

# *Kiel* **Policy Brief**

## **Do we Face a Credit Crunch?**

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**Abstract**

*The weakness of credit growth in the United States and Europe has given rise to concerns that the financial crisis has led to a credit crunch which has deepened the recession in the real economy and poses a serious threat to the recovery that seems to have started in the most recent months. In this contribution we find that so far the development of credit aggregates and interest rates for loans does not provide strong evidence for a supply restraint that goes beyond what could be expected given the deterioration of the quality of borrowers against the background of the exceptionally severe economic downturn. Still, the behaviour of interest rate spreads in the United States does indicate that the effectiveness of monetary policy is reduced for the time being as a result of distress in the financial sector, and we see some risks that inappropriate bank capitalization may restrain credit growth and threaten the current recovery, especially in Germany where core capital is low by international standards. Policy measures to avoid a credit crunch should focus on preventing undercapitalization of banks from becoming a serious limitation to credit growth.*

Since late summer 2008, when the global financial crisis hit with full force, the credit expansion in both the US and the Euro Area has slowed drastically. The weakness in credit growth has given rise to concerns that the financial crisis has led to a credit crunch which has deepened the recession in the real economy and poses a serious threat to the recovery that seems to have started in the most recent months. In this contribution we discuss the evidence for a credit crunch in the United States, the Euro Area and Germany from different angles, with the approach varying from country to country mainly due to differences in data availability. Our analysis is based on a definition of credit crunch as a substantial reduction of new loans that is driven by credit supply and restricts the access to credit at reasonable conditions even for fundamentally sound borrowers. We conclude that at this point the development of credit aggregates and interest rates for loans does not clearly point to a supply restraint that goes beyond what could be expected given the deterioration of the quality of borrowers against the background of the exceptionally severe economic downturn. That said, the behaviour of interest rate spreads in the United States does indicate that the effectiveness of monetary policy is reduced for the time being as a result of distress in the financial sector, and we see some risks that inappropriate bank capitalization may restrain credit growth and weigh on the recovery going forward, especially in Germany where core (tier 1) capital is low by international standards.

In the next section we briefly discuss issues related to the concept of a credit crunch and lay out different routes of approaching the question of identifying a credit crunch. We then consecutively present evidence for the US, Germany, and the Euro Area, before we conclude and suggest policy implications.

## 1 Economic Concepts and Analytical Issues

The term credit crunch is widely used in the public, although less so in the academic literature.<sup>1</sup> There is, however, no common definition. In many cases shrinking credit growth and tightened credit standards are taken as indication of a credit crunch, or anecdotal evidence of firms having been shut off from new credit is behind the commentator's use of the term. In the current situation there are particularly three elements of data that seem to suggest that there is a credit crunch: (1) survey results according to which the majority of firms is stating that credit is harder to obtain; (2) shrinking bank lending; and (3) the volume of corporate bond issuance is swelling, especially in the US, despite higher risk premia.

However, credit growth and attitudes of banks to lend are usually procyclical. Tighter lending standards are a normal reaction of banks to the reduced quality of their borrowers and the increased risk of loan losses in times of economic slowdown or outright contraction. And slower bank lending is usually going hand in hand with economic downturns as a result of both more cautious behaviour of banks and slowing credit demand of firms and/or households that typically try to reduce their debt burden when revenues are down. A credit crunch, by contrast, is generally defined as a reduction of the supply of credit that goes beyond what is warranted by changes in the economic environment, or as "a significant leftward shift in the supply curve for bank loans, holding constant both the safe real interest rate and the quality of potential borrowers" (Bernanke and Lown 1991: 209).<sup>2</sup>

This definition implies, however, that in a market environment with perfect clearing all would-be borrowers could still obtain credit, albeit at a higher market-clearing interest rate. Such a concept does not fully coincide with the widespread perception that a credit crunch is associated with some kind of credit rationing with the result that even some fundamentally sound borrowers seeking to finance profitable investments find it hard to acquire bank credit at acceptable conditions. In line with this idea the German Council of Economic Advisers (SVR 2002: 109) defined a credit crunch as a situation in which the supply of credit is restricted below the range usually identified with prevailing market interest rates and the profitability of investment projects.

Most prominent theoretical arguments to motivate credit rationing include bank capital reductions due to writedowns on the value of their portfolio of loans and securities, valuation losses on supplementary capital or changes in regulation which lower the capacity of banks to lend (Bernanke and Gertler 1995). Portfolio theory can also explain credit rationing behaviour by banks as a reaction to an unexpected rise in the risk contained in the portfolio. Finally, market forces may induce credit restraint as banks react to the threat of deposit withdrawals and punishment from equity markets.

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<sup>1</sup> A google search for the term yields more than 10 million results, while the electronic catalogue of the German National Library of Economics (ZBW) in Kiel, the world's largest specialist library for economics, finds only 148 titles featuring the term in the title or abstract.

<sup>2</sup> Shrinking bank lending can, thus, only be taken as indication of a credit crunch if it takes place in an environment of low interest rates and an expanding economy, as has been experienced in parts of the United States in the late 1980s (Clair and Tucker 1993).

Summing up, a credit crunch cannot be identified easily on the basis of observable data such as credit volumes and assessments of credit availability because developments can be demand driven rather than supply driven and the economic environment is not stable.

In order to identify a credit crunch two principal approaches can be taken. The first approach involves the comparison of current developments with past episodes of economic contraction and infer from unusual behaviour of relevant variables information on the prevalence of a credit crunch. We follow this route for the United States where sufficiently long time series are readily available. The second approach aims at directly identifying a situation of rationed credit either in a macro approach by estimating credit demand and credit supply functions which allows to calculate a measure of excess demand (or excess supply) in the credit market, or by extracting information from micro data on the firm level. The assessment of the situation on the Euro Area level has to be much less sophisticated due to the short history of available data.

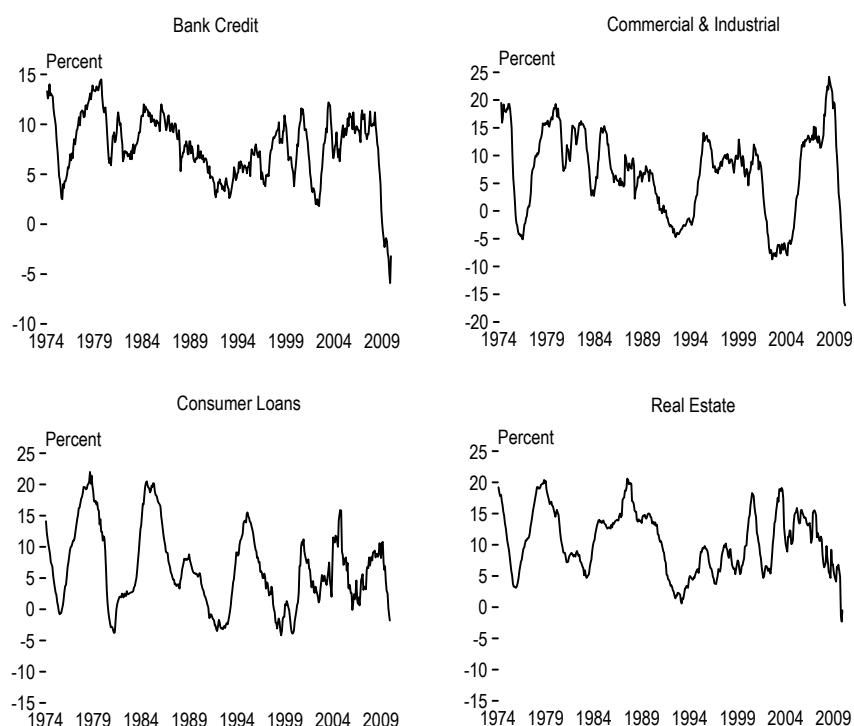
## **2 United States**

There is a broad consensus that the refinancing conditions for firms and private households in the United States have worsened considerably since the beginning of the financial crisis. Nevertheless, there is a more ambiguous picture in the literature when it comes to the question whether we witness an economy-wide credit crunch that dampens economic activity significantly, or just a tightening of credit conditions accompanied by a drop of demand for credit that is in line with the cyclical environment. Starting point of this discussion was a contribution of Chari et al. (2008), who pointed out that aggregate bank lending had developed surprisingly stable during the financial crisis – at least until October 2008 – and showed no sign of a broad deterioration of credit supply. Cohen-Cole et al. (2008) argued that it was necessary to take a much broader view in assessing the situation on the credit market suggesting that the dramatic decline of the issuance of asset-backed securities since the beginning of 2008 had substantially affected mechanisms by which the financial sector supports the real economy. Contessi and Francis (2009) investigate the development of new bank lending on the basis of a disaggregated data set for all commercial banks in the United States until the end of 2008. They find that until the third quarter 2008 also disaggregated data show little sign of distress, while in the fourth quarter a credit contraction started that is comparable to that which occurred during the Savings and Loan Crisis at the end of the 1980s and in 1990–1991, a period which is generally accepted as having been affected by a credit crunch.

### **2.1 Relatively Resilient Credit Growth**

To shed further light on this issue we first analyze recent aggregate data concerning the credit market. Then we provide new evidence by comparing the current situation with historic phases of monetary easing in order to assess whether the evolution of the credit market is untypically weak during the current financial crisis, and whether the Fed recently has lost some of its influence on the credit market.

Figure 1: Bank Credit in the United States 1974–2009



*Notes:* Percentage change, year over year. Corrected data account for take over of Washington Mutual by JP Morgan Chase by assuming that credit volume stayed constant from September to October 2008.

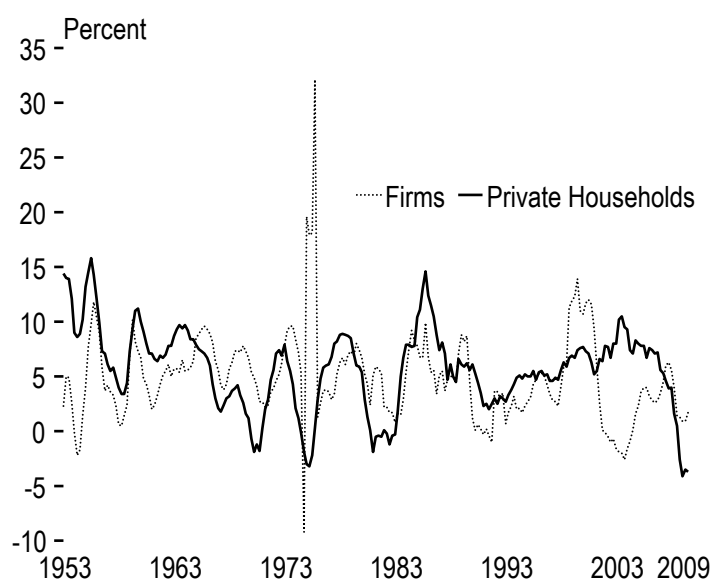
*Source:* Federal Reserve Board (2009); own calculations.

The expansion of aggregate (commercial) bank credit volume (year over year) has slowed drastically since the end of last year (Figure 1).<sup>3</sup> It started to even decrease in early 2009 – the first time since these data became available in 1973. The credit contraction is mainly driven by real estate and firm credit. The fact that consumer loans is the only component which evolves – compared to historical credit cycles – relatively stable is somehow surprising given the high level of household debt accumulated in recent years and the fall in the value of collateral seen since 2007. In contrast, the drop in real estate credit volume can be explained straightforward by the unprecedented massive correction experienced in the housing market after a prolonged and pronounced boom. Firm credit growth declined sharply and more pronounced than during former recessions. This could be first evidence in favor of a credit crunch, however, economic activity and therefore presumably demand for credit has fallen steeply in the past quarters as well. For the case of firm credit one should take into account that in the United States, bank credit in recent years accounted only for roughly 20 per cent of the overall refinancing of firms (ECB 2009a). Therefore, major problems in

<sup>3</sup> The picture gets even worse if one corrects for the effect of takeovers of savings banks through commercial banks that led to an upward bias of the official statistics (Contessi and Francis 2009). Most noticeable the acquisition of Washington Mutual by JP Morgan Chase on September 26, 2008 can explain a jump in the credit volume.

using other refinancing instruments such as asset-backed securities or bonds will have as severe consequences for the real economy as a shortage of bank credit supply. However, despite the collapse in issuance of asset-backed securities, the development of overall firm liabilities does not suggest that the financial crisis made it exceptionally difficult for firms to refinance as liabilities in real terms have not shrunk stronger than in previous recessions (Figure 2). By contrast, overall real liabilities of private households have decreased stronger than in past deleveraging phases.

Figure 2: Real Liabilities of Firms in the United States 1953–2009



Notes: Percentage change, year over year. Liabilities are deflated with GDP Deflator. Firms include nonfarm nonfinancial corporate business.

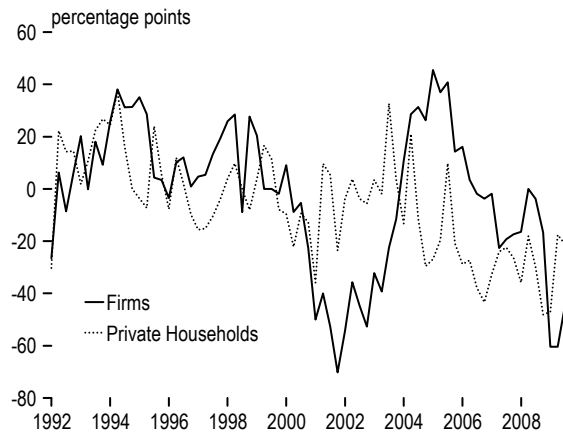
Source: Federal Reserve Board (2009); own calculations.

As noted already in the previous section, the observed credit volume is always the result of both supply and demand for credit and it is very hard to disentangle aggregate credit movements into supply and demand effects. A weakening of the volume of credit may therefore also mirror primarily declining demand for credit. The fact that we are facing the most severe recession since the Great Depression (and that this recession started already at the beginning of 2008) would be consistent with an even larger decline of credit demand than we have observed so far. Furthermore the relatively high level of debt of firms and private households should give them strong incentives to deleverage. A low degree of credit demand is confirmed by survey data from the Senior Loan Officer Opinion Survey on Bank Lending Practice (Figure 3).

The survey data suggest that demand of private households is weaker than in previous periods, while the demand of firms is roughly at the same level as during the last recession in 2001. On the other hand, survey data also suggest the presence of negative supply side effects as indicated by the remarkably strong tightening of credit standards and a historical

high fraction of firms reporting that credits are harder to get than before (Figure 4). It is, however, not clear whether the extent of tightening is already evidence for a credit crunch in the strict sense as a strong reaction of bank lending standards would have been expected given the exceptionally deep recession and the deterioration of loan quality associated with this.

Figure 3: Demand for Credit in the United States 1992–2009

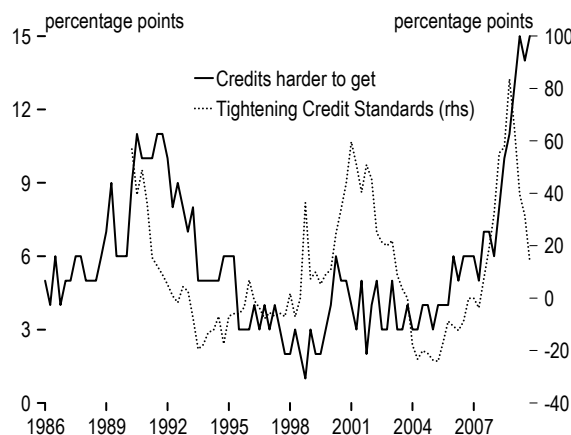


Note: Difference of share of banks that report a stronger demand for credit and banks that report a lower demand. Firms include large and medium-sized firms.

Source: Federal Reserve Board (2009).

Figure 4: Credit Standards and Access to Credits in the United States 1986–2009

Credit Standards and Access to Credits in the United States 1986-2009



Notes: Difference of share of banks that report a stronger demand for credit and banks that report a lower demand. Firms include large and medium-sized firms.

Sources: Federal Reserve Board (2009).

Summing up, there is some evidence that in the course of the financial crisis it has become much harder for firms and private households to get credit. It is very likely that a noticeable number of firms and households have lost access to new credit lines at banks. But this would have been expected given the depth and the length of the ongoing recession and the high uncertainty with respect to the economic outlook. These factors, at the same time, have also suppressed credit demand considerably. Overall aggregate data give no clear evidence that the United States have been facing an economy-wide credit crunch so far. Furthermore, at least for firms aggregate liabilities do not point to a massive problems in refinancing.

## 2.2 Reduced Effectiveness of Fed Policy in Comparison With Earlier Phases of Monetary Easing

In the current situation it is critical whether the Federal Reserve Board (Fed) is able to influence credit volume, credit conditions and market interest rates as usual, or whether the transmission mechanism of monetary policy through the commercial banking sector is disturbed. To address this question, we compare the development of these variables since autumn 2007 with the development during former phases of monetary easing. The results shed further light on the question, whether the current situation on credit markets is exceptionally bad and should be interpreted as a credit crunch.

For the purpose of comparison we calculate the average development of credit volume, credit standards and interest rates during the previous six phases of monetary easing and compare it with the development during the current phase of monetary easing that has started in September 2007.<sup>4</sup> Since macroeconomic conditions have changed considerably compared to earlier phases, say in the 1970s, we in addition separately compare the current development with the development of the variables in the most recent monetary easing phase, which started in the year 2001 and was not accompanied by exceptional distress in the banking sector.

Aggregate bank credit volume expanded less in the current phase of monetary easing compared with previous phases, particularly in the most recent months (Figure 5). This is mainly due to the exceptionally weak performance of real estate credit, whereas the behavior of both firm credit and consumer credit volumes is not, or not much weaker than in previous periods, especially if we take into account that the current recession is far deeper than the average of the recessions in the sample, or that in 2001.<sup>5</sup>

Comparing the costs of credit during this phase of monetary easing with those that prevailed in previous phases can give a strong signal whether there is a lack of credit supply at the heart of current developments. Cost of credit is determined by the price (measured as the spread between corporate bond yields and market interest rates for various types of loans, respectively, and the Federal Funds Rate) and the non-price lending terms (measured by credit standards).

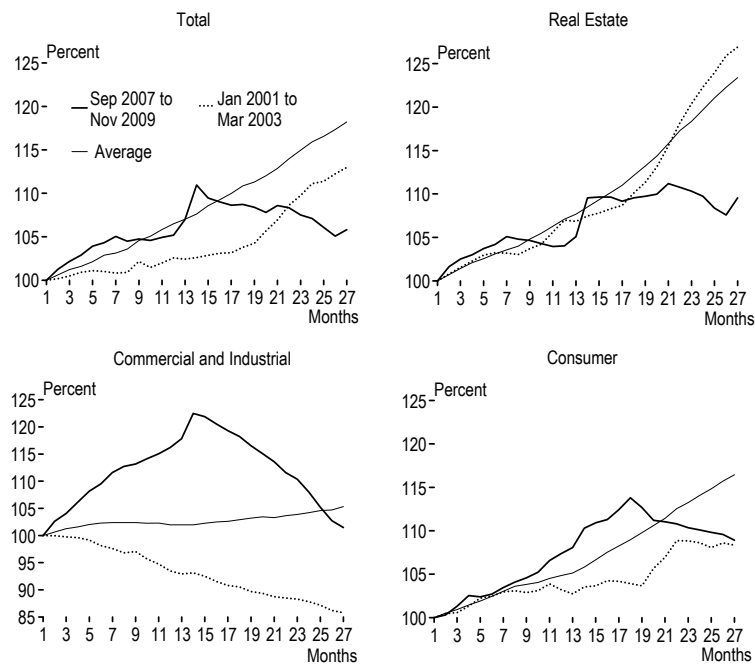
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<sup>4</sup> The six phases of monetary easing we take into consideration started in January 2001, June 1989, September 1984, May 1982, July 1974 and February 1970.

<sup>5</sup> Even if we take into the account that the data are biased upwards (there is no correction of the sectoral data for the effect of bank mergers), it is still hard to make the case that aggregate firm and consumer credit volume evolves exceptional bad.



Figure 5: Bank Credit during Phases of Monetary Easing in the United States



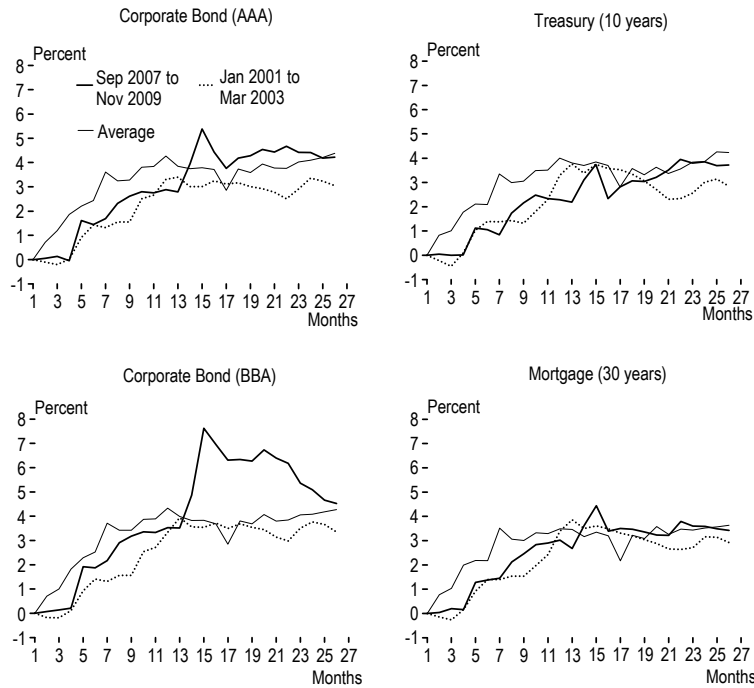
Notes: Scaled to 100 for the start of monetary easing phase. Current monetary easing phase compared with the average over the last six phases and the phase beginning in January 2001.

Source: Federal Reserve Board (2009); own calculations.

During the first part of the current phase of monetary easing the development of market interest rates did not differ significantly from that in earlier monetary easing phases. More recently, however, some interest rate spreads increased, and they are now higher than in earlier phases. This applies in particular for interest rate spreads for corporate bonds (Figure 6), but also spreads for consumer credits have become higher (Figure 7). Credit standards as a second important component of the overall refinancing conditions for firms and private households have been tightened dramatically stronger during the current phase of monetary easing (Figure 8). While in the case of consumer credits, conditions have more or less stopped being tightened further in recent months, standards for firms are still being tightened considerably stronger than during earlier phases.

Overall the comparison reveals some signs of distress in the banking sector. To be sure, credit volumes – with the exception of real estate credit volume – have developed relatively stable during the ongoing financial crisis. But interest rate spreads are currently generally higher than in past monetary easing phases, although the Fed does not seem to have lost its influence on the credit market totally. One reason for higher spreads could be that the Fed brought down the Federal Funds Rate to zero already in January 2009 and the quantitative monetary easing implemented subsequently needs some time to work through to market interest rates. Furthermore, there is some evidence that credit standards are not very sensitive to monetary policy (Lown and Morgan 2006). Nevertheless the severe tightening of standards and the low willingness to make installment loans suggests that credit supply has declined noticeably for firms and private households.

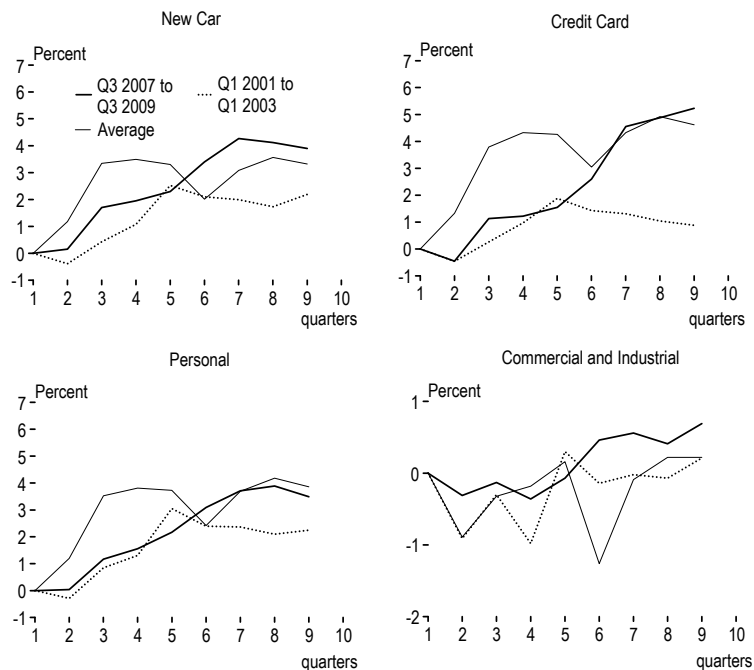
Figure 6: Interest Rate Spreads during Phases of Monetary Easing in the United States I



Notes: Spread between the respective market interest rate and the Federal Funds Rate. Monthly Data. Scaled to 0 for the start of the monetary easing phase. Current monetary easing phase compared with the average over the last six phases and the phase beginning in January 2001.

Source: Federal Reserve Board (2009); own calculations.

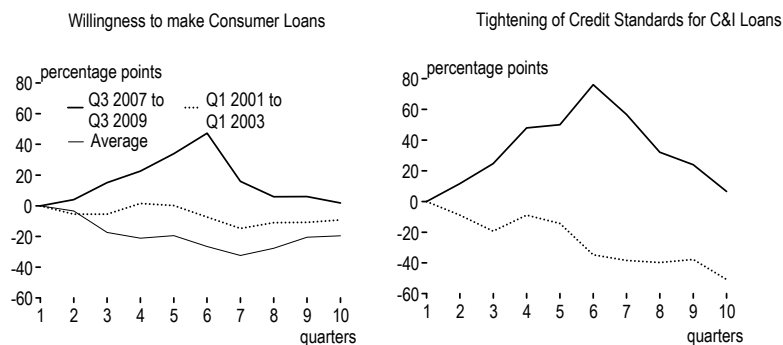
Figure 7: Interest Rate Spreads during Phases of Monetary Easing in the United States II



Notes: Spread between the respective market interest rate and the Federal Funds Rate. Quarterly Data. Scaled to 0 for the start of the monetary easing phase. Current monetary easing phase compared with the average over the last six phases and the phase beginning in January 2001.

Source: Federal Reserve Board (2009); own calculations.

Figure 8: Credit Standards during Phases of Monetary Easing in the United States



Notes: Scaled to zero for the start of the monetary easing phase. Increase indicates less willingness to make consumer installment loans or a net tightening of credit standards for Commercial and Industrial loans (C&I) for large and medium-sized firms. Data for credit standards are only available since 1992.

Source: Federal Reserve Board (2009); own calculations.

### 3 Germany

Growth in overall bank lending to the private sector in Germany has been also slowing, although relatively modestly. Year-on-year growth has declined from 3.8 per cent to 1.1 per cent between July 2008 and July 2009. The decline in the growth rate is primarily driven by the development of credit to the nonfinancial corporate sector, while credit to corporations in the financial sector (other than banks) continued expanding and growth of credit to private households, although still negative, even improved (Deutsche Bundesbank 2009). The volume of credit to nonfinancial corporations has been slowing since the end 2008 and has been declining significantly in sequential terms in most recent months.

Most analyses so far come to the conclusion that there is no credit crunch in Germany, at least for the time being. Access to credit seems to be even better than in the preceding economic downturn according to surveys, both among firms and among banks, and according to econometric studies. Surveys among nonfinancial firms, e. g. from ifo Institute, German Chamber of Commerce (DIHK) or KfW Bank, generally conclude that lending attitudes of banks are restrictive but to a lesser extent than at the comparable stage of the previous recession.<sup>6</sup>

This assessment is supported by the results of the Bank Lending Survey for Germany. While bank lending standards have been tightened substantially since autumn 2007, the degree of tightening does not seem to be unusually strong, and it has been relatively modest by international comparison. Moreover, the wave of tightening seems to be more or less over; in the October survey only a small number of banks reported having tightened credit standards further. Tighter standards are overwhelmingly justified with the macroeconomic outlook or a negative assessment of individual firm perspectives. Bank-specific issues such

<sup>6</sup> For details see Projektgruppe Gemeinschaftsdiagnose (2009: 50–51).

as problems with refinancing or balance sheet outlook or inadequate bank capitalization have been important in the immediate aftermath of the Lehman shock in autumn 2008 but have lost relevance in the course of this year. This may be taken as indication that a credit crunch in the sense of a supply restraint originating in the banking sector is less likely to be a serious problem for the time being. On the other hand, banks have continued to raise margins significantly in order to prop up profitability which could indicate continued reluctance to lend.

An econometric estimation of an equation for credit growth does not indicate unusual behaviour of credit growth in the current downturn. According to work at the Deutsche Bundesbank (2009: 25), the actual development of credits to nonfinancial corporations until mid-2009 did not significantly deviate from an estimated path where credit volume is determined by real GDP, the share of investment in equipment in GDP and the spread between corporate bond yields and government bond yields as a proxy for macroeconomic risk. If anything, credit growth has been holding up better than suggested by the equation, a result which is confirmed by estimates using a VAR model (Projektgruppe Gemeinschaftsdiagnose 2009: 52). High explanatory power of the econometric equation for credit growth in the current recession does, however, not necessarily mean that in the credit market there is no unusually strong restraint from the supply side because the question of causality is not resolved. It is possible that credit growth is also an important determinant of real economic activity giving rise to the problem of potential reverse causality.

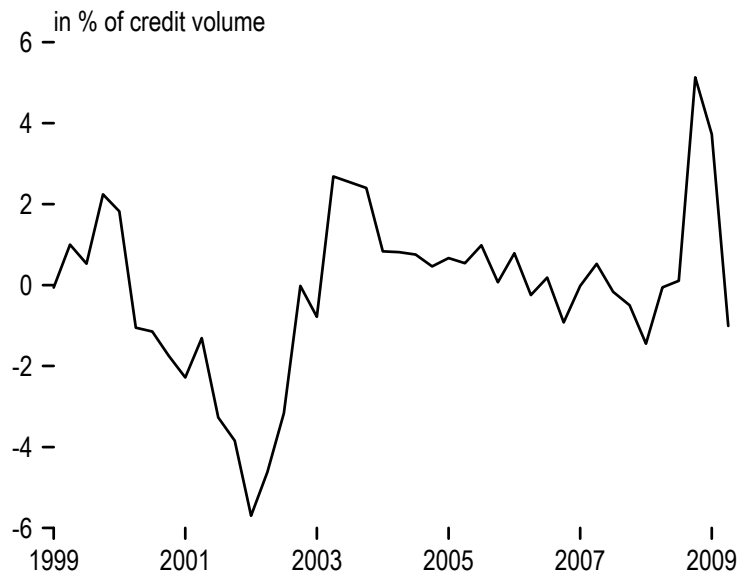
In order to produce more direct evidence of excess demand in the credit market, one possibility is to identify macroeconomic credit supply and credit demand functions. This method has been pioneered in the context of credit crunch in Germany by Nehls and Schmidt (2004) and has been adapted in a recent study from the Kiel Institute (Prognosezentrum 2009). Credit demand is modelled as a function of GDP, unit labor costs and corporate bond yields (as a proxy for interest rates for loans to the nonfinancial corporate sector). Credit supply is assumed to be driven by the difference between corporate bond yields and interest rates on deposits, capacity to give credit as measured by the monetary base, a comprehensive stock market index, and a proxy for the regulatory capital-to-loan ratio which is not readily available. The results suggest that the German credit market was characterized by a situation of deficient supply – a credit crunch – from mid-2000 to 2003 followed by a period of more or less balanced supply and demand (Figure 9).<sup>7</sup>

In late 2008, the model suggests a substantial excess supply, reflecting a massive increase in the monetary base and a rise in bank capital due to government support measures for a number of banks. This excess supply has been unwound in the course of this year, and currently the credit market does not seem to be in significant disequilibrium.

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<sup>7</sup> Note that the Bundesbank's econometric equation indicates sluggish actual credit growth relative to the model estimate in the years 2002–2006, i. e., this approach would suggest that the German economy has been experiencing a credit crunch later than according to the model based on separate equations for demand and supply of credit.

Figure 9: Estimated Excess Supply of Bank Loans for Nonfinancial Corporations in Germany<sup>a</sup>



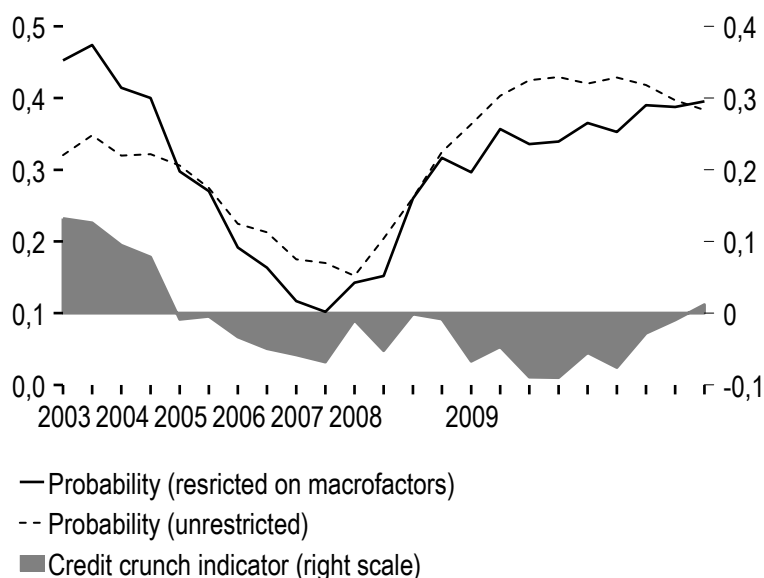
<sup>a</sup>Negative values indicate excess demand.

Source: Prognosezentrum (2009); own translation.

In a different approach to get a more direct grip on the question of credit crunch suggested by Wollmershäuser (2009) and presented in Projektgruppe Gemeinschaftsdiagnose (2009: 54–55), a credit crunch indicator is calculated from micro data based on an ifo Institute survey among 2300 firms in the manufacturing sector. The approach matches information from firms on the willingness of banks to lend with information on the current situation and outlook of their business. In a two-step procedure, probabilities are calculated that a firm with healthy current business and sound outlook will report restrictive lending attitudes by banks, first restricted on a set of macro variables that can be expected to affect lending behaviour, and secondly using a dummy variable for each period that picks up also other influences. If bank lending attitudes in the second (more general) case deviate significantly from those in the first (macro-restricted) case other than traditional macro factors seem to be important. Specifically these would include bank-specific shocks. If the probability that a sound enterprise faces a restrictive lending stance of banks is higher than warranted by the macroeconomic environment this may be regarded as a situation of credit crunch.

The results of this micro-based approach are in line with those of the macro approach described before: The indicator calculated as the difference of the two probabilities signals a credit crunch in Germany in 2003 and into 2004 (Figure 10). From 2005 onwards lending attitudes are easier than expected given the macro environment. Even in the first months of 2009, when the macroeconomic determinants have worsened considerably, the credit crunch indicator remains in negative territory. This gap, however, has closed in recent months, although the indicator still does not signal a credit crunch but rather a balanced situation in the credit market.

Figure 10: Probability of Restrictive Bank Lending Attitude and Credit Crunch Indicator in Germany 2003–2009



Note: Time scale changes in 2008; until November 2008 semiannual data, afterwards monthly data.

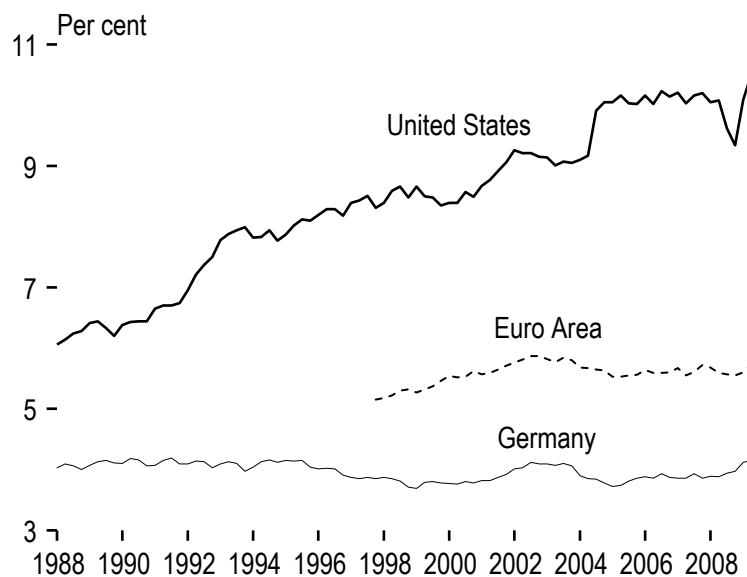
Source: Projektgruppe Gemeinschaftsdiagnose (2009); own translation.

So far, there is no convincing evidence of a credit crunch in Germany. Bank lending has been supported by public capital infusions into the banking sector which ameliorated the balance sheet situation of banks and pushed up tier 1 capital. However, core bank capital in Germany remains low by international standards and the improvement has been modest compared with the United States (Figure 11).

Also guarantees by the Special Fund for Financial Market Stabilization (Soffin) have probably positively affected bank lending. Finally, government owned special banks, such as the KfW, have implemented credit support programmes for the corporate sector, although the effect of this is obviously small so far, judged by the value of approved credits under these programmes. There is, however, the risk that the situation will deteriorate in the next months as losses on loans to failing businesses can be expected to increase substantially, as bankruptcies are lagging the cycle and are forecast to rise to historically high levels given the severity of the recession. These losses will add to the writeoffs on “toxic” assets that are still on the Banks’ balance sheets and will tend to worsen capital-to-asset ratios.<sup>8</sup> This could limit the supply of credit severely.

<sup>8</sup> The IMF (2009) estimates that writedowns to loans and securities in the euro that are still necessary amount to another 470 bill. US-Dollar.

Figure 11: Bank Capital-to-Asset Ratios in Germany, the United States and the Euro Area



Source: Federal Reserve Board, ECB, Deutsche Bundesbank, own calculations.

#### 4 Euro Area

In the Euro Area the annual growth rate of loans to the private sector declined by more than 10 percentage points within one year to reach only 0.1 per cent in August 2009. The largest contribution to the slowdown in credit growth came from loans to non-financial corporations with year-on-year growth having almost come to a standstill after growth of more than 12 per cent in summer 2008. In contrast to the situation in Germany, the development of household borrowing is contributing to the slowdown in overall credit growth. While loans to private households had been expanding significantly before the financial crisis (by almost 4 per cent in the third quarter of 2008); they fell below their previous year's level in August 2009. A large part of this slowdown is apparently related to the decline in the housing markets in many countries as lending for real estate purchases has come down, but the deterioration in the growth rate of consumer credit is even slightly more pronounced.

Due to the short history of the Euro Area of only 10 years it is not possible to compare current behavior of credit volume, interest rates and other relevant data with historical experience over a longer term, as has been done for the United States. Available data is also insufficient to perform similar model exercises as in the case of Germany. It is therefore difficult to come to well-founded conclusions concerning the question whether the Euro Area is currently in a situation of a credit crunch or not. In an article in the October monthly Bulletin, the ECB collects available information with respect to the impact of recent developments in the financial sector on credit supply (ECB 2009b). Evidence from the Euro Area bank lending survey suggests that the picture is similar to that in Germany. Since mid-2007, credit standards have been tightened massively, but mainly reflecting an increased perception of risk, be it macroeconomic or firm-specific. Bank balance sheet constraints,

however, also have played a role during the financial crisis, and these have been found to significantly affect bank lending. These constraints, according to the Bank Lending Surveys, have been even more pronounced in the Euro Area as a whole than in Germany, although they also have lost significance in the course of 2009. The authors conclude that during the current financial crisis credit supply restrictions “most likely impacted on banks’ credit standards, with adverse implications for the provision of credit and economic activity” (ECB 2009b: 79), although empirical support for this assessment is still scarce as the number of observations for this period is still limited.

While the monetary policy reaction to the crisis has probably helped ease the problems, credit supply constraints are still judged to be prevalent, at least for certain borrower segments. At the same time, however, the deterioration of overall economic conditions and the economic outlook have seriously dampened the demand for loans. Loan demand is soft especially due to declining investment and M&A activities. Empirical results suggest that most of the current weak performance of overall bank lending can be attributed to lower demand for loans from the real sector, rather than to a credit crunch.

## 5 Summary and Policy Conclusions

Summing up, it is impossible to identify a credit crunch in real time with precision. Weakness in bank lending can be due to developments both in the supply of and the demand for loans. Furthermore, a credit crunch in the narrow definition only prevails when credit supply tightens beyond what is justified by the change in perceived risk. To this end, evidence is not conclusive. On the one hand there are warning signs including the massive tightening of credit standards and some unusual rise in bank lending margins. On the other hand econometric approaches to identify a credit crunch in the case of Germany currently do not point to a situation of inadequate credit supply given the adverse macroeconomic environment. However, the expected further losses in bank capital due to firm insolvencies and to writedowns of “toxic” assets threaten to worsen the situation in the quarters to come.

When evaluating developments in the credit markets and drawing policy conclusions it has to be recognized that there is a fundamental difference between countries with respect to the macroeconomic background. Some countries are adjusting to a preceding rapid credit expansion, while others are not. Especially in the United States, but also in a number of Euro Area countries, the years between 2003 and 2007 were characterized by extremely easy credit conditions, often associated with a boom in the housing market, which have led to a massive rise in private sector debt both of firms and households. By contrast, in other countries, of which Germany is an extreme case, private sector debt accumulation was low. While in the latter countries there is a clear case for trying to counter a severe contraction of credit, in the countries belonging to the former type it is less clear. In economies where growth in the past boom had been excessively credit driven, it could be a welcome adjustment from a normative point of view to see credit availability reduced and credit volumes shrink.

Policy measures to address the problem of a (potential) credit crunch include bank recapitalization programs. Due to signaling problems it would probably be necessary to make it obligatory for banks with dangerously low capital ratios to accept government funds if they



are not able to acquire capital in the market.<sup>9</sup> Stress-testing in combination with publishing the results (as has been done in the US earlier this year) could be helpful for banks with relatively sound positions. Another option to provide leeway for banks that struggle with capital adequacy ratios could be a temporary reduction of regulatory capital requirements and the introduction of anti-cyclical capital adequacy rules for the future. The problem is that most analysts agree that in order to reduce the likelihood of future banking crises of comparable dimensions emerging capital requirements for banks should be increased – at least over the cycle – rather than lowered. As a stop-gap measure in the case of evident problems with credit supply credit to the private sector could be provided through publicly owned (special) banks. To achieve a timely and swift implementation of credit programmes governments should prepare for the eventual case by building appropriate capacities in the administration of the relevant institutions in advance. Last not least monetary policy should be careful not to abandon too early unconventional policy measures that have been effective in improving the financial environment the economy is facing.

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<sup>9</sup> A suggestion as to how this could be implemented in Germany can be found in Projektgruppe Gemeinschaftsdiagnose (2009: 60).

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