



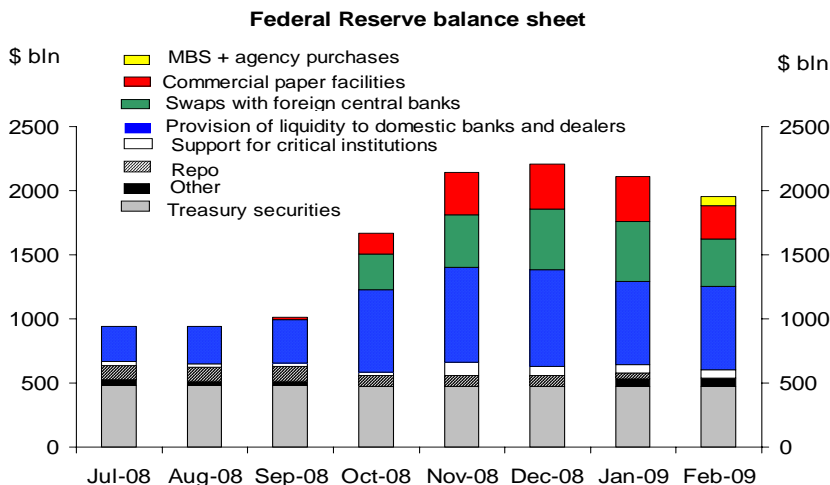
4 March 2009

# Global Economic Perspectives

## Are the Fed's programs working?

- The Fed has acted aggressively by doubling the size of its balance sheet in implementing a wide variety of facilities to enhance market liquidity and to ease credit market conditions. We find that programs such as the TAF, swap lines with foreign central banks, commercial paper funding facility, and MBS purchases have indeed succeeded in reducing key money and credit market rates from peak levels, including LIBOR, commercial paper rates, and conforming mortgage rates.
- Some programs, such as the AMLF have had a relatively minor impact on the Fed's balance sheet but nevertheless continue to serve as a critical backstop that encourages market activity.
- The TALF is finally being implemented and with the Fed motivated to do what it takes to make it work, has the potential to significantly reduce credit spreads.
- However, while these programs can all play a crucial role in keeping the system operating, as if on life-support, none of them address the fundamental solvency-based uncertainties that plague the financial system. As a result, while key spreads are well below peak crisis levels, they remain well above levels normal or "no stress" levels.
- A final cure is beyond the power of the Fed and lies much more in the hands of fiscal authorities who are still hard at work on designing a hopefully effective rescue program for the financial system.

### Fed balance sheet expansion



Source: DB Global Markets Research

### Economics

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## Key Economic Forecasts

	Real GDP % growth <sup>b</sup>			Consumer Prices % growth <sup>c</sup>			Current Account % of GDP <sup>d</sup>			Fiscal Balance % of GDP		
	2008F	2009F	2010F	2008F	2009F	2010F	2008F	2009F	2010F	2008F	2009F	2010F
<b>US</b>	<b>1.1</b>	<b>-3.2</b>	1.4	<b>3.8</b>	<b>-0.7</b>	1.5	-4.7	-3.5	-3.0	-3.2	<b>-13.6</b>	-7.6
<b>Japan</b>	-0.7	-7.6	-1.9	1.4	-0.7	-0.7	3.3	2.1	2.4	-4.3	-5.3	-6.5
<b>Euroland</b>	0.7	-3.0	0.6	3.3	0.5	1.3	-0.8	-1.2	-0.7	-1.5	-5.0	-6.0
<b>Germany</b>	0.9	-3.5	0.6	2.8	0.3	0.8	6.2	4.1	5.3	-0.4	-3.7	-5.0
<b>France</b>	0.7	-2.8	1.1	3.2	0.3	1.2	-3.5	-4.0	-4.0	-3.3	-5.8	-6.4
<b>Italy</b>	-0.7	-3.3	0.6	3.5	1.0	1.6	-2.0	-1.5	-1.5	-2.9	-5.4	-5.7
<b>Spain</b>	1.1	-3.4	-1.0	4.1	0.5	1.6	-10.0	-7.0	-6.0	-0.8	-6.1	-6.5
<b>UK</b>	0.7	-3.5	0.7	3.6	1.2	0.9	-1.7	-1.4	-0.8	-6.0	-10.0	-8.5
<b>Sweden</b>	0.5	-1.5	1.0	3.5	0.5	1.0	4.5	4.0	3.5	2.0	-1.5	-2.5
<b>Denmark</b>	-0.8	-2.5	-0.5	3.4	1.5	1.5	1.0	0.5	1.0	2.5	-1.0	-2.5
<b>Norway</b>	1.5	-1.0	1.0	3.8	2.0	1.5	18.0	16.0	15.0	13.5	12.0	10.0
<b>Poland</b>	4.8	-2.2	1.2	4.2	2.1	2.5	-4.9	-1.5	-2.2	-2.5	-4.2	-3.5
<b>Hungary</b>	0.6	-5.5	1.0	6.1	3.2	3.6	-6.3	-0.3	-1.0	-2.6	-3.8	-3.2
<b>Czech Republic</b>	3.5	-3.4	1.9	3.4	1.4	1.7	-3.0	-0.2	-0.4	-1.2	-4.8	-3.8
<b>Australia</b>	2.3	0.6	1.6	4.4	2.0	2.4	-4.1	-3.3	-3.7	1.7	0.4	0.3
<b>Canada</b>	0.6	0.1	2.2	2.3	1.7	2.2	1.0	-0.8	-0.3	0.1	-0.2	-0.1
<b>Asia (ex Japan)</b>	7.2	4.6	5.6	7.0	2.5	2.6	4.3	4.7	4.6	-1.5	-3.2	-3.1
<b>India</b>	7.6	4.8	6.5	8.9	3.0	4.3	-2.5	-1.5	-1.3	-7.8	-8.8	-7.7
<b>China</b>	9.0	7.0	6.6	5.9	0.5	0.9	7.2	7.4	7.3	0.3	-1.9	-2.6
<b>Latin America</b>	4.3	0.9	2.8	9.2	7.4	5.9	0.0	-0.9	-1.3	-0.8	-0.8	-0.6
<b>Brazil</b>	5.4	1.2	3.5	5.9	4.8	4.5	-1.9	-1.5	-1.8	-1.5	-1.8	-1.2
<b>EMEA</b>	4.6	-0.3	3.5	12.8	9.0	7.3	0.1	-4.1	-4.1	0.3	-3.8	-3.3
<b>Russia</b>	5.6	-2.4	4.0	13.3	11.2	10.3	6.0	-3.1	-3.5	3.4	-5.3	-4.5
<b>G7</b>	<b>0.6</b>	<b>-3.8</b>	0.7	<b>3.2</b>	<b>-0.2</b>	1.0						
<b>World</b>	<b>2.9</b>	<b>-0.9</b>	2.3	<b>5.2</b>	<b>1.6</b>	2.3						

(a) Euroland forecasts as at the last forecast round on 05/12/2008. Bold figures signal upward revisions, bold, underlined figures signal downward revisions. (b) GDP figures refer to working day adjusted data. (c) HICP figures for euro-zone countries and the UK (d) Current account figures for Euro area countries include intra regional transactions

## Forecasts: G7 quarterly GDP growth

% qoq saar/annual: % yoy	Q1 08	Q2 08F	Q3 08F	Q4 08F	2008F	Q1 09F	Q2 09F	Q3 09F	Q4 09F	2009F	2010F
<b>US</b>	0.9	2.8	-0.5	<b>-6.2</b>	<b>1.1</b>	-6.5	-2.8	0.0	1.0	<b>-3.2</b>	<b>1.4</b>
<b>Japan</b>	0.6	-3.6	-2.3	-12.7	<b>-0.7</b>	-10.4	-6.7	-4.9	-3.1	<b>-7.6</b>	<b>-1.9</b>
<b>Euroland</b>	2.7	-0.8	-0.7	-5.8	<b>0.7</b>	-4.7	-3.2	0.1	0.4	<b>-3.0</b>	<b>0.6</b>
<b>Germany</b>	5.7	-1.7	-2.1	-8.4	<b>0.9</b>	-4.8	-2.8	-0.4	2.7	<b>-3.5</b>	<b>0.6</b>
<b>France</b>	1.6	-1.1	0.6	-4.8	<b>0.7</b>	-4.8	-3.2	-2.0	2.0	<b>-2.8</b>	<b>1.1</b>
<b>Italy</b>	2.0	-1.6	-2.0	-7.2	<b>-0.7</b>	-4.0	-4.0	0.0	1.6	<b>-3.3</b>	<b>0.6</b>
<b>UK</b>	1.6	0.0	-2.4	-6.0	<b>0.7</b>	-5.6	-2.4	-1.2	0.0	<b>-3.5</b>	<b>0.7</b>
<b>Canada</b>	-0.8	0.3	0.9	-1.1	<b>0.6</b>	-1.1	-0.2	2.8	2.8	<b>0.1</b>	<b>2.2</b>
<b>G7</b>	1.4	0.4	-1.1	<b>-7.2</b>	<b>0.6</b>	-6.3	-3.4	-0.9	0.6	<b>-3.8</b>	<b>0.7</b>

Sources: National authorities, Deutsche Bank

## Are the Fed's Programs Working?

- **The Fed has acted aggressively by doubling the size of its balance sheet in implementing a wide variety of facilities to enhance market liquidity and to ease credit market conditions. We find that programs such as the TAF, swap lines with foreign central banks, commercial paper funding facility, and MBS purchases have indeed succeeded in reducing key money and credit market rates from peak levels, including LIBOR, commercial paper rates, and conforming mortgage rates.**
- **Some programs, such as the AMLF have had a relatively minor impact on the Fed's balance sheet but nevertheless continue to serve as a critical backstop that encourages market activity.**
- **The TALF is finally being implemented and with the Fed motivated to do what it takes to make it work, has the potential to significantly reduce credit spreads.**
- **However, while these programs can all play a crucial role in keeping the system operating, as if on life-support, none of them address the fundamental solvency-based uncertainties that plague the financial system. As a result, while key spreads are well below peak crisis levels, they remain well above levels normal or "no stress" levels.**
- **A final cure is beyond the power of the Fed and lies much more in the hands of fiscal authorities who are still hard at work on designing a hopefully effective rescue program for the financial system.**

### Introduction<sup>1</sup>

Since the financial crisis broke out in the late summer of 2007, the Fed has gone to increasingly extraordinary lengths to deal with it. The purpose of this piece is to assess the effectiveness of the myriad programs that have been introduced to keep the economy's central plumbing system—financial markets, and in particular, the money market, operational. We begin by reviewing the various measures that have been taken, providing a summary guide to help the uninitiated reader sift through what has been aptly called a bewildering array of alphabet soup (see the Appendix for a more complete overview of the Fed's various facilities). We then consider evidence on the effectiveness of these measures, based on market data, econometric estimation, and an informal survey of market participants. We focus primarily on measures introduced to enhance money market liquidity, though we also consider other measures, including those to ease conditions in credit markets more broadly and directly. We conclude that the Fed's measures have clearly succeeded in keeping the money market from seizing up, and in so doing,

have prevented a far greater worsening of the crisis than would have occurred to this point. The various liquidity facilities introduced have significantly and substantially reduced key interest rate spreads in the money market, but they have not returned those markets to a normal level of functioning; despite the massive injection of liquidity, money markets remain under considerable stress. Considerable effort is also being made (via MBS purchases and the soon-to-be-implemented TALF) to make credit more readily available to households and firms at lower cost than has been available to this point during the credit crunch. These Fed-led efforts are paying some dividends, but they too are not addressing or resolving the solvency problem that is at the heart of this crisis. A more complete fix of the financial system is now the province of fiscal authorities. In essence, the Fed has provided much-needed life-support to keep the system from collapsing altogether while a more fundamental resolution of what ails it is worked out.

**The Fed's policy actions.** In response to the crisis, the Fed has pursued aggressively expansionary and supportive policies on several fronts:

1. It has cut its key policy rates to very close to zero—their lowest rates ever.
2. It has implemented a wide variety of new facilities to provide liquidity to depository institutions and broker dealers, both domestically and abroad. These measures have been aimed at reducing key interest rates (especially LIBOR) that have much wider effects on the cost of credit in private markets.
3. With some Treasury backing, the Fed has gone beyond the depositories to implement facilities to provide liquidity directly to borrowers and investors in such private credit markets as commercial paper, mortgages, and soon various types of consumer and business (SBA) loans.
4. Also together with the Treasury, the Fed has provided financial support for/taken over assets of systemically important financial institutions under stress.

The focus of our analysis is on the liquidity and credit measures, numbers 2 and 3 in the list above.

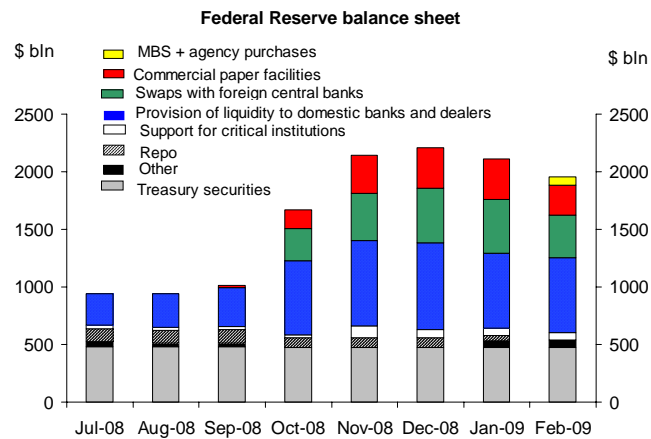
### Starting with the Fed's balance sheet

For the first year of the crisis, the Fed focused on liquidity actions that were "funded" via shifting the composition, rather than the scale, of its balance sheet, so as not to affect its monetary policy objectives. However, with the dramatic worsening of the crisis post the Lehman Brothers failure, the need for additional resources has meant that the Fed has needed to increase the scale of its balance sheet. In doing so, it moved to paying interest on

<sup>1</sup> We have benefited from discussions with Rich Ferguson, John Hilty, Greg Lippmann, and a number of other key market participants.

reserves to try to limit the impact on monetary policy, but soon was forced to cut rates essentially to zero, as it expanded its balance sheet and the scale of excess reserves in the system.

**Chart 1. Fed balance sheet expansion**



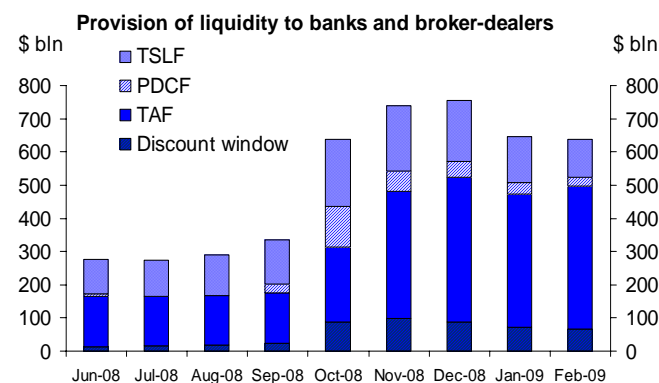
Source: FRB, DB Global Markets Research

**New facilities double the balance sheet.** To provide an easily digestible sense of the scope and scale of the actions taken, we focus on a simplified version of the asset side of the Fed’s balance sheet (Chart 1). Until Lehman’s failure in September 2008, the Fed’s assets had been quite stable for several years in the vicinity of USD 800bn. Its holdings of Treasury securities had declined from near that figure over the previous year with the introduction of several liquidity facilities that allowed US domestic banks and primary dealers to borrow more freely from the Fed against collateral other than Treasuries. These liquidity facilities, which are reflected in the blue portion of the bars in the chart, were expanded significantly post Lehman in October 2008. Two other key elements were introduced at about that time. One was a huge expansion of the Fed’s swap lines with foreign central banks, allowing foreign depository institutions to access dollar credit through their central banks – the corresponding increase in the Fed’s claims on foreign central banks in exchange for the dollar credit provided now amounts to nearly USD300bn. The other reflected measures to provide liquidity to the commercial paper market. The combined effect of these three types of action was to more than double the Fed’s balance sheet since last September. While the total scale has dropped back a bit more recently, that is likely to be a temporary lull, as impending MBS purchase of USD600bn are just beginning to show up in volume, and as the funding of private investment in new securitized loans of up to another USD1trn is now scheduled to begin in two weeks time.

**The key liquidity facilities.** Charts 2 and 3 below provide a further breakdown of Fed assets generated by two of the key categories of facilities: the liquidity facilities for domestic banks and dealers (the blue portion of Chart 1,

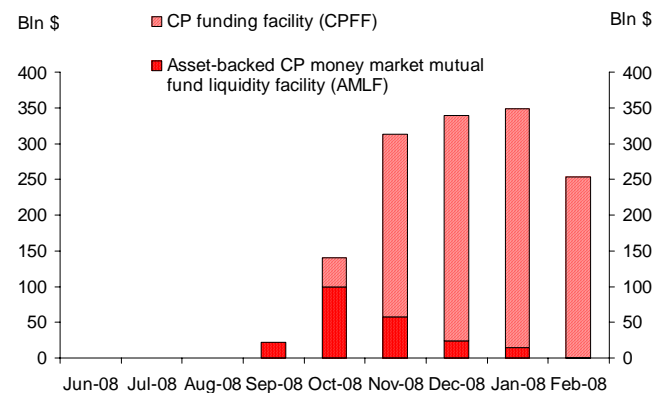
broken down in Chart 2) and those for the commercial paper market (the red portion of Chart 2, broken down in Chart 3). The facilities for banks are the discount window and the Term Auction Facility (TAF). The counterparts for primary dealers are the Primary Dealer Credit Facility (PDCF) and the Term Securities Lending Facility (TSLF). Of these, the TAF has been the most important. The commercial paper facilities include the CPFF and the AMLF. The CPFF is quantitatively the more important in terms of its impact on the Fed’s balance sheet, but as we note below in our more detailed assessment of these facilities, the AMLF’s importance substantially exceeds its relative weight on the balance sheet.

**Chart 2. Provision of liquidity to domestic banks and dealers**



Source: FRB, DB Global Markets Research

**Chart 3. Commercial paper facilities**

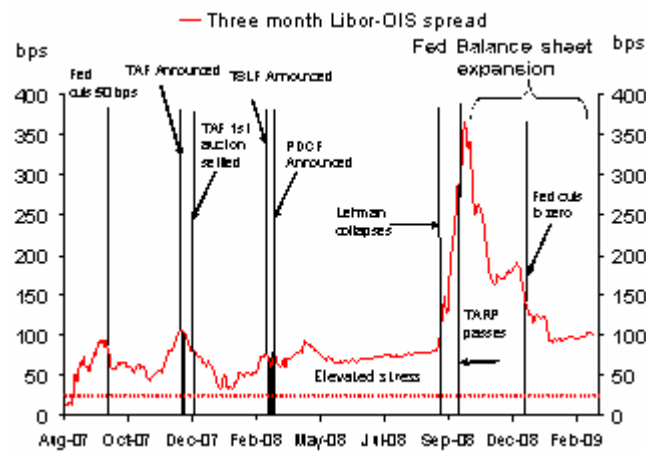


Source: FRB, Bloomberg, DB Global Markets Research

**How effective have these measures been?** One approach to answering this question is to consider how movements in the key indicator of money market stress, the spread between the three-month LIBOR rate and the three-month OIS (expected fed funds rate) has moved over time in response to various Fed actions. Chart 4 shows the path of this indicator over the crisis period. It declined noticeably after the Fed’s initial 50 bps rate cut,

after the announcement of the TAF, but less so after the TSLF and PDCF were announced. It also fell sharply during the fall of 2008 as the Fed was aggressively expanding its balance sheet, although the passage of TARP and subsequent injection of capital into banks undoubtedly contributed to the easing of post-Lehman tensions during that period as well. On this basis, it seems fair to say that there is a good chance that the money markets, which essentially seized up during the immediate post-Lehman period, would have remained under such extreme stress had the Fed not acted aggressively to ease the tension. Given the severity of the credit crunch that ensued from that episode alone, one can only imagine how much worse things might be if the Fed's actions had not been taken. At the same time, the Fed's actions have not resolved the crisis, far from it. In normal times, the LIBOR-OIS spread, a measure of the comfort level that banks have lending to one another, runs at less than 10 basis points. Anything above 25 bps can be considered a situation of clearly elevated stress. While the spread is down sharply from its post-Lehman peak levels, it has nevertheless continued to run fairly persistently in the neighborhood of 100 bps, and has been widening a bit of late.

**Chart 4. Key Fed actions and the money market**



Source: Bloomberg, DB Global Markets Research

**Evidence on individual facilities**

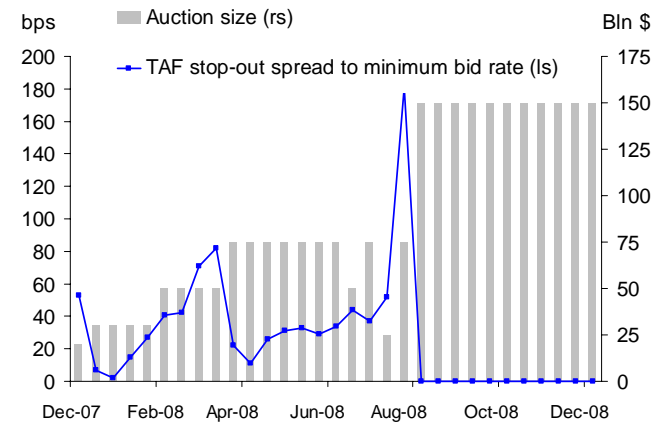
We turn next to a more granular analysis of this broad picture, looking at how each of the major facilities have affected the markets.

**TAF**

The Term Auction facility was the first facility introduced by the Fed after a failed attempt to expand use of the Discount Window. The Fed was able to get around the problem of stigma attached to use of the DW by auctioning term credit to depository institutions anonymously against the wide variety of collateral that can be used to secure loans at the discount window. Each biweekly TAF auction is for a fixed amount of term funds, with the rate deter-

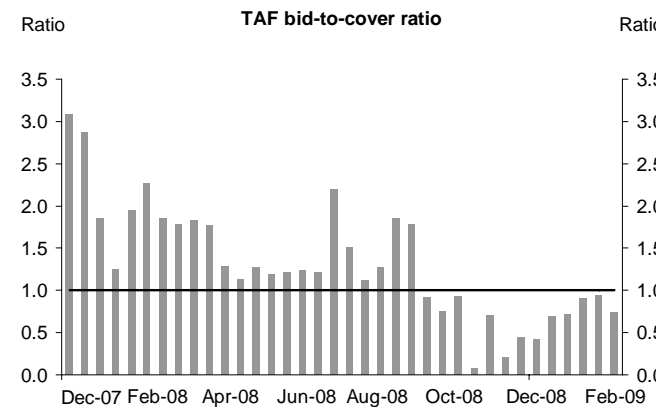
mined by the auction process subject to a minimum bid rate. The minimum bid rate for the auctions was initially established at the OIS corresponding to the maturity of the credit being auctioned. In January 2009 the minimum bid rate was changed to the interest rate paid by the Fed on excess reserve balances. Initially, there was a spread between the minimum bid rate and the "stop-out rate" (the highest rate needed to sell all the funds being auctioned). But post-Lehman, the Fed expanded the size of the TAF auctions enough to bring the stop out rate down to the minimum bid rate (Chart 5), thereby further easing pressure on the money market. That is, it raised the amount of term funds being auction to be enough to fully satisfy market demand at the minimum rate, so that the bid to cover ratio in these auctions fell to less than 1.0 (Chart 6).

**Chart 5. TAF Auction expanded to reduce stop-out rate**



Source: Bloomberg, DB Global Markets Research

**Chart 6. TAF auctions have been less than fully subscribed since the expansion in late September**

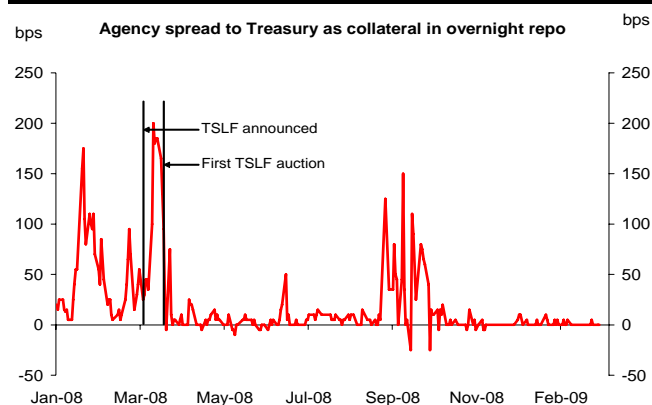


Source: Bloomberg, DB Global Markets Research

## TSLF and PDCF

In March 2008 the Fed announced the direct extension of credit to primary dealers. The Term Security Lending Facility (TSLF) is akin to the TAF for banks, with one key difference—it supplies Treasury securities rather than primary Federal Reserve credit to the dealers in exchange for investment grade securities as collateral. The Fed provides up to USD200bn in Treasury securities to dealers via weekly auctions under this program. The Primary Dealer Credit Facility is a standing facility that dealers can access for overnight funding against collateral that they have posted—in essence, it opens the discount window to primary dealers.

**Chart 7. TSLF mutes financing spread for agency MBS repo rates relative to Treasury GC repo rates**



Source: Bloomberg, DB Global Markets Research

The TSLF is generally viewed as having helped to reduce large spreads that had opened early this year between rates that dealers had to pay for overnight funding against Agency mortgage backed securities in repos relative to rates paid when Treasuries were used as collateral. By supplying Treasuries securities to the dealers in exchange for their less liquid GSE securities, these spreads were reduced dramatically to much more normal levels (Chart 7). However, the presence of even an expanded TSLF did not prevent a blow-out of these spreads for a time after Lehman’s collapse.

## Econometric evidence on effects of liquidity facilities

A number of empirical studies have considered the effectiveness of the TAF in reducing the LIBOR-OIS spread. The standard methodology is to regress that spread against a measure of credit risk and a dummy variable that equals one on key dates the TAF program was implemented and zero on other days (using daily data). Studies vary in their choice of (1) credit risk variable (either a measure of credit default swap spreads for major banks, or a VIX index of stock market volatility)—we try both, (2) estimation in level terms or first difference terms—we

strongly favor the latter (changes) because it allows for some persistence in the effects of the TAF on market rates, and (3) choice of date for timing of dummy variable: the date the auction amount is announced, or the date the results are announced—we try both. The results of several earlier studies are summarized in Table 1. The first study to garner considerable attention was by Taylor and Williams. It concluded that the TAF was not effective. But subsequent work has largely overturned that result, both because it used a more limiting levels specification and because it focused on the date the results were released rather than the date the auction was announced.

**Table 1. Comparison of models investigating TAF effectiveness**

	Taylor and Williams (2008) <sup>2</sup>	Meyer and Sack (2008) <sup>3</sup>	McAndrews, Sarker and Wang (2008) <sup>4</sup>
<b>Specification</b>	Levels	Levels/Differences	Differences
<b>Credit risk measure</b>	Bank CDS	Bank CDS	Bank CDS + VIX
<b>TAF dummy definition</b>	“1” on TAF bid dates	“1” starting December 12, 2007	Three TAF operation dummies (Conditions, Auctions, Notification)
<b>Sample</b>	Jan 1, 2007 – May 9, 2008	Jan 1, 2007 – May 12, 2008	Jan 1, 2007 – April 24, 2008
<b>TAF helpful?</b>	No	Yes	Yes

Source: DB Global Markets Research

Our own estimation results are shown in Tables 2-4. We focus on a first-difference specification and test both the announcement of the auction and the date the results are released. Extending previous work, we test not just for the effects of TAF auctions but also TSLF auctions. Finally, we test for several different specifications of credit risk effects: an index of CDS spreads for major banks, the VIX index of market volatility, and no credit risk variable. The results of these three specifications are shown in Tables 2-4 respectively. We should note that the argument for using no correction for credit risk rests on the view that effective Fed liquidity policy may affect not just liquidity

<sup>2</sup>Taylor, John B. and John C. Williams (2008), “A Black Swan in the Money Market,” *Federal Reserve Bank of San Francisco Working Paper 2008-4*, April 2.

<sup>3</sup>Sack, Brian and Laurence Meyer (2008), “TAF and Liquidity Policies: Keeping Libor Down,” *Macroeconomic Advisers*, May 15.

<sup>4</sup>McAndrews, James, Asani Sarker, and Zhenyu Wang (2008), “The Effects of the Term Auction Facility on the London Inter-bank Offered Rate,” *Federal Reserve Bank of New York*, May 19.

risk but also credit risk, especially in the post-Lehman period. Had the Fed not stepped up its unconventional policy measures aggressively during that period, credit risk, which eventually fell substantially last fall (Chart 8) might well have widened further.

**Table 2. The TAF and TSLF effect in simple specification (using CDS as independent variable)**

**Sample period: Jan 01, 2007 to Mar 03, 2009**

Dependent variable	Change of the LIBOR-OIS spread	
	Model 1	Model 2
<b>Independent variables</b>		
Intercept	0.04 (0.15)	0.11 (0.38)
Lag of changes in LIBOR-OIS spread	0.22 (5.51)	0.21 (5.46)
Changes in CDS spread	0.17 (6.35)	0.17 (6.37)
<b>TAF</b>		
Announcement	-4.64 (-2.47)	-3.10 (-2.91)
Results	1.92 (1.02)	
<b>TSLF</b>		
Announcement	1.16 (1.35)	1.17 (1.37)
Auction day	0.40 (0.47)	
Adjusted R-squared	0.13	0.13

Note: t-statistics in parentheses

Source: DB Global Markets Research

**Table 3. The TAF and TSLF effect in simple specification (using VIX Index as independent variable)**

**Sample period: Jan 01, 2007 to Mar 03, 2009**

Dependent variable	Change of the LIBOR-OIS spread	
	Model 1	Model 2
<b>Independent variables</b>		
Intercept	0.08 (0.24)	0.14 (0.46)
Lag of changes in LIBOR-OIS spread	0.24 (6.11)	0.24 (6.08)
Changes in VIX Index	0.54 (5.66)	0.55 (5.72)
<b>TAF</b>		
Announcement	-4.71 (-2.49)	-3.31 (-3.03)
Results	1.77 (0.93)	
<b>TSLF</b>		
Announcement	1.06 (1.21)	1.06 (1.22)
Auction day	0.36 (0.41)	
Adjusted R-squared	0.13	0.13

Note: t-statistics in parentheses

Source: DB Global Markets Research

**Table 4. The TAF and TSLF effect in simple specification (using no correction for credit risk)**

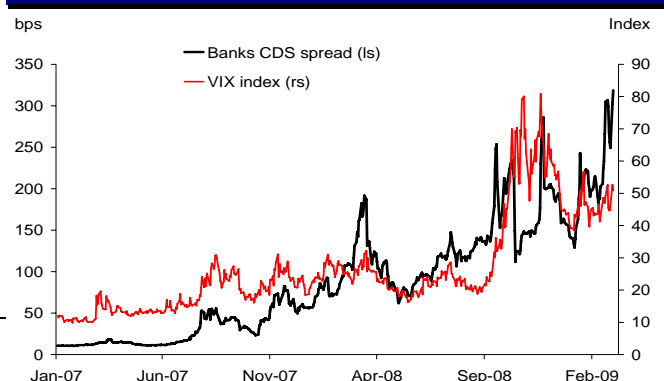
**Sample period: Jan 01, 2007 to Mar 03, 2009**

Dependent variable	Change of the LIBOR-OIS spread	
	Model 1	Model 2
<b>Independent variables</b>		
Intercept	0.18 (0.60)	0.26 (0.90)
Lag of changes in LIBOR-OIS spread	0.23 (5.76)	0.23 (5.72)
<b>TAF</b>		
Announcement	-4.78 (-2.46)	-3.2 (-2.89)
Results	1.99 (1.02)	
<b>TSLF</b>		
Announcement	0.59 (0.67)	0.60 (0.68)
Auction day	0.51 (0.57)	
Adjusted R-squared	0.07	0.06

Note: t-statistics in parentheses

Source: DB Global Markets Research

**Chart 8. CDS and VIX indexes of credit risk**



Source: Bloomberg, DB Global Markets Research

**TAF statistically significant across specifications.**

Our estimation results indicate that whether or not credit risk is controlled for (and across the different measures of credit risk), the TAF was statistically significant in reducing the LIBOR-OIS spread, but the TSLF was not. We also find that the announcement of the auction is the key event influencing the market, not the release of the auction results. Finally, we also tested Taylor and Williams levels specification and found that over the whole sample period through February 2009, the TAF (but not the TSLF) was statistically significant in reducing the LIBOR spread when the auction announcement date was used.

## Liquidity swap lines with foreign central banks

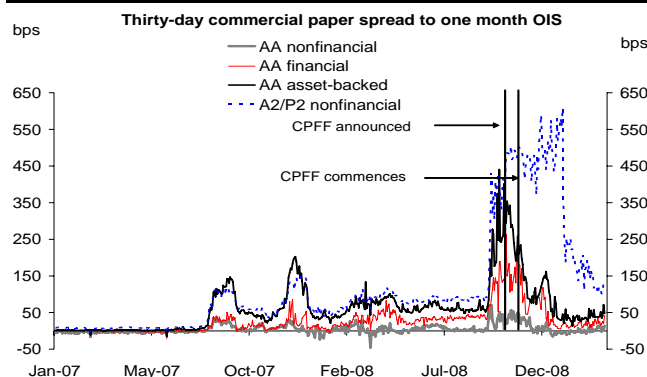
To address the increasing demand for dollar funding by banks and other financial institutions abroad the Fed has authorized temporary reciprocal currency arrangements (swap lines) with 14 central banks around the world.<sup>5</sup> These swap lines have been expanded throughout the crisis and currently stand at \$380bn. It is difficult to evaluate the empirical effects of these swap lines with foreign central banks. But based on considerable qualitative evidence gathered from market participants, much of the extreme pressure on the LIBOR spread during crisis peaks has reflected the dollar funding needs of banks abroad holding troubled US assets. The expansion of the central bank FX swap lines is widely seen as a major factor (along with the TAF and the commercial paper facilities) that relieved the pressure on the LIBOR market after the post-Lehman crash.

## Commercial paper facilities

In September and October 2008 the Fed introduced two facilities to add liquidity to/ease credit conditions in the commercial paper market, the Asset Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), and the Commercial Paper Funding Facility (CPFF). The AMLF essentially stands ready to make non recourse loans to banks that purchase ABCP (in essence guaranteeing the value of ABCP purchased by banks). The CPFF provides Federal Reserve credit to a special purpose vehicle (SPV) that in turn purchases commercial paper of eligible issuers. The rate paid on commercial paper is based on the three-month OIS rate plus fixed spreads. While the AMLF has declined over time and the CPFF grew to much larger commitments of Fed credit, market participants view the AMLF as a critical backstop whose diminishing volume belies its importance to market liquidity. The fact that the Fed stands ready to liquefy a bank's holdings of ABCP at minimal loss to the bank has substantially encouraged bank purchases of these instruments. The effect of these facilities is evident in the sharp decline in commercial paper spreads that followed the announcement and implementation of the CPFF last fall (Chart 9). As indicated in the chart, spreads on more risky A2/P2 nonfinancial commercial paper, which was not covered by the Fed program, remained elevated for a much longer period. In addition, while the total issuance of commercial paper has moved lower over the past year, that by nonfinancial companies has continued to rise at a healthy pace, no doubt in good measure thanks to the Fed's CP facilities (Chart 10). In general, market participants view the liquification of the commercial paper mar-

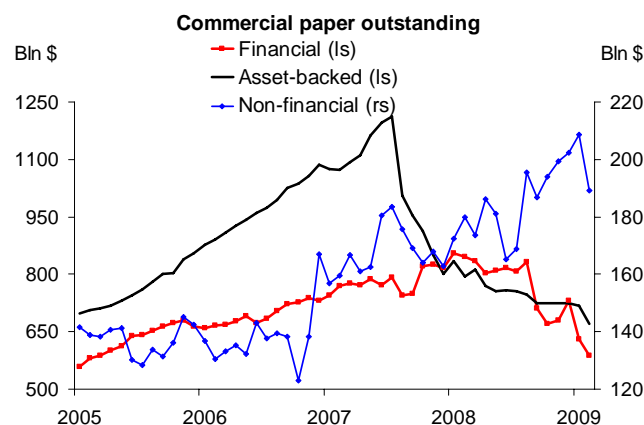
ket as an important factor relieving pressure on the inter-bank lending (LIBOR) market.

### Chart 9. CP facilities ease stress in CP market



Source: FRB, Bloomberg, DB Global Markets Research

### Chart 10. Nonfinancial CP issuance has continued to grow



Source: FRB, DB Global Markets Research

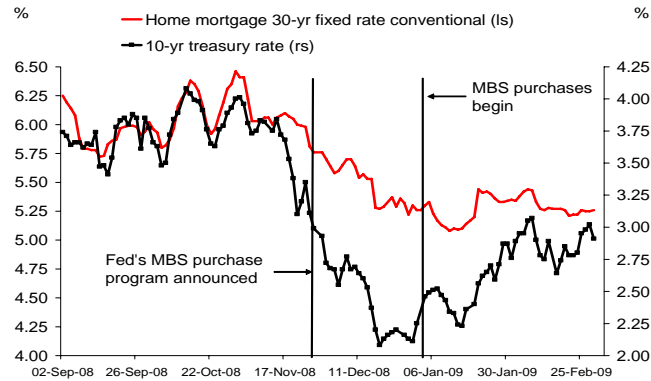
## MBS purchases

In an effort to begin to reduce elevated private market yields more directly, the Fed announced a program to purchase Agency mortgage backed securities last fall and commenced purchases early this year, with a commitment to purchase up to USD600bn. Market participants generally see this program as an important factor underlying the improvement in conforming mortgage rates in recent months. The announcement of the program appears to have been less important than the commencement of outright purchases. The decline in mortgage rates late last year after the program was announced was driven more by declining 10-year Treasury yields; indeed the mortgage spread to Treasuries initially widened after the announcement (Charts 11 and 12). However, the spread to Treasuries has moved significantly lower since the purchases began early in January (the level of mort-

<sup>5</sup> ECB, BoJ, BoE, the Swiss National Bank, the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Canada, the Danmarks Nationalbank, the Bank of Korea, the Bank of Mexico, the Reserve Bank of New Zealand, the Norges Bank, the Monetary Authority of Singapore, and the Sveriges Riksbank.

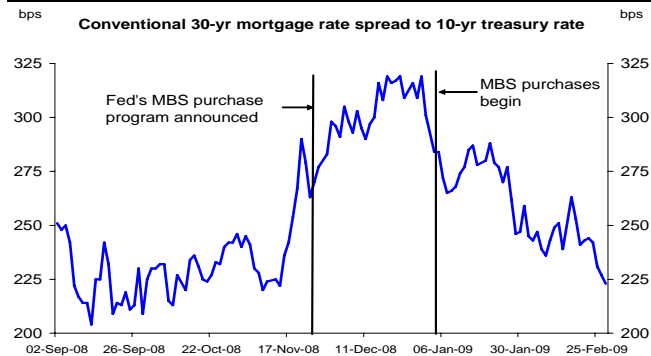
gage rates has been relatively stable in the face of rising Treasury yields).

**Chart 11. MBS purchases stabilize mortgage rate in the face of rising Treasury yields**



Source: FRB, Bloomberg, DB Global Markets Research

**Chart 12. Mortgage spread to Treasuries has narrowed with MBS purchase program**



Source: FRB, Bloomberg, DB Global Markets Research

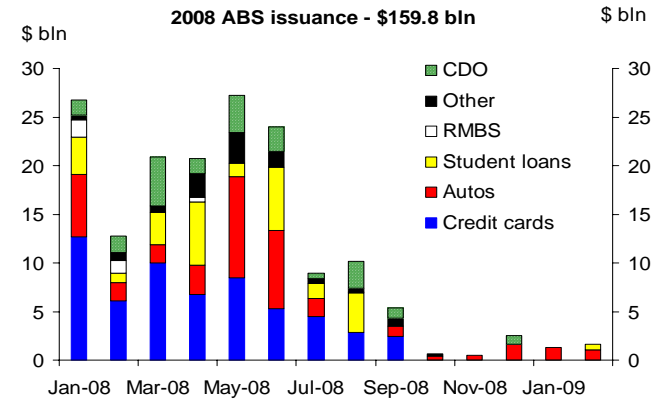
**TALF**

The Fed announced this week that the long-awaited Term Asset Backed Securities Loan Facility (TALF) would get under way on March 17 an initial funding of up to USD200bn for new AAA rated auto loans, student loans, credit cards, and small business loans. The nonrecourse loans will be made at rates of 50 to 100 bps over LIBOR of comparable term, with haircuts on the collateral ranging from 5 to 14%. The rates and haircuts are somewhat less than initially announced, and conditions on executive compensation of participants were dropped.

The need for and potential impact of the program is considerable given the dire conditions in these credit markets. Securitized lending in the markets covered had been running at monthly rates of more than USD20 bn for much of 2008, but collapsed to near zero post-Lehman (Chart 13). Accordingly, spreads on loan rates relative to comparable

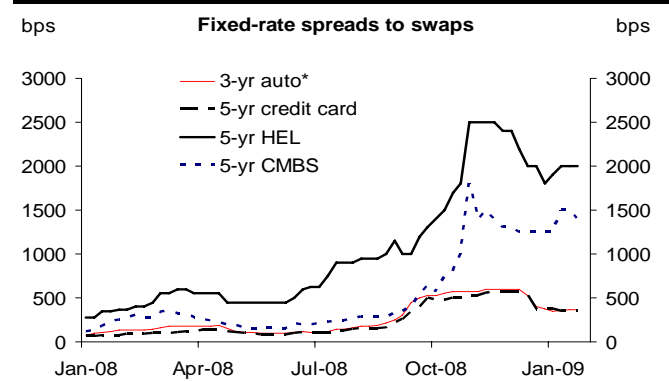
swaps blew out five to ten fold last fall (Chart 14). These rates still have a long way to come back down.

**Chart 13. Securitized lending collapsed post-Lehman**



Source: DB Global Markets Research

**Chart 14. Consumer lending rates soared post-Lehman**



\* 3-yr auto spreads are for prime benchmark autos  
Source: FRB, DB Global Markets Research

**Will TALF succeed?** Going in its favor is a Fed that is strongly motivated to see it succeed. The FOMC has made credit easing in general and the TALF in particular a central focus of its current monetary policy, and in this week's announcement, we have already seen a willingness on the Fed's part to show some flexibility on the pricing and terms of the program. It does face some challenges. The terms may well have to be attractive enough to entice issuers of securitized products to be willing to absorb lower rated tranches that may be difficult to market initially. In addition, for banks at least, the terms offered by the FDIC for guaranteeing bank debt are more attractive (at 30 bps over LIBOR) than the Fed's nonrecourse loans under TALF.

But even if the TALF does succeed in significantly reducing credit spreads (as we suspect it will), it is not neces-

sarily going to fix the larger problem with credit markets. A head of trading in securitized credit at a major dealing bank suggested that the TALF can be viewed as operating along the following lines. One of your star players has been sidelined with a severe injury, in need of a cast and major rehabilitation. TALF is the equivalent of shooting the player up with enough pain killers and adrenalin to put him back on the field to play, in hopes that he will inspire his teammates to get back into the game. It is enough to keep the system functioning, but it is not a fundamental cure for what ails it.

**Exit problems.** For the time being, the Fed's focus is predominantly on easing the crisis at hand, and rightly so. But the expansion of the Fed's balance sheet will make it more challenging to shift directions when the time comes. Many of the liquidity facilities are self limiting: their credits are relatively short term, and the facilities, which are priced at above normal market rates will become unattractive and will run off naturally as markets return to normal. But purchases of longer-term securities, like MBS (and longer-term Treasuries should the Fed move in that direction), as well as nonrecourse term lending under TALF will present a greater challenge. The Fed may find a need to begin to run down excess reserves, but feel constrained in doing so via selling these longer term assets in order to avoid booking capital losses on those assets. For this reason, the announcement of the TALF program this week included an indication that the Fed will seek authority to issue Fed bonds in order to facilitate the reduction of excess reserves when the time comes.

## Conclusions

The Fed has acted aggressively by doubling the size of its balance sheet in implementing a wide variety of facilities to enhance market liquidity and to ease credit market conditions. We find that such programs as the TAF, swap lines with foreign central banks, commercial paper funding facility, and MBS purchases have indeed succeeded in reducing key money and credit market rates from peak levels, including LIBOR, commercial paper rates, and conforming mortgage rates. Some programs, such as the AMLF have had a relatively minor impact on the Fed's balance sheet but nevertheless continue to serve as a critical backstop that encourages market activity. The TALF is finally being implemented and with the Fed motivated to do what it takes to make it work, has the potential to significantly reduce credit spreads. However, while these programs can all play a crucial role in keeping the system operating, as if on life-support, none of them address the fundamental solvency-based uncertainties that plague the financial system. As a result, while key spreads are well below peak crisis levels, they remain well above levels normal or "no stress" levels. A final cure is beyond the power of the Fed and lies much more in the hands of fiscal authorities who are still hard at work on designing a hopefully effective rescue program for the financial system.

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## Appendix

### Forms of Federal Reserve Lending to Financial Institutions

	Regular OMO	Single-Tranche OMO Program (announced March 7, 2008)	Discount Window <sup>1</sup>	Term Discount Window Program (announced August 17, 2007)	Term Auction Facility (announced December 12, 2007)	Primary Dealer Credit Facility (announced March 16, 2008) <sup>2</sup>	Transitional Credit Extensions (announced September 21, 2008)	Reciprocal Currency Arrangements (first announced Dec 12, 2007) <sup>3</sup>	ABCP Market Fund Liquidity Facility (announced September 19, 2008) <sup>2</sup>	Money Market Paper Funding Facility (announced October 7, 2008)	Securities Lending	Money Market Investing Funding Facility (announced October 21, 2008)	Term Securities Lending Facility (announced March 11, 2008) <sup>2</sup>	Term Securities Lending Options Program <sup>4</sup> (announced July 30, 2008)	Term Asset Backed Securities Loan Facility <sup>5</sup> (announced November 25, 2008)
Who can participate?	Primary dealers	Primary dealers	Depository institutions	Primary crediteligible depository institutions	Primary crediteligible depository institutions	Primary dealers	U.S. and London broker-dealers subsidiaries of Goldman Sachs, Morgan Stanley, Merrill Lynch	Select central banks to lend on to bank in their jurisdiction <sup>3</sup>	Depository institutions, bank holding companies, U.S. branches and agencies of foreign banks	Eligible CP Issuers <sup>6</sup>	Primary dealers	Eligible Money Market Mutual Funds <sup>7</sup>	Primary dealers	Primary dealers	All US persons that own eligible collateral
What are they borrowing?	Funds	Funds	Funds	Funds	Funds	Funds	Funds	US Dollars	Funds	Funds	U.S. Treasuries	Funds and subordinated note	U.S. Treasuries	U.S. Treasuries	Funds
What collateral can be pledged?	U.S. Treasuries, agencies, agency MBS <sup>8</sup>	U.S. Treasuries, agencies, MBS, but typically agency MBS	Full range of Discount Window collateral	Full range of Discount Window collateral	Full range of Discount Window collateral	Full range of tri-party repo system collateral <sup>9,10</sup>	Full range of Discount Window collateral and tri-party repo system collateral <sup>10</sup>	Central banks pledge foreign currency and lend against eligible collateral in their jurisdiction	First-tier ABCP	Newly issued 3 month unsecured and asset backed CP from eligible US issuers	U.S. Treasuries	US dollar denominated certificates of deposits, bank notes and commercial paper issued by highly rated financial institution	Schedule 1: U.S. Treasuries, agency MBS Schedule 2: Schedule 1 plus all investment grade debt securities <sup>9</sup>	Schedule 2 TSLF collateral	Recently originated Us dollar denominated AAA ABS <sup>11</sup>
Is there a reserve impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No (loans are bond-for-bond)	Yes	No (loans are bond-for-bond)	No (loans are bond-for-bond)	Yes
What is the term of loan	Typically, term is overnight-14 days <sup>12</sup>	28 days <sup>13</sup>	overnight, but up to several weeks <sup>14</sup>	Up to 90 Days <sup>15</sup>	28 days or 84 days <sup>13,16</sup>	Overnight	Overnight	Overnight to 3 months	ABCP maturity date (270 day maximum)	3 months	Overnight	N/A	28 days <sup>13</sup>	Typically 2 weeks or less <sup>17</sup>	At least one year

Source: Federal Reserve, DB Global Markets Research

## Forms of Federal Reserve Lending to Financial Institutions (Cont'd)

	Regular OMO	Single-Tranche OMO Program (announced March 7, 2008)	Discount Window <sup>1</sup>	Term Discount Window Program (announced August 17, 2007)	Term Auction Facility (announced December 12, 2007)	Primary Dealer Credit Facility (announced March 16, 2008) <sup>2</sup>	Transitional Credit Extensions (announced September 21, 2008)	Reciprocal Currency Arrangements (first announced Dec 12, 2007) <sup>3</sup>	ABCP Money Market Liquidity Facility (announced September 19, 2008) <sup>2</sup>	Commercial Paper Funding Facility (announced October 7, 2008)	Securities Lending	Money Market Investing Funding Facility (announced October 21, 2008)	Term Securities Lending Facility (announced March 11, 2008) <sup>2</sup>	Term Securities Lending Facility Options Program <sup>4</sup> (announced July 30, 2008)	Term Asset Backed Securities Loan Facility <sup>5</sup> (announced November 25, 2008)
Is prepayment allowed if term is greater than overnight?	No	No	Yes	Yes	No	N/A	N/A	Yes	No	N/A	N/A	N/A	No	No	Yes
Which Reserve Banks conduct operations?	FRBNY	FRBNY	All	All	All	FRBNY	FRBNY	FRBNY	FRB Boston	FRBNY	FRBNY	FRBNY	FRBNY	FRBNY	FRBNY
How frequently is the program accessed?	Typically once or more daily	Typically weekly	As requested (standing facility)	As requested (standing facility)	Every other week, or as necessary <sup>16</sup>	As requested (standing facility)	As requested (standing facility)	Typically on schedule with FRBNY TAF auctions or as requested by central banks	As requested (standing facility)	As requested (standing facility)	Daily	As requested (standing facility)	Schedule 1: Every other week Schedule 2: Weekly	As necessary <sup>18</sup>	Monthly
Where are statistics reported	Temporary OMO activity <sup>19</sup>	Temporary OMO activity <sup>19</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	TAF Activity <sup>15</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	Securities lending activity	H.4.1 - Factors Affecting Reserve Balances <sup>20</sup>	Term securities lending facility activity <sup>19</sup>	Term securities lending facility activity <sup>19</sup>	TALF Activity <sup>19</sup>

<sup>1</sup> Discount Window includes primary, secondary and seasonal credit programs, <sup>2</sup> The PDCF and TSLF will remain in operation through April 30 2009 as announced on December 2 2008, <sup>3</sup> ECB and SNB created December 12 2007, BOC BOE and BOJ created September 18 2006, RBA Sveriges Riksbank, DB and Norges Bank created September 24 2008, Reserve Bank of New Zealand created October 28 2008, Banco Central do Brazil, Banco de Mexico, Bank of Korea and Monetary Authority of Singapore created October 29 2008, <sup>4</sup> TOP auctions are sales of options granting the right to enter into TSLF borrowing, <sup>5</sup> The TALF is expected to go live around February 2009. The Federal Reserve reserves the right to review and make adjustments to these terms and conditions – including the size of program, pricing, loan maturity, and asset and borrower eligibility requirements – consistent with the policy objectives of the TALF <sup>6</sup> Through the CPFF the FRBNY provides financing to an SPV that purchases eligible three month unsecured and asset backed commercial paper from eligible issuers <sup>7</sup> Through the MIMFF the FRBNY will provide senior secured funding to a series of private sector SPVs to finance the purchase of certain money market instruments from eligible investors, <sup>8</sup> Reverse repos are collateralized with U.S. Treasuries, <sup>9</sup> PDCF and TSLF collateral expanded on September 14, 2008, <sup>10</sup> Includes non-U.S. dollar denominated securities, <sup>11</sup> Includes auto loans student loans credit card loans or small business loans guaranteed by the US SBA <sup>12</sup> Open market operations are authorized for terms of up to 65 business days, <sup>13</sup> 28-day and 84-day terms may vary slightly to account for maturity dates that fall on Bank holidays, <sup>14</sup> Primary credit loans are generally overnight. Loans may be granted for term beyond a few weeks to small banks, subject to additional administration, <sup>15</sup> Maximum maturity of term increased from overnight to 30 days on August 17, 2007, and to 90 days on March 16, 2008, <sup>16</sup> Forward selling TAF auctions announced on September 29, 2008 will be conducted in November with terms targeted to provide funding over year end, <sup>17</sup> Loans are targeted to span potentially stressed financing dates, such as quarter-ends, <sup>18</sup> TOP auctions may be conducted on multiple dates for a single loan and may be conducted well in advance of a loan period <sup>19</sup> Data only available on days when operations are conducted, <sup>20</sup> Data published on Thursday, as of close of business on Wednesday.

Source: Federal Reserve, DB Global Markets Research



## Central Bank Watch

### US

With the US economy in sharp decline, and with the risks of deflation having risen substantially, the Fed will likely continue to pull out all the stops to do what it can to combat the economic and financial crisis. The focus of monetary policy is now very clearly on measures to ease private credit market conditions via MBS purchases and the Term ABS Loan Facility (TALF), which will be implemented in two weeks time. The Obama Administration will be supporting a five-fold expansion of the TALF, for a total commitment of USD 100bn to be levered ten times by the Fed. Recent indications are that the Fed will focus its efforts on bringing down private market rates before it entertains intervening at the long end of the Treasury market. We expect it would begin to consider action in the Treasury market if the TALF program fails to reduce private spreads appreciably and if the 10-year Treasury yield at the same time begins to move appreciably above 3%.

	Current	Mar09	Jun09	Dec09
Fed funds rate	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25

### Japan

The BoJ has focused on stability of money markets and financial position of corporate sectors. Although they have introduced outright purchase of CP, corporate bonds and equities, they have maintained 0.1% at their policy rate with interest payments on excess reserve at the same rate. But we expect that the sharp worsening in the Japanese economy will eventually force the BoJ to abandon these policy and to return to a zero interest rate policy in 3Q 2009 while they will avoid setting the target on quantitative monetary aggregates.

	Current	Mar09	Jun09	Dec09
ON rate	0.10	0.10	0.0	0.0

### Euroland

We expect the ECB to cut rates 50bp to 1.50% at the March meeting. This will be a new historic low for rates. The focus in the press conference will be on the staff forecast revisions, prospects for QE, what is said about risks and potential solutions in Eastern Europe and among peripheral euro area members. The staff inflation and in particular growth forecasts for 2009 will be revised lower. 2010 forecasts will also decline, but less so. However, the lower bounds of the forecast ranges will be arguably too optimistic. We see a 50bp rate cut as the most likely outcome, in line with the consensus and market pricing. We still believe in a terminal rate of 0.75% by mid-year, although Axel Weber's reference to a 1% floor raises a risk to this view. The risk is skewed towards a larger cut in March.

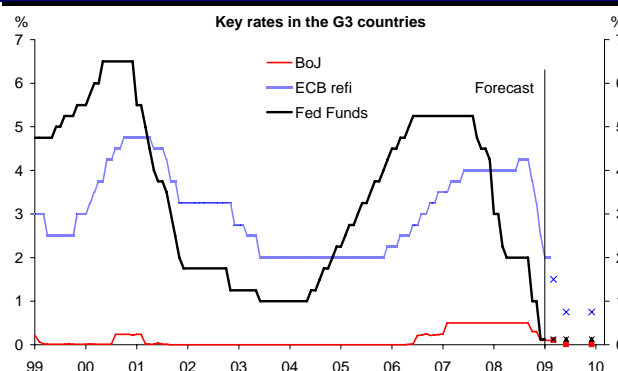
	Current	Mar09	Jun09	Dec09
Refi rate	2.00	1.50	0.75	0.75

### UK

The Governor made it clear that he would like at the MPC's disposal the ability to engage in quantitative easing by the next MPC meeting. While we still think the bank will begin its QE program at the March 5 meeting, a letter formally setting up procedures has yet to be sent by the Chancellor to the Governor. It is debatable whether the markets will know if the MPC has the ability to begin QE by the time it meets next week. Our forecast remains that the MPC will cut interest rates by 50bps next month, and also that they will instruct the Bank to purchase gilts & possibly commercial paper.

	Current	Mar09	Jun09	Dec09
Bank rate	1.00	0.50	0.50	0.50

### Key rates in the G3 countries



Source: DB Global Markets Research

### Sweden

We think further policy easing looks likely in Sweden following the 175bps and 100bps moves at the December and February meetings. We see a trough of 0.25% later this year.

	Current	Mar09	Jun09	Dec09
Repo rate	1.00	1.00	0.50	0.25

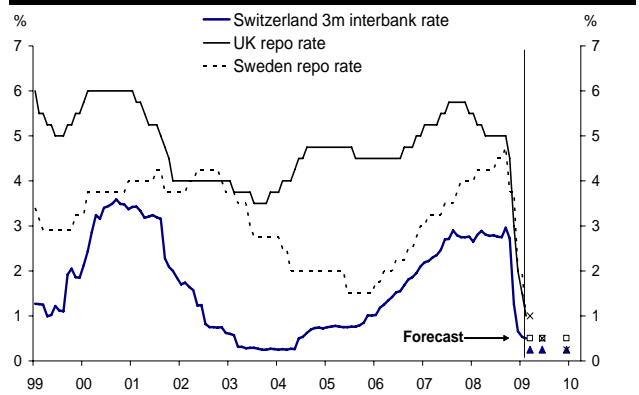
### Switzerland

Following the further 50bp rate reduction at their scheduled policy meeting in December, we expect the SNB to cut a final 25bp in Q1. (meeting on March 12)

	Current	Mar09	Jun09	Dec09
3m Libor tgt	0.50	0.25	0.25	0.25

**Central Bank Watch (continued)**

**Key rates in the peripheral European countries**



Source: DB Global Markets Research

**Canada**

Approaching the second Bank of Canada policy interest rate announcement of the year on 2 March, it is clear to us that the impact of the sharp contraction in global economic activity generally, and particularly in the United States, has had a much more profound negative impact on Canada’s economic performance late in 2008 and early in 2009 than most expected. As a result of this slower than expected growth late in 2008 and the growing evidence that the overall global economic outlook, and particularly the U.S. outlook, is also much weaker than previously expected, Canada’s economic performance in 2009 will be somewhat lower than we projected in mid January. For 2009 we now expect GDP to decline by 1.7% in 2009 and to increase by 2.4% in 2010. As a consequence of our outlook we expect the BoC to ease by 25bp in Q1 with another 25bp cut in Q2.

	Current	Mar09	Jun09	Dec09
ON rate	1.00	0.50	0.50	0.50

**Australia**

The RBA Board minutes noted that primary backdrop to members’ policy discussion this month was the marked deterioration in world economic conditions late in 2008. Members also noted that measures taken in developed economies to stabilise their financial systems had contributed to an improvement in the functioning of credit markets over the past few months. According to the Bank, the better functioning of markets plus the very significant monetary and fiscal stimulus that was being put in place in all regions would assist in promoting global recovery over time. The minutes noted that economic conditions in Australia were being affected by these global events, though, to date, the Australian economy had been more resilient than other industrial economies. Importantly, Aus-

tralia’s financial system remained in a relatively strong condition. Among other things, this had allowed the significant monetary policy easing starting in September to flow through to large reductions in many lending rates. In addition, the package of fiscal measures announced by the Government would result in a significant boost to demand during 2009. Members agreed that, together with earlier rate cuts, this would amount to a very significant easing of monetary policy. The minutes concluded that given the speed at which the global contraction had occurred, short-term prospects were thus still for weakness in demand and output. Nonetheless, the substantial measures taken would help to cushion the economy from the contractionary forces coming from abroad and, over time, work to establish conditions conducive to stronger demand later in the year. Assessments of those medium-term prospects, as well as the course of the short-term data, would be important to future policy decisions.

	Current	Mar09	Jun09	Dec09
ON rate	3.25	2.75	2.50	2.50

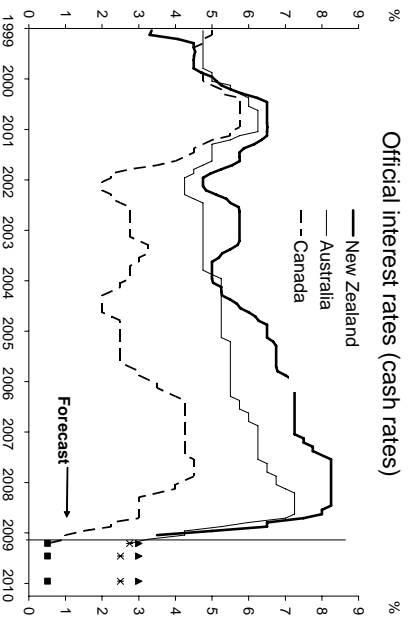
**New Zealand**

The RBNZ survey reports that mean business sector 2-year ahead inflation expectation fell 0.4pps to 2.3%yoy in February, a 5-year low and now just 0.1pps above the average level seen since ‘price stability’ was attained 1992. The mean 1-year ahead inflation expectation fell 0.6pps to 2.2%, also a 5-year low. As far as other macroeconomic variables of interest are concerned, the survey also pointed to a marked decline in expectations of GDP growth in 2010 (indeed, growth of just 0.1% is now expected, down from 1.5% in the prior survey – a remarkably pessimistic prediction), a rise in expectations regarding unemployment and a consequent reduction in expectations regarding wage inflation. Respondents expect the 90-day bank bill rate to be 4.2% at the end of March and 4.0% in a year’s time (compared with 3.3% at present). The RBNZ also released the results of the Marketscope survey of household expectations. These remain notably more sticky, as is usually the case. The median household perceived the current inflation rate to be 3.5%yoy (compared with an actual rate of 3.4%). The survey showed that the median expectation for one-year ahead inflation was 4.0%yoy (down 0.3pps from the prior survey), which is in line with the average seen over the past three years.

	Current	Mar09	Jun09	Dec09
O/N rate	3.50	3.00	3.00	3.00

## Central Bank Watch (continued)

### Key rates in the Peripheral \$-bloc



Source: DB Global Markets Research

### China

Given stronger-than-expected lending growth starting from December, the recent pick up in raw materials prices, and the severe drought that is likely to push up grain prices later this year, we think deflation risk is easing. While we officially expect rates to be cut by 54bps, but see downside risk to this estimate.

Current	Mar09	Jun09	Dec09
1-year rate	2.25	2.25	1.71

### India

With inflation falling rapidly and the economy slowing sharply, we think the RBI will cut rates another 100bps over the next four-to-six months. We also expect the CRR to be cut by 100-150bps. These forecasts are also supported by the government's revelation that the deficit is rising faster than we'd expected. Some monetization of the rising debt plus liquidity injections to support the bond market will be needed if the government is to avoid crowding out the private sector.

Repo rate	Current	Mar09	Jun09	Dec09
	5.50	4.75	4.50	5.00

### Brazil

The Central Bank monetary policy committee cut the Selic overnight rate by a larger-than-expected 100bp to 12.75% in January. At the same time, the CB signaled caution by claiming that the 100bp rate cut was a "relevant part" of

the expected easing cycle. However, since inflation expectations remain subdued and the latest indicators have continued to show a very weak economy, we expect the CB to repeat the dosage in March, cutting the Selic to 11.75%. We forecast that two additional cuts (75bp in April and 50bp in June) will bring the Selic rate to 10.50% at the end of this easing cycle and believe that the risk remains tilted towards lower interest rates.

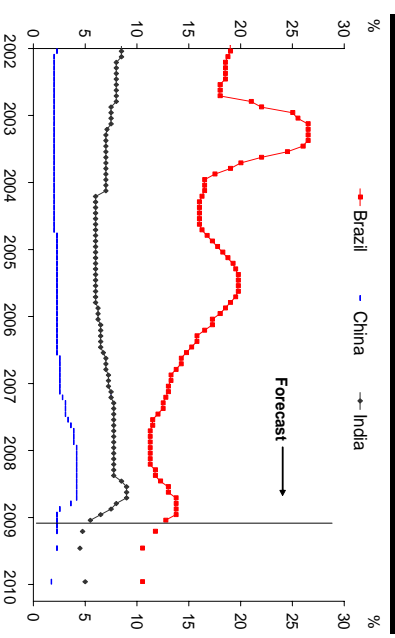
O/N rate	Current	Mar09	Jun09	Dec09
	12.75	11.75	10.50	10.50

### Russia

In the beginning of February the CBR resumed its interest rate increases, their size being notably greater than the step increases undertaken last year. Starting 2 February 2009 the Board of Directors of the CBR increased the interest rates on loans and REPO operations. The second interest rate increase was undertaken by the CBR on February 10, with interest rates on 1-day repos raised to 10%, to 10.5% for 1-week repos and 12% for fixed-rate repos. The CBR also increased its deposit rates for commercial banks by 0.5-1ppt to 7.75-8.25%. According to the CBR, the move to increase interest rates is aimed at controlling inflationary pressures and ensuring stability of the rouble exchange rate. The move sends a clear signal to the banking sector and the financial markets, in our view, that the CBR is ready to restrict liquidity in order to diffuse speculative pressures on the exchange rate.

CBR refi rate	Current	Jun09	Dec09
	13.00	14.00	14.00

### Key rates in major emerging markets



Source: DB Global Markets Research

## Global data monitor: Recent developments and near-term forecasts

	B/bergcode	Q1 08	Q2-08	Q3-08	Q4-08	Oct 08	Nov 08	Dec 08	Jan 09	Feb 09	Mar 09
<b>OECD leading indicators</b>											
<b>(6M change, %, ann.)</b>											
OECD		0.3	-0.9	-2.8	-5.8	-4.8	-5.9	-6.8			
US	OLEDUSA	-0.2	-1.7	-3.9	-7.3	-6.1	-7.3	-8.5			
Euro area	OLEDEU12	0.4	-1.1	-3.3	-6.1	-5.2	-6.1	-6.9			
Japan	OLEDJAPN	-2.0	-1.1	-1.4	-5.2	-3.6	-5.2	-6.9			
China	OLEDCHIN	15.7	15.3	10.7	2.3	5.2	2.3	-0.4			
India	OLEDINDI	8.1	6.1	3.6	0.8	1.6	0.7	0.2			
Russia	OLEDRUSS	8.0	7.0	1.6	-9.1	-5.1	-9.1	-13.0			
Brazil	OLEDBRAZ	4.8	4.8	4.3	0.5	2.1	0.6	-1.0			
<b>Purchasing manager indices</b>											
Global (manufacturing)											
US (manufacturing ISM)	NAPMPMI	52.2	51.1	48.4	38.6	42.4	38.0	35.5	36.7		
Euro area (composite)		49.5	49.1	47.4	36.1	38.7	36.6	32.9	35.6	35.8	
Japan (manufacturing)	SEASPMI	52.2	50.8	47.6	40.2	43.6	38.9	38.2	38.3	36.2	
China (manufacturing)	CPMINDX	50.9	47.6	46.1	36.6	42.2	36.7	30.8	29.6	31.6	
India (manufacturing)		53.5	54.5	50.1	41.7	45.2	38.8	41.2	42.2	45.1	
Russia (manufacturing)		59.2	57.8	57.7	47.5	52.2	45.8	44.4	46.7	47.0	
Brazil		54.8	52.1	49.9	40.0	46.4	39.8	33.8	34.4		
<b>Other business surveys</b>											
US dur. goods orders (%pop1)	DGNOCHNG	-1.3	0.2	-1.6	-5.7	-8.5	-4.0	-4.6	-5.2		
Japanese Tankan (LI)	JTFIFLA	11.0	5.0	-3.0	-24.0	81.6	76.8	68.9	67.2	65.4	
Euro area EC sentiment	EUESEMU	101.4	97.5	89.9	75.8						
<b>Industrial production (%pop1)</b>											
US	IP CHNG	0.5	-3.5	-8.8	-12.2	1.6	-1.2	-2.4	-1.8	-1.5	
Euro area	EUITEMUM	0.7	-6.3	-7.9	-19.4	-1.7	-2.3	-2.7	-2.7		
Japan	JNIPMOM	-2.8	-3.3	-5.0	-39.9	-3.1	-8.5	-9.8	-10.0		
<b>Retail sales (%pop1)</b>											
US	RSTAMOM	-1.7	3.1	-5.1	-25.5	-3.4	-2.4	-3.0	1.0	-0.2	
Euro area	RSSAEMUM	-1.1	-3.4	-0.1	-3.9	-1.0	-0.2	-0.3	-0.3		
Japan (household spending)	JHHSLERY	-1.6	-7.6	-1.9	1.5	-0.1	1.5	-0.9	-0.8		
<b>Labour market</b>											
US non-farm payrolls <sup>2</sup>	NEPTCH	-113	-153	-208	-518	-380	-597	-577	-598	-750	
Euro area unemployment (%)	UMRTEMU	7.3	7.4	7.5	7.9	7.8	7.9	8.1	8.2		
Japanese unemployment (%)	JNUE	3.8	4.0	4.0	4.0	3.8	4.0	4.3	4.1		
<b>CP inflation (%yoy)</b>											
US	CPICNG	4.1	4.4	5.3	1.6	3.7	1.1	0.1	0.0		
Euro area	ECCPEMUY	3.4	3.6	3.8	2.3	3.2	2.1	1.6	1.1	1.1	
Japan	JCPNSGM	1.0	1.4	2.2	1.0	1.7	1.0	0.4	0.0	1.1	
China	CNCPYOY	8.1	7.8	5.3	2.5	4.0	2.4	1.2	0.9		
India	INWHALEY	5.8	9.5	12.5	8.6	11.1	8.6	6.3	5.2		
Russia	RUCPIYOY	12.9	14.9	14.9	13.7	14.2	13.8	13.3	13.4		
Brazil		4.6	5.6	6.3	6.2	6.4	6.4	5.9	5.8		
<b>Current account (USD bn)<sup>3</sup></b>											
US (trade balance, g+s)	USTBTOT	-59.6	-60.5	-59.4	-46.2	-57.2	-41.6	-39.9	-38.5		
Euro area	JNBPAB	-3.4	-4.1	-10.6	-11.8	-8.0	-17.7	-9.9	-9.9		
Japan	RUCACAL	17.8	15.3	11.2	7.8	11.1	6.7	5.5	4.7		
China (trade in goods)		20.0	20.5	26.2	31.6	25.9	34.1	34.7	41.7		
Russia (trade in goods)		16.8	16.4	16.7	10.1	13.2	10.2	7.0			
<b>Other indicators</b>											
Oil prices (Brent, USD/b)	EUCRBRDT	98.5	122.4	116.0	54.7	71.5	52.7	40.0	43.6	43.4	
FX reserves China (USD bn)	CNGFOREX	1682.2	1808.8	1905.6	1946.0	1879.7	1884.7	1946.0			

Quarterly data in shaded areas are quarter-to-date. Monthly data in the shaded areas are forecasts.

(1) % pop = % change this period over previous period. Quarter on quarter growth rates is annualised.

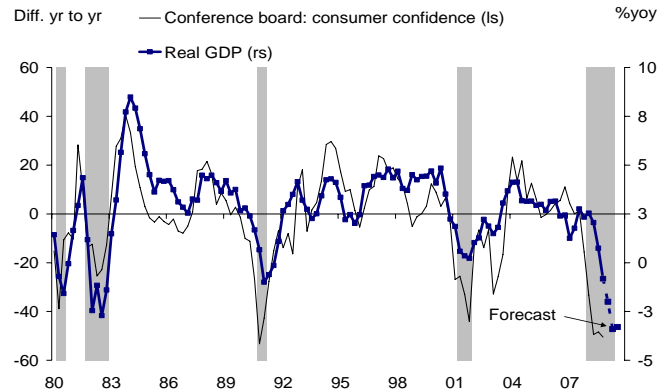
(2) pop change in '000, quarterly data are averages of monthly changes.

(3) Quarterly data are averages of monthly balances.

Sources: Bloomberg, Reuters, Eurostat, European Commission, OECD, Bank of Japan, National statistical offices.

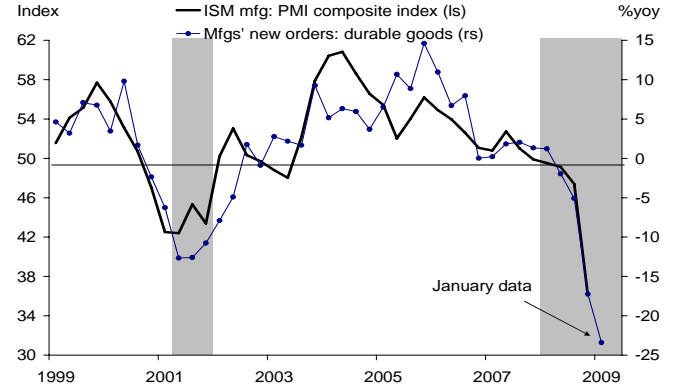
## Charts of the Week

**Chart 1. Plummeting consumer confidence is consistent with our US GDP projections...**



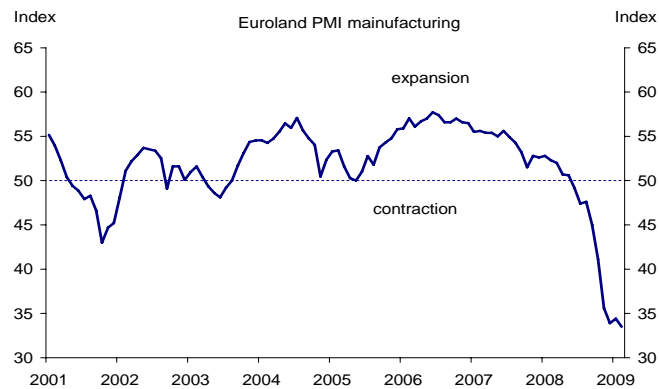
Source: Conference Board, BEA, DB Global Markets Research

**Chart 2. ...while plunging durable goods orders suggest the pain in the US manufacturing sector is not over**



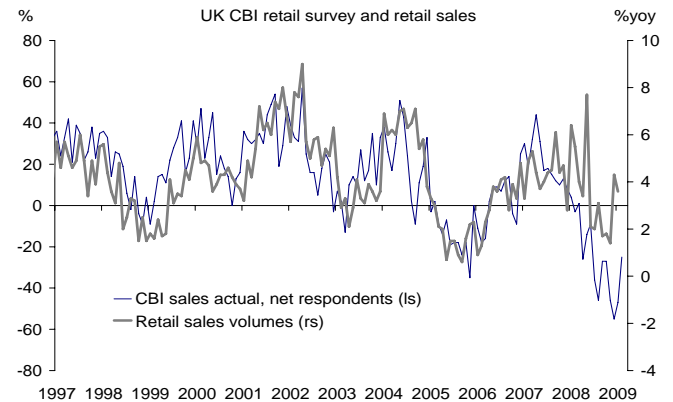
Source: Census, NAPM, DB Global Markets Research

**Chart 3. EA manufacturing PMI hasn't bottomed yet...**



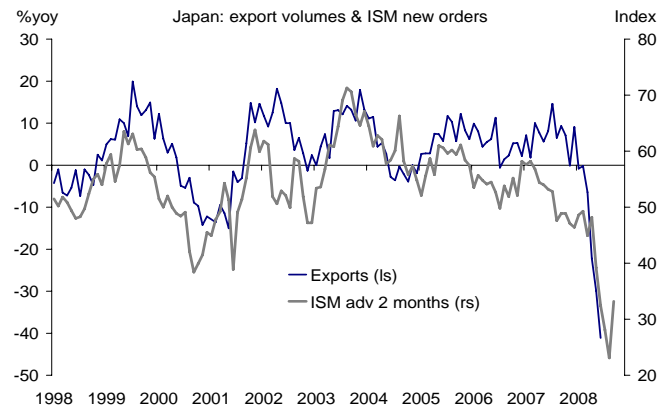
Source: Markit, DB Global Markets Research

**Chart 4. ...while UK retail sales show some improvement**



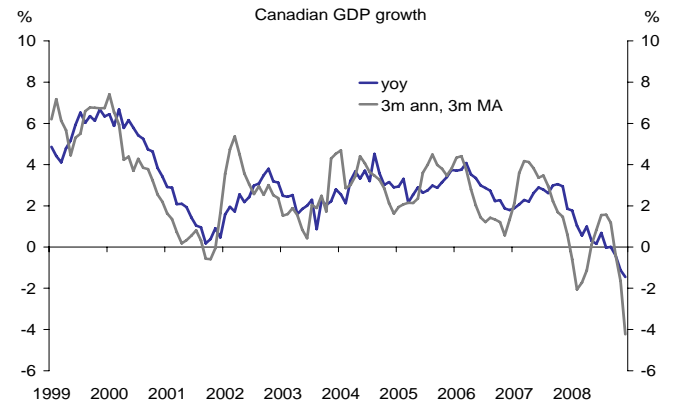
Source: ONS, DB Global Markets Research

**Chart 5. Japan exports figures follow ISM lows ...**



Source: MoF, METI, DB Global Markets Research

**Chart 6. ... and the recession deepens in Canada**



Source: Statcan, DB Global Markets Research

**Global Week Ahead: Thursday, 05 March – Wednesday, 11 March**

- **Dollar Bloc:** In the **US**, we are looking for a shocking 750k decline in non-farm payrolls. The unemployment rate should rise to 8%. The January factory orders and consumer credit data are likely to fall. Other noteworthy data includes the wholesale inventories, treasury budget balance and Q4 productivity. In **Australia**, January's building approvals and trade data are due this week. We are looking for a slight gain in building approvals, while a sharp decline in goods imports indicated in preliminary statistics suggest some prospects of a slight rebound in the trade balance. In **New Zealand**, focus will be on the RBNZ official cash rate announcement. On the data front, the first housing reports for February should indicate a modest lift in sales if anecdotes are to be believed. In **Canada**, the January building permits is expected to come on the softer side. Besides, housing starts and price index are also lined up for release.
- **Europe:** In the **Eurozone**, it will be interesting to watch the ECB rate setting decision this week; we expect at least 50 bps refi cut with the possibility that the central bank may opt for a bolder 100 bps cut. Also important will be the tone of the post meeting press conference in terms of providing some insight into whether we are close to the end of the easing cycle in the zone. The first estimate of Q4 GDP data should provide the detailed composition of GDP from the expenditure side. Besides, PPI (from across the board), French and Spanish IP, German and French trade balance along with German retail sales figures are scheduled for release. In the **UK**, markets will closely follow the BoE rate announcement meeting (we are predicting 50bps rate cut). On the data side, the January IP and trade balance figures are the main releases. In **Switzerland**, February's CPI data is due this week. In **Scandinavia**, we will get January IP data from across the board. In **CE4**, we will get Slovakian Q4 GDP final data.
- **Asia incl. Japan:** In **Japan**, the Q4 GDP data is particularly interesting to watch. Besides, January's trade balance, current account and money supply are also due this week. In **India**, the WPI figure will be watched out for any further easing in the prices.

Country	GMT	Release	DB Expected	Actual	Consensus	Previous
<b>Thursday, 05 March</b>						
<b>AUSTRALIA</b>	00:30	Dwelling approvals (Jan)	2.5% (-30.1%)		1.0% (-30.4%)	-2.9% (-32.9%)
<b>AUSTRALIA</b>	00:30	Intl. trade in G and S (Jan)	AUD1.7bn		AUD1.1bn	AUD0.6bn
<b>INDIA</b>	06:30	WPI (Feb)			(3.0%)	(3.4%)
<b>GERMANY</b>	07:00	Retail sales (Jan)	0.5%		0.2% (-1.0%)	-0.1% (-0.3%)
<b>SLOVAKIA</b>	08:00	GDP(final) (Q4)			(2.7%)	(7.0%)
<b>SPAIN</b>	08:00	Industrial production (Jan)	(-25.5%)		(-20.2%)	(-19.6%)
<b>EUROLAND</b>	10:00	GDP first estimate (Q4)	-1.5% (-1.2%)		-1.5% (-1.2%)	-0.2% (0.6%)
<b>CHILE</b>	11:00	CPI (Feb)	-0.1% (5.8%)		0.0% (5.9%)	-0.8% (6.3%)
<b>CHILE</b>	11:00	CPI ex-perishables and fuel (Feb)	-0.1%		-0.1%	-1.8%
<b>CHILE</b>	11:30	Economic activity (Jan)	(-1.0%)		(-1.5%)	(0.5%)
<b>UK</b>	12:00	BoE rate announcement (Mar)	0.5%		0.5%	1.0%
<b>EUROLAND</b>	12:45	ECB rate decision (Mar)	1.5%		1.5%	2.0%
<b>US</b>	13:30	Initial jobless claims (Feb 28)	670.0k		650.0k	667.0k
<b>US</b>	13:30	Continuing claims (Feb 21)			5155.0k	5112.0k
<b>US</b>	13:30	Productivity (Q4)	0.0%		1.2%	1.3% (2.1%)
<b>US</b>	13:30	Unit labor costs (Q4)	4.0%		3.6%	2.8% (1.4%)
<b>CANADA</b>	13:30	Building permits (Jan)	-6.0%		-5.0%	-3.9%
<b>US</b>	15:00	Factory orders (Jan)	-4.1%		-3.5%	-3.9% (-18.7%)

**Events and Meetings:** **EUROLAND:** ECB to hold Governing Council meeting, interest rate announcement scheduled– 12:45 GMT; news conference by Trichet to follow at 13:30 GMT. **EUROLAND:** ECB's Tumpel- Gugerell to hold speech in Frankfurt – 16:00 GMT. **UK:** Bank of England to announce interest rate decision – 12:00 GMT. **US:** Treasury's Geithner to testify to the House Budget Committee in Washington – 15:00 GMT. **US:** Fed's Kohn to testify to the Senate Banking Committee in Washington – 15:00 GMT. **US:** Fed's Lockhart to hold speech on economy in Atlanta – 17:45 GMT.

**Friday, 06 March**

<b>SWITZERLAND</b>	08:15	CPI (Feb)			0.0% (0.0%)	-0.8% (0.1%)
<b>UK</b>	09:30	Input PPI (Feb)			0.2% (1.1%)	1.5% (2.3%)
<b>UK</b>	09:30	Output PPI (Feb)			0.1% (3.1%)	0.1% (3.5%)
<b>UK</b>	09:30	Core output PPI (Feb)			0.2% (3.7%)	0.4% (4.1%)
<b>BRAZIL</b>	12:00	Industrial production (Jan)			(-11.0%)	(-14.5%)
<b>US</b>	13:30	Index of agg hours (Feb)				-0.7% (-4.6%)
<b>US</b>	13:30	Unemployment rate (Feb)	8.0%		7.9%	7.6%

Country	GMT	Release	DB Expected	Actual	Consensus	Previous
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**Friday, 06 March (continued)**

US	13:30	Payrolls (Feb)	-750.0k		-650.0k	-598.0k
US	13:30	Avg workweek (Feb)	33.3		33.3	33.3
US	13:30	Avg hourly earning (Feb)	0.2%		0.2% (3.8%)	0.3 % (3.9%)
US	20:00	Consumer credit (Jan)	-USD7.0bn		-USD5.0bn	-USD6.6bn

**Events and Meetings: HUNGARY:** Central Bank of Hungary to publish minutes of its February rate setting meeting –13:00 GMT. **US:** Fed's Plosser to hold speech on financial system in New York – 15:00 GMT. **US:** Fed's Dudley to hold speech on financial market turmoil in New York – 16:15 GMT.

**Sunday, 08 March**

JAPAN	23:50	BoP trade balance (Jan)				-JPY134.1bn
JAPAN	23:50	BoP current account (Jan)				JPY498.5bn
JAPAN	23:50	Money supply M2 and CDs (Feb)				(1.9%)

**Events and Meetings:** No significant events scheduled

**Monday, 09 March**

SWITZERLAND	07:15	Unemployment rate n.s.a. (Feb)				3.3%
SWITZERLAND	13:15	Housing starts (Feb)				153.5k

**Events and Meetings: EUROLAND:** ECB's Stark to hold speech in Luxembourg – 09:00 GMT. **EUROLAND:** Eurogroup finance ministers to hold meeting in Brussels – 16:00 GMT

**Tuesday, 10 March**

JAPAN	05:00	Leading economic Index (Jan)				10.0
GERMANY	07:00	Trade balance (Jan)				EUR6.9bn
GERMANY	07:00	HICP (Feb)				-0.6% (0.9%)
FRANCE	07:45	Industrial production (Jan)				-1.8% (-11.1%)
DENMARK	08:30	HICP (Feb)				-0.4% (1.7%)
SWEDEN	08:30	Industrial orders (Jan)				-8.7% (-22.0%)
NORWAY	09:00	CPIATE (Feb)				-0.5% (2.8%)
UK	09:30	Manufacturing production (Jan)				-2.2% (-10.2%)
UK	09:30	Industrial production (Jan)				-1.7% (-9.4%)
EUROLAND	10:00	PPI (Jan)			-0.1% (0.7%)	-1.3% (1.8%)
US	14:00	Wholesale inventories (Jan)	-1.1%		-0.9%	-1.4% (3.4%)

**Events and meetings: EUROLAND:** ECB's Weber to hold speech in Frankfurt – 09:00 GMT. **EUROLAND:** ECB's Mersch to hold speech in Luxembourg – 17:05 GMT. **US** Fed's Bernanke to hold speech in Washington – 12:30 GMT.

**Wednesday, 11 March**

UK	09:30	Trade balance Non EU25 (Jan)				-GBP4.2bn
UK	09:30	Visible trade balance (Jan)				-GBP7.4bn
GERMANY	11:00	Factory orders (Jan)	-1.0%			-6.9% (-25.1%)
US	18:00	Treasury budget balance (Feb)			-USD197.0bn	-USD83.8bn
NEW ZEALAND	20:00	RBNZ official cash rate (Mar)			2.75%	3.5%
NEW ZEALAND	21:45	Food price index (Feb)				0.8% (9.5%)
JAPAN	23:50	Real GDP (Q4)				-0.5%

**Events and meetings: NEW ZEALAND:** Reserve bank of New Zealand to announce official cash rate – 20:00 GMT. **EUROLAND:** ECB's Liikanen to participate in a seminar on taxation in Helsinki – 11:00 GMT

**Source:** Australian Bureau of Statistics; Bank of Canada; Bank of Japan; BEA; BLS; Bundesbank; Bureau of Labor Statistics, U.S. Department of Labor; Cabinet Office, Government of Japan; ECB; Eurostat; Indian Central Statistical Organization; INE; INSEE; ISTAT; ISTAT.IT; Ministry of Finance japan; National Association of Realtors; National Bureau of Statistics; National Statistics Office; OECD - Composite Leading Indicator; People's Bank of China; Reserve Bank of Australia; Reserve Bank of New Zealand; Statistics Canada; Statistics Netherlands; Statistics of New Zealand; U.S. Census Bureau; U.S. Department of Labor, Employment & Training Administration; U.S. Department of the Treasury; U.S. Federal Reserve

**Note:** Unless otherwise indicated, numbers without parenthesis are either % month-on-month or % quarter-on-quarter, depending on the frequency of release, while numbers in parenthesis are % year-on-year. \* on the release time means indicative release time. \* on indicator name means indicative/earliest release date.

**Financial Forecasts**

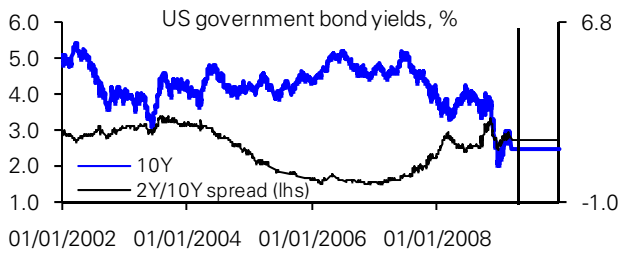
		US	Jpn	Euro	UK	Swe*	Swiss*	Can*	Aus*	NZ*	
<b>3M Interest</b>	<b>Actual</b>	1.27	0.71	1.81	2.03	1.00	0.50	1.00	3.25	3.50	
	<b>Rates<sup>1</sup></b>										
	<b>Mar09</b>	1.25	0.70	2.10	1.80	1.00	0.25	0.50	2.75	3.00	
<b>DB forecasts &amp; Futures</b>	<b>futures</b>	1.29	0.69	1.64	1.89	---	---	---	---	---	
	<b>Jun09</b>	1.25	0.70	1.40	1.60	0.50	0.25	0.50	2.50	3.00	
	<b>futures</b>	1.30	0.63	1.51	1.76	---	---	---	---	---	
	<b>Dec09</b>	1.25	0.70	1.40	1.30	0.25	0.25	0.50	2.50	3.00	
	<b>futures</b>	1.48	0.56	1.71	1.94	---	---	---	---	---	
<b>10Y Gov't<sup>2</sup></b>	<b>Actual</b>	2.76	1.27	2.98	3.42	2.75	2.20	3.02	4.31	4.47	
	<b>Bond</b>										
	<b>Mar09</b>	2.50	1.30	<b>2.75</b>	<b>3.30</b>	<b>2.10</b>	<b>1.50</b>	3.00	4.25	4.50	
<b>Yields/ Spreads<sup>3</sup></b>	<b>forwards</b>	2.83	1.30	3.04	3.31	2.83	2.25	3.08	4.51	4.55	
	<b>Jun09</b>	2.50	1.20	<b>2.50</b>	<b>3.20</b>	<b>2.10</b>	<b>1.55</b>	2.75	4.00	4.50	
<b>DB forecasts &amp; Forwards</b>	<b>forwards</b>	2.87	1.32	3.11	3.37	2.91	2.33	3.19	4.58	4.63	
	<b>Dec09</b>	2.50	1.20	2.25	3.00	1.85	1.35	2.75	4.00	4.50	
	<b>forwards</b>	2.94	1.35	3.24	3.50	3.07	2.50	3.42	4.73	4.80	
<b>Exchange</b>			<b>EUR/USD</b>	<b>USD/JPY</b>	<b>EUR/GBP</b>	<b>GBP/USD</b>	<b>EUR/SEK</b>	<b>EUR/CHF</b>	<b>CAD/USD</b>	<b>AUD/USD</b>	<b>NZD/USD</b>
	<b>Actual</b>	1.27	97.72	0.90	1.41	11.49	1.48	1.29	0.65	0.50	
	<b>3M</b>	<b>1.29</b>	<b>94.33</b>	0.92	<b>1.40</b>	<b>10.94</b>	<b>1.51</b>	<b>1.27</b>	<b>0.64</b>	0.55	
	<b>6M</b>	<b>1.27</b>	<b>96.33</b>	0.92	<b>1.38</b>	<b>10.43</b>	<b>1.53</b>	<b>1.28</b>	<b>0.66</b>	0.55	
	<b>12M</b>	<b>1.19</b>	<b>99.50</b>	<b>0.89</b>	<b>1.33</b>	<b>9.67</b>	1.56	<b>1.28</b>	0.68	0.56	

(1) Future rates calculated from the June, September and March 3M contracts. Forecasts are for the same dates. \* indicates policy interest rates.

(2) Forecasts in this table are produced by the regional fixed income strategists. Forwards estimated from the asset swap curve for 2Y and 10Y yields.

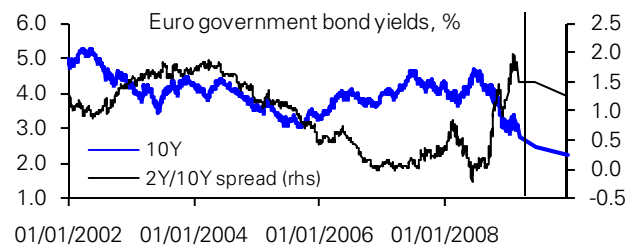
Sources: Bloomberg, Deutsche Bank. Revised forecasts in bold type. All current rates taken as at Friday 11:00 GMT.

**US 10Y rates**



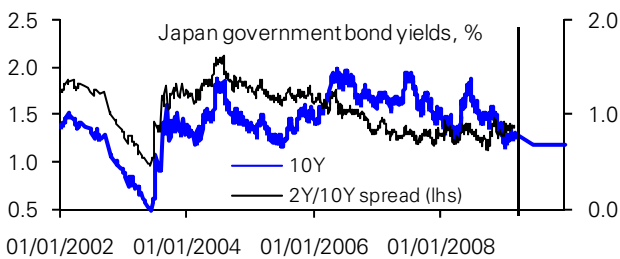
Source: Deutsche Bank

**Euroland 10Y rates**



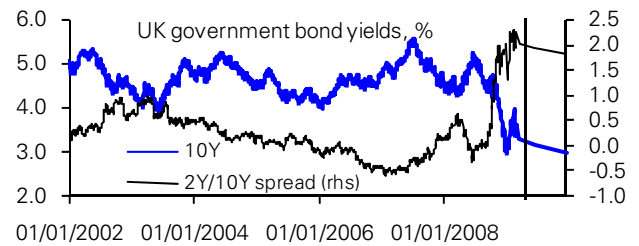
Source: Deutsche Bank

**Japan 10Y rates**



Source: Deutsche Bank

**UK 10Y rates**



Source: Deutsche Bank

**Main Deutsche Bank Global Economics Publications**

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