial situation, purposes for which the additional liquidity is used and impact on bank lending conditions	April 2015	ongoing	bi-annual (April and October)
Impact of the ECB's negative deposit facility rate			
Impact of the ECB's negative deposit facility rate on banks' net interest income and bank lending conditions	April 2016	ongoing	bi-annual (April and October)

Source: ECB.

Ad hoc questions were used in the BLS for the first time in 2006 (see **Table 1**). In the July 2006 survey round, a specific question was designed to address some of the reasons behind the strong growth of loans to households for house purchase at that time, focusing in particular on whether loans to households secured by real estate were used for purchasing second homes or homes for investment purposes. Overall, it turned out that the share of such loans was relatively small in the euro area.

For the second time in the history of the BLS, ad hoc questions were included in the October 2007 BLS round against the background of the US sub-prime mortgage crisis and the spillover to other countries and markets. The BLS served as a useful tool to collect timely information on the likely impact of the turmoil in credit markets on bank lending conditions. Specifically, the ad hoc questions asked for the impact of the turmoil in credit markets on banks' credit standards, on their access to funding and on their capital position. In connection to this ad hoc question, the BLS also included (in 2009-10) evidence on the effect of government announcements of recapitalisation support and state guarantees on banks' access to wholesale funding. Since 2010, as a follow-up to the original question on the degree to which the financial market turmoil had hampered banks' access to market funding, the ad hoc question has focused on the change in banks' access to retail and wholesale funding as a result of the situation in financial markets (see Section 4.1). This question has become a useful addition to the information provided by the standard BLS questionnaire.

With the further evolution of the financial crisis, the BLS provided (between 2012 and 2014) evidence on the impact of the sovereign debt crisis on bank funding and lending conditions (see Section 4.2). This question provided important information on the impact of the sovereign debt crisis as well as the diminishing impact following the ECB's monetary policy measures to ease the funding and liquidity situation of banks.

In particular, the BLS was used as an important tool to analyse the effectiveness of the ECB's non-standard monetary policy measures in the transmission of monetary policy. In February 2012 a special confidential survey on the impact of the three-year longer-term refinancing operations (LTROs) was carried out among the BLS sample banks in most euro area countries. From October 2014 the survey contained specific sets of ad hoc questions focusing on the impact of the targeted longer-term refinancing operations (TLTROs) as well as, from April 2015, on the impact of the expanded asset purchase programme (APP) in order to obtain evidence on the impact of such measures on banks' financial situation and bank lending conditions (see Section 4.3). With respect to the TLTRO ad hoc questions, the questions refer to both the first series of TLTROs as well as to TLTRO-II. Banks are asked whether and why they participated in the TLTROs or not, for the purposes for which they use the TLTRO funds and for the impact on lending conditions. In a broadly comparable manner, the ad hoc questions on the expanded APP ask for the impact of the APP on banks' financial situation, the purposes for which banks use the additional APP liquidity, stemming either from the banks' sales of marketable assets or from an increase in customer deposits, as well as for the APP impact on bank lending conditions. The expanded APP comprises the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3), which started in the fourth quarter of 2014, as well as the public sector purchase programme (PSPP) from March 2015 and the corporate sector purchase programme (CSPP) from June 2016.[12] Moreover, since the April 2016 BLS, an ad hoc question on the impact of the ECB's negative deposit facility rate has been included in order

[12] The latest available data point for the APP ad hoc questions refers to the April 2016 BLS, i.e. the CSPP is not yet covered by the questions.

to collect evidence on the impact of this measure on banks' net interest income and bank lending conditions (see Section 4.4). Owing to the timely availability of the information, these BLS ad hoc questions have proven particularly useful for monetary policy purposes.

In addition, two ad hoc questions on the impact of regulatory and supervisory changes on banks' balance sheets and on lending conditions were introduced in July 2011 and have been repeated with several amendments since then in the January and July BLS rounds (see Section 4.5). Specifically, the questions ask for the impact of the regulatory changes on banks' risk-weighted assets and capital as well as the impact of such adjustments on their credit standards and, since 2013, on credit margins. The questions were amended further several times to include for instance the impact on bank funding conditions as well as the impact of leverage and liquidity requirements referring to the introduction of the liquidity coverage ratio and the mandatory disclosure of the leverage ratio since January 2015. Overall, the questions serve as a tool to analyse banks' balance sheet adjustments related to regulatory and supervisory changes and their impact on banks' lending behaviour.

Moreover, in April 2014 an annual ad hoc question on the level of credit standards was introduced (see Section 4.6). This allows putting the replies on changes in credit standards in the standard questionnaire into perspective. Specifically, banks are asked for their current level of credit standards relative to historical benchmarks. This allows a historical comparison even if only a few data points are available. At the same time, it has to be acknowledged that a long-term assessment may be difficult for survey participants.

Overall, since the financial crisis, the importance of ad hoc questions has increased substantially. Ad hoc questions have become a regular feature of the BLS and have increased its importance for monetary policy preparation.

3 Analysis of bank lending conditions in the euro area

3.1 Overview of bank lending conditions in the euro area

Since the introduction of the BLS in 2003, the euro area economy has been through periods of strong economic growth, deep recession during the financial crisis and a very gradual recovery in the aftermath of the crisis. These periods are mirrored in the developments in financing conditions for euro area enterprises and households.

Around the start of the BLS in 2003, credit standards were strongly tightened, related to weak economic growth at that time as well as possibly an initial period in which respondents needed to get used to the survey questionnaire. The net tightening of credit standards on loans to euro area enterprises turned into a net easing from the third quarter of 2004 onwards, which lasted until the second quarter of 2007 (see **Chart 2**). Similarly, for loans to households for house purchase, credit standards were mostly eased from the second quarter of 2004 until the first quarter of 2007 (see **Chart 3**). On the one hand, strong economic growth in the euro area contributed to favourable financing conditions, as it implied high profitability and a relatively low credit risk of borrowers. On the other hand, financial innovation and loose financing conditions fuelled further economic growth and bank lending, and in fact a boom in some market segments, like in particular housing markets. In this environment, the ECB raised its key interest rates from December 2005 until July 2008 in order to counteract upside risks to price stability, also against the background of vigorous money and credit growth.

With the emergence of tensions in the US sub-prime mortgage market in the summer of 2007, which subsequently spilled over to other market segments and countries, euro area banks tightened significantly their credit standards on loans to both enterprises and households from the third quarter of 2007 onwards. The intense net tightening of credit standards during this period reflects the deterioration in the economic outlook and creditworthiness of borrowers as well as banks' adjustment of their attitude towards risk, in reaction to loose credit standards in the period preceding the financial crisis. The net tightening of credit standards peaked in the third quarter of 2008 for loans to enterprises, when the investment bank Lehman Brothers collapsed in September 2008, and in the fourth quarter of 2008 for loans to households. The ECB responded with a rapid reduction in its key interest rates and by providing ample liquidity to the banking system.

Following a temporary improvement in financing conditions in the euro area, the emergence of tensions in sovereign bond markets in some euro area countries in the second half of 2011 changed the scene again. The intensification of the sovereign debt crisis spilled over to the banking sector owing to the close nexus between the two sectors. This led to a second, but smaller peak in the net tightening of credit standards across all loan categories in the fourth quarter of 2011, when there were

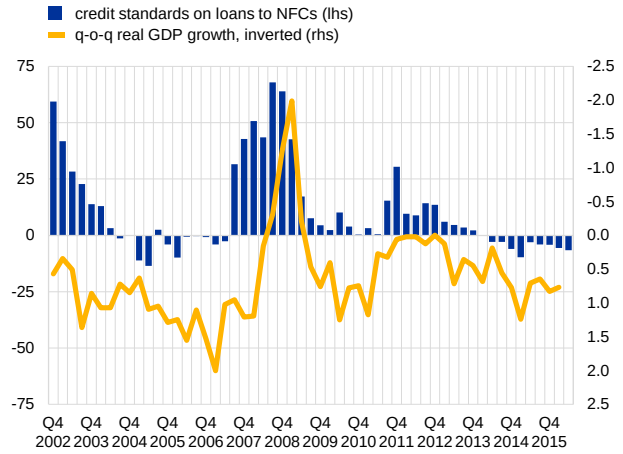
intense concerns about a shortage of liquidity in the banking system, especially in the euro area countries that were hit hardest by the crisis. Given the heightened risks for economic growth and inflation prospects, the ECB reacted with its monetary policy to the worsening financing conditions with two consecutive key rate cuts in November and December 2011.

In addition, the liquidity provision by the ECB to euro area banks through the three-year longer-term refinancing operations (LTROs) in December 2011 and February 2012 and the extension of eligible collateral in December 2011 alleviated banks' funding constraints and led in turn to a considerable reduction in the net tightening of credit standards in the first quarter of 2012. Moreover, the announcement of the ECB's commitment to conduct Outright Monetary Transactions (OMTs) and the further extension of eligible collateral to improve the access of the banking sector to Eurosystem operations in the summer of 2012 contributed substantially to calming the situation in financial markets and concerns on the part of investors about the reversibility of the euro.

Chart 2

Credit standards on loans to enterprises and real GDP growth in the euro area

(net percentages of tightening and quarterly percentage changes; seasonally adjusted, current prices)

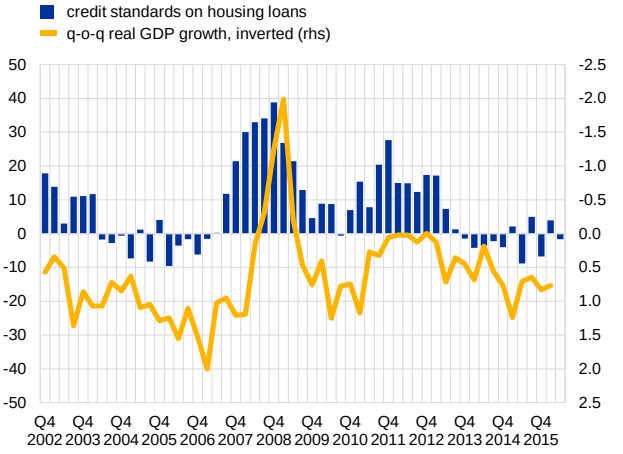


Sources: ECB and Eurostat.
Notes: Net percentages are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably". For comparability, the right-hand scale has been inverted.

Chart 3

Credit standards on loans to households for house purchase and real GDP growth in the euro area

(net percentages of tightening and quarterly percentage changes; seasonally adjusted, current prices)



Sources: ECB and Eurostat.
Notes: See the notes to **Chart 2**. For comparability, the right-hand scale has been inverted.

While the monetary policy measures described above had a substantial stabilising effect on financial market prices and were partially passed through also to bank lending rates, bank lending growth remained weak up to 2014. Therefore, to enhance further the functioning of the monetary policy transmission channel, provide further monetary stimulus and bring the euro area economy back onto a path of inflation that is consistent with the ECB's objective of achieving inflation rates below, but close to, 2% over the medium term, the ECB has introduced a number of additional standard and non-standard monetary policy measures since 2014. These have included the announcement of the targeted longer-term refinancing operations (TLTROs) in June 2014, the asset-backed securities purchase programme (ABSPP)

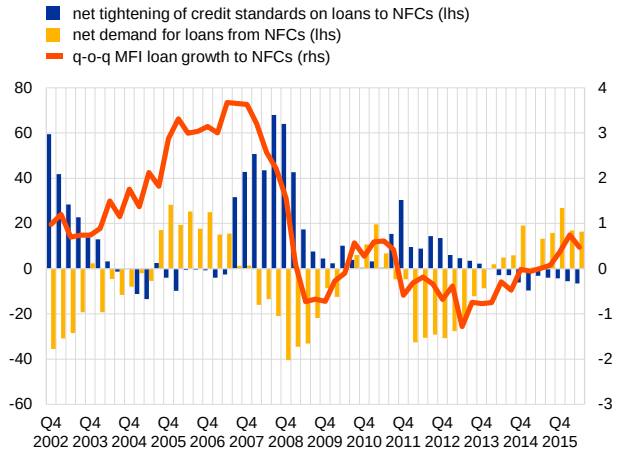
and third covered bond purchase programme (CBPP3) in October 2014, the announcement of the expansion of the asset purchase programme (APP) to include public sector securities (i.e. the public sector purchase programme, PSPP) in January 2015 and the announcement of the corporate sector purchase programme (CSPP) and TLTRO-II in March 2016. The ECB's non-standard monetary policy measures were complemented by further reductions in the key ECB interest rates, including the reduction of the ECB's deposit facility rate into negative territory in June 2014 and further reductions in the following quarters.

All these measures supported the improvement of bank lending conditions in the euro area (see Chapter 4 for an assessment based on the BLS ad hoc questions of the financial market crisis and the impact of the ECB's measures). In combination with banks' balance sheet repair and the gradual recovery of the euro area economy, the ECB's standard and non-standard measures contributed to a net easing of credit standards from the fourth quarter of 2013 for housing loans and from the second quarter of 2014 for loans to enterprises until the most recent past in 2016.

Chart 4

Credit standards and demand for loans to enterprises and growth in MFI loans to NFCs in the euro area

(net percentages of tightening, net increase in demand; quarterly percentage changes, seasonally adjusted)



Source: ECB.
Notes: See the notes to **Chart 2**. Net percentages for the questions on demand for loans are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably".

Developments in bank lending conditions and loan demand can be compared with developments in economic activity and bank loan growth over time. This underlines the importance of the BLS in assessing monetary policy transmission.

The graphical evidence provided in **Chart 2** and **Chart 3** illustrates that changes in credit standards tend to lead developments in economic growth by around one year and can therefore be used as a leading indicator for explaining real GDP growth, in line with the results of De Bondt et al. (2010) (see Section 5.1).

In addition, **Chart 4** illustrates the fact that bank loan growth is a combination of loan supply and demand factors. While the actual MFI loan statistics do not allow a disentangling of loan supply and demand factors, banks' qualitative answers about developments in credit standards and financing needs of borrowers help to distinguish between the two. The chart also shows leading indicator properties of credit standards for growth in bank loans to NFCs and suggests a similar property of NFC net loan demand.[13] Indeed, in the more recent past, net demand for NFC loans has become less negative since the first quarter of 2013, while the annual growth rate of MFI loans to NFCs reached its trough only in early 2014. The lagging relationship between credit standards, firms' financing needs and actual MFI loan

[13] Different studies using BLS results as explanatory variables typically find lags of between one and four quarters as being econometrically significant for explaining aggregate loan growth. The lag structure varies with regard to the time period and countries covered and according to the methodology applied. For an overview of these studies, see Chapter 5.

growth may provide one explanation for the still weak loan growth of euro area NFCs in 2015 and 2016.

The analysis in the remaining sections of this chapter focuses on the developments in banks' credit standards, credit terms and conditions and their factors, as well as on bank loan demand and its factors in the euro area as a whole and in the largest four euro area countries. In addition to the presentation of the survey evidence itself, the evidence from the BLS will be related to other macroeconomic and financial data to analyse and cross-check the results of the BLS. Thereby, the BLS results are put into a broader macroeconomic context, underlining the important role which the BLS plays in assessing bank loan supply and demand conditions in the euro area.

3.2 Credit standards and terms and conditions on loans to enterprises and households and contributing factors

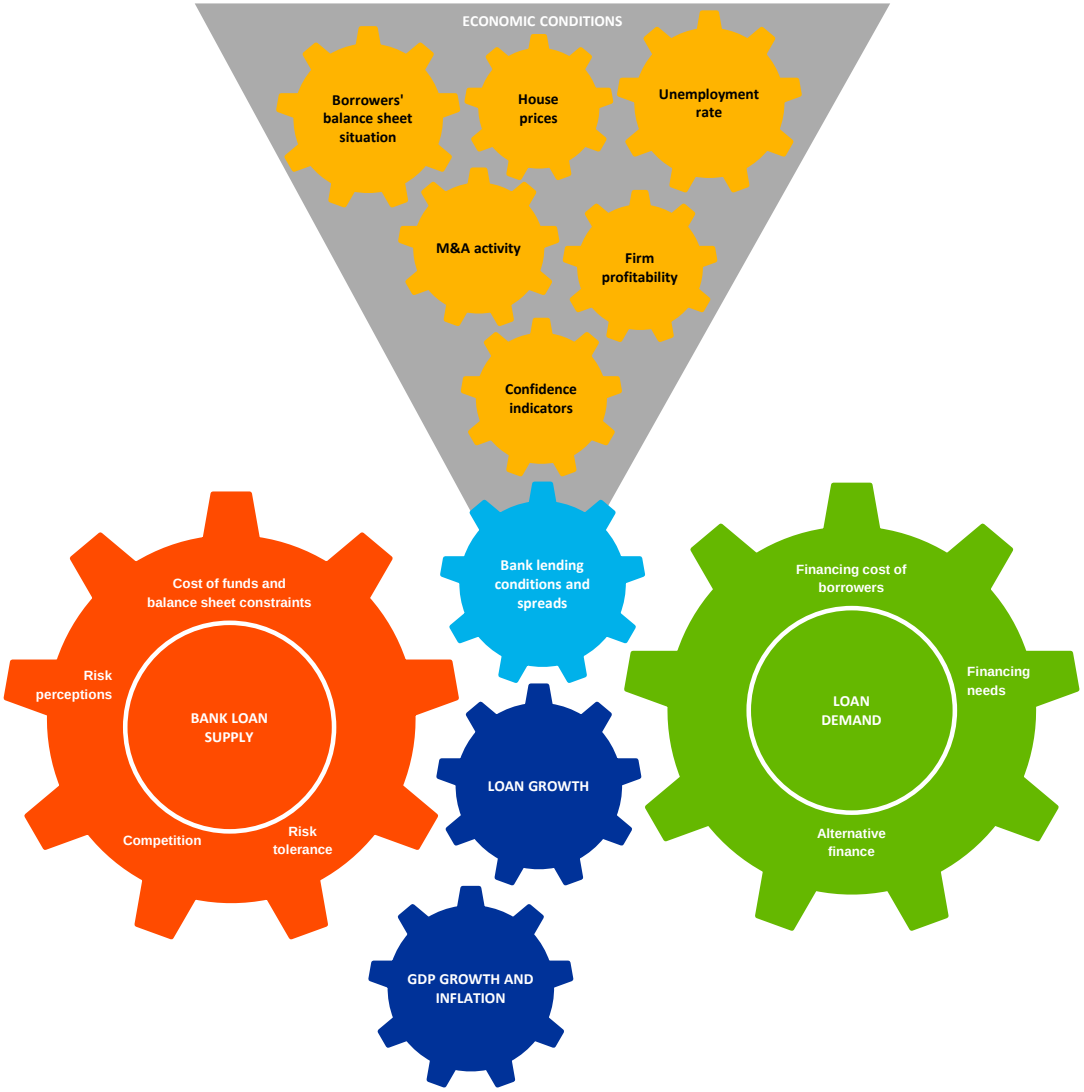
Based on the presentation of the overall developments in credit standards in Section 3.1, this section focuses on the factors contributing to changes in credit standards and credit terms and conditions. It further relates the developments in bank lending conditions to quantitative data on the macroeconomic and financial side of the euro area economy as well as to other survey data (see **Chart 5** for a schematic overview of the selected indicators presented throughout the section).

Chart 5 illustrates the relationship between loan supply, represented in the BLS mainly by credit standards, and loan demand (displayed by the big gears) with their contributing factors (shown in the outer circle of these gears) as covered in the BLS questionnaire. Going beyond the direct content of the survey, the chart also shows the connection with selected other macroeconomic and financial indicators, for which the relationship with the BLS is analysed in this chapter (upper small gears). At the same time, it is important to note that the BLS may be connected with further indicators which are not covered here. As illustrated in the chart, loan supply and demand, as well as the contributing factors, have an impact on bank lending conditions and spreads which are negotiated between lenders and borrowers. Actual loan growth is the outcome of the interplay of loan supply and demand, having ultimately an impact on real economic growth and inflation (displayed in the bottom two gears).

Indeed, when analysing the relationship of the BLS with quantitative and other survey data in the remainder of this chapter, it turns out that the BLS results have a close relationship with, and in part leading indicator properties for, other macroeconomic and financial indicators. This cross-check confirms the information content of the BLS with regard to analysing economic developments in the euro area. In particular, taking into account the unique value of such a survey among banks in disentangling loan supply and demand effects, it allows an assessment of bank lending supply and demand conditions and their impact on loan growth and, more broadly, economic growth and inflation.

Chart 5

Graphical illustration of the interaction of selected macroeconomic and financial indicators with bank loan supply and demand



Note: The factors surrounding bank loan supply and demand refer to the BLS factors contributing to changes in credit standards and loan demand respectively.

3.2.1 Loans to enterprises

The net tightening or net easing of credit standards[14], i.e. of the internal guidelines or loan approval criteria, is influenced by some key factors, like banks' cost of funds and balance sheet constraints, risk perceptions, competition and banks' risk tolerance (see **Chart 6**). The former three factors have been included in the BLS since its start in 2003, whereas the last factor, which refers to the bank's risk tolerance in its lending policy, was introduced in April 2015 in the enhanced BLS

[14] See Section 2.2.2 and the Glossary at the end of this Occasional Paper for an explanation of the BLS terms.

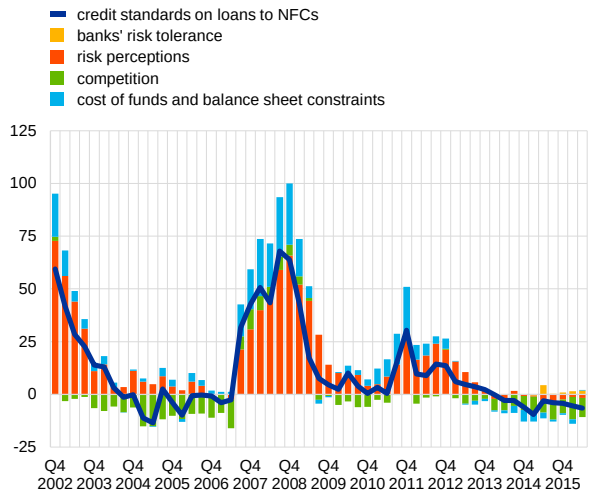
questionnaire. Among the factors, banks' cost of funds and balance sheet constraints and banks' risk tolerance refer mainly to banks' ability and willingness to provide loans and, hence, to loan supply. Risk perceptions with respect to economic developments and the creditworthiness of borrowers also refer to loan supply, but they also contain demand considerations having an impact on credit standards. This shows the interaction between loan supply and demand. Compared with credit standards, credit terms and conditions refer to the actual lending conditions on new loans, which are negotiated between the lender and the borrower, such as loan margins and, for instance, collateral requirements (see also Section 2.2.2 for the definition of credit standards and terms and conditions as well as the specific role of the factors in explaining credit supply and demand).

Generally, the importance of the factors having an impact on credit standards on loans to enterprises is distributed asymmetrically during periods of net tightening and net easing of credit standards and has changed over time (see **Chart 7**).

Chart 6

Euro area banks' credit standards on loans to enterprises and contributing factors

(net percentages of tightening and contributing factors)

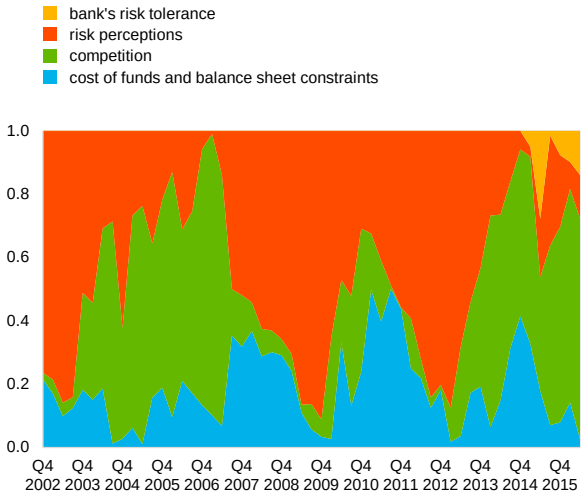


Source: ECB.
Notes: The net percentages for responses to questions related to the factors are defined as the difference between the percentage of banks reporting that the given factor contributed to a tightening and the percentage reporting that it contributed to an easing. "Cost of funds and balance sheet constraints" are an unweighted average of "cost related to capital position", "access to market financing" and "liquidity position"; "risk perceptions" are an unweighted average of "general economic situation and outlook", "industry or firm-specific situation and outlook/borrower's creditworthiness" and "risk on collateral demanded"; "competition" is an unweighted average of "bank competition", "non-bank competition" and "competition from market financing". "Risk tolerance" was introduced in Q1 2015.

Chart 7

Relative importance of factors having an impact on credit standards on loans to NFCs

(in percentages of the sum of the factors)



Source: ECB.
Notes: See the notes to **Chart 6**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

Risk perceptions generally play an important role in the net tightening of credit standards when current and expected economic activity is weak. The latter is for instance reflected in the industrial confidence indicator of the European Commission (see **Chart 8**).[15] In periods of weak economic activity, like in 2003, in 2007-08 and in 2012-13, banks' typically tighten their credit standards to take account of the

[15] See European Commission (2016).

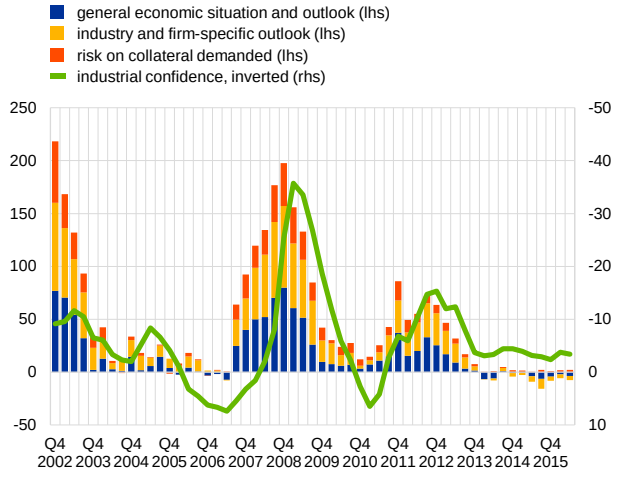
declining creditworthiness of borrowers, related to lower profitability of firms, and a higher likelihood of non-performing loans.

While banks' cost of funds and balance sheet constraints played a less important role before the financial crisis, when financing conditions were very favourable, they gained importance during the crisis (see **Chart 7** and **Chart 9**). First, banks were concerned about the availability and cost of short-term funding when the US sub-prime crisis hit the euro area money markets in August 2007, and passed this on to their credit standards. In addition, banks' cost of funds and balance sheet constraints were a major factor in the net tightening of credit standards following the insolvency of the investment bank Lehman Brothers in September 2008, related to the drying-up of interbank markets. The relative importance of banks' cost of funds and balance sheet constraints in the net tightening of credit standards peaked in the fourth quarter of 2011, when in particular banks in the vulnerable euro area countries were concerned about their access to retail and wholesale funding (see also the ad hoc question on banks' access to retail and wholesale funding in Section 4.1). Following the ECB's liquidity provision via the two three-year LTROs, the importance of this factor declined during 2012, reflecting banks' alleviated funding concerns.

Chart 8

Euro area banks' risk perception and industrial confidence

(net percentages of factors contributing to a tightening of credit standards and percentage balances)

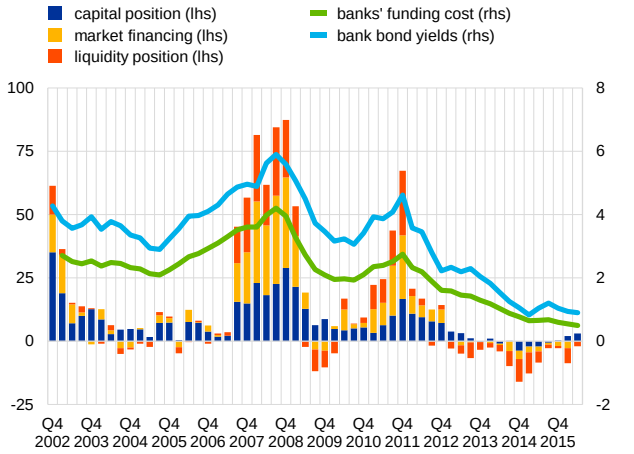


Sources: ECB and European Commission.
Notes: Risk perception factors refer to the factors having an impact on credit standards for loans to enterprises. See the notes to **Chart 6**. For comparability, the right-hand scale has been inverted. The industrial confidence indicator refers to the European Commission DG-ECFIN opinion survey. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates the euro area aggregates on the basis of the national results and seasonally adjusts the balance series.

Chart 9

Euro area banks' cost of funds and balance sheet constraints and banks' funding cost

(net percentages of factors contributing to a tightening of credit standards and percentages p.a.)



Sources: ECB, Bloomberg (Merrill Lynch Global Index) and ECB calculations.
Notes: Cost of funds and balance sheet constraints refer to the factors having an impact on credit standards for loans to enterprises. Banks' funding cost is a composite indicator of the average of banks' deposit rates on new business and banks' cost of market debt funding weighted with their corresponding outstanding amounts. Bank bond yields refer to unsecured investment-grade euro area bank bond yields, based on the Merrill Lynch Global Index.

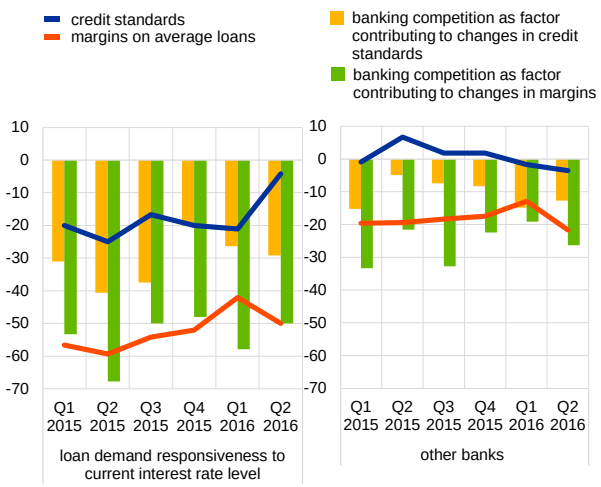
The peaks of the impact of banks' cost of funds and balance sheet constraints on the net tightening of credit standards, as indicated by the BLS, are closely related to the peaks in banks' actual funding cost, as reflected in a composite indicator of banks' retail and wholesale funding cost (see **Chart 9**). Specifically, during the financial crisis, the market debt funding cost (i.e. bank bond yields) played a crucial role for the importance of banks' cost of funds and balance sheet constraints (see **Chart 7**).

Competition between banks[16], with non-banks and with market financing typically has an easing impact on credit standards, especially in periods when banks' concerns about their cost of funds and balance sheet situation as well as risk perceptions are declining (see **Chart 6** and **Chart 7**). This was the case in the period ahead of the financial crisis, from 2004 until the second quarter of 2007, as well as since 2013.

Chart 10

Differences in lending conditions and competitive pressures by interest rate sensitivity of loan demand

(unweighted percentages (left chart) and unweighted net percentages (right chart))

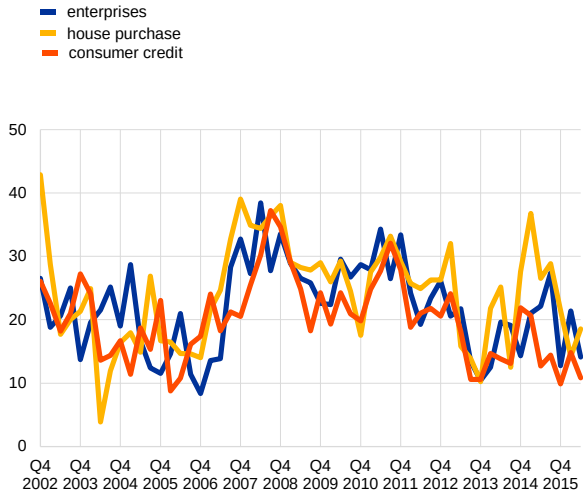


Source: ECB.
Notes: Based on unweighted individual data. Interest rate sensitivity is proxied by banks indicating the relevance of the "general level of interest rates" for an increase in loan demand. Banks are grouped into those for which this factor is relevant (left chart) and other reporting banks (right chart). "Competition from other banks" indicates the factor contributing to changes in credit standards and margins on average NFC loans, respectively.

Chart 11

Dispersion of the net tightening of credit standards on loans across euro area countries

(standard deviation across euro area countries)



Source: ECB.
Note: The standard deviation is calculated based on the net percentages across all euro area countries.

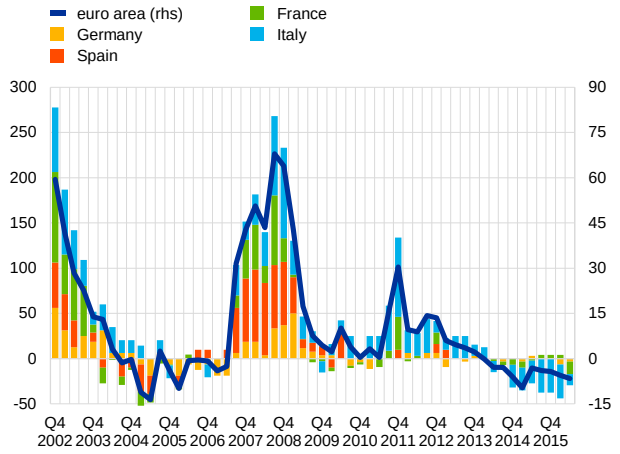
An assessment of more recent changes in competition, more precisely of changes in the sub-factor "competition among banks", moreover, indicates a strong relationship between competitive pressures and the interest rate sensitivity of demand for NFC loans (see **Chart 10**). The comparison of replies by individual BLS banks indicating the "general level of interest rates" as an important factor for an increase in loan demand with the remaining BLS banks may serve as a proxy for the interest rate sensitivity of the demand for loans. In the current low interest rate environment, such a grouping of individual replies suggests that competitive pressures contribute strongly to an easing in credit standards and particularly to a narrowing of margins for average loans when the interest rate sensitivity of demand is high, i.e. when the "general level of interest rates" is regarded as an important positive factor for loan demand (see **Chart 10**, left-hand side vs. right-hand side).

[16] For a description of the different types of competitive pressures contributing to changes in credit standards for loans to enterprises over time and the resurgence of banking competition in the aftermath of the crises, see Hempell (2015).

Chart 12

Credit standards on loans to NFCs across euro area countries

(net percentages of tightening)

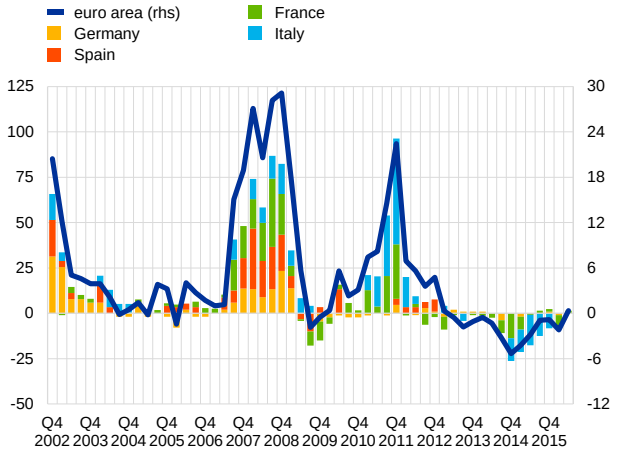


Source: ECB.
Note: Net percentages are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably".

Chart 13

Impact of cost of funds and balance sheet constraints on NFC loans across euro area countries

(net percentages of factors contributing to a tightening of credit standards)



Source: ECB.
Note: "Cost of funds and balance sheet constraints" are an unweighted average of "cost related to capital position", "access to market financing" and "liquidity position".

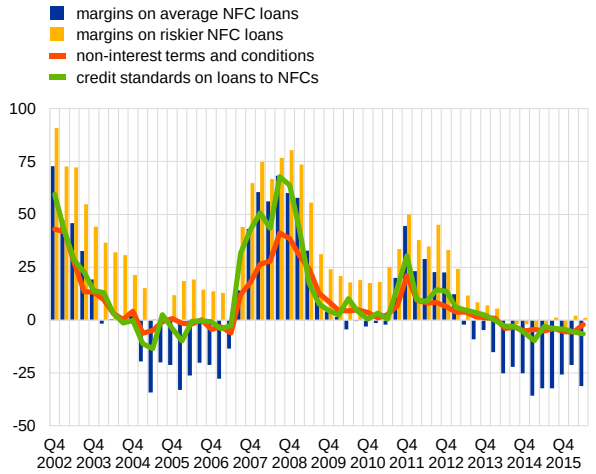
The different importance of contributing factors is also reflected in the heterogeneous developments in credit standards across euro area countries. Overall, the dispersion of bank replies increased across euro area countries with the start of the financial crisis in 2007 and 2008 (see **Chart 11**). In particular in the vulnerable euro area countries, banks tightened credit standards on loans to NFCs significantly during the crisis. In Spain, the net tightening took place predominantly at the beginning of the crisis, in mid-2007, partly compensating for loose credit standards before the crisis (see **Chart 12**). In Italy, the intense net tightening of credit standards started somewhat later, in the third quarter of 2008, and reached a second peak during the sovereign debt crisis in the second half of 2011. During the latter period, banks in Italy suffered in particular from difficulties in their access to market funding and in their liquidity position, as summarised in the combined factors "cost of funds and balance sheet constraints" (see **Chart 13**). To a smaller extent, banks in France were also affected by liquidity problems during the second half of 2011. By contrast, the net tightening of credit standards was more limited in Germany and occurred mostly in 2008-09. This reflected risk concerns of banks regarding the economic situation and outlook against the background of the deep economic recession, as well as concerns by some German banks regarding their balance sheet situation related to investments in US sub-prime mortgages. By contrast, German banks' cost of funds and balance sheet situation remained largely unaffected by the sovereign debt crisis.[17]

[17] See Deutsche Bundesbank (2016).

Chart 14

Credit terms and conditions and credit standards on loans to euro area NFCs

(net percentages of tightening)

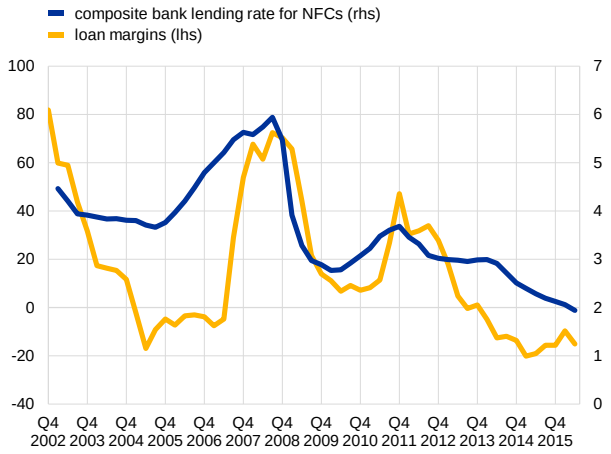


Source: ECB.
Notes: Margins are defined as the spread over a relevant market reference rate. "Non-interest terms and conditions" are an unweighted average of non-interest rate charges, the size of the loan or credit line, collateral requirements, loan covenants and loan maturity.

Chart 15

Margins on loans to euro area NFCs and composite bank lending rate

(net percentages of tightening and percentages p.a.)



Source: ECB.
Notes: The indicator for the composite bank lending rate for NFC loans is calculated by aggregating short and long-term MFI lending rates using a 24-month moving average of new business volumes. "Loan margins" are an unweighted average of margins on average and riskier loans to NFCs and are defined as the spread over a relevant market reference rate.

Beyond the internal guidelines and loan approval criteria, banks decide in their lending policy on the terms and conditions at which they are willing to provide a loan. The terms and conditions of a loan are conditional on the borrower's characteristics, in particular on the creditworthiness, the collateral and the related riskiness of the loan. Credit standards and terms and conditions are generally closely related, in particular in net tightening periods, reflecting the close relationship between the loan approval decision and the conditions granted in the actual loan negotiations between the bank and the borrower (see **Chart 14**). At the same time, banks tend to change more intensively their price terms and conditions (i.e. loan margins, defined as the spread of bank lending rates over a relevant market reference rate) than their credit standards. Specifically, margins on riskier loans tend to tighten more than credit standards in tightening periods, reflecting an increased borrower risk, the impact of asymmetric information between the borrower and lender as well as the risk aversion of banks. In addition, in net easing periods, banks' narrowing of margins on average loans has been considerably stronger than the net easing of credit standards.

Changes in non-interest terms and conditions, like collateral requirements or non-interest rate charges, tend to move in the same direction as the changes in loan margins (see **Chart 14**). However, non-interest terms and conditions appear to move overall less than price terms and conditions. It also seems that banks mostly do not use non-interest terms and conditions as a compensatory tool for declining loan margins.

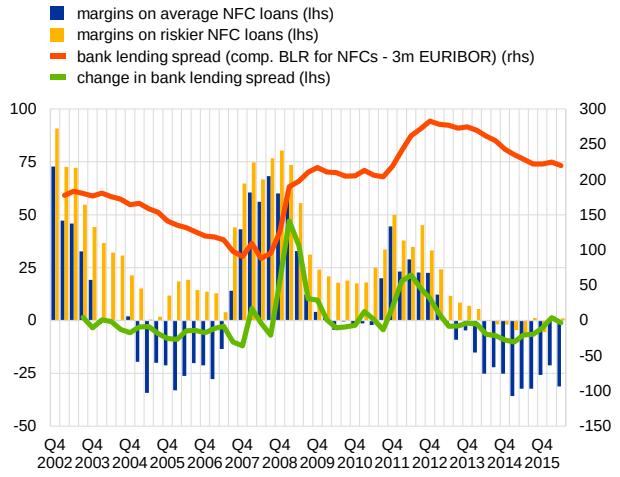
Developments in bank loan margins as reported by BLS banks are related to developments in actual bank lending rates, as indicated by the composite bank lending rate for loans to NFCs (see **Chart 15**). A higher lending rate typically also

implies wider margins. In particular, both the net widening of margins on average loans and the composite lending rate on loans to NFCs peaked in the third quarter of 2008, at the time of the Lehman collapse, as well as in the fourth quarter of 2011. In addition, the decline in composite bank lending rates since 2014 has been accompanied by a considerable narrowing of margins.

Chart 16

Margins on loans to euro area NFCs and bank lending spreads

(net percentages of tightening and basis points)

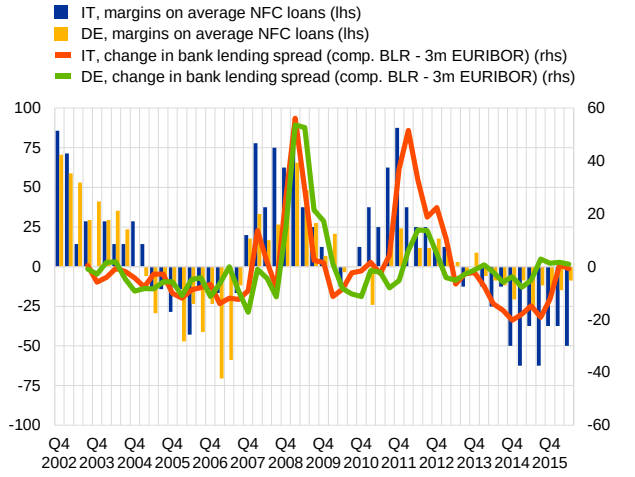


Sources: ECB and Thomson Reuters.
Notes: Margins are defined as the spread over a relevant market reference rate. "Comp. BLR for NFCs" denotes the composite bank lending rate for NFCs. It is calculated by aggregating short and long-term MFI lending rates using a 24-month moving average of new business volumes. The change in bank lending spread is a two-quarter moving average in basis points.

Chart 17

Margins on loans to NFCs and changes in bank lending spreads – country evidence

(net percentages of tightening and two-quarter moving average in basis points)



Sources: ECB and Thomson Reuters.
Note: See the notes to **Chart 16**.

Moreover, developments in BLS bank loan margins are closely associated with developments in actual bank lending spreads, calculated as the difference between the composite lending rate for NFCs and a relevant market reference rate (see **Chart 16** for the euro area and **Chart 17** at the country level). While banks use a range of various market reference rates across bank products for setting their lending rates, the three-month EURIBOR can be used as a typical market reference rate for the comparison.

The considerable increase in bank loan margins, as indicated by BLS banks, and in bank lending spreads during 2008 and 2009 reflects a reassessment of risk by euro area banks in the context of the financial crisis. Bank lending spreads and loan margins stabilised and declined slightly in 2010 and the first half of 2011, but rose again between the fourth quarter of 2011 and 2012 in the context of the sovereign debt crisis (see also the ad hoc question on the sovereign debt crisis in Section 4.2). Spreads rose particularly strongly in the vulnerable euro area countries, which were more affected by the sovereign debt crisis than the less vulnerable euro area countries. In particular, in Italy, the peak of the spread increase in 2011-12 in the context of the sovereign debt crisis was as pronounced as the first peak in 2008-09, whereas the peak in 2011-12 was much lower for the euro area as a whole and especially for Germany compared with 2008-09.

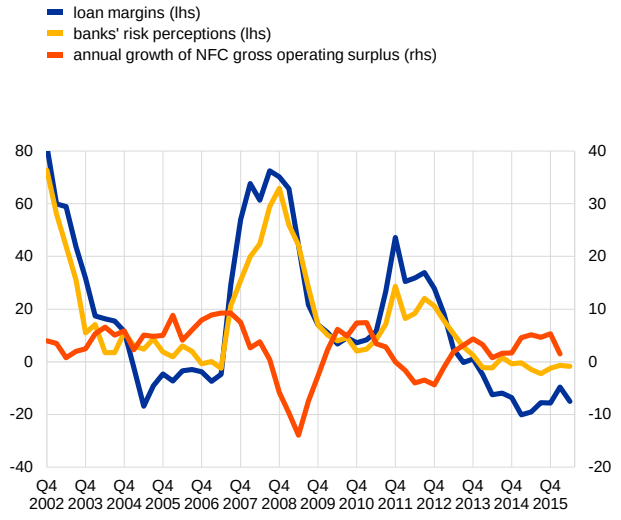
The differences in bank spread developments in part reflect disturbances in the transmission of monetary policy, in particular in the vulnerable euro area countries. Funding costs of some banks, especially in the vulnerable euro area countries, did not decline in parallel with the key ECB rate cuts, implying that such banks deviated from their historical pattern of the pass-through of key ECB rate cuts to bank borrowers. Following further standard and non-standard monetary policy measures, bank lending spreads have declined considerably since 2014 and bank loan margins have narrowed markedly. This applies in particular also to the more vulnerable euro area countries, where banks were catching up in the transmission of lower key ECB rates to bank lending rates compared with the less vulnerable euro area countries.

With respect to the driving forces of loan margins, risk perceptions play an important role for changes in loan margins (see **Chart 18**). Specifically, the steep fall in firm profitability during the financial crisis led to more stringent terms and conditions applied by banks to compensate for firms' declining creditworthiness. This is indicated by the inverse relationship between banks' margins for loans to enterprises and firm profitability, measured here as the annual growth rate of NFCs' gross operating surplus.

Chart 18

Terms and conditions for loans to NFCs, risk perceptions and firm profitability

(net percentages of tightening and annual percentage changes)

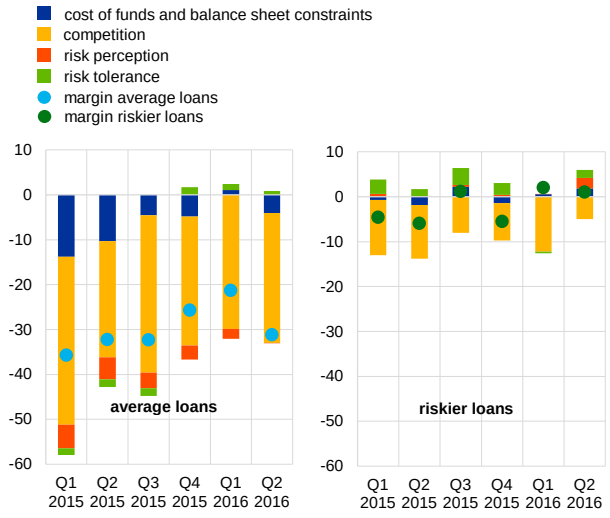


Sources: ECB and Eurostat.
Notes: "Loan margins" are an unweighted average of margins on average and riskier loans to NFCs. Risk perceptions refer to the factors having an impact on credit standards for loans to enterprises. See the notes to **Chart 6**. The gross operating surplus of NFCs refers to the operating income of NFCs, before taxation and depreciation.

Chart 19

Terms and conditions for loans to NFCs and contributing factors

(net percentages of tightening and contributing factors)



Source: ECB.
Note: The factors having an impact on terms and conditions were introduced in Q1 2015.

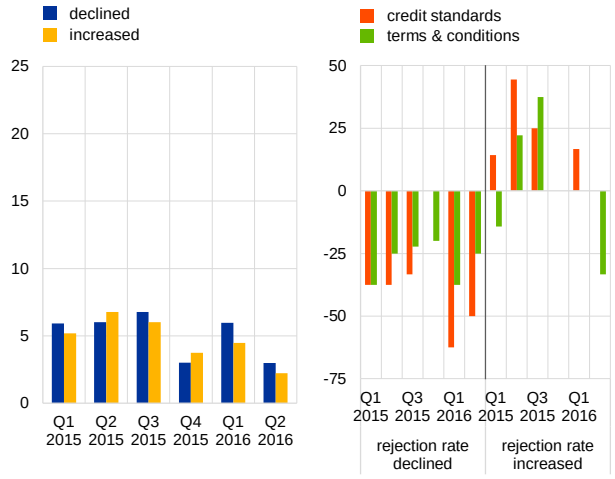
Moreover, in line with the evidence for credit standards, competition has been the most important factor contributing to an easing of credit terms and conditions on loans to enterprises since the first quarter of 2015, when the factors contributing to changes in terms and conditions were introduced in the BLS questionnaire. This has been the case for both average and riskier loans, but to different degrees (see **Chart 19**). In particular, the substantial narrowing of margins for average loans in

2015 and the first half of 2016 was to a large extent on account of competition. By contrast, banks were more cautious in narrowing margins on riskier loans.

Chart 20

Changes in rejection rates and in credit standards and conditions

(unweighted percentages (left chart) and unweighted net percentages (right chart))



Source: ECB.
Notes: Based on unweighted individual replies. The chart on the left-hand side presents unweighted percentages of replies regarding the changes in rejection rates for loans to enterprises. The chart on the right-hand side presents unweighted net percentages of changes in credit standards and in terms and conditions of banks indicating either a decline or an increase in their rejection rates.

When banks set their credit standards (i.e. their internal guidelines or loan approval criteria), they implicitly also set their standards for the loans which they do not want to grant. A question on the share of loan rejections (relative to the total volume of loan applications or requests) was introduced in the questionnaire in the first quarter of 2015. It complements the information on bank lending conditions for the overall assessment of the lending situation of potential and actual borrowers. As can be seen from **Chart 20**, an overall small net percentage of banks have changed their rejection rates on loans to NFCs since the first quarter of 2015. Specifically, the comparison of replies by individual BLS banks suggests that banks indicating a decline in rejection rates for loans to NFCs tend to ease bank lending conditions. By contrast, banks that reported an increase in rejection rates were more inclined to tighten bank lending conditions.

Evidence on bank lending conditions from the perspective of banks can also be related to survey-based evidence on bank loan availability from the perspective of euro area firms, as available from the "Survey on the access to finance of enterprises" (SAFE).[18] The evidence from the SAFE confirms that bank loan availability has improved considerably for NFCs since the first half of 2014 (see **Chart 21**). At the same time, bank loan availability started to improve already in 2013 for large firms according to the SAFE, while it improved only since the second half of 2014 and overall less for small and medium-sized enterprises (SMEs).

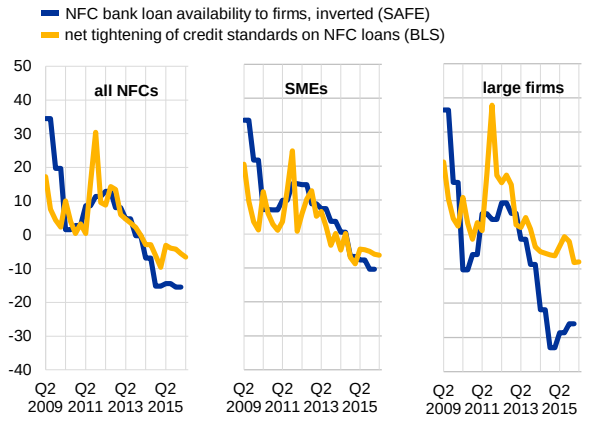
In addition, in line with banks' indications of a narrowing of loan margins, euro area firms reported a net decrease in the level of bank lending rates since the first half of 2014 (see **Chart 22**). According to the SAFE, this decrease was considerably stronger for interest rates on loans to large firms than for those on loans to SMEs. This should be related to a generally higher riskiness of loans to SMEs, owing for example to less detailed reporting requirements compared with large firms implying a higher uncertainty in the assessment of SMEs' creditworthiness.

[18] See the SAFE section of the ECB's website.

Chart 21

Bank loan availability for euro area NFCs from the perspective of banks and firms

(net percentages of tightening and net percentages of deterioration)

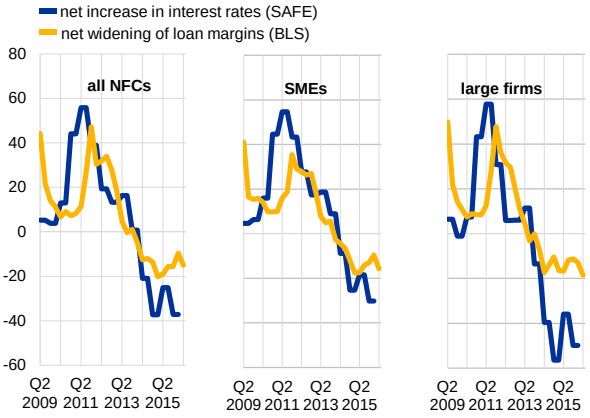


Sources: ECB (BLS, SAFE) and European Commission (SAFE).
Notes: Bank loan availability is defined as the difference between the percentage of euro area firms responding "improved" and the percentage of euro area firms responding "deteriorated". For comparability, the net percentage has been inverted.

Chart 22

Bank lending conditions for euro area NFCs from the perspective of banks and firms

(net percentages of tightening and net increase in rates)



Sources: ECB (BLS, SAFE) and European Commission (SAFE).
Notes: "Net increase in interest rates" is defined as the difference between the percentage of euro area firms reporting an "increase" and the percentage of euro area firms reporting a "decrease" in the level of interest rates of bank financing. "Loan margins" are an unweighted average of margins on average and riskier loans.

3.2.2 Loans to households for house purchase

Loans to households for house purchase account for around 75% of all outstanding MFI loans to euro area households, whereas consumer credit and other lending to households amount to around one-quarter. Against this background, the analysis of loans to households puts a larger emphasis on housing loans.

During the first phase of the financial crisis, the net tightening of credit standards on euro area housing loans was less pronounced than for NFC loans (see **Chart 23** and Section 3.2.3 on consumer credit and other lending to households). This is related to the fact that banks in some countries, in particular Germany, tightened their credit standards on housing loans only a little (see **Chart 24**), whereas the net tightening for loans to enterprises was considerable and widespread at the beginning of the financial crisis across the large euro area countries (see **Chart 12** above). In some euro area countries where housing markets were booming before the crisis, spillover effects from the US sub-prime crisis contributed to a substantial net tightening of credit standards on housing loans. Of the larger euro area countries, BLS banks in Spain tightened their credit standards on housing loans the most in net terms in 2007-08. These developments led to an increase in the dispersion of the net tightening of credit standards for housing loans across euro area countries in 2007 (see **Chart 11** above).

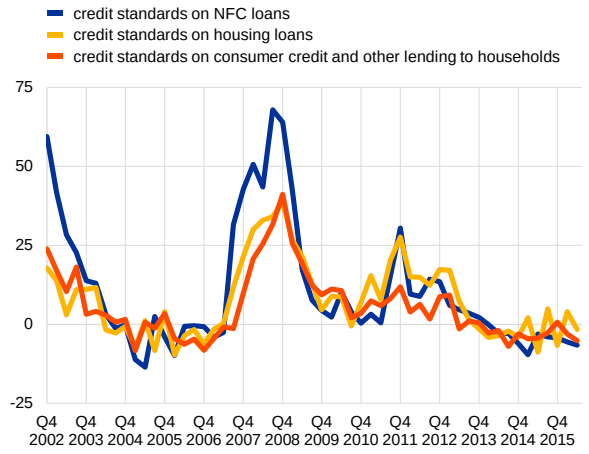
Hence, the overall less intense net tightening of credit standards on housing loans is related on the one hand to the heterogeneity of housing market developments across euro area countries. On the other hand, the less pronounced net tightening

pattern for housing loans reflects the higher collateralisation of housing loans compared with business loans.

Chart 23

Euro area banks' credit standards on NFC loans and loans to households

(net percentages of tightening)

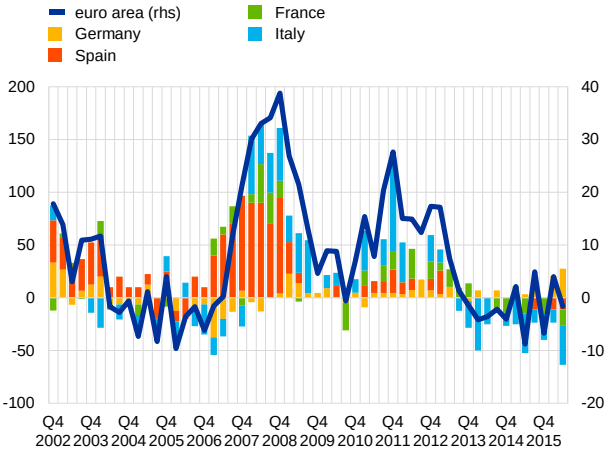


Source: ECB.
Notes: Net percentages are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably".

Chart 24

Credit standards on housing loans across euro area countries

(net percentages of tightening)

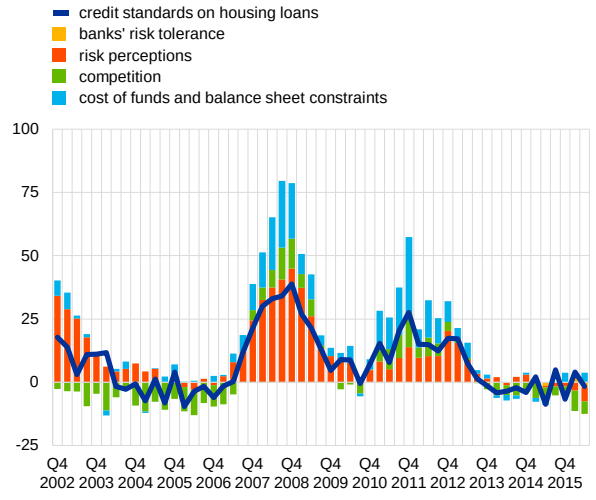


Source: ECB.
Note: See the notes to **Chart 23**.

Chart 25

Euro area banks' credit standards on housing loans and contributing factors

(net percentages of tightening and contributing factors)

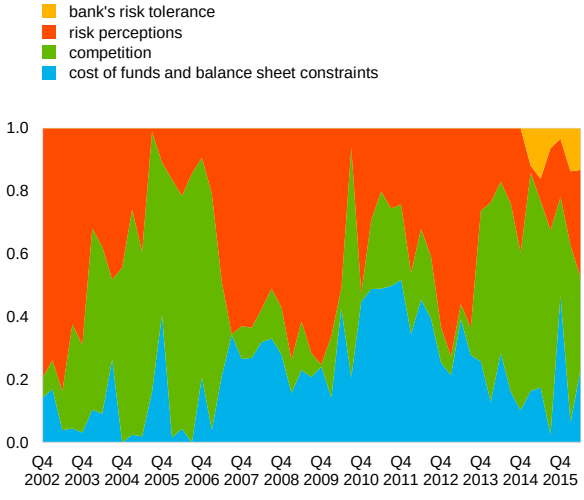


Source: ECB.
Notes: The net percentages for responses to questions related to the factors are defined as the difference between the percentage of banks reporting that the given factor contributed to a tightening and the percentage reporting that it contributed to an easing. "Risk perceptions" are an unweighted average of "general economic situation and outlook", "housing market prospects including expected house price developments" and "borrower's creditworthiness" (the latter from Q1 2015 onwards); "competition" is an unweighted average of "competition from other banks" and "competition from non-banks". "Risk tolerance" was introduced in Q1 2015.

Chart 26

Relative importance of factors having an impact on credit standards on housing loans

(in percentages of the sum of the factors)



Source: ECB.
Notes: See the notes to **Chart 25**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

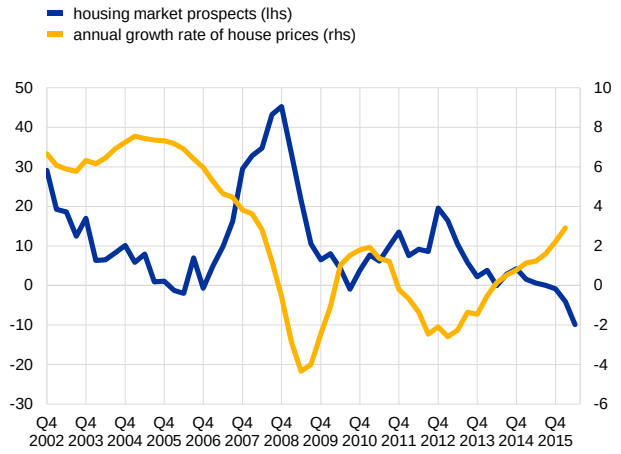
In line with loans to enterprises, risk perceptions have been the most important factor in periods of net tightening of credit standards on housing loans (see **Chart 25** and **Chart 26**). The contribution of housing market prospects to the net tightening of banks' credit standards on housing loans tends to have a negative relationship with developments in house prices (see **Chart 27**). In particular in the early phase of the financial crisis, in 2008-09, the steep decline in house prices contributed to banks' net tightening of credit standards owing to worsening housing market prospects. In turn, during house price recovery periods, like in 2014-16, housing market prospects (and risk perceptions) played only a small role in changes in credit standards. This indicates an asymmetric relationship between the tightening and easing impact of housing market prospects on credit standards, possibly related to a tightening bias of banks in the survey replies.

Cost of funds and balance sheet constraints as a factor contributing to the net tightening of housing loans became very important in the course of the crisis, especially during the sovereign debt crisis in 2011 (see **Chart 26**). It was particularly relevant in Italy, signalling liquidity problems of the Italian banking sector at that time (see **Chart 28**). By contrast, this factor was basically not relevant for banks in Germany. The importance of banks' cost of funds and balance sheet constraints diminished substantially with the ECB's liquidity provision via its non-standard monetary policy measures (see also Chapter 4).

Chart 27

Housing market prospects and annual growth of house prices in the euro area

(net percentages of factors contributing to a tightening of credit standards and annual percentage changes)

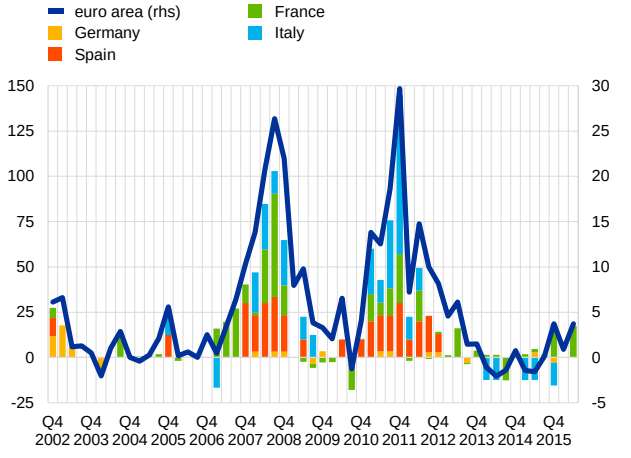


Source: ECB.
Notes: "Housing market prospects" refer to the factor contributing to the net tightening of credit standards on loans to households for house purchase. Euro area house prices refer to new and existing dwellings; neither seasonally nor working day adjusted, 2007=100.

Chart 28

Impact of cost of funds and balance sheet constraints on housing loans across euro area countries

(net percentages of factors contributing to a tightening of credit standards)



Source: ECB.
Note: See the notes to **Chart 25**.

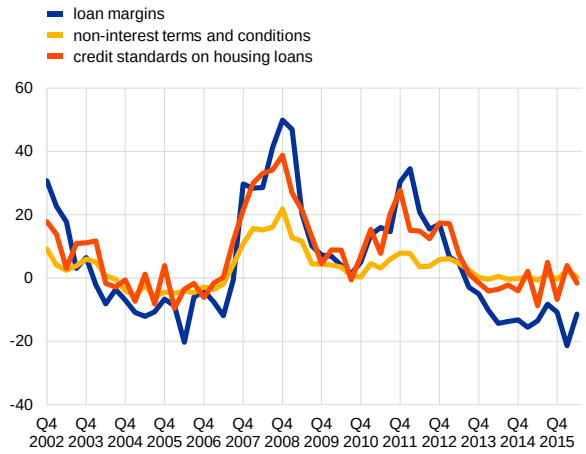
Developments in banks' credit terms and conditions are highly correlated with the net tightening of credit standards on housing loans (see **Chart 29**), in line with the evidence presented in Section 3.2.1 for loans to enterprises. In addition, developments in banks' loan margins (defined as the spread of bank lending rates over a relevant market reference rate) are closely related to the change in actual

bank lending spreads (defined as the difference between the composite lending rate for housing loans and the three-month EURIBOR) (see **Chart 30**). The surge in bank lending spreads in the second half of 2008 and 2009 and the net widening of banks' loan margins on housing loans reflect the intensification of the financial crisis at that time and the disturbance in the pass-through of key ECB interest rate cuts to bank lending rates, in particular in some euro area countries. At the same time, the increase in bank lending spreads and in loan margins also reflects the correction of previously loose credit terms and conditions in an environment of deteriorating housing market prospects. Bank lending spreads and loan margins, which had declined considerably before the financial crisis, increased dramatically and remained overall at elevated levels, before declining from 2013 to 2015 across euro area countries and in particular in the vulnerable euro area countries.

Chart 29

Credit terms and conditions and credit standards on euro area housing loans

(net percentages of tightening)

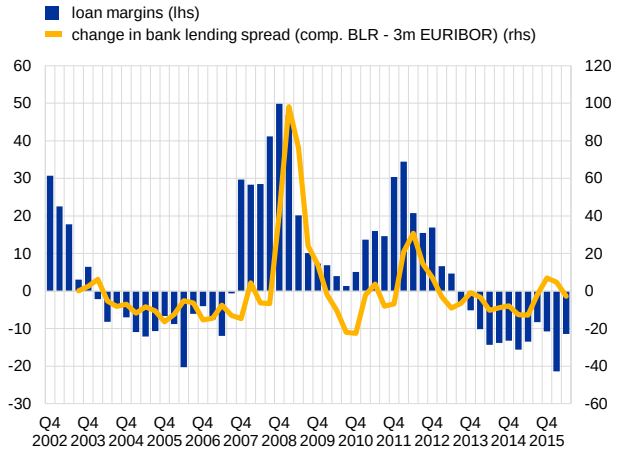


Source: ECB.
Notes: "Loan margins" are defined as the spread over a relevant market reference rate. They are an unweighted average of margins on average and on riskier loans.

Chart 30

Loan margins on euro area housing loans and change in bank lending spreads

(net percentages of tightening and two-quarter moving average in basis points)



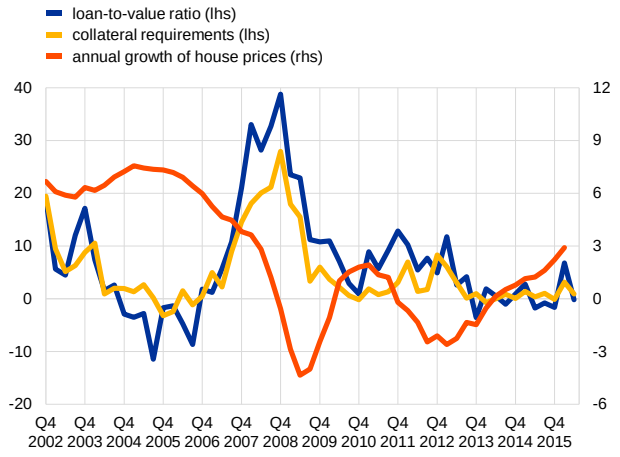
Sources: ECB and Thomson Reuters.
Notes: "Loan margins" are defined as the spread over a relevant market reference rate. They are an unweighted average of margins on average and on riskier loans. "Comp. BLR" denotes the composite bank lending rate for loans to households for house purchase. It is calculated by aggregating short and long-term MFI lending rates using a 24-month moving average of new business volumes. The change in the bank lending spread is a two-quarter moving average in basis points.

Besides a close correlation with loan margins, the net tightening of non-interest terms and conditions for housing loans like loan-to-value (LTV) ratios and collateral requirements is also closely correlated with developments in house prices (see **Chart 31**). The negative correlation reflects that banks tend to ease LTV conditions, i.e. banks increase the loan volume they are willing to grant relative to the value of the house, when house prices increase and housing wealth grows. Such looser terms and conditions fuel the increase in house prices and housing loan growth further, which has led in the past to housing market boom-bust episodes. In the euro area, the annual growth rate of house prices declined steeply from the second half of 2007 onwards, when the US sub-prime crisis spilled over to the euro area, and reached its trough in mid-2009. This development went hand in hand with a tightening of LTV ratios, i.e. banks reduced the loan volume they were willing to

Chart 31

Loan-to-value ratios on euro area housing loans and house prices

(net percentages of tightening and annual percentage changes)



Source: ECB.
Notes: Euro area house prices refer to new and existing dwellings; neither seasonally nor working day adjusted, 2007=100.

grant relative to the value of the house, which peaked in the fourth quarter of 2008 and reflected banks' scepticism regarding housing market prospects.

Of the four largest euro area countries, LTV ratios were tightened most in Spain, reflecting the steep decline in prices in the Spanish housing market as well as loose conditions before the crisis. With the recovery of euro area house prices, the net tightening impact of LTV ratios and collateral requirements on housing loans declined. At the same time, banks hardly eased LTV ratios in net terms. This may imply that banks apply a more prudent approach, possibly partly related to regulatory changes in housing markets[19], compared with the period before the crisis, which may be beneficial from a macroprudential and financial stability perspective.

3.2.3 Consumer credit and other lending to households

Consumer credit and other lending to households (hereafter referred to as simply "consumer credit") accounts for about one-quarter of MFI lending to euro area households. It includes loans granted mainly for personal consumption, such as for the financing of motor vehicles, furniture and other consumer durables. Overdrafts and credit card loans also typically belong in this category as well as loans to sole proprietors and partnerships. Bank lending conditions for consumer credit are therefore closely related to the general economic and employment situation and its implications for consumer creditworthiness.

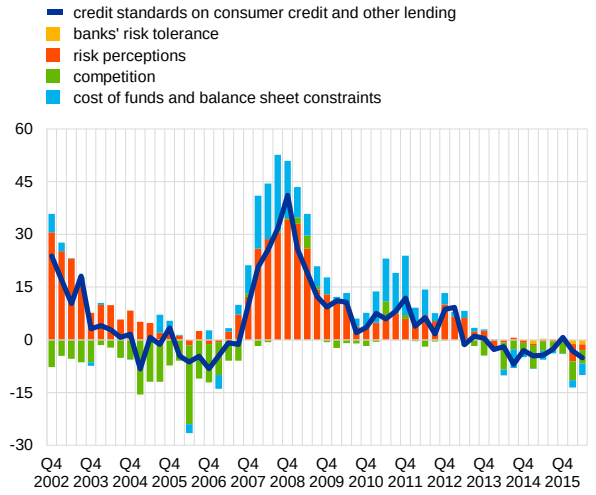
Compared with loans to enterprises and housing loans, the net tightening of credit standards at the beginning of the financial crisis started somewhat later and was overall less intense for consumer credit, in particular when compared with loans to enterprises (see **Chart 23** above). Risk perceptions were the main contributor to banks' net tightening of credit standards on consumer credit during the crisis, while competition has been the most important factor in the easing periods before the crisis and since the second quarter of 2014, in line with the pattern of the relative importance of factors for the other loan categories (see **Chart 32** and **Chart 33**). The relative importance of banks' cost of funds and balance sheet constraints for the net tightening of credit standards on consumer credit increased during the financial crisis, in particular during the sovereign debt crisis.

[19] See the European Commission's website regarding the implementation of the EU Mortgage Credit Directive 2014/17/EU.

Chart 32

Euro area banks' credit standards on consumer credit and other lending to households

(net percentages of tightening and contributing factors)

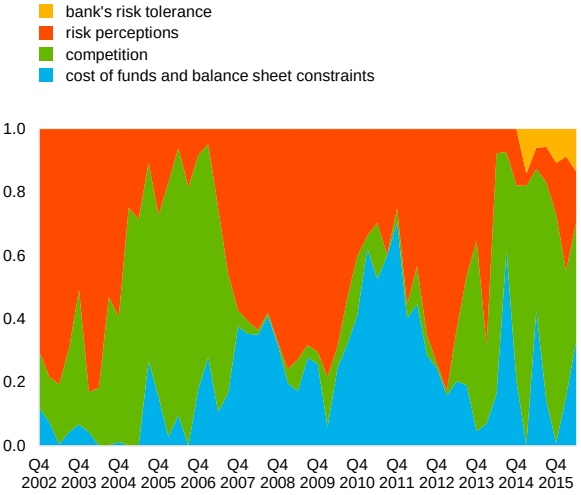


Source: ECB.
Notes: The net percentages for responses to questions related to the factors are defined as the difference between the percentage of banks reporting that the given factor contributed to a tightening and the percentage reporting that it contributed to an easing. "Risk perceptions" are an unweighted average of "general economic situation and outlook", "creditworthiness of consumers" and "risk on collateral demanded"; "competition" is an unweighted average of "competition from other banks" and "competition from non-banks". "Risk tolerance" was introduced in Q1 2015.

Chart 33

Relative importance of factors having an impact on credit standards on consumer credit and other lending to households

(in percentages of the sum of the factors)

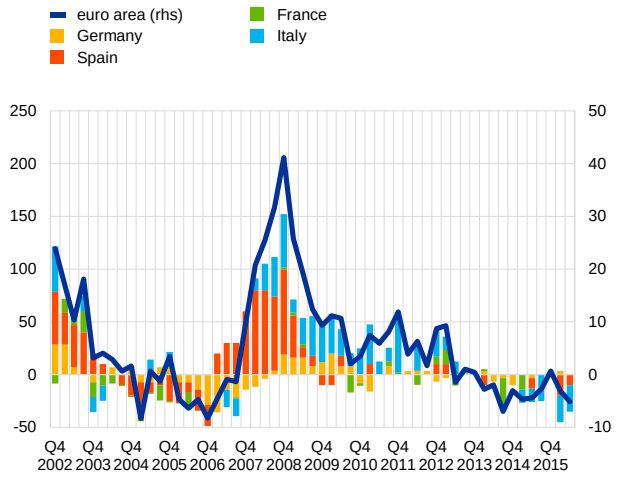


Source: ECB.
Notes: See the notes to **Chart 32**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

Chart 34

Credit standards for consumer credit and other lending to households across countries

(net percentages of tightening)

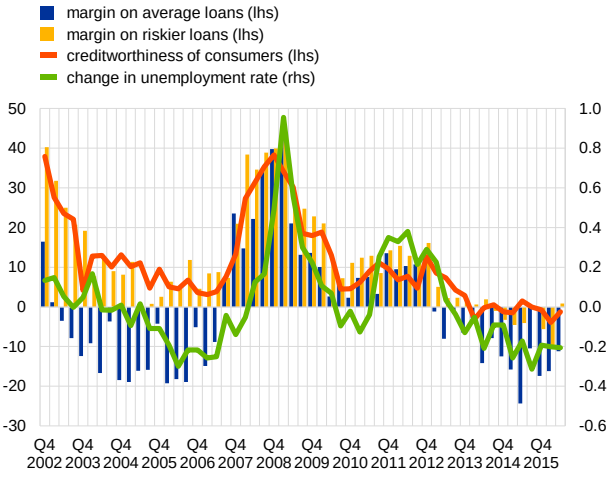


Source: ECB.
Note: Net percentages are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably".

Chart 35

Change in the unemployment rate and bank lending conditions for consumer credit and other lending to households

(net percentages of tightening, factors contributing to the net tightening and percentages)



Sources: ECB and Eurostat.
Notes: "Creditworthiness of consumers" is a factor having an impact on the net tightening of credit standards on consumer credit and is a component of "risk perceptions". The unemployment rate is given as a percentage of the labour force.

Across the large euro area countries, credit standards on consumer credit were tightened most in Spain at the beginning of the financial crisis, reflecting the spillover of the deterioration in housing markets to consumers' creditworthiness (see **Chart 34**). The net tightening of credit standards in Italy was also intense, but started slightly later and was more distributed over the quarters. By contrast, credit standards were tightened only a little or even eased in Germany and France, partly related to competitive pressures. These developments led to an increase in the heterogeneity of the net tightening of credit standards for consumer credit across euro area countries during 2007-08 (see **Chart 11** above).

Banks' loan margins on consumer credit are closely related to changes in consumers' creditworthiness (see **Chart 35**). Banks demand higher margins on average and especially riskier loans when the creditworthiness of consumers is deteriorating. One important factor for deteriorating creditworthiness is unemployment, as reflected in the positive correlation between changes in unemployment rates and changes in loan margins.

3.3 Demand for loans to enterprises and households and contributing factors

In addition to credit supply, banks also report on loan demand developments in the BLS and on factors contributing to changes in loan demand. In this context, loan demand refers to the bank loan financing need of enterprises and households, independent of whether this need will result in a loan or not.

Loan demand depends on a variety of factors, like in particular financing needs of enterprises for fixed investment, working capital or M&As. Financing needs of households mainly relate to housing market developments, consumer confidence and spending on durable consumer goods. For all loan categories, changes in the general level of interest rates have an impact on loan demand. In line with the approach for loan supply in Section 3.2, loan demand is related in this section to quantitative and other survey data. The close relationship of the qualitative information from the BLS on loan demand with these indicators confirms the valuable role of the BLS in the overall assessment of economic developments in the euro area (see **Chart 5** above for a schematic overview of the interaction of selected macroeconomic and financial indicators with bank loan supply and demand).

3.3.1 Loans to enterprises

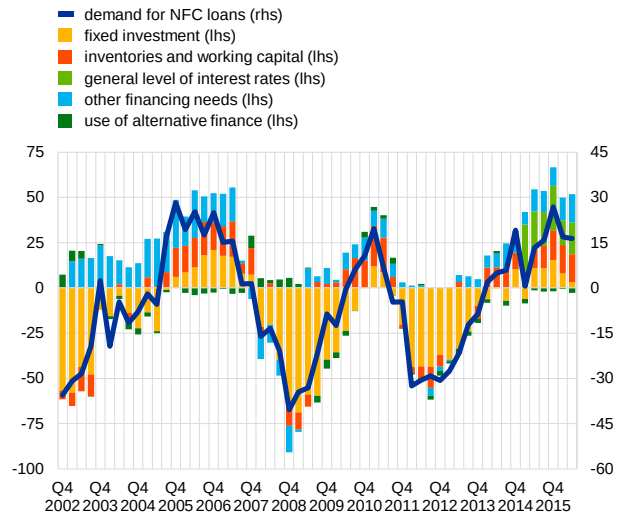
Following strong loan demand by enterprises in the period from 2003 until the second quarter of 2007, NFC loan demand dropped dramatically with the beginning of the financial crisis and remained negative until the first quarter of 2010 (see **Chart 36**). Following a short recovery period, net demand for NFC loans became negative again from the third quarter of 2011 until the last quarter of 2013, but has recovered considerably since 2014.

Across the large euro area countries, loan demand contracted strongly during the financial crisis in Spain, Italy and France, whereas it remained rather resilient in Germany (see **Chart 37**). While it declined in Spain most strongly at the beginning of the crisis, along with the intense net tightening of credit standards at that time, the largest contraction in Italy occurred during the sovereign debt crisis. All in all, heterogeneous country developments led to an increase in the dispersion of NFC loan demand in 2007 and 2008 (see **Chart 38**).

Chart 36

Net demand for loans to euro area enterprises and contributing factors

(net percentages of banks reporting an increase in demand and contributing factors)

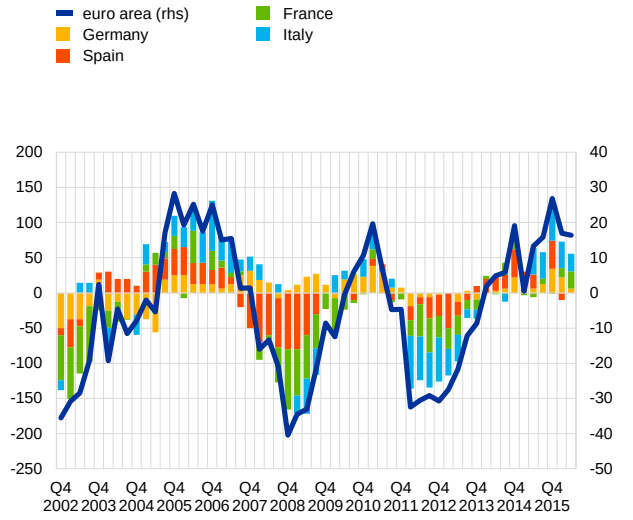


Source: ECB.
Notes: Net percentages for the questions on demand for loans are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably". The net percentages for responses to questions related to each factor are defined as the difference between the percentage of banks reporting that the given factor contributed to increasing demand and the percentage reporting that it contributed to decreasing demand. "Other financing needs" are an unweighted average of "M&A and corporate restructuring" and "debt refinancing/restructuring and renegotiation"; "use of alternative finance" is an unweighted average of "internal financing", "loans from other banks", "loans from non-banks", "issuance/redemption of debt securities" and "issuance/redemption of equity". "General level of interest rates" was introduced in Q1 2015.

Chart 37

Net demand for loans to enterprises across selected euro area countries

(net percentages of banks reporting an increase in demand)



Source: ECB.
Notes: See the notes to **Chart 36**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

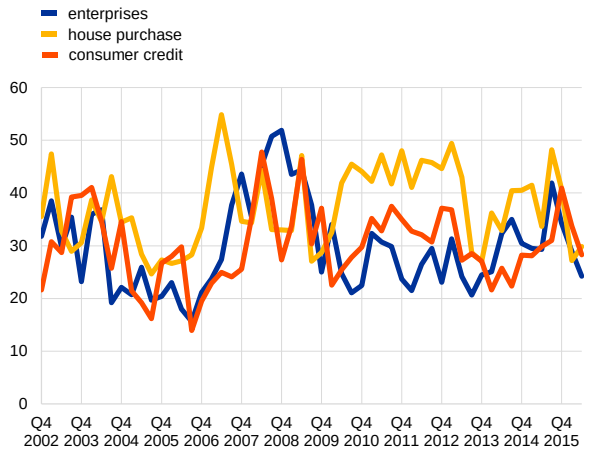
Demand for loans to euro area enterprises has been largely driven by firms' financing needs for fixed investment, which is the dominant factor contributing to NFC loan demand (see **Chart 36** and **Chart 39**). Given the long-term nature of fixed investment, the relationship is close to firms' demand for long-term loans (see **Chart 40**). In addition, "inventories and working capital" reflect the financing need for firms' daily business. In recovery periods, financing needs for inventories and working capital generally recover earlier than those for fixed investment.

Related to the considerable importance of financing for fixed investment, inventories and working capital for firms' business, NFC loan demand is closely connected to the stage of the business cycle and to the economic sentiment of the industrial sector (see **Chart 41**).

Chart 38

Dispersion of the net increase in loan demand across euro area countries

(standard deviation across euro area countries)



Source: ECB.
Note: The standard deviation is calculated based on the net percentages across all euro area countries.

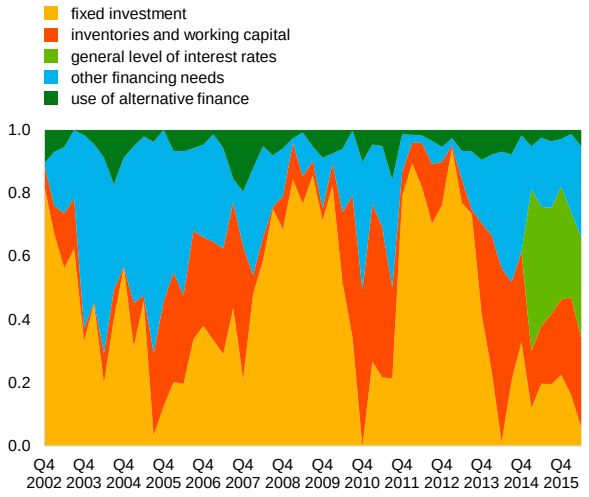
At the same time, net demand for NFC loans has increased considerably more than indicated by NFCs' financing needs for fixed investment and for their daily business in some periods.

In the period from the fourth quarter of 2003 until the second quarter of 2007, i.e. until the start of the financial crisis, the relative importance of firms' financing needs for M&As and corporate restructuring increased considerably (included in the BLS factor "Other financing needs" contributing to NFC demand; see **Chart 39**). This reflects strong M&A activity during this period and the related additional financing need of firms for acquiring other companies (see **Chart 42**), a development which had been fuelled by the favourable financing conditions for borrowers at that time. The drop in M&A activity between the second half of 2007 and the first half of 2010 is mirrored by the steep fall in financing needs for this type of activity. In addition, the modest recovery of M&A activity since the second half of 2014 has led to a corresponding increase in financing needs of firms.

Chart 39

Relative importance of factors having an impact on demand for NFC loans

(in percentages of the sum of the factors)

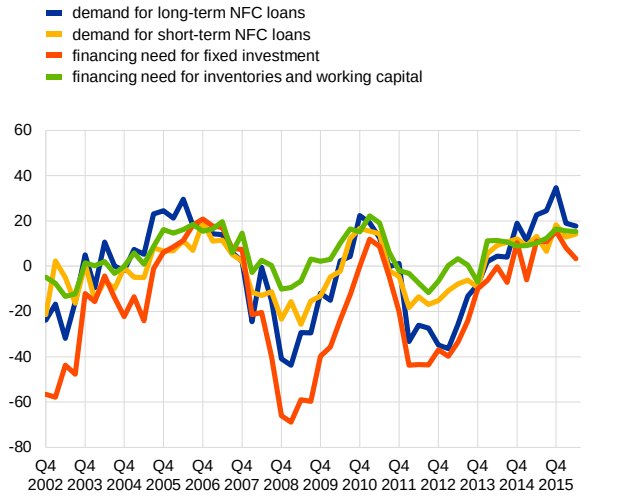


Source: ECB.
Notes: See the notes to **Chart 36**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

Chart 40

Demand for loans to NFCs across maturities and NFC financing needs

(net percentages of banks reporting an increase in demand and contributing factors)

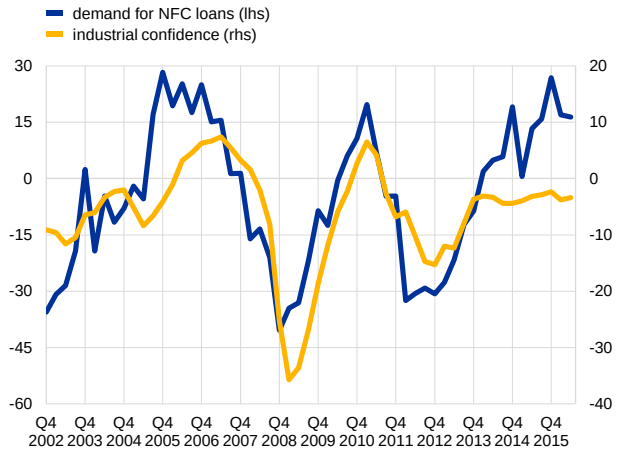


Source: ECB.
Notes: See the notes to **Chart 36**.

Chart 41

Net demand for loans to NFCs and industrial confidence in the euro area

(net percentages of banks reporting an increase in demand and percentage balances)

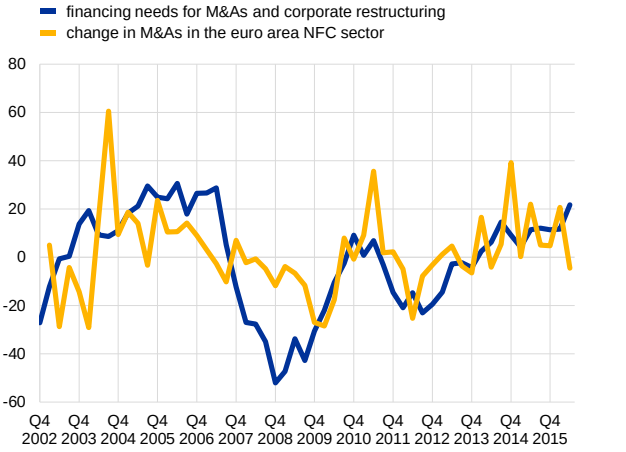


Sources: ECB and European Commission.
Notes: See the notes to **Chart 36**. The industrial confidence indicator refers to the European Commission DG-ECFIN opinion survey. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates the euro area aggregates on the basis of the national results and seasonally adjusts the balance series.

Chart 42

Financing need for M&As and corporate restructuring in the euro area

(net percentages contributing to an increase in demand and quarter-on-quarter percentage change of 12-month sum of deal value)

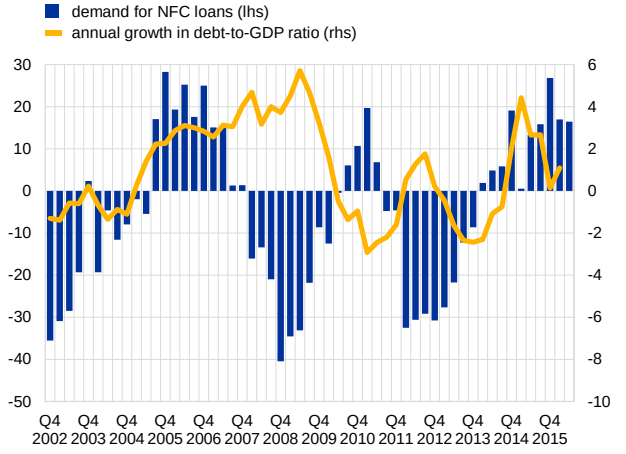


Sources: ECB and Dealogic.
Notes: See the notes to **Chart 36**. M&A activity, involving euro area corporates as the acquirer, is displayed as the percentage change in the deal value (cash and borrowing) according to the completion date.

Chart 43

Loan demand and debt-to-GDP ratio of euro area NFCs

(net percentages and annual percentage changes)



Sources: ECB and Eurostat.
Note: NFC debt includes loans, debt securities issued by NFCs and pension fund reserves.

High loan demand during the period up to the start of the financial crisis led to a significant increase in the debt-to-GDP ratio of euro area NFCs, which continued to build up until the third quarter of 2009, partly related to the weakness in economic activity as well as owing to the lagged relationship between loan demand and MFI loan growth (see **Chart 43** and **Chart 4** above). The increase in firms' indebtedness was followed by rising concerns on the part of lenders regarding the balance sheet situation of borrowers and the consequent need of borrowers to consolidate their balance sheets. This dampened loan demand following the financial crisis.

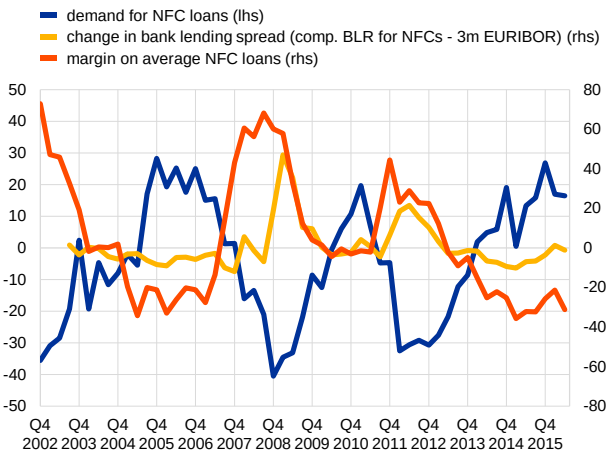
Turning to financial factors, demand for NFC loans has increased strongly in periods of favourable financing costs for firms, as indicated by low lending rates and spreads. As can be seen from **Chart 44**, there is a negative relationship between demand for NFC loans and the change in bank lending spreads (defined as the difference between composite lending rates for NFCs and a relevant market reference rate) as well as margins on NFC loans. Specifically, loan demand declined when bank lending spreads increased during the financial crisis. In the more recent period since 2014, favourable financing costs have fuelled NFC loan demand. This is also confirmed by the factor "general level of interest rates", which has contributed positively to NFC

loan demand since its introduction in the first quarter of 2015 (see **Chart 39** and **Chart 45**).

Chart 44

Relationship between demand for NFC loans and bank lending spreads

(net percentages of banks reporting an increase in demand, net percentage of tightening and two-quarter moving average in basis points)

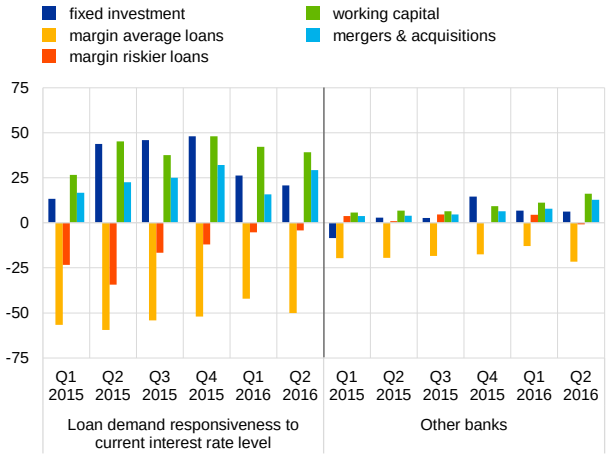


Sources: ECB and Thomson Reuters.
Notes: See the notes to **Chart 36**. "Comp. BLR" denotes the composite bank lending rate for NFCs. It is calculated by aggregating short and long-term MFI lending rates using a 24-month moving average of new business volumes. The change in the bank lending spread is a two-quarter moving average in basis points.

Chart 45

Interest rate sensitivity of demand for loans to enterprises and banks' changes in loan margins

(unweighted net percentages of banks reporting an increase in demand)



Source: ECB.
Notes: Based on unweighted individual data. Interest rate sensitivity is proxied by net percentages for banks indicating the relevance of the "general level of interest rates" for an increase in loan demand. Banks are grouped into those for which this factor is relevant and other reporting banks. "Fixed investment", "working capital" and "mergers & acquisitions" are selected factors contributing to changes in demand for loans by NFCs; changes in margins refer to loans to NFCs by the respective banks.

Looking at the interest rate sensitivity of demand for NFC loans more closely, the differences in the importance of the interest rate level for loan demand across euro area BLS banks seems to have a strong impact not only on loan demand but also on changes in banks' lending margins (**Chart 45**). In this regard, the comparison of replies by individual BLS banks indicating the "general level of interest rates" as an important factor for an increase in loan demand with the remaining banks may serve as a proxy for the interest rate sensitivity of loan demand. Indeed, the results suggest that a higher interest rate sensitivity of loan demand goes along with higher increases in loan demand and stronger reductions in lending margins in a period of low and declining market rates.[20] The latter may point to a higher degree of competition associated with a higher price elasticity of demand (see also **Chart 10** in Section 3.2 for the observed relationship with banking competition).

3.3.2 Loans to households

After a period of high demand for housing loans, households' financing needs for house purchase dropped strongly between 2006 and 2008 (see **Chart 46**). Compared with NFC loan demand, housing loan demand had already peaked at the

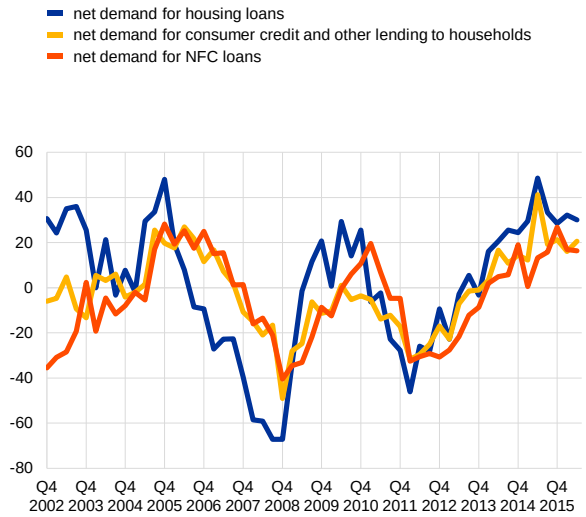
[20] These findings also hold when assessing countries more and less exposed to sovereign risks separately.

end of 2005 at high levels and turned negative in the third quarter of 2006, signalling the high valuation of housing markets in some euro area countries and deteriorating housing market prospects (see **Chart 47**). With the outbreak of the US sub-prime crisis in the summer of 2007, net demand for euro area housing loans dropped further and reached its trough in the second half of 2008.

Chart 46

Net demand for loans to euro area households and NFCs

(net percentages of banks reporting an increase in demand)

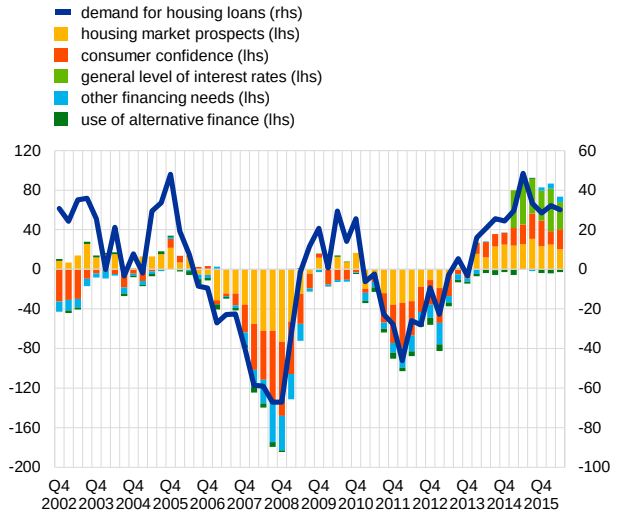


Source: ECB.
Notes: Net percentages for the questions on demand for loans are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably".

Chart 47

Net demand for housing loans and contributing factors

(net percentages of banks reporting an increase in demand and contributing factors)



Source: ECB.
Notes: See the notes to **Chart 46**. The net percentages for responses to questions related to each factor are defined as the difference between the percentage of banks reporting that the given factor contributed to increasing demand and the percentage reporting that it contributed to decreasing demand. "Other financing needs" are an unweighted average of "non-housing-related consumption expenditure" (discontinued in Q1 2015), "debt refinancing/restructuring and renegotiation" and "regulatory and fiscal regime of housing markets" (both from Q1 2015 onwards); "use of alternative finance" is an unweighted average of "internal financing out of savings/down payment" (from Q1 2015 onwards), "household savings" (until Q4 2014), "loans from other banks" and "other sources of external finance". "General level of interest rates" was introduced in Q1 2015.

Housing loan demand declined in particular in Spain, Italy and France, whereas it developed in a more stable manner in Germany (see **Chart 48**). Following a temporary recovery, net demand for housing loans became negative again during 2011-12, in the context of the sovereign debt crisis and liquidity problems in the banking sector, in particular in some euro area countries, as well as debt consolidation needs of households. From a trough in euro area housing loan demand in the first quarter of 2012, the ECB's monetary policy measures supported its recovery. In particular, the low interest rate environment has fuelled housing loan demand in the more recent past. The periods of negative housing loan demand from the third quarter of 2006 until the second quarter of 2009 and from the first quarter of 2011 until the second quarter of 2013 broadly correspond to periods of increased dispersion in housing loan demand across all euro area countries (see **Chart 38** above).

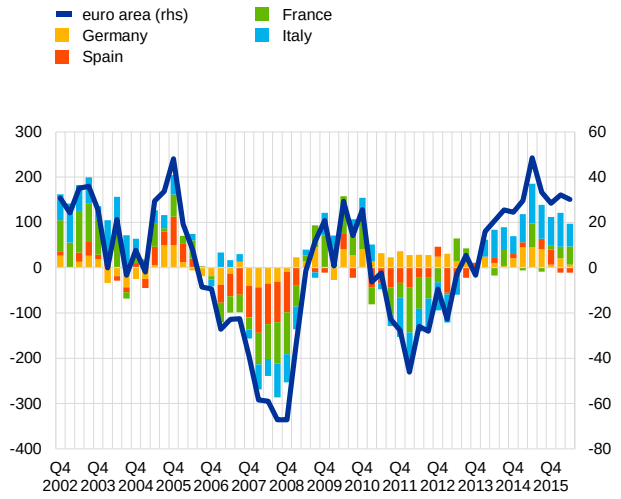
Housing market prospects and consumer confidence are the most important factors for housing loan demand (see **Chart 47** and **Chart 49**). In addition, the general level

of interest rates has been an important factor for housing loan demand more recently. The factor "other financing needs"[21] has covered since the first quarter of 2015 effects related to debt refinancing/restructuring and renegotiation as well as any specific impact of changes in the regulatory and fiscal regime of housing markets, which can have a relevant impact on housing loan demand in the respective countries where changes in the regime have occurred. At the euro area level, the impact has been minor however.

Chart 48

Net demand for housing loans across selected euro area countries

(net percentages of banks reporting an increase in demand)

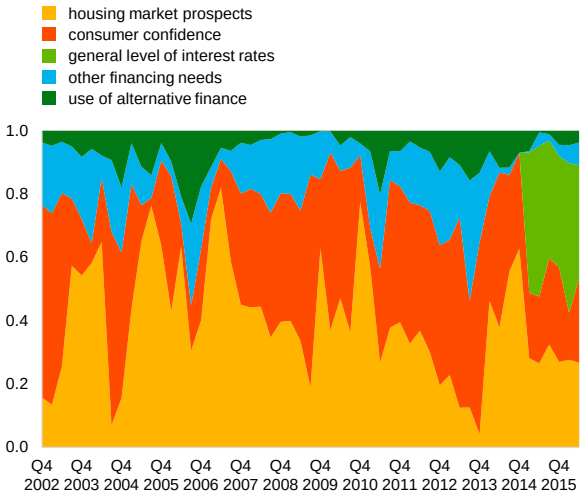


Source: ECB.
Note: See the notes to **Chart 46**.

Chart 49

Relative importance of factors having an impact on demand for housing loans

(in percentages of the sum of the factors)



Source: ECB.
Note: See the notes to **Chart 47**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

The availability of alternative sources of finance refers to the internal financing of house purchase from household savings and to external financing from other banks or other sources of external finance. These financing sources have been an overall small but steady factor contributing negatively to housing loan demand in the euro area.

Demand for housing loans is positively related to house price developments (see **Chart 50**). This reflects, on the one hand, the increasing financing needs for house purchases in an environment of rising house prices and, on the other hand, positive housing market prospects and increasing household wealth fuelling housing loan demand. Housing loan demand is also positively related to developments in consumer confidence, reflecting the high importance of consumer confidence as a contributing factor to housing loan demand (see **Chart 51**).

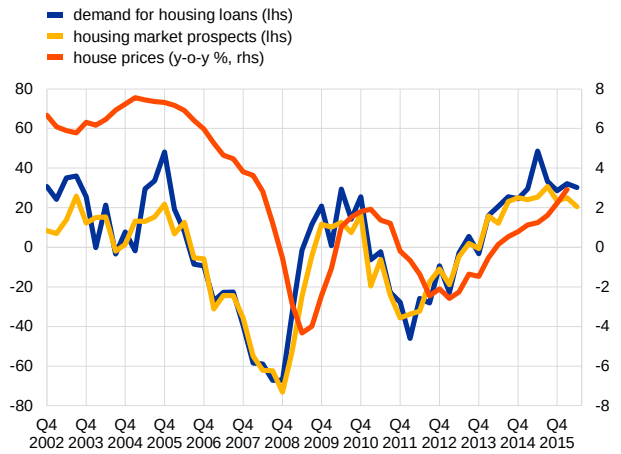
[21] "Other financing needs" referred until the fourth quarter of 2014 to non-housing-related consumption expenditure, contributing predominantly negatively to housing loan demand. This factor indicated mainly a cost of living-related decision between housing loan demand and consumer credit demand. In part, it also related to real estate-guaranteed loans for consumption. A modified version of this factor was shifted to consumer credit in the first quarter of 2015.

Moreover, financing costs are an important factor for households' demand for housing loans (see **Chart 52**). An increase in bank loan margins on housing loans as reported in the BLS and an increase in bank lending spreads, calculated as the difference between the composite bank lending rate for housing loans and a relevant market reference rate, have a dampening impact on housing loan demand. In turn, declining spreads fuel housing loan demand, as they did in the most recent period.

Chart 50

Demand for housing loans, housing market prospects and house prices

(net percentages of banks reporting an increase in loan demand, contributing factors and annual percentage changes)

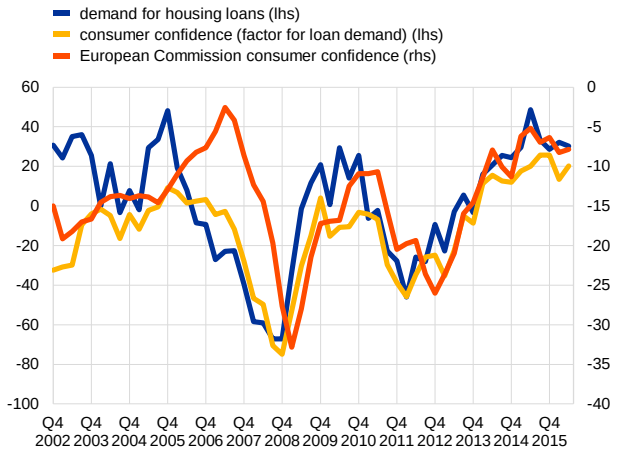


Source: ECB.
Note: See the notes to **Chart 47**.

Chart 51

Demand for housing loans and consumer confidence

(net percentages of banks reporting an increase in demand, contributing factors and percentage balances)



Sources: ECB and European Commission.
Notes: See the notes to **Chart 47**. The consumer confidence indicator refers to the European Commission DG-ECFIN opinion survey. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates the euro area aggregates on the basis of the national results and seasonally adjusts the balance series.

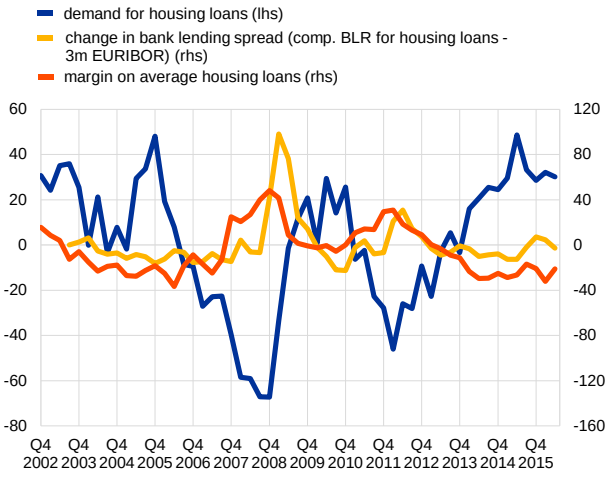
As regards the interest rate sensitivity of the demand for housing loans more specifically, **Chart 53** highlights strong differences in the importance of the level of interest rates across euro area BLS banks using individual bank replies, which is similar to the evidence for loans to enterprises (see **Chart 45** for comparison). As before, contrasting replies by banks indicating the "general level of interest rates" as a factor contributing positively to an increase in loan demand with the remaining bank replies serves as a proxy for the differences in the interest rate sensitivity of demand. As for loans to enterprises, the results suggest that in an environment of low and declining market rates a higher interest rate sensitivity of demand for housing loans corresponds to a higher increase in loan demand and a stronger reduction in margins for average loans.[22] By contrast, no differences can be observed with regard to changes in margins for riskier loans.

[22] These findings also hold when assessing countries more and less exposed to sovereign risks separately.

Chart 52

Relationship between demand for housing loans and bank lending spreads

(net percentages of banks reporting an increase in loan demand, net percentages of tightening and two-quarter moving average in basis points)

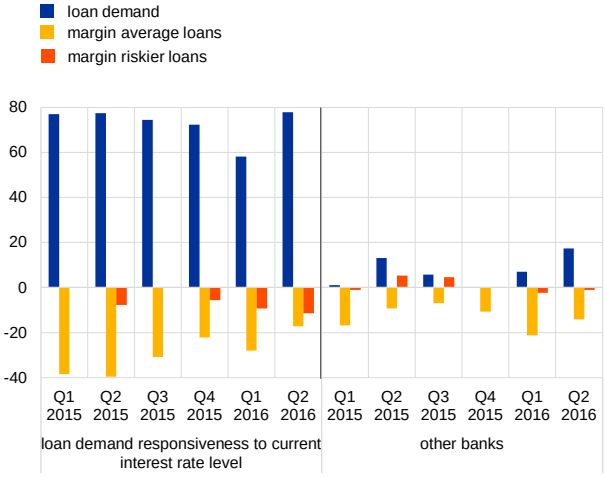


Sources: ECB and Thomson Reuters.
Notes: See the notes to **Chart 46**. "Comp. BLR" denotes the composite bank lending rate for loans to households for house purchase. It is calculated by aggregating short and long-term MFI lending rates using a 24-month moving average of new business volumes. The change in the bank lending spread is a two-quarter moving average in basis points.

Chart 53

Interest rate sensitivity of demand for housing loans and banks' changes in loan margins

(unweighted net percentages)



Source: ECB.
Notes: Based on unweighted individual data. Interest rate sensitivity is proxied by net percentages for banks indicating the relevance of the "general level of interest rates" for an increase in loan demand. Banks are grouped into those for which this factor is relevant and other reporting banks. Changes in margins refer to housing loans for the respective banks.

3.3.3 Consumer credit and other lending to households

Net demand for consumer credit and other lending to households (hereafter referred to as simply "consumer credit") developed broadly in line with net demand for NFC loans and, during the more recent past, also with housing loan demand (see **Chart 46** above). The most important factors determining developments in consumer credit are consumer confidence and spending on durable consumer goods, such as cars or furniture (see **Chart 54** and **Chart 55**). Related to this, the European Commission's consumer confidence indicator displays a close relationship with net demand for consumer credit and its respective contributing factor (see **Chart 56**).

In addition, since the introduction of the factor "general level of interest rates" in the first quarter of 2015, this factor has accounted for a relevant share contributing to net demand for consumer credit.

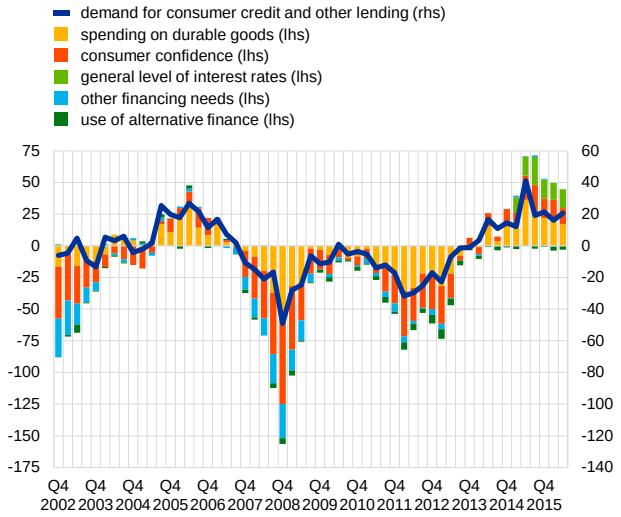
By contrast, "other financing needs" were overall of modest importance for consumer credit demand, with the exception of a few periods. Up to the fourth quarter of 2014 "other financing needs" included financing needs for securities purchases. In particular in the period from end-2007 until mid-2009, this factor had a relevant dampening impact on the demand for consumer credit, as households were less willing and able to take out a loan to purchase securities during the financial crisis. From the first quarter of 2015 (when the factor "securities purchases" was discontinued), "other financing needs" includes consumption expenditure financed

through real estate-guaranteed loans, the importance of which has been low overall in the euro area.

Chart 54

Net demand for consumer credit and other lending to households and contributing factors

(net percentages of banks reporting an increase in demand and contributing factors)

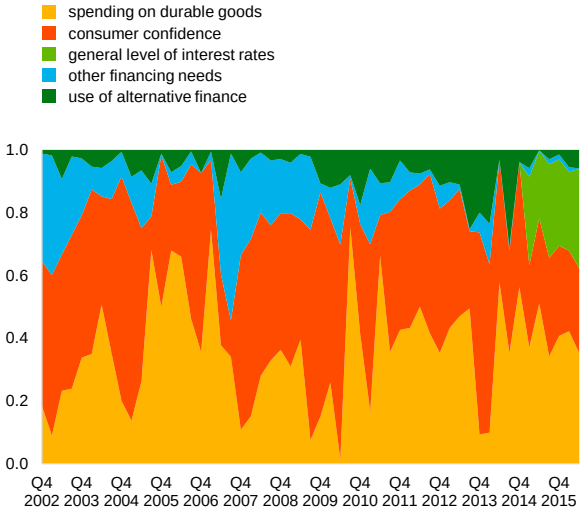


Source: ECB.
Notes: Net percentages for the questions on demand for loans are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably". The net percentages for responses to questions related to each factor are defined as the difference between the percentage of banks reporting that the given factor contributed to increasing demand and the percentage reporting that it contributed to decreasing demand. "Other financing needs" refer to "securities purchases" (until Q4 2014) and to "consumption expenditure financed through real estate-guaranteed loans" (from Q1 2015 onwards). "Use of alternative finance" is an unweighted average of "internal financing out of savings" (from Q1 2015 onwards), "household savings" (until Q4 2014), "loans from other banks" and "other sources of external finance". "General level of interest rates" and "consumption expenditure financed through real estate-guaranteed loans" were introduced in Q1 2015.

Chart 55

Relative importance of factors having an impact on demand for consumer credit and other lending to households

(in percentages of the sum of the factors)



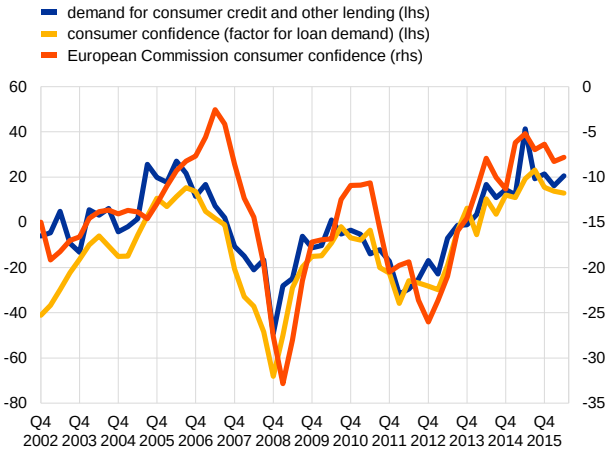
Source: ECB.
Notes: See the notes to **Chart 54**. Percentages are calculated based on the net percentages of the factors, relative to the sum of the net percentages of all factors.

The use of alternative finance such as loans from other banks or households' internal financing out of savings was of small overall importance for consumer credit demand. Nonetheless, an inverse relationship between the factor "household internal financing out of savings", which has a dampening impact on loan demand, and an increase in the unemployment rate can be detected (see **Chart 57**). This indicates that households tend to use their savings rather than applying for a loan in times of high or increasing unemployment. During the financial crisis and in particular in 2012 and 2013, the dampening impact of household internal financing out of savings on consumer credit increased. Households appear to have used their internal funds for financing consumption instead of taking out new loans in an economic environment of high and rising unemployment, in particular in some euro area countries, and uncertainty about household income prospects.

Chart 56

Net demand for consumer credit and other lending to households and consumer confidence

(net percentages of banks reporting an increase in demand, contributing factors and percentage balances)

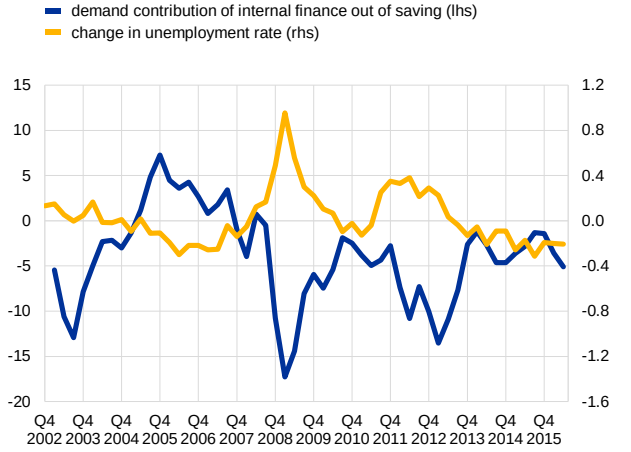


Sources: ECB and European Commission.
Notes: See the notes to **Chart 54**. The consumer confidence indicator refers to the European Commission DG-ECFIN opinion survey. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates the euro area aggregates on the basis of the national results and seasonally adjusts the balance series.

Chart 57

Impact of internal financing out of savings on consumer credit and other lending to households and the unemployment rate

(two-quarter average of net percentages of banks reporting an increased contribution to loan demand and changes in percentage points)

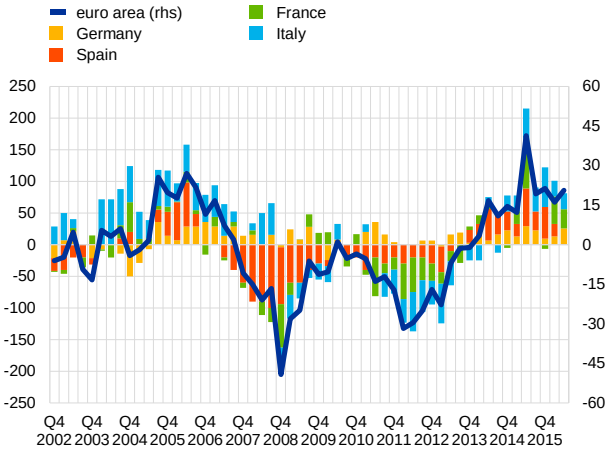


Sources: ECB and Eurostat.
Notes: See the notes to **Chart 54**. The unemployment rate is given as a percentage of the labour force; changes in percentage points.

Chart 58

Net demand for consumer credit and other lending to households across selected euro area countries

(net percentages of banks reporting an increase in demand)



Source: ECB.
Notes: See the notes to **Chart 54**.

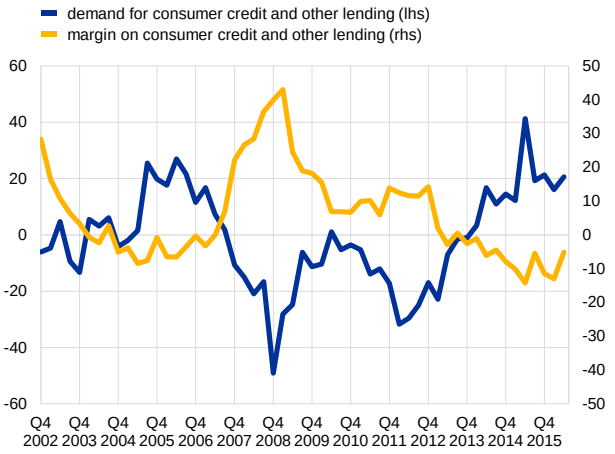
Across the largest euro area countries, the drop in net demand for consumer credit at the beginning of the financial crisis was deepest in Spain, possibly related to high and rising unemployment as a result of the crisis (see **Chart 58**). In Italy, demand for consumer credit declined strongly during the intensification of the sovereign debt crisis and the related uncertainty, which had a strong negative impact on consumer confidence. The increased dispersion of net demand for consumer credit across all euro area countries in particular in 2008-09 indicates the heterogeneity of the impact of the financial crisis across countries (see **Chart 38** above). Net demand for euro area consumer credit has recovered markedly from a trough in the first quarter of 2012, in particular in the vulnerable euro area countries, with overall decreased heterogeneity across countries.

The ECB's standard and non-standard monetary policy measures have helped the recovery. **Chart 59** shows the positive impact of the low interest rate environment and specifically the narrowing of loan margins on the demand for consumer credit.

Chart 59

Demand for consumer credit and other lending to households and loan margins

(net percentages of banks reporting an increase in demand or a widening of margins)

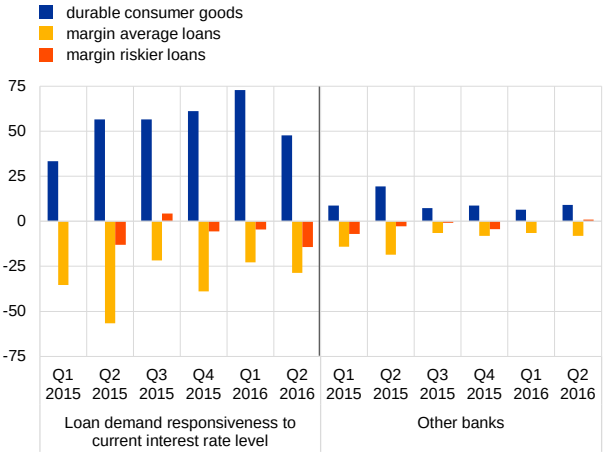


Source: ECB.
Notes: See the notes to **Chart 54**. Margins are defined as the spread of bank lending rates over a relevant market reference rate. They are an unweighted average of margins on average loans and margins on riskier loans.

Chart 60

Interest rate sensitivity of loan demand for durable consumer goods and banks' changes in loan margins

(unweighted net percentages)



Source: ECB.
Notes: Based on unweighted individual data. Interest rate sensitivity is proxied by net percentages of banks indicating the relevance of the "general level of interest rates" for an increase in loan demand. Banks are grouped into those for which this factor is relevant and other reporting banks. Loan demand related to durable consumer goods is a selected factor contributing to changes in demand for consumer loans; changes in margins refer to consumer loans by the respective banks.

Looking at the interest rate sensitivity of demand for consumer loans more closely, **Chart 60** focuses on the differences associated with the importance of interest rates for demand using individual BLS replies. To proxy for the interest rate sensitivity of demand, replies by banks indicating the "general level of interest rates" as an important contributing factor for an increase in demand for consumer loans are again contrasted with the remaining replies. The results suggest also for consumer loans that a higher interest rate sensitivity of demand corresponds to a higher increase in loan demand for financing durable consumer goods and a stronger reduction in lending margins for average loans in an environment of low and declining market rates.[23] By contrast, similar to the case of housing loans (see **Chart 53**), no notable differences can be observed with regard to changes in margins for riskier loans.

[23] These findings also hold when assessing countries more and less exposed to sovereign risks separately.

4 Ad hoc questions – analysis for the euro area

The standard questions in the BLS questionnaire are complemented with ad hoc questions on specific topics of interest. This option has been regularly used since the financial crisis to assess the impact of the crisis on bank funding and lending conditions and specifically the impact of the ECB's non-standard monetary policy measures. An overview of the ad hoc questions and their development has been presented in Section 2 of this Occasional Paper. In the current section, an economic assessment of the euro area evidence on the main ad hoc questions is presented (see also Section 3.1 for an overview of developments in bank lending conditions in the euro area).

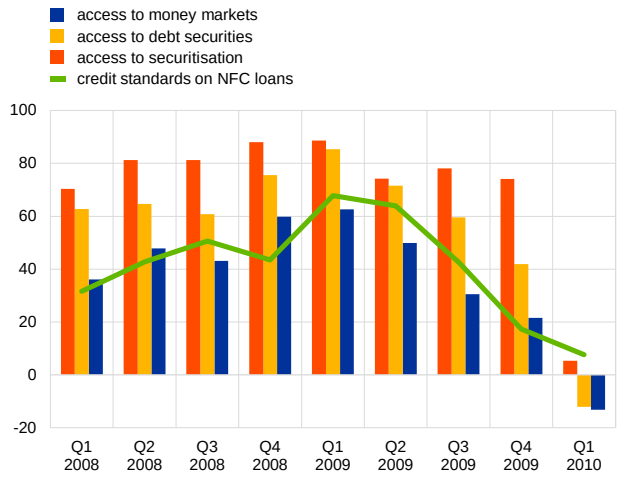
4.1 Banks' access to retail and wholesale funding

Banks' access to funding deteriorated substantially with the start of the financial crisis in the late summer of 2007. In the period from the third quarter of 2007 until the third quarter of 2009 (i.e. from the October 2007 BLS until the October 2009 BLS), the BLS ad hoc question on banks' access to wholesale funding asked for the degree to which banks' access to wholesale markets was hampered (see **Chart 61**).

Chart 61

Hampered access of euro area banks to wholesale funding

(percentages of banks reporting hampered market access; net percentages of tightening)



Source: ECB.
Notes: The percentages are defined as the sum of the percentages for "hampered considerably" and "hampered somewhat". The results shown are calculated as a percentage of the number of banks which did not reply "not applicable".

At the beginning of the financial crisis, in particular asset-backed securities (ABS) markets were affected. In line with this, a high percentage of euro area banks, for which the securitisation business was relevant, indicated hindered access to securitisation. At the same time, it needs to be kept in mind that securitisation was only relevant for around 50% of the euro area BLS banks. In addition, banks' access to money markets and debt securities markets became particular hampered in the third and fourth quarters of 2008, in the context of the collapse of the investment bank Lehman Brothers and the related extraordinary uncertainty in financial markets. In the course of 2009, when the situation in financial markets improved, as also indicated by the decrease in the net tightening of credit standards, banks indicated a considerably lower degree to which their wholesale funding access was impeded, with the exception of the securitisation market.

In order to capture also an improvement of banks' access to funding, the ad hoc question was adjusted in

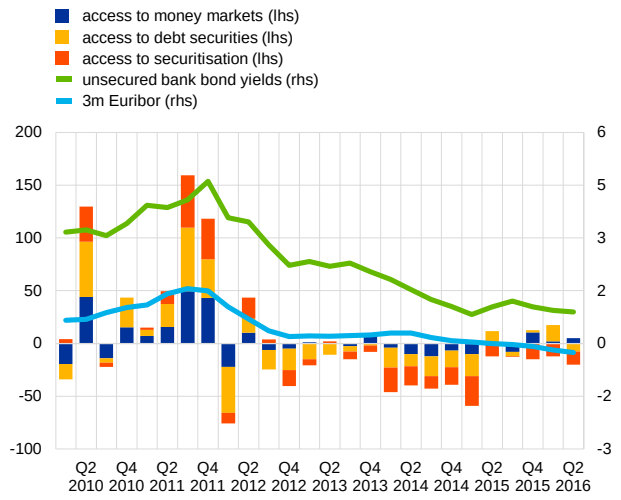
the January 2010 BLS round and has asked since then for changes in banks' access to funding as a result of the situation in financial markets.

With the emergence of the sovereign debt crisis and related to the close link between government bonds and bank bonds, euro area banks' access to wholesale funding deteriorated dramatically in the second half of 2011 (see also Section 4.2). The deterioration of banks' access to debt securities issuance is indicated by the considerable increase in unsecured bank bond yields (see **Chart 62**). The ECB reacted with its monetary policy to the worsening in financing conditions (see also the overview in Section 3.1 as well as Section 4.3). This has substantially improved banks' access to funding and reduced funding costs since the first quarter of 2012.

Chart 62

Change in banks' access to wholesale funding and banks' wholesale funding cost

(net percentages of banks reporting deteriorated market access; percentages p.a.)

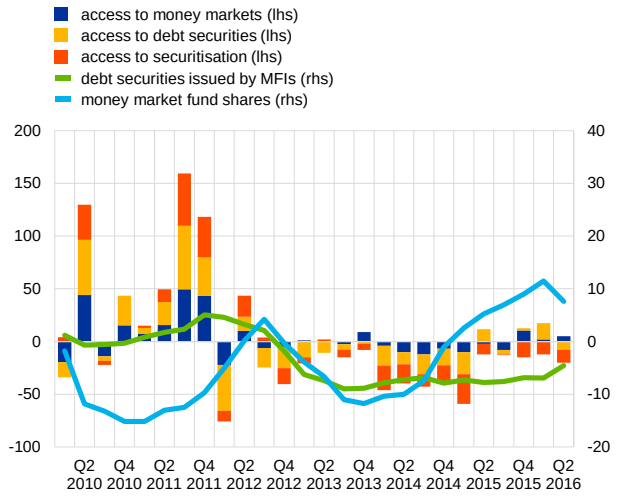


Sources: ECB, Bloomberg (Merrill Lynch Global Index) and ECB calculations.
Notes: The net percentages are defined as the difference between the sum of the percentages for "deteriorated considerably" and "deteriorated somewhat" and the sum of the percentages for "eased somewhat" and "eased considerably". The results shown are calculated as a percentage of the number of banks which did not reply "not applicable". Bank bond yields refer to unsecured investment-grade euro area bank bond yields, based on the Merrill Lynch Global Index.

Chart 63

Change in banks' access to wholesale funding and developments in bank liabilities

(net percentages of banks reporting deteriorated market access; annual percentage changes)



Source: ECB.
Notes: The net percentages are defined as the difference between the sum of the percentages for "deteriorated considerably" and "deteriorated somewhat" and the sum of the percentages for "eased somewhat" and "eased considerably". The results shown are calculated as a percentage of the number of banks which did not reply "not applicable".

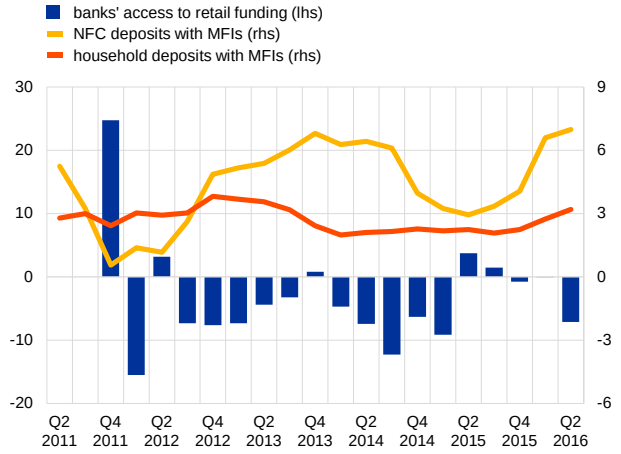
From a peak in the fourth quarter of 2011, bond yields of euro area banks have declined significantly (see **Chart 62**). Despite banks' improved access to funding, banks' issuance of bonds remained subdued (see **Chart 63**). This has been related to the provision of Eurosystem liquidity at attractive conditions, being – in particular in the vulnerable euro area countries – cheaper than wholesale funding via financial markets.

In addition to banks' access to wholesale funding, banks' access to retail funding had also deteriorated substantially in the fourth quarter of 2011, owing to the steep fall of customer deposits, especially NFC deposits (see **Chart 64**). This aspect of the ad hoc question was introduced in the January 2012 BLS, i.e. reporting on the fourth quarter of 2011. The deterioration in banks' access to retail funding reflected deposit withdrawals in some euro area countries related to the sovereign debt crisis. The

Chart 64

Change in banks' access to retail funding and MFI deposits from NFCs and households

(net percentages of banks reporting deteriorated market access; annual percentage changes)



Source: ECB.
Note: See the notes to **Chart 63**.

recovery in bank deposits since 2012 has been mirrored by banks' assessment of a generally improved access to retail funding.

Overall, the ad hoc question on euro area banks' access to retail and wholesale funding complements the evidence on developments in bank deposits and bank bonds as well as banks' cost of funding. It is also closely related to banks' assessment of their market financing and liquidity position in relation to changes in credit standards (see Chapter 3).

4.2 The impact of the sovereign debt tensions on bank funding and bank lending conditions

In order to capture the impact of the sovereign debt tensions on banks' cost of funding and on bank lending conditions, an ad hoc question on this topic was introduced in the January 2012 BLS, i.e. providing evidence from the fourth quarter of 2011 onwards.

In the second half of 2011 tensions in euro area sovereign bond markets intensified. While such tensions had been confined broadly to Greece, Ireland and Portugal in the second half of 2010 and the first half of 2011, they spilled over in particular to Italy and Spain in the second half of 2011. Doubts regarding fiscal sustainability and uncertainty with respect to the health of bank balance sheets for the respective euro area countries contributed to stress in the affected sovereign bond markets and in the banking markets, given the close connection between bank balance sheets and governments. First, direct exposure to sovereign debt may affect banks' balance sheets, change their riskiness as counterparties and, in turn, affect funding costs and funding conditions. Second, higher sovereign debt risk reduces the value of sovereign collateral that banks can use to raise Eurosystem funding. Moreover, the weaker financial positions of governments have lowered the funding benefits that domestic banks derived from implicit or explicit government guarantees. Beyond this, other effects may link sovereign market tensions to bank funding conditions, such as financial contagion from sovereign to sovereign or from a sovereign to banks.

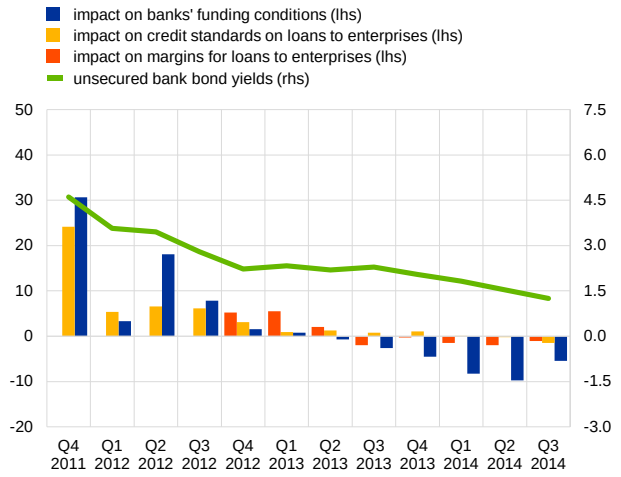
Banks' replies to this question followed closely developments in euro area bank bond yields. The initial strong impact of the sovereign debt crisis on bank funding

conditions and banks' credit standards in the fourth quarter of 2011 subsided subsequently following the three-year LTROs and the OMT announcement (see **Chart 65**) and turned into an easing impact in the second half of 2013 (see also Section 3.1).

Chart 65

Impact of the sovereign debt crisis on banks' cost of funding and bank lending conditions for enterprises

(net percentages of banks reporting a tightening; percentages p.a.)

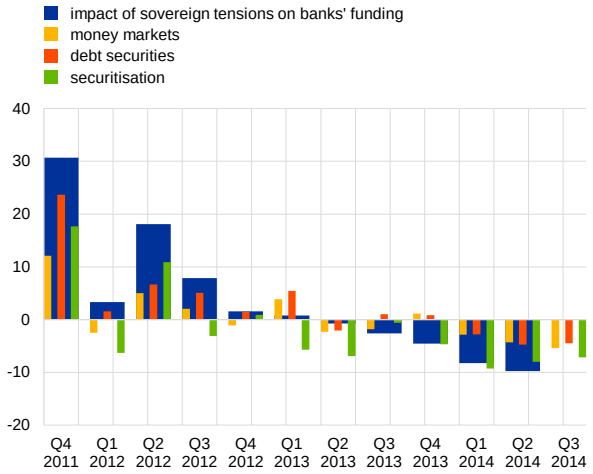


Sources: ECB, Bloomberg (Merrill Lynch Global Index) and ECB calculations.
Notes: The net percentages are defined as the difference between the sum of the percentages for "contributed to a deterioration of funding conditions/tightening of credit standards/widening of credit margins considerably" and "somewhat" and the sum of the percentages for "contributed to an easing of funding conditions/easing of credit standards/narrowing of lending margins somewhat" and "considerably".
Bank bond yields refer to unsecured investment-grade euro area bank bond yields, based on the Merrill Lynch Global Index.

Chart 66

The sovereign debt crisis and the deterioration in euro area banks' access to wholesale funding markets

(net percentages of banks)



Source: ECB.
Notes: Aggregate net percentages reported for the impact of sovereign tensions on banks' funding. Net percentage changes in access to wholesale funding markets based on those banks that indicated a positive or negative impact of sovereign debt tensions on their funding and reported as weighted net percentages of individual bank replies to the respective items of the ad hoc question on wholesale funding.

The considerable impact of the sovereign debt crisis on banks' wholesale funding via debt securities is also reflected when combining bank replies on the impact of the sovereign debt tensions on their funding with the individual bank replies to the ad hoc question on banks' access to funding (see **Chart 66**). The banks that indicated an impact of the sovereign debt crisis on their funding were also particularly affected in their access to debt securities funding in the fourth quarter of 2011, i.e. in the most intensive period of the sovereign debt crisis. At the same time, the impact was not confined to this market, but spilled over also to banks' access to money markets and to securitisation, owing to concerns of investors about banks' resilience towards adverse developments in euro area sovereign bond markets.

4.3 Impact of the ECB's non-standard measures on banks and on bank lending conditions

The announcement of the targeted longer-term refinancing operations (TLTROs) in June 2014 and of TLTRO-II in March 2016[24] as well as the announcement of the expanded asset purchase programme (APP) in January 2015 implied the need to be able to assess the impact of such measures on bank lending conditions (see also Section 3.1). Against this background, two sets of BLS ad hoc questions were designed, which have proven highly useful as an input to the monetary policy assessment of the ECB's measures.

With a view to the first series of TLTROs, these consisted firstly of two initial operations, which were conducted in September and December 2014. Secondly, additional TLTROs were conducted every quarter in 2015 and until June 2016. Thereafter, from June 2016 until March 2017, TLTRO-II is being conducted at a quarterly frequency. Via TLTRO-II, euro area banks are able to borrow up to a certain benchmark of their stock of eligible loans, less any amount still outstanding under the previous TLTROs.[25] Overall, the TLTROs aim primarily to enhance the functioning of the monetary policy transmission mechanism by supporting the liquidity provision to the banks in order to strengthen bank lending to the real economy. Against this background, the BLS ad hoc questions on the TLTROs ask about banks' participation, why banks participated and for which purposes they have used the liquidity from the TLTROs. Moreover, the ad hoc questions ask about the impact on banks' credit standards and terms and conditions.

In addition, in order to provide a sufficient monetary stimulus and to address the risks of too prolonged a period of low inflation, the ECB introduced the APP. The expanded APP comprises the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3), which started in the fourth quarter of 2014, as well as the public sector purchase programme (PSPP) from March 2015 and the corporate sector purchase programme (CSPP) from June 2016.[26] These additional non-standard measures aim to achieve the price stability objective given that the key ECB interest rates were already very low.

The APP increases banks' excess reserves when the banks sell their holdings of public and private sector bonds and other securities to the ECB. In addition, banks may receive additional liquidity from an increase in customer deposits (when their customers sell public sector bonds). In order to reduce their excess liquidity, banks may decide to grant additional loans. This has been of special relevance given the

[24] See the information on the ECB's website: http://www.ecb.europa.eu/mopo/decisions/html/index.en.html and http://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html.

[25] See the ECB press release "ECB announces new series of targeted longer-term refinancing operations (TLTRO II)" on 10 March 2016.

[26] The APP ad hoc questions refer to the expanded asset purchase programme as announced by the ECB on 22 January 2015. This programme encompasses the purchase programmes for asset-backed securities (ABSPP) and covered bonds (CBPP3), as well as secondary market purchases of euro-denominated bonds issued by euro area central governments, certain agencies established in the euro area and European institutions. The latest available data point for the APP ad hoc questions refers to the April 2016 BLS, i.e. the CSPP is not yet covered by the questions.

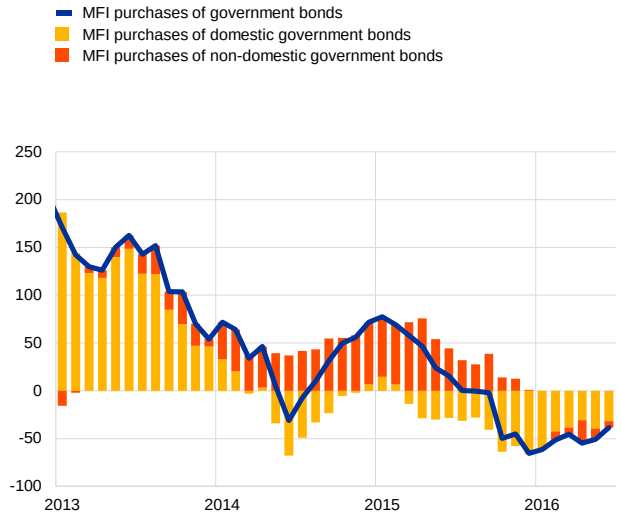
ECB's negative deposit facility rate since June 2014 (see Section 4.4). Taking these issues into account, the BLS ad hoc questions on the APP ask first for the impact of the expanded APP on banks' financial situation. Second, they request banks to indicate the use of the additional liquidity from the APP stemming from their sales of marketable assets and from an increase in customer deposits. Finally, the impact of the APP on bank lending conditions is investigated.

According to evidence from other statistics, euro area banks have reduced their holdings of domestic government bonds since the announcement of additional non-standard measures in the summer of 2014 and especially following the introduction of the PSPP in March 2015 (see **Chart 67**). In addition, since the announcement of additional non-standard measures, bank deposits have increased considerably (see **Chart 68**). In the initial period after the announcement of the expanded APP in January 2015, especially deposits from other financial intermediaries (OFIs) increased, pointing to public sector bond sales by OFIs. By contrast, in the fourth quarter of 2015 and the first half of 2016 in particular deposits from households and non-financial corporations increased. These developments have increased banks' liquidity.

Chart 67

MFI purchases of euro area government bonds

(12-month flows, not seasonally adjusted)

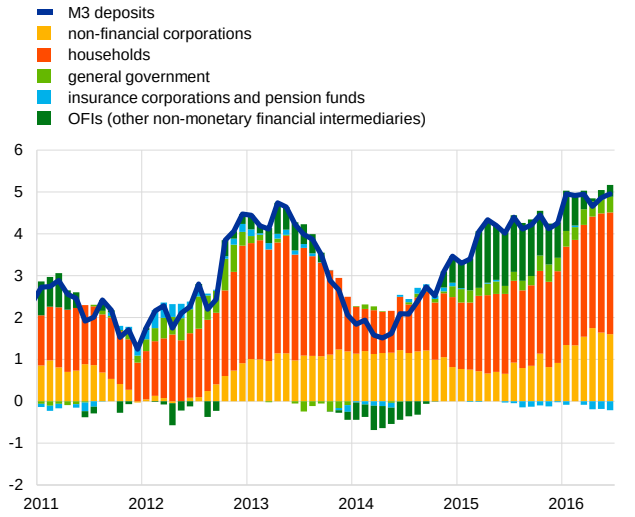


Source: ECB.

Chart 68

Sectoral contributions to M3 deposit growth

(percentage points; annual percentage changes; monthly, seasonally adjusted)



Source: ECB.

Against this background, the impact of the TLTROs and the expanded APP on banks' financial situation and lending conditions is presented in this section, in particular with a view to comparing the impact of the two measures.

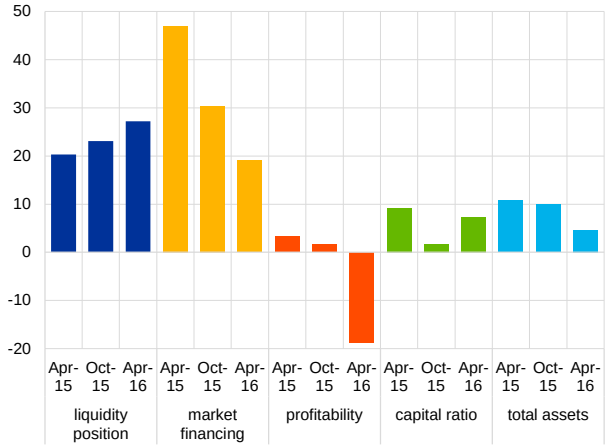
Euro area banks confirm in their replies to both the TLTRO and the expanded APP ad hoc questions a positive impact of these measures on their liquidity position (see **Chart 69** and **Chart 70**). In particular for the TLTROs, this impact has been dominant. In the case of the APP, the positive impact on market financing conditions was the dominant effect on banks' financial situation in the initial period after the expanded APP announcement. In particular in the first quarter of 2015, banks'

financing via secured and unsecured bank bonds considerably improved in the context of the APP (see **Chart 71**), reflecting the substantial decline in banks' cost of market-based funding. In the second and third quarters of 2015, however, the positive effect on banks' market financing conditions was diminished by the repricing taking place in euro area financial markets and remained mainly for covered bonds in the first quarter of 2016. At the same time, the positive impact of the expanded APP on banks' liquidity position increased up to the first quarter of 2016, mainly owing to an increase in customer deposits.

Chart 69

Impact of the expanded APP on banks' financial situation

(net percentages of banks reporting an improvement over the past six months)

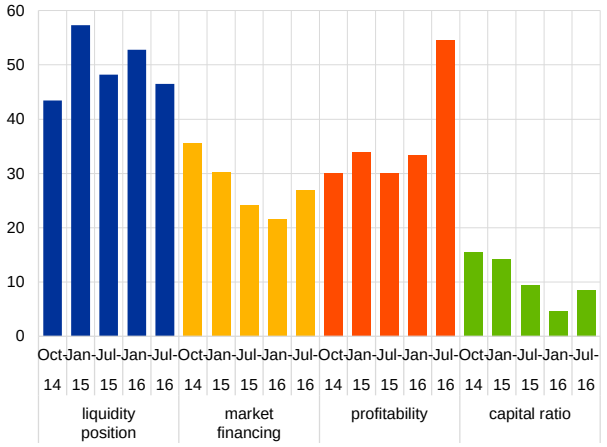


Source: ECB.
Notes: The APP ad hoc questions are biannual questions from April 2015 onwards. Banks can indicate either a positive or a negative impact of the APP on their financial situation.

Chart 70

Impact of the TLTROs on banks' financial situation

(percentages of banks reporting an improvement over the past six months)



Source: ECB.
Notes: The TLTRO ad hoc questions were introduced in the October 2014 BLS and have been biannual questions from January 2015 onwards. They assume that there is only a positive impact from the TLTROs on banks' financial situation.

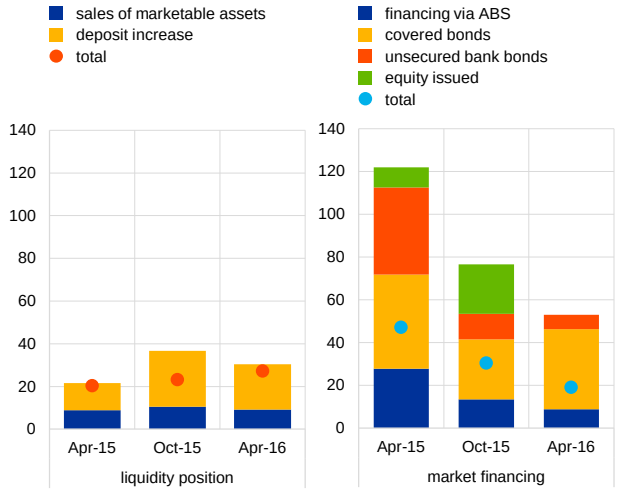
The impact of the additional non-standard measures on bank profitability has been mixed (see **Chart 69** and **Chart 71**). For the TLTROs, banks assessed the impact on their profitability more positively than for the APP, related to the attractive TLTRO funding conditions and in particular the price attractiveness of TLTRO-II. In the July 2016 BLS round, more than half of the respondent euro area banks indicated that past TLTROs, which included the first TLTRO-II operation, contributed to improving their profitability. The positive impact on banks' profitability became the most important TLTRO contribution to banks' financial situation in the July 2016 BLS round, whereas it had been the positive effect on banks' liquidity position previously. By contrast, for the APP, banks reported a broadly neutral impact on their profitability up to the fourth quarter of 2015 at the euro area level, but a negative impact on profitability in the first quarter of 2016. While capital gains were achieved because of the rise in asset prices in particular in the initial period of the expanded APP, banks' net interest margin declined in the environment of a flat yield curve and very low interest rates. The latter impact became dominant according to reporting banks in the first quarter of 2016, more than offsetting the positive impact stemming from capital gains (see **Chart 72**). At the same time, banks may not have taken into account in their replies the broader positive impact from the ECB's monetary policy

measures that should lead to a lower provisioning cost of banks and larger intermediation volumes.

Chart 71

Impact of the expanded APP on banks' liquidity position and market financing conditions

(net percentages of banks reporting an improvement over the past six months)

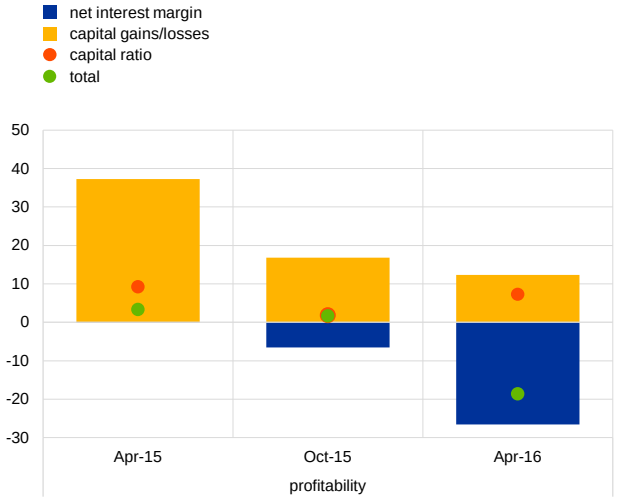


Source: ECB.
Note: The APP ad hoc questions are biannual questions from April 2015 onwards.

Chart 72

Impact of the expanded APP on banks' profitability

(net percentages of banks reporting an improvement over the past six months)



Source: ECB.
Note: The APP ad hoc questions are biannual questions from April 2015 onwards.

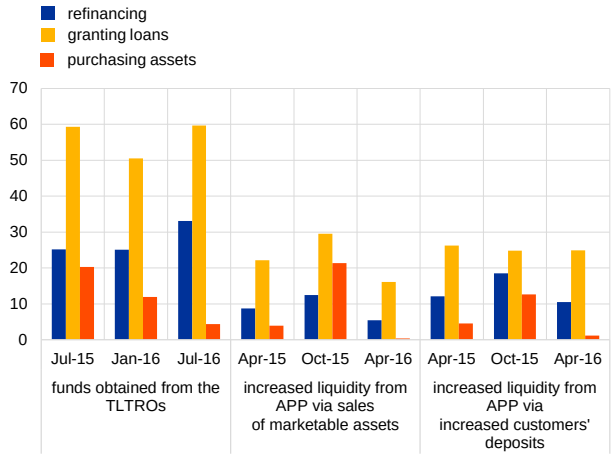
Euro area banks participating in the BLS indicated that they use the additional liquidity from both the TLTROs and the expanded APP primarily for granting loans, in particular to enterprises (see **Chart 73** and **Chart 74**). This use of funds is particularly dominant for the TLTROs, given that the TLTROs were targeted at improving bank lending to the euro area non-financial private sector, excluding loans to households for house purchase.

When comparing banks' indications on the use of liquidity from the TLTROs and the expanded APP with actual loan developments, it can be seen that MFI lending to the non-financial private sector has recovered from its trough in February 2014 (see **Chart 75**). Following the announcement of additional non-standard measures in the summer of 2014, the recovery of loans, which had already started, strengthened. Nonetheless, the annual growth of loans to non-financial corporations remained modest until the second quarter of 2016.

Chart 73

Use of liquidity from the ECB's TLTROs and the expanded APP

(average percentage of respondents per category; sum of contributed somewhat and considerably; over the past six months)

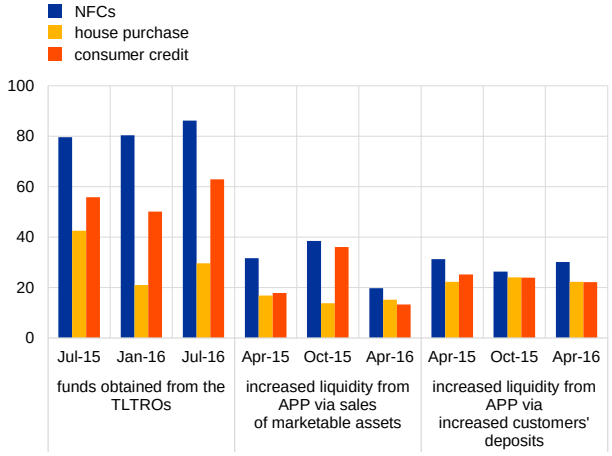


Source: ECB.
Notes: The TLTRO ad hoc questions are biannual questions from January 2015 onwards. The APP ad hoc questions are biannual questions from April 2015 onwards. For "refinancing", the unweighted average of substituting for deposit shortfalls, substituting for maturing debt, substituting for interbank lending and substituting for (other) Eurosystem liquidity operations. For "granting loans", the unweighted average of loans to NFCs, to households for house purchase and consumer credit and other lending to households. For "purchasing assets", the unweighted average of domestic sovereign bonds and other financial assets for the TLTROs and the unweighted average of euro area marketable assets, excluding sovereign bonds, and non-euro area marketable assets for the APP.

Chart 74

Use of liquidity from the ECB's TLTROs and the expanded APP for granting loans

(percentage of respondents; sum of contributed somewhat and considerably; over the past six months)

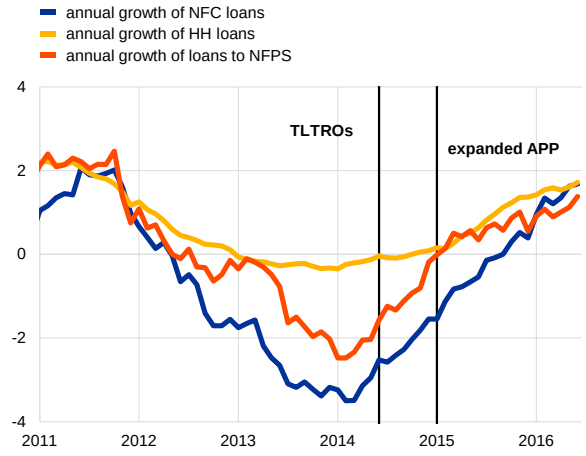


Source: ECB.
Notes: The TLTRO ad hoc questions are biannual questions from January 2015 onwards. The APP ad hoc questions are biannual questions from April 2015 onwards.

Chart 75

MFI loans to the non-financial private sector and announcement of additional non-standard measures

(annual percentage changes)

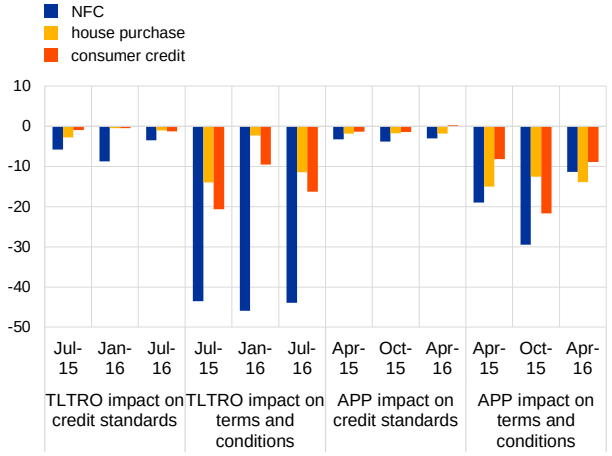


Source: ECB.
Notes: Data are adjusted for sales and securitisation. "TLTROs" and "expanded APP" refer to the announcement dates of the respective measures, i.e. June 2014 and January 2015 respectively. "NFC" denotes non-financial corporations, "HH" denotes households and "NFPS" denotes non-financial private sector.

Chart 76

Impact of the TLTROs and the expanded APP on bank lending conditions

(percentages for TLTROs; net percentages for APP; over the past six months)



Source: ECB.
Notes: See the notes to **Chart 69** and **Chart 70**. A (net) easing impact is displayed with a negative sign.

The use of the additional liquidity for refinancing played a somewhat larger role for the TLTROs than for the APP (see **Chart 73**). This was in particular the case as banks replaced the funds obtained through the three-year LTROs in December 2011

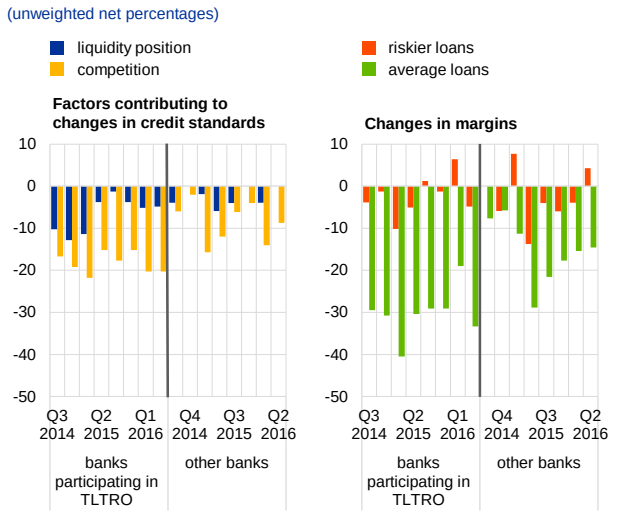
and February 2012 with TLTRO liquidity. In addition, the percentage of banks which used the TLTRO funds for refinancing increased in the July 2016 BLS round, as banks used the funds obtained through the first TLTRO-II operation to replace funds borrowed under the first series of TLTROs. By contrast, the replacement of the funds from Eurosystem liquidity operations played a smaller role in the APP.

Moreover, banks have partly used the liquidity obtained from the TLTROs and the APP for purchasing financial assets. This was the case for the APP in particular when the liquidity was stemming from the sales of marketable assets.

Both non-standard measures have a stronger impact on banks' terms and conditions than on banks' credit standards, i.e. they have a stronger impact on banks' price and non-price conditions when granting a new loan than on banks' loan approval criteria (see **Chart 76**). This reflects that both the TLTROs and the APP have in particular an impact on banks' liquidity and funding conditions, which allows them to pass through eased monetary policy conditions to their customers. In this sense, the TLTROs and the APP contribute to enhancing the monetary policy transmission and to repairing the bank lending channel.

Chart 77

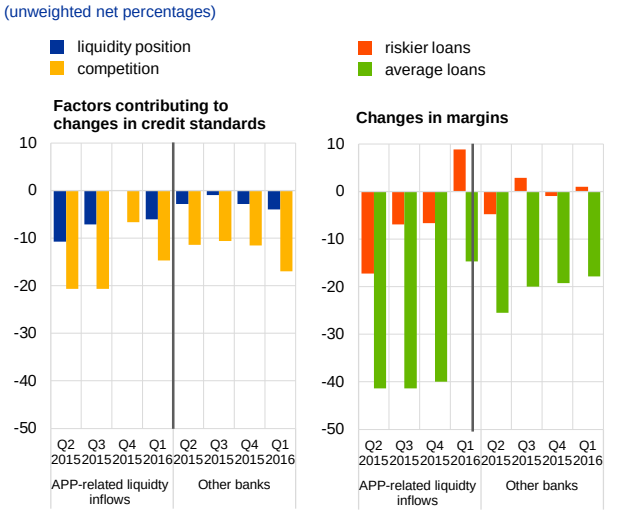
Banks' liquidity position, competitive pressures and lending margins for loans to enterprises by TLTRO participation



Source: ECB.
Notes: Based on unweighted individual data. Net percentages for banks indicating their participation in at least one of the TLTROs and other reporting banks. Evidence on TLTRO participation refers to the results of the September 2015, January 2015, July 2015, January 2016 and July 2016 BLS. Selected factors contributing to changes in credit standards as well as changes in margins refer to loans to enterprises.

Chart 78

Banks' liquidity position, competitive pressures and lending margins for loans to enterprises by APP-related liquidity inflows



Source: ECB.
Notes: Based on unweighted individual data. Net percentages for banks indicating APP-related liquidity inflows in the October 2015 and April 2016 BLS over the past six months and for other reporting banks. Selected factors contributing to changes in credit standards as well as changes in margins refer to loans to enterprises.

Cross-checking these results with those for other parts of the BLS questionnaire and from a granular perspective, a more nuanced picture can be obtained.[27] To this end,

[27] While the TLTRO and APP-related ad hoc questions address changes in access to funding and in loan margins exclusively related to the respective measures, the regular questionnaire provides a more encompassing summary of all coinciding idiosyncratic and macroeconomic effects not exclusively related to the effects of the TLTROs and the APP.

individual replies to the ad hoc questions on the TLTROs and the APP as well as to the standard questions of the BLS are combined.

Indeed, the fraction of BLS banks reporting an improvement in their liquidity position was – at least initially – higher among banks that indicated their participation in at least one of the TLTROs (see **Chart 77**, left-hand side) as well as, albeit to a lesser extent, among the banks that reported liquidity inflows related to the APP[28] (see **Chart 78**, left-hand side). In parallel, both groups pointed to increased competitive pressures more often than their peers in the case of the TLTROs and initially also for the APP-related liquidity inflows.

Likewise, these groups reported more frequently a decline in their margins for average loans to enterprises (see **Chart 77** and **Chart 78**, right-hand side). For banks participating in the TLTROs this was true particularly during the initial quarters, i.e. between the third quarter of 2014 and the first quarter of 2015. Similarly, for the initial quarters this also applied to banks reporting liquidity inflows related to the expanded APP, i.e. between the second and fourth quarters of 2015. The decline in banks' margins for average loans might partly indicate some competitive spillover effects to their peers in the following quarters. By contrast, for the decline in margins on riskier loans the development was less clear-cut.

4.4 The impact of the ECB's negative deposit facility rate on banks' net interest income and bank lending

The ECB cut its deposit facility rate (DFR) into negative territory in June 2014, with further reductions in 2015 and 2016. The impact of this measure on customer lending and deposit rates is likely to increase the demand for loans and may provide an incentive for enterprises and households to invest and for the latter to also increase consumption expenditure. In addition, given that banks have to pay a price for holding excess liquidity at the central bank, banks may aim to expand their lending volume to the private sector to improve their overall net interest income. This impact should support the ECB's monetary policy objective and contribute to a return of inflation rates to levels below, but close to, 2% in the medium term. At the same time, the negative DFR is likely to have a negative direct impact on banks' net interest income as lending rates decline further, while customer deposit rates may decline less or have reached their lower bound. Mainly via the impact on banks' net interest income, the DFR may also have a negative impact on bank profitability in the short term. However, the positive contribution of the low level of interest rates to economic growth should support bank profitability via higher good-quality loan demand and lower non-performing loans in the medium term.

A BLS ad hoc question on the impact of the DFR was introduced in April 2016 as a semi-annual question. It aims at providing qualitative evidence on the DFR impact on banks' net interest income, lending conditions and lending volume. Given that this

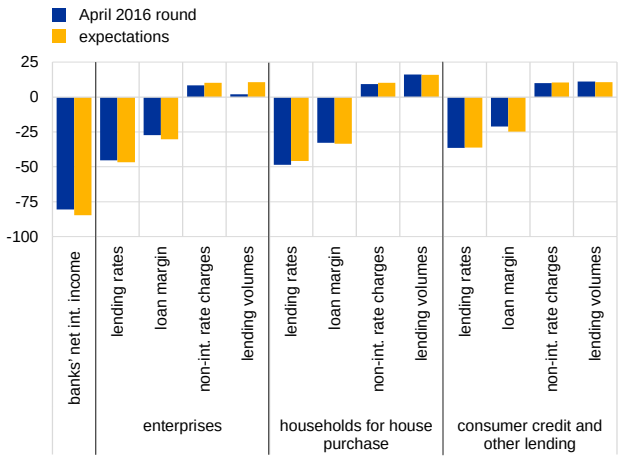
[28] APP-related liquidity inflows comprise increases in customer deposits and liquidity resulting from banks' sales of securities.

question has only been included for a limited period, the available evidence on the DFR impact is so far limited and caution in the interpretation of results is warranted.

Chart 79

Impact of the negative DFR on banks' net interest income and bank lending

(net percentage of respondents; over the past and next six months)

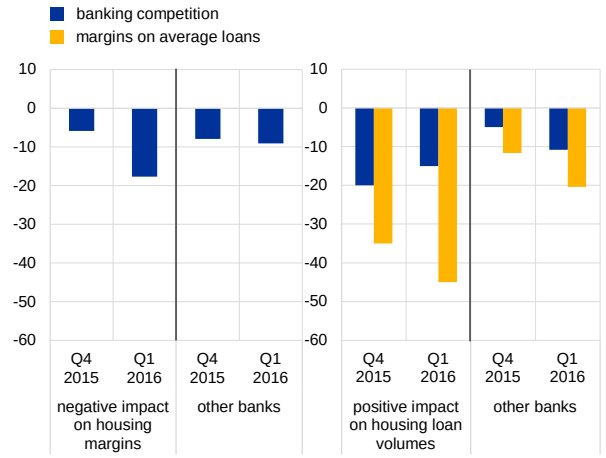


Source: ECB.
Notes: The net percentages are defined as the difference between the sum of the percentages for "increased considerably" and "increased somewhat" and the sum of the percentages for "decreased somewhat" and "decreased considerably". The results shown are calculated as a percentage of the number of banks which did not reply "not applicable". The timescale in the legend refers to the respective BLS survey round. "Expectations" stands for expectations that banks provided in the April 2016 round.

Chart 80

Impact of the negative DFR: relationship with competition, the narrowing of margins and housing loan volumes

(unweighted net percentage of respondents; over the past six months)



Source: ECB.
Notes: Unweighted net percentages of individual survey replies. Groupings based on the impact of the negative DFR according to the April 2016 BLS. The chart on the left groups banks into those indicating a negative impact on margins for housing loans and other reporting banks. The chart on the right groups banks into those indicating a positive impact on housing loan volumes and other reporting banks. "Banking competition" refers to the factor contributing to changes (here an easing) in credit standards; "margins on average loans" refer to changes for housing loans.

The overall impact on banks' net interest income has been negative according to a broad majority of participating banks in the first round with the new ad hoc question. A net percentage of more than 80% of euro area BLS banks reported a decline in their net interest income[29] between the fourth quarter of 2015 and the first quarter of 2016 and expected a further reduction in the second and third quarters of 2016 (see **Chart 79**). As regards the impact on lending conditions, in the April 2016 BLS, banks reported in particular a decrease in lending rates and loan margins for loans to both enterprises and households. At the same time, a smaller fraction, in net terms, indicated rising non-interest rate charges on loans across all categories. These effects were broadly foreseen to persist in the following six months. With regard to the impact of the negative DFR on loan volumes, while banks in this first round of the ad hoc question did not report any notable positive impact on volumes for loans to enterprises for the past six months, they did report some increase in net terms for loans to households, in particular for housing loans. For the following six months, they projected a further extension of their loan volume including also loans to enterprises.

[29] The net interest income is defined as the difference between the interest earned and interest paid on the outstanding amount of interest-bearing assets and liabilities by the bank.

Taking into account the limited evidence available so far, a first cautious interpretation suggests that banks aim to compensate for the decline in their net interest income with an increase in loan volumes and to some extent with an increase in non-interest charges.

Evidence from individual BLS bank replies on the impact of the negative DFR on lending also suggests that banks indicating a negative impact on their margins for housing loans face somewhat higher competitive pressures than their peers not stating such an impact (see **Chart 80**).[30] At the same time, banks that stated a positive impact on the volume of housing loans reported somewhat higher competitive pressures and in particular a stronger easing of margins on average housing loans. Overall, this first microdata evidence provides some initial support for the notion that banks are trying to improve their net interest income via an increase in loan volumes. However, the extension of loan volumes largely hinges on demand for loans and, thereby, also on the interest rate elasticity of loan demand and on banks' competitive environment (for survey evidence on this relationship, see also **Chart 10** and **Chart 53**). Competitive pressures would induce banks to lower their loan margins in particular in the context of a targeted extension of their loan base.

4.5 The impact of supervisory and regulatory changes on bank funding and bank lending conditions

Following the announcement of the Basel III rules in December 2010 by the Basel Committee on Banking Supervision (BCBS) containing the details of the global regulatory standards on bank capital adequacy and liquidity, two semi-annual BLS ad hoc questions were introduced to assess the impact of changes in the regulatory framework on banks' balance sheets as well as on credit standards and loan margins. The ad hoc questions were introduced in July 2011, with bank replies on the first half of 2011.

The Basel III rules, which were translated by the European Commission into the Capital Requirements Regulation/Capital Requirements Directive IV (CRR/CRD IV)[31], aim at enhancing banks' resilience towards shocks following the experience gained during the financial crisis. In particular, banks have to strengthen and to improve the quality of their capital, which in the medium term should have a positive impact on banks' ability to provide credit to the economy. In addition, the gradual introduction of the liquidity coverage ratio (LCR) from 1 January 2015 onwards strives to ensure that banks have sufficient liquidity in terms of freely transferable assets that can be quickly converted into cash in private markets without a significant loss in value.[32] This increases banks' ability to withstand short-term unexpected liquidity shocks as experienced during the financial crisis when interbank lending was seriously hampered. To complement and act as a backstop to banks' risk-based

30 A similar relationship is also seen for the negative impact on margins for loans to enterprises.

31 See the regulatory requirements set out in the CRR/CRD IV.

32 See the European Commission Delegated Act of 10.10.2014 to supplement Regulation (EU) 575/2013 with regard to liquidity coverage requirement for Credit Institutions (C(2014) 7232 final).

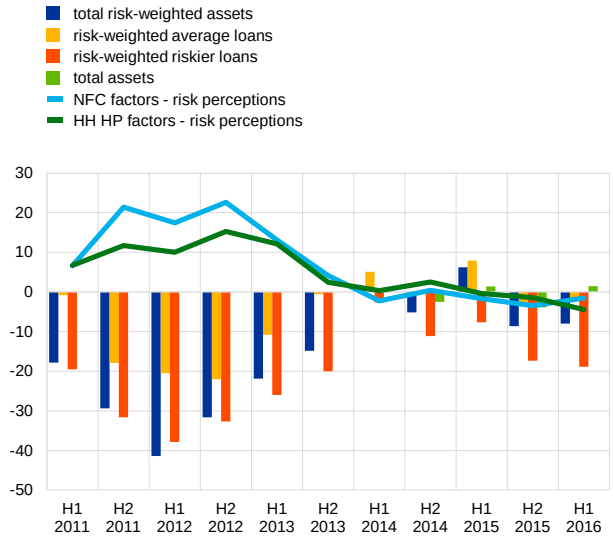
capital requirements, the CRR/CRD IV also aims to enable the monitoring of the risk of excessive bank leverage, which refers to banks' Tier 1 capital relative to banks' total assets.[33] Since January 2015 banks need to disclose their leverage ratio and the minimum requirement of 3% is envisaged to become binding in 2018. Against this background, banks have frontloaded part of the necessary balance sheet adjustment.

In order to assess the impact of the CRR/CRD IV and other regulatory or supervisory action, it is of interest to collect evidence on banks' balance sheet adjustment with respect to their capital, liquidity and leverage. Such balance sheet adjustments may have an impact on banks' lending behaviour and, hence, are of relevance when assessing the monetary policy transmission.

Chart 81

Euro area banks' risk perceptions and the impact of supervisory or regulatory changes on banks' assets

(net percentages of banks reporting an increase; net percentages of factors contributing to a tightening of credit standards)

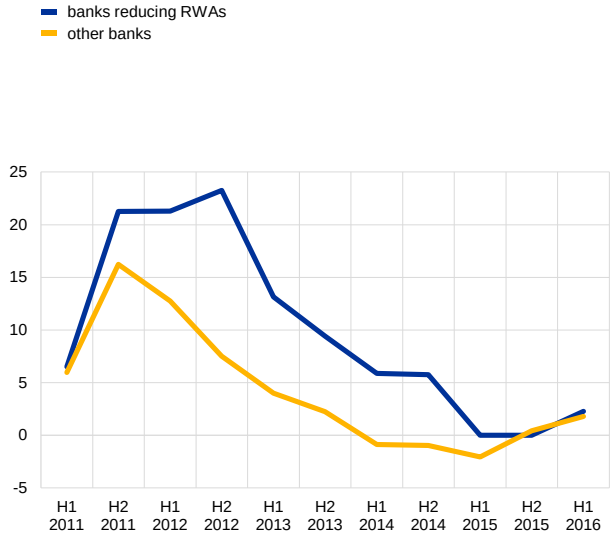


Source: ECB.
Notes: "Total assets" are available from H2 2014. "NFC factors" and "HH HP factors" refer to factors having an impact on credit standards for loans to enterprises and for loans to households for house purchase. For enterprises, "risk perceptions" are an unweighted average of "general economic situation and outlook", "industry or firm-specific situation and outlook/borrower's creditworthiness" and "risk on collateral demanded". For households, "risk perceptions" are an unweighted average of "general economic situation and outlook", "housing market prospects" and "borrower's creditworthiness".

Chart 82

Banks' cost of capital contributing to a tightening of credit standards for NFCs by reduction of risk-weighted assets

(unweighted net percentages)



Source: ECB.
Notes: Unweighted net percentages based on individual BLS replies for banks' cost of capital contributing to a tightening of credit standards for NFCs. Banks are grouped into those indicating a reduction of their risk-weighted assets (RWAs) in response to regulatory and supervisory action and other reporting banks. Quarterly net percentages averaged by half-year.

Banks have indicated that they reduced substantially their risk-weighted assets in the period from 2011 to 2013 in connection with these regulatory or supervisory actions (see **Chart 81**). When reducing their risk-weighted assets, banks have generally reduced to a larger extent riskier loans, i.e. loans with a higher risk weight, than average loans. This is in line with banks' risk-averse behaviour in their loan approval decisions, as reflected in the important contribution of risk perceptions as a factor

[33] See "Basel III leverage ratio framework and disclosure requirements", BCBS, Bank for International Settlements, January 2014.

having a net tightening impact on credit standards for loans to enterprises and loans to households for house purchase (see Chapter 3).

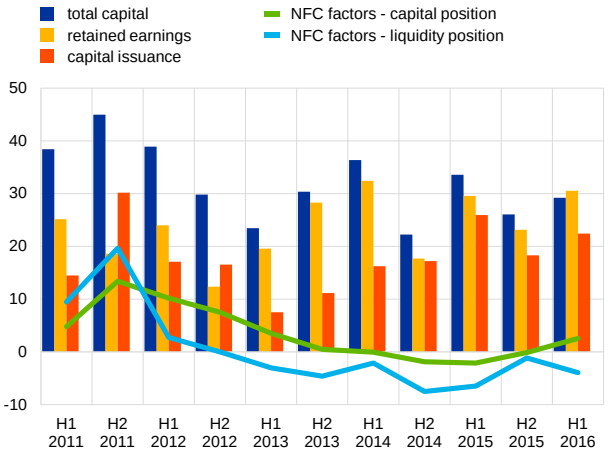
Likewise, evidence from individual BLS bank replies suggests that for banks that reduced their risk-weighted assets in response to regulatory and supervisory action, the cost of capital weighed more heavily on their loan supply. More specifically, for most of the period until the end of 2014, the net percentage of banks whose cost of capital contributed to a tightening of their credit standards for loans to NFCs was higher for banks that had indicated a reduction of their risk-weighted assets than for the other banks (see **Chart 82**). Only in 2015 did the difference dissipate, as banks' need to reduce their risk-weighted assets became somewhat less relevant.

Since 2014 banks' total assets and risk-weighted average loans have broadly stabilised, while banks continued to reduce their riskier loans. In line with this development, risk perceptions as a factor contributing to tightening credit standards became overall more muted.

Chart 83

Impact of supervisory or regulatory changes on euro area banks' capital

(net percentages of banks reporting an increase; net percentages of factors contributing to a tightening of credit standards)

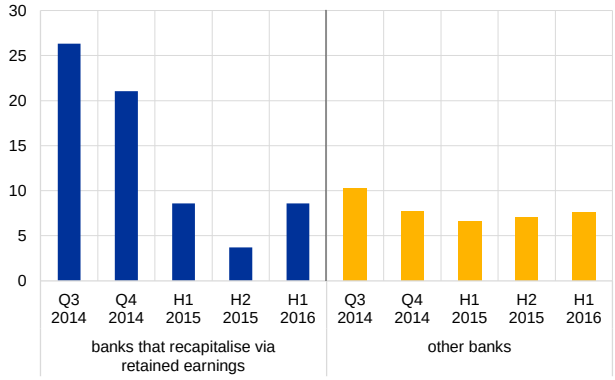


Source: ECB.
Note: "NFC factors" refer to factors having an impact on credit standards for loans to enterprises.

Chart 84

Increase in retained earnings from TLTRO profits by general recapitalisation via retained earnings

(unweighted net percentages)



Source: ECB.
Notes: Unweighted net percentages based on individual BLS replies. Banks are grouped into those indicating recapitalisation via retained earnings in response to regulatory and supervisory action and other banks not indicating this type of recapitalisation.

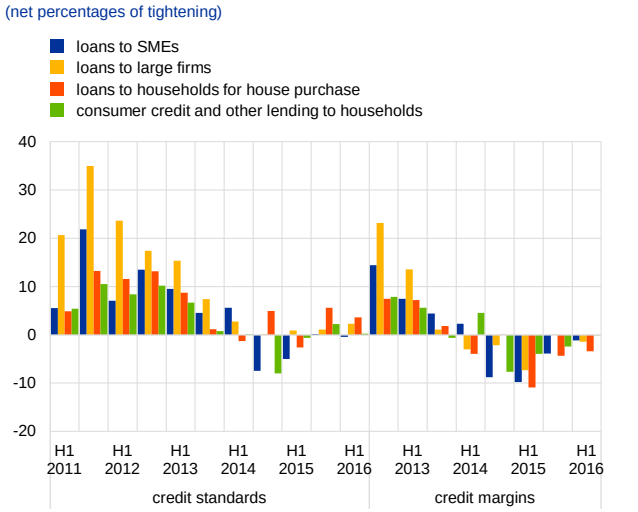
The broad stabilisation in euro area banks' assets is also in line with banks' improved capital and liquidity position (see **Chart 83**), which provides scope for banks to increase their loans. Banks have built up their capital since the first half of 2011, when the ad hoc question was introduced, in response to increased regulatory requirements and market participants' greater attention to the soundness of banks' balance sheets during the financial crisis. Both retained earnings and capital issuance played a role in banks' capital increase. While weak bank profitability limited banks' ability to accumulate retained earnings in particular in 2011 and 2012, banks' retained earnings overall increasingly contributed to their capital increase from the second half of 2013 onwards. This reflects a tentative improvement in bank

profitability, while the considerable volume of impaired loans continued to dampen bank profits.

Evidence from individual bank replies suggests in addition that in particular profitability gains from the initial TLTROs also contributed to banks' retained earnings. Indeed, banks that indicated an increase in their capital via retained earnings reported substantially more often to have bolstered their capital positions via retained earnings from profits accrued in the context of the initial TLTROs in September and December 2014 (see **Chart 84**).

Chart 85

Impact of supervisory or regulatory changes on credit standards and margins of euro area banks



Source: ECB.

As concerns the impact on bank lending conditions, the regulatory or supervisory action had a net tightening impact on banks' credit standards and credit margins, in particular in 2011 and 2012 when banks' need to adjust their balance sheets was high. The net tightening affected mainly loans to enterprises, in particular to large firms, whereas loans to households were less affected (see **Chart 85**). The short-term impact of the CRR/CRD IV and other regulatory or supervisory action on euro area bank lending conditions diminished over time as banks had built up their capital buffers in response to the financial crisis.

Overall, the ad hoc questions on the impact of the CRR/CRD IV and other regulatory or supervisory action are an important complementary element in the analysis of the need for banks to adjust their balance sheets and its impact on bank lending conditions.

4.6 Evidence on the level of credit standards

The analysis of the BLS results focuses on net percentage changes in credit standards. This allows a statement on whether credit standards have tightened or eased in net terms over the past three months or whether the degree of net tightening/net easing has increased or decreased.

At the same time, information on the level of credit standards is useful to put into perspective banks' replies to the standard questions on the changes in credit standards.

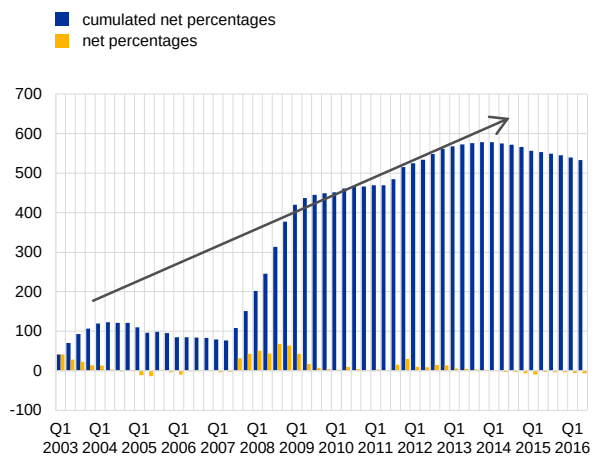
Compared with the option to cumulate changes in credit standards in order to derive the current level, it seems preferable to collect direct evidence on the level of credit

standards from the banks.[34] A simple cumulation of net percentages does not seem appropriate for a number of reasons. First, the initial level of credit standards when the BLS was launched is unknown and any point in time at which credit standards may have been at a neutral level is difficult to determine. Defining a starting point for a cumulation is therefore subject to uncertainty. Second, the qualitative nature of the survey makes it difficult to derive the current level of credit standards as the precise amount of tightening or loosening is unknown. Finally, a simple cumulation of changes in credit standards to derive their level would be misleading owing to the fact that reported changes tend to exhibit a bias towards "tightening"[35], implying that cumulated changes have an upward trend (see **Chart 86**).[36]

Chart 86

Changes and cumulated changes in credit standards applied to the approval of loans or credit lines to enterprises

(net percentages)

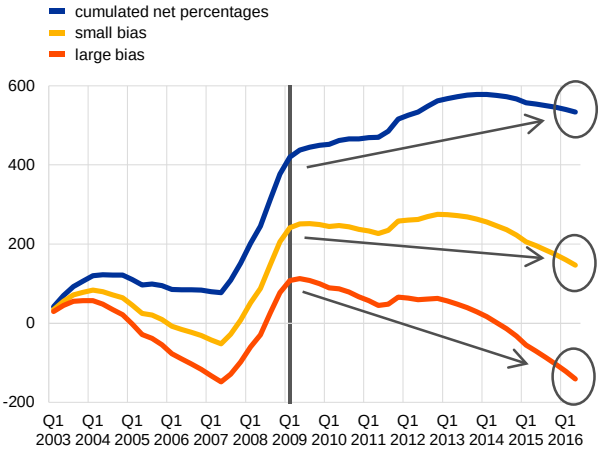


Source: ECB.

Chart 87

Level of credit standards and reporting bias adjustment

(cumulated net percentages)



Source: ECB.
Notes: "Large bias" is the difference between the cumulated credit standards and the linear trend since the first quarter of 2003. "Small bias" is the difference between the cumulated credit standards and the linear trend (based on the period from the first quarter of 2003 until the fourth quarter of 2008).

Detrending the cumulated net percentages may be one option to take out the tightening bias from the series, assuming that the level of banks' credit standards

34 A comparable approach has been applied in the US for the Senior Loan Officer Opinion Survey which since 2011 likewise includes an annual special question on the level of lending standards relative to a longer-run benchmark (see Bassett and Rezende, 2015, for further details).

35 For the Senior Loan Officer Opinion Survey in the US, Schreft and Owens (1991) first identified such bias for the early years of the survey. Bassett and Rezende (2015) report on such negative bias in the replies on quarterly changes of lending standards also for very recent periods.

36 Based on an analysis of individual BLS replies for the Dutch sample matched with respective quantitative bank balance sheet data, van der Veer and Hoeberichts (2013) find that changes in both credit standards and cumulated changes in credit standards have information content for business lending. By contrast, Del Giovane et al. (2011) do not find clear-cut evidence for such information content of cumulated changes in credit standards for the individual replies of the Italian BLS sample. Likewise, in a more recent paper Nobili and Orame (2015) do not find any explanatory power of the cumulated variables when included as additional variables to explain loan growth; this finding holds both for Italian BLS banks and Italian non-BLS banks participating in the Italian regional bank lending survey (RBLS). For France, Labonne and Lamé (2014) provide some descriptive evidence and discussion using French individual BLS replies.

would fluctuate around a mean over time and have a tendency to revert to that mean. In this sense, a tightening going beyond the trend (i.e. a positive deviation from the trend) is counted as a tight level of credit standards. Along the same lines, a downside deviation from the trend is counted as a loose level of credit standards. Differences in the steepness of the trend would imply a change in what banks perceive as a neutral level of credit standards.

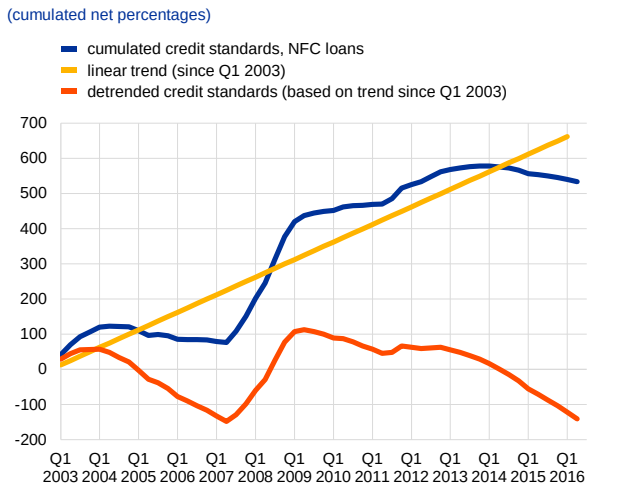
However, the detrending requires making assumptions about the size and nature (linear or non-linear) of the bias, which has a strong impact on the information content of the absolute level (see circles in **Chart 87**) and the relative level of credit standards (see arrows in **Chart 87**).[37]

For illustrative purposes, two detrended cumulated net percentages of credit standards for loans to enterprises, based on a simple linear trend, are presented here in order to demonstrate the implications of assuming a larger or smaller bias in the banks' replies.

The first linear trend assumes a relatively strong bias and is therefore relatively steep (see **Chart 88**). It is based on the longest-available historical period of BLS data, from the first quarter of 2003 until the first quarter of 2016, i.e. the last available data point.

Chart 88

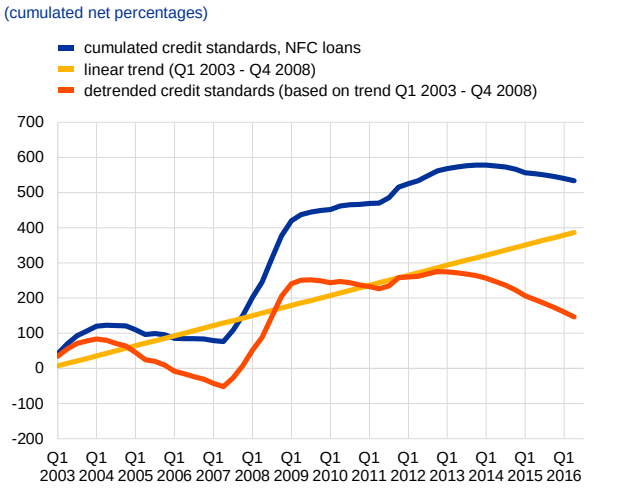
Cumulated net tightening of credit standards on loans to euro area enterprises assuming a large bias



Sources: ECB and ECB calculations.
Note: Detrended credit standards are defined as the difference between the cumulated credit standards and the linear trend since the first quarter of 2003.

Chart 89

Cumulated net tightening of credit standards on loans to euro area enterprises assuming a moderate bias



Sources: ECB and ECB calculations.
Note: Detrended credit standards are defined as the difference between the cumulated credit standards and the linear trend (based on the period from the first quarter of 2003 until the fourth quarter of 2008).

Detrending the cumulated credit standards with the first trend implies that a considerable amount of the sharp tightening in the course of the financial crisis, in

[37] Apart from an aggregate bias in the time series, see also Nobili and Orame (2015) for an analysis of the Italian banking sector regarding an upward bias in the BLS regarding credit constraints reflecting a potential sample-driven bias. Their analysis suggests a higher sensitivity of lending dynamics to the supply conditions for Italian BLS banks than for Italian non-BLS banks participating in the Italian RBLS.

particular in 2007-08, would be covered by the trend. Consequently, a higher level of cumulated credit standards would be perceived as neutral than when assuming a lower trend. The second linear trend assumes a more moderate bias and, hence, a lower level of credit standards as being neutral. It is based on the shorter period from the first quarter of 2003 until the fourth quarter of 2008, i.e. shortly after the collapse of Lehman Brothers when credit standards had been tightened severely (see **Chart 89**).

When comparing both detrended cumulated credit standards for loans to enterprises (i.e. assuming a large or a small bias), it can be seen that following tight credit standards at the start of the BLS, both estimated detrended credit standards declined from mid-2004 and reached a loose level of credit standards before the outbreak of the financial crisis, in a more or less pronounced manner. From the third quarter of 2007 both detrended credit standards increased and turned into a tight level of credit standards, i.e. being above the neutral zero line. However, while the detrended credit standards based on the assumption of a steep bias would have turned into a loose level of credit standards from the third quarter of 2014, the level of credit standards based on the assumption of a moderate bias would still be assessed as tight until the first quarter of 2016, although to a diminishing degree.

The developments in these two detrended credit standards illustrate the difficulty when using (detrended) cumulated net percentages of credit standards for an assessment of whether the current level of credit standards would need to be qualified as rather tight or loose.

Against this background, since 2014, the April BLS questionnaire has included an annual ad hoc question on the current level of credit standards as compared with the midpoint of a historical range of levels that have prevailed between the first quarter of 2003 and the current quarter, as well as between the second quarter of 2010 (i.e. when the sovereign debt crisis started to intensify) and the current quarter. When asking banks for the current level of credit standards, it is useful to ask for the level relative to a benchmark. This allows a historical comparison even if only a few data points are available.

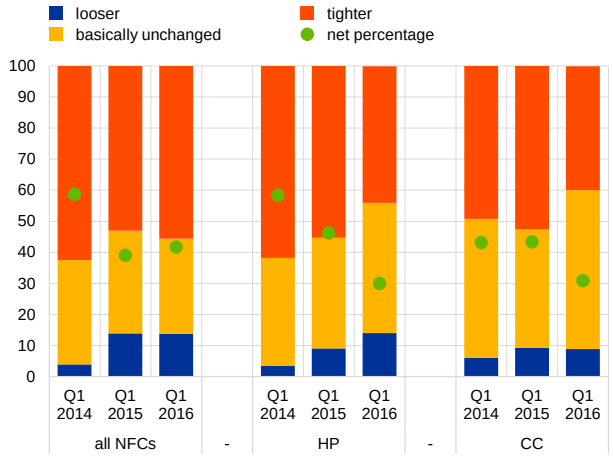
The following part presents the main results for the ad hoc question, bearing in mind that an assessment of the current level, in particular compared with a long-term historical range, may be difficult for banks and needs therefore to be treated with some caution.

Reflecting the net easing of credit standards since the second quarter of 2014 for loans to enterprises and since one to two quarters earlier for loans to households, the percentage of euro area banks assessing the current level of their credit standards as tighter compared with the midpoint of the range of credit standards since 2003 became overall smaller between the first quarter of 2014 and the first quarter of 2016 (see **Chart 90**).

Chart 90

Level of credit standards relative to the level of credit standards since 2003

(percentages of banks and net percentages)

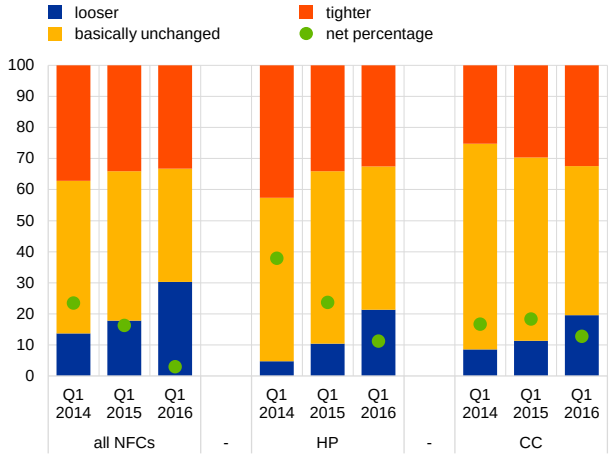


Source: ECB.
Notes: "All NFCs" indicates loans to all non-financial corporations, "HP" indicates loans to households for house purchase, and "CC" indicates consumer credit and other lending to households. "Tighter" is defined in this chart as the sum of the percentages of banks reporting "moderately tighter than the midpoint of the range", "considerably tighter than the midpoint of the range" and "at the tightest level during this period"; "broadly identical" is defined as the sum of the percentages of banks reporting "basically identical to the midpoint of the range" and "levels have remained constant during this period"; "looser" is defined in this chart as the sum of the percentages of banks reporting "moderately looser than the midpoint of the range", "considerably looser than the midpoint of the range" and "at the loosest level during this period".

Chart 91

Level of credit standards relative to the level of credit standards since Q2 2010

(percentages of banks and net percentages)



Source: ECB.
Note: See the notes to **Chart 90**.

At the same time, in net terms around 40% of the participating euro area BLS banks continued to assess the level of their credit standards on loans to enterprises in the first quarter of 2016 as being tighter compared with the historical range since 2003. This implies that banks would need to ease on average further before they would reach a level of credit standards that would correspond to the historical range since 2003. When assuming that a long-term average of credit standards corresponds broadly to a neutral level of credit standards, banks would currently still be in a period of tight credit standards, despite the considerable net easing of credit standards in the recent past.

For loans to households, banks' assessment was overall more moderate in the first quarter of 2016. In particular for housing loans, the net percentage of euro area banks which assessed the level of their credit standards as tighter compared with the historical benchmark has fallen considerably since the first quarter of 2014, when this ad hoc question was asked for the first time.

Over a shorter historical range since the second quarter of 2010 (i.e. when the sovereign debt crisis started to intensify), an overall smaller percentage of euro area banks' assessed their current level of credit standards as tighter compared with the midpoint of the historical range (see **Chart 91**). In particular, for loans to enterprises, euro area banks assessed their level of credit standards in the first quarter of 2016 in net terms as broadly similar to the benchmark. While 33% of the euro area BLS banks indicated their level of credit standards on loans to enterprises in the first quarter of 2015 as tighter compared with the relevant range, 30% of the banks

assessed it as looser. Hence, the net tightening of credit standards on loans to enterprises between the third quarter of 2010 and the end of 2013, as reported in the standard BLS questions (see Section 3) was broadly offset by the net easing since 2014.

Given that a considerable tightening of credit standards took place in the first period of the financial crisis, the evidence for the period since the second quarter of 2010 appears broadly consistent with euro area BLS banks' indications of tighter credit standards compared with the historical range since 2003.

5 The bank lending survey in empirical analysis

The BLS generally serves as a tool for analysing bank lending conditions in the context of monetary policy transmission. It provides otherwise unobservable qualitative information on loan supply and demand and their driving factors which helps to improve the analytical assessment of credit supply and demand conditions and their impact on loan growth, including the forecast of loan growth. Especially since the financial crisis, the analysis of credit supply constraints has become an important element in the analysis and forecasting of loan developments.

This section provides an overview of models using the euro area BLS in the analysis of loan developments. The growing literature using BLS data covers a suite of models and analytical frameworks ranging from the assessment of the impact of credit supply on loan growth, through the specific impact of the financial and the sovereign debt crises on loan supply, to the transmission of the ECB's non-standard monetary policy measures to loan developments across euro area countries. In addition, the BLS data are partially employed in models assessing the relationship between monetary policy, financial stability and macro- or microprudential policies. In their application most analyses use aggregate country data, while a smaller fraction employs individual bank replies to the BLS in combination with the respective banks' balance sheet data or lending rate data.

Section 5.1 below addresses the more general distinction between credit supply and demand effects. The subsequent sections cover studies using BLS information with a focus on identifying the specific impact of the financial and sovereign debt crises (Section 5.2), on the transmission of the ECB's non-standard monetary policy measures (Section 5.3) and on the relationship between monetary policy, financial stability and macro- or microprudential policies (Section 5.4).

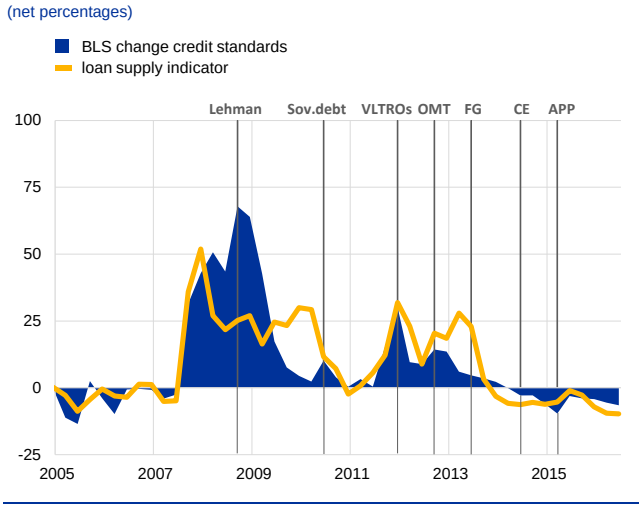
5.1 Model-based analysis of loan supply and its impact on loan growth in the euro area

The general key area and starting point of analyses using BLS data is the assessment of loan supply conditions or credit constraints, and their impact on loan developments and ultimately on real economic activity in the euro area. These assessments take advantage of the additional qualitative information the BLS provides on banks' lending behaviour, which is unobservable from other quantitative data such as bank balance sheet data, loan volumes, bank lending rates or financial market data. These types of studies mostly take the form of cross-country panel analyses using aggregate BLS data in combination with country-specific macro and financial variables. An early example is De Bondt et al. (2010), who provide evidence

in particular for the leading indicator properties of credit standards in explaining loan growth and real GDP growth.[38] They show that the BLS has predictive power for euro area real GDP growth one year ahead. In addition, changes in credit standards contribute significantly to explaining bank loan growth three to four quarters ahead (see also the evidence provided in Section 3.1). Moreover, Hempell and Kok Sørensen (2010) rely on the BLS for disentangling loan supply and demand effects in static and dynamic cross-country panel models. Cappiello et al. (2010) use instrumental variable panel regressions to explain GDP growth with loan growth and changes in credit standards. The latter studies provide empirical evidence on the existence of loan supply effects and, more specifically, on the bank lending channel of monetary policy transmission in the euro area.

Chart 92

Actual and adjusted credit standards for loans to enterprises



Sources: ECB and Altavilla et al. (2015).
Notes: The lending supply indicator is based on individual BLS responses and adjusts the change in credit standards (net tightening (+) / net easing (-)) by taking into account bank-specific loan demand (BLS), macroeconomic conditions (actual and expected) at country level, the riskiness conditions of NFCs in the euro area and monetary policy conditions (Eonia and forward rates). Correction is obtained using an Inverse Propensity Score Method; probit model estimated on pooled BLS data. - "FG" and "CE" indicate "forward guidance" and "credit easing", respectively. Latest observation: July 2016 BLS.

More recent studies using aggregate country BLS data typically apply different versions of a Bayesian panel vector autoregressive (panel BVAR) framework to capture endogeneities and interlinkages between the different macroeconomic variables. In a parallel analysis of the euro area and the US, Ciccarelli et al. (2015)[39] test the credit channel of monetary policy transmission in a panel BVAR framework, using data on credit standards from the BLS and the Senior Loan Officer Opinion Survey (SLOOS)[40] for the euro area and the US, respectively, for the identification of the credit channel. Their findings suggest that in the euro area all sub-channels of the credit channel are at work and amplify a monetary policy shock on GDP and inflation, while in the US the bank lending channel was insignificant and monetary shocks were mainly transmitted via the firm balance sheet channel.

Inspired by Bassett et al. (2014) for the US,[41] Altavilla et al. (2015) apply an alternative approach to using survey information in a panel BVAR. They construct an indicator for the tightening of loan supply based on individual BLS replies (see **Chart 92**) by adjusting individual banks' answers on the net tightening of credit standards on loans to euro

[38] See also Lacroix and Montornès (2010) for an analysis of the leading indicator properties of the French BLS results. In addition, Guichard et al. (2009) provide evidence on the leading indicator properties of aggregate euro area credit standards for changes in business investment. Their aggregate time series was, however, back-cast to Q4 1999 drawing on US credit standards, the slope of the yield curve and responses to a French business survey.

[39] In an earlier version of this paper, they were the first to apply such a framework to aggregate BLS data.

[40] For earlier VAR analysis using the SLOOS, see Lown and Morgan (2006).

[41] Bassett et al. (2014) used individual survey information from the SLOOS matched with further bank-specific information to develop their indicator, which renders a loan supply variable "purged" of demand-related components as reflected in replies to questions on loan demand in the SLOOS as well as other bank-specific and macroeconomic information. Owing to the anonymity of the individual BLS replies, Altavilla et al. (2015) were restrained to using within-survey information at the bank level complemented with aggregate information at the country level to purge demand-related effects from their indicator.

area enterprises resulting from factors which are not directly related to loan supply, like macroeconomic, firm-specific and monetary conditions. The adjusted loan supply indicator provides in part somewhat different signals regarding the gravity of the tightening as compared with aggregate BLS results on the net tightening of credit standards. This relates to the fact that factors not directly related to "pure" supply-side determinants of changes in credit standards are largely filtered out. The authors embed this indicator as an external instrument into their panel BVAR to identify loan supply shocks. Their results indicate that loan supply shocks resulted in higher lending rates, a protracted contraction of loan volumes and GDP growth as well as incentives for firms to tap debt securities markets for their funding.

Studies focusing on individual euro area countries only to a limited extent use aggregate national BLS data for disentangling loan demand and loan supply to explain aggregate credit growth. In this context, Lacroix and Montornès (2010) identify leading indicator properties of aggregate French BLS results. Burdeau (2015) assesses in the framework of a dynamic disequilibrium model the credit supply and demand dynamics for loans to French SMEs. For Italy, Panetta and Signoretti (2010) show the high correlation between residuals of estimated credit demand equations and changes in Italian credit standards reported by banks in the Italian BLS sample, indicating the relevant role of credit supply factors for loan growth. In general, these studies face the problem of a rather limited number of observations from the respective national time series on changes in credit standards which renders econometric inference a challenging endeavour.

However, an increasing number of studies for individual countries take advantage of the heterogeneity and the larger number of observations at the granular level by combining individual BLS replies with quantitative data at the individual bank level, such as bank balance sheet data, bank lending rates and financial market data. Such granular data allow for a deeper identification of structural relationships, making it possible to trace the different channels of monetary policy transmission and particularly the credit channel. Such studies have been conducted on the Italian, German, French and Dutch BLS banks. Overall, they confirm the findings at the euro area level regarding the explanatory power of loan supply effects and the existence of a bank lending channel of monetary policy transmission in the respective countries.

The first seminal work in this context was provided by Del Giovane et al. (2011) for Italy.[42] For the banks in the Italian BLS sample, they combine individual BLS bank replies and bank balance sheet data to disentangle demand and supply effects in Italian loan developments, estimating a reduced-form lending equation for Italian BLS banks. Del Giovane et al. (2013) build upon the latter work and assess the loan dynamics of individual Italian BLS banks within a structural econometric model to identify the impact of loan supply and demand factors on developments in lending spreads and loan growth. For Germany, Blaes (2011) broadly follows the initial

[42] The first empirical analyses combining individual BLS data with quantitative bank-level data were conducted in Hempell (2005), but were limited by a rather short sample period of eight quarters at the time of the study.

reduced-form approach applied by Del Giovane et al. (2011). In an extension, the reduced-form equation is augmented by latent determining factors of changes in credit standards derived via dynamic factor analysis. These latent factors summarise the effects of bank-related and risk-related effects covered by the broader set of determining factors included in the survey.[43] Also, Labonne and Lamé (2014) apply a reduced-form approach using French individual BLS bank replies; their analysis focuses on the impact of regulatory capital requirements on bank lending (see also Section 5.4). Finally, van der Veer and Hoeberichts (2013) likewise apply a similar reduced-form approach when analysing Dutch individual BLS replies and relevant quantitative microdata on lending volumes and rates. The focus in their assessment is the additional inclusion of cumulated values both for credit standards and loan demand as additional explanatory variables to cover the actual degree of tightness in credit supply or the level of loan demand. In contrast to their results, Del Giovane et al. (2011) and Nobili and Orame (2015) do not find evidence supporting the view that these constructed level variables have additional explanatory power for loan dynamics, on top of the changes in credit standards (a more detailed discussion on the level of credit standards is provided in Section 4.6).[44]

5.2 Analysis of the specific impact of the financial and the sovereign debt crises on euro area loan supply

An increasing range of studies have taken advantage of the qualitative information contained in the BLS to identify loan supply effects and the changes in the monetary transmission channels during the recent financial and sovereign debt crises. Overall, they find more pronounced credit constraints during the crises, coupled with stronger effects of the bank lending channel in the transmission of monetary policy. The empirical approaches range from (dynamic) cross-country panel models, through Bayesian cross-country panel VARs, to dynamic panel models at the individual bank level for individual countries.

Turning first to early work using cross-country panel models, Hempell and Kok Sørensen (2010) provide evidence that the impact of supply-side constraints related to banks' access to wholesale funding and their liquidity position was reinforced during the early financial crisis. According to their results, corresponding adjustments in banks' loan portfolios occurred primarily via prices rather than outright quantity restrictions during this period.[45]

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43 A first assessment on the latent driving factors of credit standards and credit demand based on individual BLS replies for the euro area and for Germany was provided in Hempell (2007) within a static principal component model.

44 For an encompassing discussion in this respect covering the Dutch and Italian cases, see van der Veer and Hoeberichts (2013) and Nobili and Orame (2015), respectively.

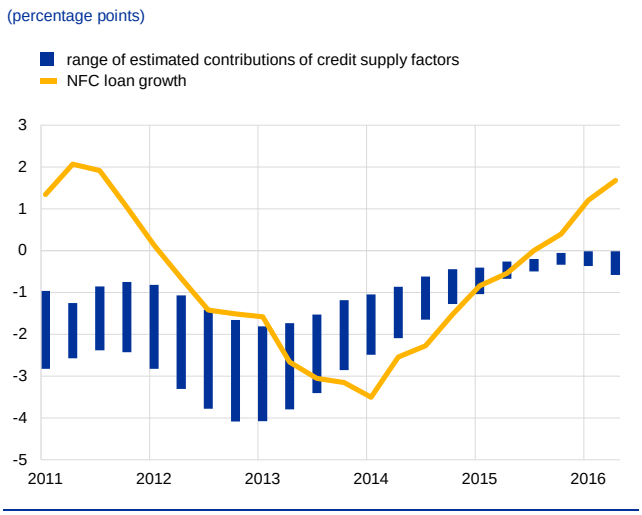
45 In an assessment of banks' deposit margins applying a cross-country panel estimation approach, Hempell and Kok Sørensen (2011) find indications of cross-subsidisations from the higher pricing of loans to the higher remuneration of deposits using information on banks' loan terms and conditions extracted from the BLS. At the same time, using country-level information from a BLS ad hoc question on banks' access to wholesale funding markets, their results indicate that the disruptions to market-based funding observed during the financial and sovereign debt crises had adversely affected euro area banks' deposit margins.

In order to better cover the interlinkages between different macroeconomic parameters, more recent studies using aggregate country BLS data typically apply panel BVARs. Within such a framework, Ciccarelli et al. (2013) employ cross-country aggregate BLS information for the identification of loan supply shocks. In line with the above-mentioned paper from Hempell and Kok Sørensen, their results also indicate an amplified propagation channel during the financial crisis, particularly for countries facing sovereign debt distress. According to their results, this amplification operates via the credit channel comprising both the bank lending channel and the borrower balance sheet channel. In this context, they highlight the time-varying character of the monetary transmission mechanism and the influence of the financial fragility of sovereigns, banks, firms and households. In the same vein, Hristov et al. (2012), in relation to an earlier version of Ciccarelli et al. (2013), find a significant contribution of loan supply shocks to the decline in loan volumes and real GDP during the financial crisis. They likewise stress the heterogeneity of these effects regarding timing and magnitude across euro area countries. Bijsterbosch and Falagiarda (2015) address this observed time-varying character and heterogeneity across countries by estimating the panel BVARs as a time-varying parameter VAR (TVP-VAR). For robustness, they compare their identification of loan supply shocks based on sign restrictions with information from the BLS on changes in credit standards. They find a similar evolution of the BLS information and their model-driven structural credit supply shocks, with a high positive correlation between the two measures. In line with the cited previous results, their findings suggest that the effects of credit supply shocks on loan growth and GDP growth have increased since the start of the financial crisis, displaying a high degree of cross-country heterogeneity between countries more affected by the sovereign debt crisis and other countries. While according to their results the importance of loan supply as a constraining factor for GDP growth declined in most of the countries more affected by the sovereign stress, particularly after mid-2012, tight loan supply conditions remained a restraining factor for loan growth in most euro area countries until the end of their sample period in mid-2013.

As described in the previous section, Altavilla et al. (2015) use anonymous individual BLS bank replies instead of aggregate BLS results to construct an indicator for the tightening of loan supply as an external instrument for their panel BVAR to identify loan supply shocks. For the recent crises, they show that tightening shocks to the supply of loans to enterprises explain a sizeable share of the decline in loan volumes and real activity observed following the euro area sovereign debt crisis. In addition, in their model tightening shocks explain the widening of credit spreads and the substitution between bank loans and bonds issued by firms observed during this period. For illustration, **Chart 93** includes their results in a summary of two different model estimates using BLS information and assessing the different supply factors contributing to loan growth during the crises.

Chart 93

Estimates of the impact of supply shocks to the annual growth of loans to enterprises



Source: ECB.
Notes: Ranges of estimated contributions of loan supply factors (light blue bars) to the annual growth rate of loans to enterprises based on two different models using BLS information (panel VAR model: Darracq Paríes and de Santis, 2015; Bayesian VAR: Altavilla et al. 2015). Latest observation: Q2 2016.

At the national level, individual BLS bank replies matched with additional quantitative bank-specific data allow for a closer structural identification of the propagation channels. For Germany, Blaes (2011)[46] finds that the relative explanatory power of BLS indicators varies substantially over time. While the explanatory power remained very limited until mid-2009, it increased markedly afterwards. According to these results, pure bank-side determinants of changes in credit standards, i.e. banks' capital position, access to market financing and banks' liquidity position, contributed to more than one-third of the explained negative loan development during this period in Germany. For Italy, results by Del Giovane et al. (2013)[47] suggest that loan supply restrictions were stronger during the sovereign debt crisis than the global financial crisis, mainly related to stronger bank funding constraints (see also the evidence provided in Chapter 3 for Italy and in Chapter 4 for the euro area). According to their findings, the tightening during the sovereign debt crisis was largely driven by the widening of the sovereign spread and less so by idiosyncratic bank funding problems. Via a counterfactual exercise they estimate such supply effects to have levelled up interest rates by more than 2 percentage points and reduced loan volumes by more than 8% in the second quarter of 2012 relative to the scenario of no tightening of credit standards in the course of the crisis.

5.3 Assessment of the transmission of the ECB's non-standard measures to euro area loan developments

Against the background of the series of non-standard measures applied by the ECB in response to the global financial crisis and the sovereign debt crisis, first studies also use BLS information to assess the transmission of these measures to loan developments and economic activity. These studies include qualitative BLS results in their panel BVAR frameworks to take account of otherwise unobservable information on the determinants of the bank lending process. The latter is of particular relevance in the context of the transmission of the ECB's non-standard measures as they were largely targeted at directly improving banks' funding and liquidity environment in order to address related impairments in the monetary transmission channels.

In this context, Ciccarelli et al. (2013) provide some preliminary evidence for the euro area for their sample period up to the third quarter of 2011. According to their assessment, via its liquidity-providing measures, such as the full allotment policy and

[46] See Section 5.1 for some further details on this study.
[47] See Section 5.1 for some further details.

the LTROs, the Eurosystem deactivated the bank lending channel with regard to monetary policy shocks defined as changes in the monetary policy rate. By contrast, they find the non-financial borrower channel of monetary policy to be quantitatively significant over the whole period 2008-11 for countries particularly exposed to the sovereign debt crisis with respective credit frictions persisting. By contrast, Boeckx et al. (2014) model in their BVAR a monetary policy shock as an ECB balance sheet extension rather than a change in the monetary policy rate. They find that supply conditions are significantly loosened after an expansionary shock to the ECB balance sheet, while loan demand is not significantly affected. Following their interpretation, these results corroborate the view of an operational bank lending channel of monetary policy transmission during this sample period.[48]

Darracq-Paries and De Santis (2015), in turn, focus their assessment on the specific effects of the three-year LTROs introduced by the ECB in December 2011 via credit supply channels. They interpret this measure as a credit supply shock and identify this shock drawing on BLS information. The size of the shock is computed by using BLS replies to the regular April 2012 BLS round as well as to confidential ad hoc questions dedicated to this measure in February 2012 (see Section 2.3). Their results suggest an expansionary impact of the three-year LTROs over the short to medium term, with a more immediate impact on output and only a gradual effect on loan dynamics. In addition, they find a limited effect on bank lending spreads as compared with loan volumes which they interpret as an indication that the LTROs have acted more via quantitative credit easing than a lower cost of financing.

5.4 Relationship between monetary policy, financial stability and macro- or microprudential policies

Several studies also use the unique qualitative information contained in the BLS results to assess more closely the relationship between monetary policy, financial stability and macro- or microprudential policies. Again the approaches vary depending on the national or euro area-wide focus of the study and on data availability.

First studies in this regard are Maddaloni and Peydro (2011, 2013) using cross-country panel regressions to assess the functioning of the risk-taking channel and, in this regard, the interaction of monetary and microprudential policies and their repercussions on financial stability. Their results suggest that low monetary policy rates tended to soften credit standards for household and corporate loans in the pre-crisis period. This effect is found to be amplified by securitisation activity, by weak prudential policy on either bank capital or loan-to-value ratios and by low monetary policy rates for an extended period of time.[49] In a complementary analysis, Ciccarelli

[48] Evidence from cross-country regressions in Maddaloni and Peydro (2013) likewise suggests that the provision of central bank liquidity was conducive to the transmission of lower monetary policy rates in the post-2008 period.

[49] Maddaloni and Peydro (2011) find similar evidence for a risk-taking channel also for the US using aggregate data from the SLOOS. Paligorova and Santos (2015) broadly confirm these findings in an encompassing panel estimation framework based on individual bank replies to the SLOOS.

et al. (2013)[50] assess the impact of financial stability on monetary policy transmission. Within a panel BVAR framework, they find that monetary policy transmission is not only time-varying but also influenced by the financial fragility of sovereigns, banks, firms and households acting as amplification mechanisms.

In direct relation to macroprudential policies, Tressel and Zhang (2016) use cross-country data from the BLS in cross-country panel regressions to assess the effectiveness of these policies with regard to the macroprudential objective of containing the growth of housing loans as well as the appreciation of house prices. From the impact of the determinants of credit standards and lending conditions, such as banks' capital positions and loan-to-value ratios, on loans and house prices, they draw inferences on the potential of these measures to attain such a macroprudential objective. They interpret their results as indicating that instruments targeting the cost of bank capital are most effective in slowing down credit growth, mainly via an increase in lending margins. They infer that limits on loan-to-value ratios are particularly effective in an environment of excessively loose monetary policy.

Regarding the specific impact of banks' capital ratios and related supervisory requirements on bank lending to enterprises, Labonne and Lamé (2014) match individual BLS replies of French banks with bank balance sheet data from banks' quarterly reports to the supervisory authority for the period from 2003 to 2011; these data include discretionary capital requirements as set by the French supervisory authority. Analysing these data within a panel estimation framework, the authors find for French BLS banks a positive relationship between banks' capital position and growth of lending to enterprises which, however, declines with the intensity of supervisory capital constraints.

[50] See also Sections 5.1-5.3 for some further details on this study.

6 Conclusions

This paper has presented the development of the euro area BLS since its introduction in 2003 and its growing use in particular during the financial crisis. First, the BLS standard questions on bank lending conditions have proven to be an important tool for analysing bank loan supply and demand and for forecasting bank loan growth. Bank lending conditions and their contributing factors, like risk perceptions, banks' cost of funds and balance sheet constraints and competition, as well as bank loan demand and its contributing factors, display a close relationship with quantitative macroeconomic and financial data and other survey data. The BLS thus complements the assessment of euro area economic developments with an insight into the specific impact of loan supply and demand on bank loan growth and ultimately real economic growth.

Second, in particular the ad hoc questions on banks' access to funding and on the impact of the ECB's standard and non-standard measures during the financial crisis have served as an important input into the monetary policy assessment. Results for these ad hoc questions have provided evidence on the impact of the ECB's measures like the TLTROs and the APP on banks' financial situation (e.g. on bank profitability) and on the purposes for which banks use the additional funds (e.g. for granting loans). In addition, BLS bank replies have shown the impact of the ECB's monetary policy measures on bank lending conditions. The literature review confirms the use of the BLS as an important tool for assessing the impact of the financial and sovereign debt crises on euro area loan supply and for assessing the transmission of the ECB's non-standard measures to euro area loan developments.

Moreover, the analysis of bank lending conditions across euro area countries attracted increasing attention during the financial crisis given the heterogeneity of bank funding conditions and differences in the pass-through of the ECB's key rate cuts to bank lending conditions for borrowers. In particular, as presented in this paper for the four largest euro area countries, bank lending conditions in the vulnerable euro area countries deviated considerably from bank lending conditions in the less vulnerable countries during the financial crisis. Specifically, related to the housing market boom in some euro area countries ahead of the crisis, banks in Spain in particular tightened their credit standards at the beginning of the financial crisis considerably more than for instance banks in Germany. In addition, during the sovereign debt crisis, the tightening response of banks in the vulnerable countries, especially in Italy, was considerably more pronounced than that of banks in the less vulnerable countries. Overall, the dispersion of financing conditions increased across all euro area countries during the financial crisis.

Going forward, the BLS – as a regular tool for reporting on bank lending conditions and for analysing loan demand and supply – will continue to play an important role in the assessment of bank lending conditions in the euro area. Given the importance of the monetary policy transmission channel in a bank-dominated financial system such as the one in the euro area, it will continue to provide a valuable input to the

Eurosystem's monetary policy preparation. Specifically, the analysis based on the individual BLS bank replies is likely to play an increasing role, as it allows a more granular assessment of bank lending conditions and of the impact of the ECB's monetary policy measures.

Annex
Overview of changes in the bank lending survey questionnaire[51]

New BLS questionnaire (from Q1 2015)		Previous BLS questionnaire (until Q4 2014)	
Question	**New item or definition**	**Question**	**Previous item or definition**
	I. Loans or credit lines to enterprises		
1	Revised definition of credit standards (see Glossary)	1	
2	Revised factors affecting credit standards on loans or credit lines to enterprises:	2	
	* General economic situation and outlook		* Expectations regarding general economic activity
	* Industry or firm-specific situation and outlook/borrower's creditworthiness		* Industry or firm-specific outlook
	* Your bank's risk tolerance		--
3	Revised definition of credit terms and conditions for new loans (see Glossary)	3	
	* Overall terms and conditions		--
	* Your bank's loan margin (i.e. the spread over a relevant market reference rate)		* Your bank's margin on loans
4	NEW question: Factors affecting banks' credit terms and conditions for new loans or credit lines to enterprises	--	
5	NEW question: Share of rejected enterprise loan applications	--	
6	Revised definition of loan demand (see Glossary)	4	
7	Revised factors affecting the demand for loans or credit lines to enterprises:	5	
	* General level of interest rates		--
	* Debt refinancing/restructuring and renegotiation (when leading to an increase or prolongation of the amount borrowed)		* Debt restructuring
	* Issuance/redemption of debt securities		* Issuance of debt securities
	* Issuance/redemption of equity		* Issuance of equity
8	Revised definition of credit standards (see Glossary)	6	
9	Revised definition of loan demand (see Glossary)	7	
	II. Loans to households		
10	Revised definition of credit standards (see Glossary)	8	
11	Revised factors affecting credit standards on loans to households for house purchase:	9	
	* General economic situation and outlook		* Expectations regarding general economic activity
	* Housing market prospects, including expected house price developments		* Housing market prospects
	* Borrower's creditworthiness		--
	* Your bank's risk tolerance		--
12	Revised definition of credit terms and conditions for new loans (see Glossary)	10	
	* Overall terms and conditions		--
	* Your bank's loan margin (i.e. the spread over a relevant market reference rate)		* Your bank's margin on loans
	* Other loan size limits		--

[51] See the ECB's website for the current BLS questionnaire. For previous versions of the questionnaire, see the annex of the respective BLS website report.

13	NEW question: Factors affecting banks' credit terms and conditions for new loans to households for house purchase	**--**
14	Revised factors affecting credit standards on consumer credit and other lending to households:	**11**
	* General economic situation and outlook	* Expectations regarding general economic activity
	* Your bank's risk tolerance	--
15	Revised definition of credit terms and conditions for new loans (see Glossary)	**12**
	* Overall terms and conditions	--
	* Your bank's loan margin (i.e. the spread over a relevant market reference rate)	* Your bank's margin on loans
	* Size of the loan	--
16	NEW question: Factors affecting banks' credit terms and conditions for new consumer credit and other lending to households	**--**
17	NEW question: Share of rejected applications for loans to households for house purchase and consumer credit and other lending to households	**--**
18	Revised definition of loan demand (see Glossary)	**13**
19	Revised factors affecting the demand for loans to households for house purchase:	**14**
	* Housing market prospects, including expected house price developments	* Housing market prospects
	--	* Non-housing related consumption expenditure
	* General level of interest rates	--
	* Debt refinancing/restructuring and renegotiation (when leading to an increase or prolongation of the amount borrowed)	--
	* Regulatory and fiscal regime of housing markets	--
	* Internal finance of house purchase out of savings/down payment (i.e. share financed via the household's own funds)	--
	--	* Household savings
	* Other sources of external finance	* Other sources of finance
20	Revised factors affecting the demand for consumer credit and other lending to households:	**15**
	* General level of interest rates	--
	* Consumption expenditure financed through real-estate guaranteed loans ("mortgage equity withdrawal")	--
	--	* Securities purchases
	* Internal finance out of savings	--
	--	* Household savings
	* Other sources of external finance	* Other sources of finance
21	Revised definition of credit standards (see Glossary)	**16**
22	Revised definition of loan demand (see Glossary)	**17**

Glossary

To assist respondent banks in filling out the questionnaire, this glossary defines the most important terminology used in the bank lending survey. This glossary has been revised together with the introduction of the enhanced bank lending survey questionnaire in April 2015.

Capital

Defined in accordance with the regulatory requirements set out in the CRR/CRD IV, which transposes the global standards on bank capital (i.e. the Basel III agreement) into the EU legal framework and entered into force on 1 January 2014. It includes both Tier 1 capital and Tier 2 capital (supplementary capital).

Collateral

The security given by a borrower to a lender as a pledge for the repayment of a loan. This could include certain financial securities, such as equity or debt securities, real estate or compensating balances. A compensating balance is the minimum amount of a loan that the borrower is required to keep in an account at the bank.

Consumer confidence

Consumers' assessments of economic and financial trends in a particular country and/or in the euro area. They include assessments of the past and current financial situation of households and resulting (income) prospects for the future, assessments of the past and current general political and economic situation and resulting prospects for the future and assessments of the advisability of making residential investments (question 19), particularly in terms of affordability, and/or major purchases of durable consumer goods (question 20). In this sense, an increase in consumer confidence would tend to lead to an increase in the demand for loans.

Consumer credit and other lending

Consumer credit is defined as loans granted for mainly personal consumption of goods and services. Typical examples of loans in this category are loans granted for the financing of motor vehicles, furniture, domestic appliances and other consumer durables, holiday travel, etc. Overdrafts and credit card loans also typically belong in this category. "Consumer credit and other lending" to households also includes loans to sole proprietors and partnerships (see Households). Loans included in this category may or may not be collateralised by various forms of security or guarantee.

Consumption expenditure financed through real estate-guaranteed loans

"Consumption expenditure financed through real estate-guaranteed loans" should be treated as consumer credit, even though such loans are guaranteed by real estate assets, as the purpose of these loans is consumption. Consumption expenditure financed through real estate-guaranteed loans represents mortgage equity withdrawal, leading to higher non-housing-related consumption.

Cost of funds and balance sheet constraints

The bank's capital and the cost related to the bank's capital position can become a

balance sheet constraint that may inhibit the expansion of its lending. For a given level of capital, the bank's loan supply could be affected by its liquidity position and its access to money and debt markets. Similarly, a bank could abstain from granting a loan, or be less willing to lend, if it knows that it will not be able to subsequently transfer the risk (synthetic securitisation) or the entire asset (true-sale securitisation) off its balance sheet. Moreover, risks related to non-performing loans may be reflected not only in the bank's risk perceptions, but also in its cost of funds and balance sheet constraints.

Covenant

A covenant is an agreement or stipulation expressed in loan contracts, particularly contracts with enterprises, by which the borrower pledges to take certain action (an affirmative covenant) or refrain from taking certain action (a negative covenant), and is consequently part of the terms and conditions of a loan.

Credit line

A credit line is a facility with a stated maximum amount which an enterprise is entitled to borrow from a bank at any given time. In the survey, a broad definition of credit lines should be applied, in which the information on the demand for new credit lines, and also on the use of credit lines previously granted, but not yet used, would be taken into account in assessing developments in loan demand.

Credit standards

Credit standards are the internal guidelines or loan approval criteria of a bank. They are established prior to the actual loan negotiation on the terms and conditions and the actual loan approval/rejection decision. They define the types of loan a bank considers desirable and undesirable, the designated sectoral or geographical priorities, the collateral deemed acceptable and unacceptable, etc. Credit standards specify the required borrower characteristics (e.g. balance sheet conditions, income situation, age, employment status) under which a loan can be obtained. In the survey, both changes in written loan policies and their application should be considered. Credit standards may change owing to changes in the bank's cost of funds and balance sheet situation, changes in competition, changes in the bank's risk perception, changes in the bank's risk tolerance or regulatory changes, for instance.

Credit terms and conditions

Credit terms and conditions refer to the conditions of a loan that a bank is willing to grant, i.e. to the terms and conditions of the loan actually approved as laid down in the loan contract which was agreed between the bank (the lender) and the borrower. They generally consist of the agreed spread over the relevant reference rate, the size of the loan, the access conditions and other terms and conditions in the form of non-interest rate charges (i.e. fees), collateral or guarantees which the respective borrower needs to provide (including compensating balances), loan covenants and the agreed loan maturity. Credit terms and conditions are conditional on the borrower's characteristics and may change in parallel with credit standards or independently of them. For instance, an increase in the bank's funding cost or a deterioration in the general economic outlook can lead to both a tightening in the approval criteria (credit standards) and a tightening of the terms and conditions on

those loans that the bank is willing to approve and its customers are willing to accept. Alternatively, the bank may only change its credit terms and conditions (e.g. increasing the required spread to compensate for the additional cost/risk) and leave credit standards unchanged.

Debt refinancing/restructuring and renegotiation

"Debt refinancing/restructuring and renegotiation" as a factor for loan demand refers to loan refinancing, loan restructuring and/or loan renegotiations that lead to an increase or prolongation of the amount borrowed. This includes the use of debt restructuring to avoid defaulting on existing debt (the avoidance of default being interpreted as an increase in demand), for instance via extending the maturity of the loan to avoid possible payment difficulties at maturity. At the same time, for assessing changes in loan demand, it should not include loan refinancing, restructuring and/or loan renegotiations which lead only to a change in the terms and conditions of the loan other than the loan size or the maturity of the loan.

Debt restructuring should not be interpreted as the switching between different types of debt (such as loans from monetary financial institutions (MFIs) and debt securities; this is already captured under the factor "Issuance/redemption of debt securities"), capital restructuring (substitution between debt and equity) or share buybacks (already captured under the factor "Issuance/redemption of equity"). Meanwhile, debt restructuring in the form of inter-company loans is already covered by the factor "Loans from non-banks".

Demand for loans

Loan demand refers to gross demand for loans from enterprises or households (including loan rollovers), but apart from normal seasonal fluctuations. It refers to the bank loan financing need of enterprises and households, independent of whether this need will result in a loan or not. Banks should assess the evolution of the bank loan financing need of enterprises and households in nominal terms (i.e. independent of price-level developments) and with reference to the financing need prevailing in the previous quarter (i.e. banks should not assess the evolution of financing needs relative to historical averages or other reference values such as sales targets). Demand for loans can change owing to either a shift of the demand curve (while the price remains constant) or a movement along the demand curve (i.e. because of a change in the price).

Down payment

The down payment captures the share of internal finance in a household's real estate investment, i.e. the share financed via the household's own funds, and is thus one factor determining the demand for loans to households for house purchase. The higher the household's internal financing out of its wealth, the higher the down payment and the smaller the household's demand for loans for house purchase.

Diffusion index

The diffusion index is defined as the difference between the weighted sum of the percentages of banks responding "tightened considerably" and "tightened somewhat", and the weighted sum of the percentages of banks responding "eased considerably" and "eased somewhat". Regarding demand for loans, the diffusion

index is defined as the difference between the weighted sum of the percentages of banks responding “increased considerably” and “increased somewhat”, and the weighted sum of the percentages of banks responding “decreased considerably” and “decreased somewhat”. The diffusion index is weighted according to the intensity of the response, giving lenders who have answered “considerably” a weight twice as high (score of 1) as lenders having answered “somewhat” (score of 0.5).

Enterprises

In this context, enterprises are non-financial corporations, i.e. in line with the Eurostat definition, institutional units whose distributive and financial transactions are distinct from those of their owners and which are market producers, whose principal activity is the production of goods and non-financial services. These can be public and private corporations, as well as quasi-corporations. Quasi-corporations have no independent legal status, but keep a complete set of accounts and have an economic and financial behaviour that is different from that of their owners and similar to that of corporations. Sole proprietorships and partnerships are included in the household sector (see Households).

Enterprise size

The distinction between large and small and medium-sized enterprises is based on annual net turnover. A firm is considered large if its annual net turnover is more than €50 million.

Households

In line with the Eurostat definition, households are individuals or groups of individuals acting as consumers and possibly also as entrepreneurs producing market goods and non-financial and financial services (market producers) provided that, in the latter case, the corresponding activities are not those of separate entities treated as quasi-corporations (i.e. sole proprietorships and partnerships). Non-profit institutions serving households are included in the household sector.

Housing market prospects, including expected house price developments

In question 11, “housing market prospects, including expected house price developments” refers to the risk related to the collateral demanded. In question 19, it refers to expected developments in the housing market, including an increase (decrease) in demand for housing loans owing to an expected increase (decrease) in the cost of buying a house and/or in the perceived returns from investing in property.

Loans

The loans covered by the bank lending survey are those granted to euro area residents by domestic branches, including loans or credit lines to enterprises, loans to households for house purchase, and consumer credit and other lending to households.

The definition of loans is that given in Regulation (EU) No 1071/2013 of the ECB of 24 September 2013 concerning the balance sheet of the monetary financial institutions sector (recast) (ECB/2013/33). However, interbank loans should be excluded. Following this definition, financial (but not operating) leases granted by an MFI are to be recorded as loans. For the purposes of the survey, factoring, if

provided by an MFI, should also be treated as a loan. Financial leasing and factoring offered by institutions other than MFIs should not be included.

Loan application

Ideally, loan applications should cover formal loan applications as well as any informal loan requests which have not yet reached the stage of a formal loan application. If information on informal loan requests cannot be obtained, the bank's response should at least refer to all formal loan applications. It should be referred to the volume of loan applications. Loan applications can be from both new and existing bank clients. However, applications from existing clients should be included only if the volume of an ongoing loan increases or a new loan is granted.

Loan rejection

"Loan rejection" refers to the rejection (as opposed to the approval) of the volume of formal loan applications or of loan requests. If information on the latter is unavailable, the bank's response should at least refer to all formal loan applications which have been rejected. It should be referred to the volume of loan rejections relative to the volume of loan applications/requests. Loan rejections do not include cases in which the borrower withdraws a loan application/request because the bank's conditions are considered unfavourable.

Loan margin/spread over a relevant market reference rate

The loan margin of a bank should be understood as the spread over a relevant market reference rate (e.g. EURIBOR, LIBOR or the interest rate swap of a corresponding maturity for fixed rate loans), depending on the characteristics of the loan. Such a spread would capture changes in the bank's lending rates related to changes in the bank's funding cost as well as in borrower risk, i.e. changes in the bank's lending rates which are not related to variations of market rates (like EURIBOR or LIBOR). In detail, the spread would capture changes in the bank's risk premium in its own market-based funding cost (e.g. in bank bond yields), changes in the bank's deposit funding cost, changes in the bank's risk assessment of borrowers, as well as changes in any other add-on factor not related to variations of market rates.

Loan-to-value ratio

The ratio of the amount borrowed to the appraisal or market value of the underlying collateral, usually taken into consideration in relation to loans used for real estate financing.

Marketing campaigns

Marketing campaigns should be interpreted as a factor affecting loan supply only when credit standards or credit conditions change. If this is not the case, marketing campaigns may be understood as a factor with a possible impact on loan demand. In this instance, respondents should indicate the role of marketing campaigns under "Other factors" in questions 7, 19 and 20 on the factors affecting loan demand.

Maturity

The concept of maturity used in questions 1, 6, 8 and 9 of the bank lending survey is original maturity, and only two different types are used, i.e. short-term and long-term.

Short-term loans are loans with an original maturity of one year or less and, consequently, long-term loans are loans that have an original maturity of more than one year.

Net percentage (or balance)

In the context of credit standards, the net percentage is defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat", and the sum of the percentages of banks responding "eased considerably" and "eased somewhat". Regarding demand for loans, the net percentage is defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat", and the sum of the percentages of banks responding "decreased considerably" and "decreased somewhat".

Non-banks

In general, these are non-monetary financial corporations. More specifically, they include insurance corporations and pension funds, financial auxiliaries and other financial intermediaries.

Non-interest rate charges

These are various kinds of fees which can be part of the pricing of a loan, such as commitment fees on revolving loans, administration fees (e.g. document preparation costs) and charges for enquiries, guarantees and credit insurance.

Perception of risk and risk tolerance

Perception of risk refers to the bank's perception of actual risk and its reaction to developments related to the general economic situation and outlook, the industry or firm-specific situation and outlook, the borrower's creditworthiness, as well as the collateral demanded (demand-side factors). By contrast, risk tolerance refers to the risk tolerance of the bank in its lending policy, which may alter owing to changes in the bank's underlying business strategy (supply-side factors). Banks' perception of actual risk and their risk tolerance may either change in line with each other or move in different directions.

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