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Fixed Income Research
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CREDIT SUISSE

Wider ECB collateral & LTROs

Start of a two-speed European Central Bank

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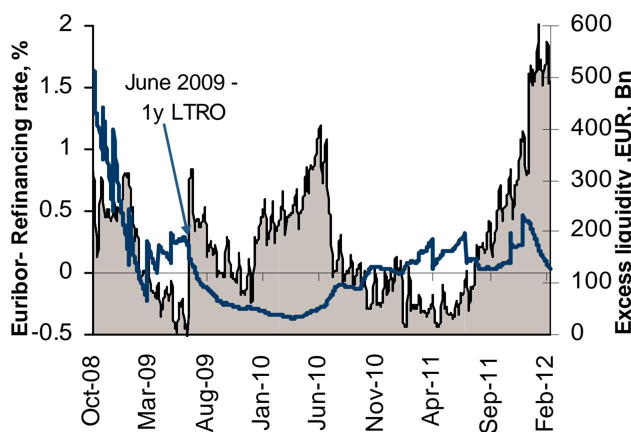
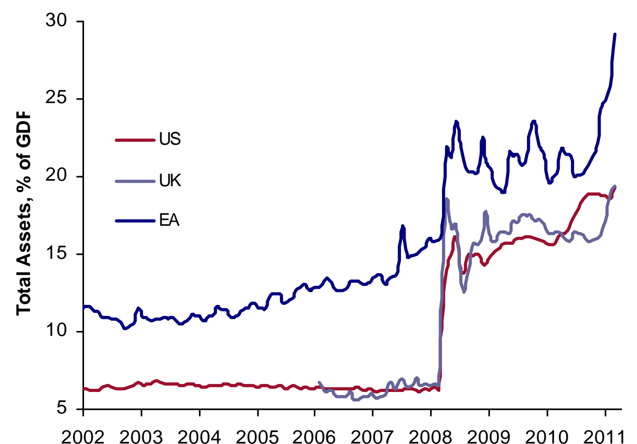
- The ECB has shown its willingness to act as lender of last resort to banks, which has had positive effects in peripheral sovereign spreads and helped banks access unsecured funding markets
- We discuss the long-term implications of NCB-specific collateral rules. This marks a significant milestone and is potentially the start (or return to) "two-speed" monetary policy by the ECB.
- We estimate the gross uptake at the February 3-year LTRO to be in a range of €350-450bn. We discuss market implications for various outcomes. The ECB estimates that the extended collateral pool amounts to €200bn in additional liquidity – much lower than we expected.
- We also expect the ECB to keep the door open to further 3-year LTROs and expect this to signal the wind-down of the SMP program.
- Excess liquidity is likely to increase further from already very high levels (€500bn) – this is likely to keep EONIA forward rates close to the Deposit Rate well into 2013. We also expect this to push 3m Euribor below the repo rate, as happened in 2009.

Exhibit 1: 3m Euribor likely to fall below policy rate once again as excess liquidity soars above €500bn



Source: Credit Suisse, European Central Bank

Exhibit 2: ECB balance sheet (% of GDP) has risen substantially in the last year



Source: Credit Suisse, ECB, Fed, BoE

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A revolutionary ECB

The ECB has once again shown its willingness to act as lender of last resort to banks – and through banks, to sovereigns. It has taken a number of measures to help banks – the most recent measure, 3-year LTROs, has been seen by some as a form of "back-door" QE. We think it's more subtle than that. The ECB is allowing domestic banks to support government debt and at the same time allowing private banks to boost profits from the "carry trade." Although there are similarities with QE in the UK and US, ECB support works with private banks as the intermediary – allowing banks to book profits directly on the assets supported by ECB liquidity. Another key difference is that by using banks as an intermediary, the ECB is using the transmission mechanism as the indirect channel to support sovereigns – thus government debt support is not guaranteed or automatic.

Our aim in this report is to provide the investor with an outline of the facts surrounding the recent changes to the ECB collateral framework. In this section, we raise some questions and issues that arise from these announcements and discuss some of the far-reaching implications. In the later sections, we delve into the details of the announcements, we outline our estimate for the February 3-year LTRO and discuss market implications for three scenarios: a very large uptake, a very small uptake and an uptake in line with consensus.

In summary, the ECB announced a number of measures in the last quarter to ease financing conditions for Euro Area banks. These include the following:

- reducing the second-best rating requirement on certain ABS from AAA at issue to A-,
- introducing two 36-month LTROs, with a one-year repayment option,
- allowing NCBs, as a temporary measure, to accept additional credit claims (ACCs) determined at their own discretion and for their own risk,
- removing the restriction in September 2011 that bank debt is only eligible if traded on a regulated market – this allows banks to post collateral that was not previously traded,
- restarting the liquidity swap lines with the Fed, BoE, BoJ, Bank of Canada and SNB, which are effective until February 2013. The ECB also resumed USD funding at terms of 7 and 84 days at lower rate (OIS + 50bp) and at reduced haircuts,
- reducing the reserve ratio from 2% to 1% of reserves, effective 18 January.

Excess liquidity has soared since December LTRO

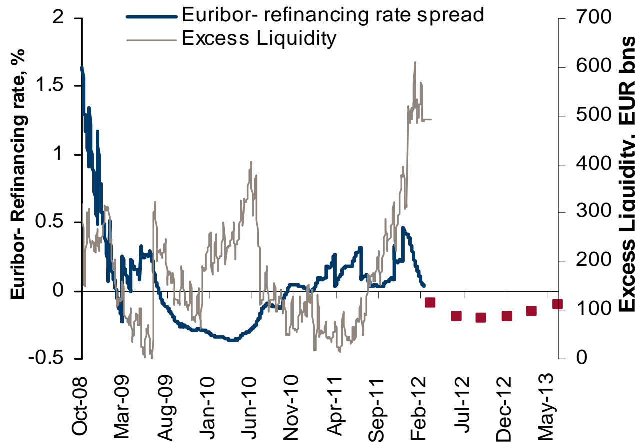
The measures have served to increase the amount of excess liquidity in the system (open market operations + marginal lending facility – autonomous factors – reserve requirement). By our calculations excess liquidity in the system is close to €500bn, the highest it has been since the start of the crisis (Exhibit 3). A large take-up in February should push these levels higher.

These unprecedented amounts of liquidity have implications for the Euribor fixing. Exhibit 3 shows the spread of Euribor versus Repo rate super-imposed on excess liquidity. We expect the 3m Euribor fixing to continue falling as it did in 2009. In 2009, 3m Euribor fixed at 40bp below Repo Rate for a year. The market is currently pricing for Euribor to settle around 20bp below Repo Rate – we see this as fair given uncertainty surrounding the European bailout programs for Greece, Portugal and Ireland, uncertainty around bank recapitalization needs and more recently, the probe into Libor fixings.

Another repercussion of the fall in Euribors is the improvement in the "marginal funding cost" facing banks. We track a proxy for the "marginal funding cost" for banks (5y CDS + 3m Euribor, Exhibit 4) which has fallen since the start of this year. Our simple proxy still remains between 200bp and 300bp over policy rate – one could argue that while this financing cost remains above 1%, banks have a strong incentive to use the LTROs that are unlimited funding at the policy rate (currently 1%) over a three-year period.

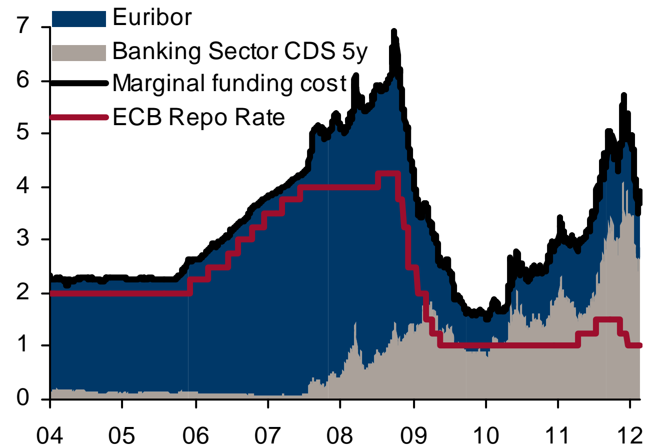
Exhibit 3: Excess liquidity has shot up to all-time highs and 3m Euribor is likely to fall further

Excess liquidity (rhs) = OMOs + marginal lending facility – autonomous factors – reserve requirement



Source: the BLOOMBERG PROFESSIONAL™ service, European Central Bank, Credit Suisse

Exhibit 4: Marginal funding costs for banks have fallen following the LTRO



Source: Credit Suisse

In January, following the announcement of additional credit claims, the market was speculating that the ECB could increase the collateral pool by €11trn in additional credit claims. This led some to expect over a €1 trillion liquidity injection at the February 3-year LTRO. The assumptions were too aggressive, as the amount of additional collateral was always going to be a lot less than the market was expecting. We were expecting €600bn in terms of the gross uptake (see EST 19-Jan-12). Following the ECB meeting in February, however, we reduced our expectations, as the ECB only announced €600bn in additional collateral. We accordingly moved our forecasts lower and now expect a gross uptake closer to €350-450bn. We discuss our assumptions later in the section February LTRO. Market consensus has also shifted more in line with this view. Consensus as of 20 February is for €400bn – we also note, though, that the dispersion of expectations still remains very high.

At the February ECB meeting, President Draghi estimated the amount of additional collateral that would be included in the Eurosystem operations at nearly €600-700bn. Once haircuts are accounted for, the ECB expects this to only lead to €200bn in liquidity. This implies that the haircuts on additional credit claims appear more punitive than we and the market were forecasting.

We view this as less generous than market expectations. The ECB is expected to review the new additional collateral framework in six months' time. We expect the review to coincide with further 3-year LTROs, or at the least, the ECB not ruling out further operations.

NCB-specific collateral rules – does this mark the start of a "two-speed" ECB?

Since the introduction of the "Single List" framework for collateral in 2007, the ECB has gone to great lengths to harmonize the collateral framework in the euro area. The surprising point with the additional credit claims is that the ECB is allowing NCBs (as a temporary measure) to set the criteria, which are then approved by the Governing Council. To us, it is a concession on the part of the Governing Council to allow heterogeneous financing conditions within the Eurosystem.

Under this new framework, 7 out of the 17 NCBs are allowed to construct their own criteria for additional credit claims, which ultimately need approval from the Governing Council. The ECB will review the collateral pool in six months' time, i.e., August 2012. The risk however, will be borne at the NCB level. This recent change in stance by the ECB may pave the way to a return of a two-tier collateral framework and may lead to devolution of power to the NCBs – we are not sure the ECB or the market will take such action positively.

LTROs – impact on ECB balance sheet

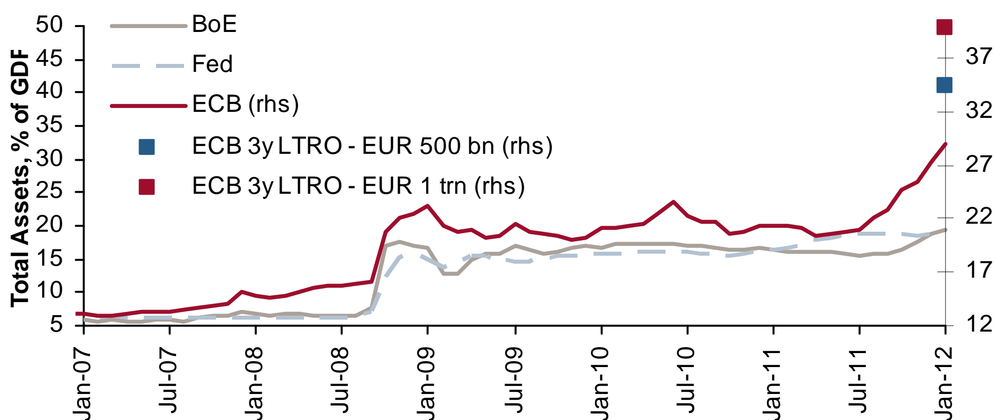
ECB balance sheet could rise to over 35% of GDP

The ECB balance sheet as a percentage of GDP has increased significantly in the last year. Exhibit 28 shows the evolution of the ECB balance sheet (% GDP) versus the Fed and the BoE. Since January 2008, the ECB, Fed and BoE balance sheets have increased by about 12% of respective GDP (Exhibit 5). If the February LTRO is significant, as we expect, the ECB balance sheet is likely to rise by a further 5% to 35% of GDP.

We forecast the change in total ECB assets following the February LTRO – if we get a €450bn gross uptake, we calculate the net increase in liquidity as €350bn (see discussion under February LTRO). A €350bn net increase in liquidity is likely to increase total assets by the same amount, ceteris paribus. Given the wide range of expectations by the market, we include two estimates for the extent of increase in the ECB balance sheet: a net take-up of €400bn or €900bn. This by our calculation would coincide with gross uptake of €500bn or €1 trillion, respectively. ECB balance sheet could rise to 35%-40% of GDP.

Exhibit 5: ECB balance sheet could reach 35%-40% of GDP depending on usage of February 3Y LTRO

Gross LTRO usage shown



Source: European Central Bank, Federal Reserve, Bank of England, Thomson Reuters DataStream, Credit Suisse

We expect a large part of the February LTRO to be the additional credit claims – and lower quality credit claims at that. Thus, even with punitive haircuts imposed on the lower-rated collateral, the quality of the ECB balance sheet is also deteriorating. We realize that the ECB is mitigating the risks by imposing harsh haircuts and by devolving the risks associated with additional credit claims to national central banks, but ultimately we expect the market to re-focus on the low-quality collateral posted to the ECB. In the discussion below we track the evolution of the types of assets posted to the ECB.

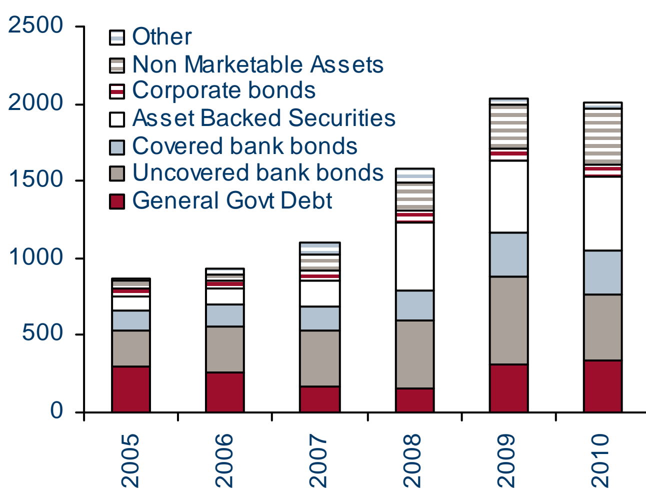
Deterioration in collateral quality and impact on the ECB balance sheet

The recent increase in the eligible pool of assets once again brings into focus measures introduced by the ECB since the start of the crisis. Exhibit 6 shows the evolution of actual collateral posted at the ECB over the last few years – the data available are obtained from the ECB annual report with the latest data available for 2010. Two main points to highlight are the increase in ABS posted at the ECB and the meaningful increase in non-marketable assets (primarily credit claims).

Exhibit 7 shows that non-marketable assets (mainly credit claims) increased from only 5% of total collateral posted to over 18% in 2010. ABS usage increased from 10% to over 25% by 2010. The ECB has once again relaxed the rating requirements for ABS at issue – this clearly signifies for us the importance of the recent ECB announcement to include additional credit claims and lower-rated ABS in the eligible collateral pool, even though the haircuts applied are punitive.

Uncovered bank bonds account for over 20% of collateral posted at the ECB. Recent rating action by Moody's highlights the vulnerability of bank ratings and once again focuses the market on the negative sovereign-bank feedback loop. If there are widespread downgrades of financials, then this is likely to result in ECB margin calls for existing repos – which further exacerbates the stress and feeds the self-reinforcing correlation between banks and sovereigns. This also adds to the deterioration in the quality of collateral warehoused by the ECB – we expect this to remain a key market focus.

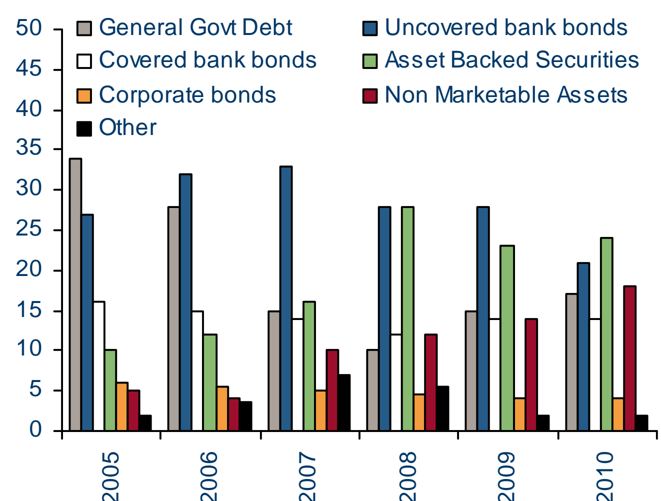
Exhibit 6: Collateral posted at the ECB – over €2trn posted at the ECB versus €14trn in eligible collateral (EUR, bn)



Source: Credit Suisse, European Central Bank

Exhibit 7: Proportion of ABS and non-marketable assets posted to the ECB has increased

% of total collateral posted to the ECB



Source: Credit Suisse, European Central Bank

We also find it interesting that non-financial corporates (Peugeot and VW) are considering tapping the ECB via their banking units – this is positive to the extent that corporates are able to term out their funding needs and are able to finance at much better levels than current market. We see this as an interesting dynamic where there is larger demand to access the ECB directly, bypassing the banking channel.

In fact this is partly the aim of the ECB: by extending the collateral pool, the ECB is trying to target smaller banks that would not normally qualify for open market operations. This was seen by the large number of banks (523) taking part in the December 3-year LTRO (see section December 3-year LTRO). On the margin, this should support the credit transmission mechanism.

Longer term implications of 3-year LTROs

3Y LTRO here to stay – does this spell the end of the SMP?

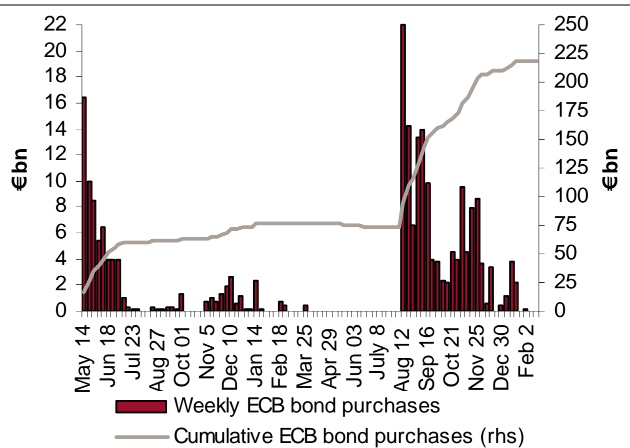
ECB commentary throughout 2011 showed its reluctance to buy government bonds. The ECB seems more comfortable with a generous liquidity provision at high haircuts over owning government bonds outright. We see the reintroduction of long-term refinancing operations as another way to limit the need for further bond purchases. The degree of success of the 3Y LTROs should, to a large extent, drive the future for SMP bond purchases.

The reluctant role of the ECB in the Greek restructuring also reduces the ECB's appetite to buy other government debt in size as well. In fact, the ECB may be realizing that its participation in government bond markets may have unintended negative consequences for those markets.

As already seen, post the December 3Y LTRO, ECB bond purchases have whittled down, and the ECB only bought €8bn in bonds over the last eight weeks (Exhibit 8).

Overall, we expect the SMP purchases of government debt to wind down and the use of LTROs to gain wider support within the ECB. Ultimately, the ECB will take whatever actions are necessary to maintain financial stability in the euro area, but we see a clear preference for LTROs over direct government bond purchases. To us this supports our view that the ECB keeps the door open to more 3Y – or possibly longer – long-term refinancing operations.

Exhibit 8: SMP purchases have fallen dramatically in 2012



Source: European Central Bank, Credit Suisse

Carry trade no longer risk free – speculative demand in February limited

In the long term, the LTROs bring back into focus the strong links between banks and sovereigns (see our Appendix for a table of interdependencies from BIS). In fact, these 3Y operations reinforce the negative feedback loop. The link between the two needs to be decreased, rather than increased – as stated by the head of the Bundesbank "Overly generous liquidity provision by the ECB could increase risks for the banks and the financial system." We believe the risks inherent in the ECB's strategy will come under increasing focus especially if there is a large take-up in the February LTRO.

Spanish banks have substantially increased their holding of Spanish debt, and we've seen the impact on Spanish yields. "Doubling up" is fine provided yields remain low – however, if current levels prove unsustainable, the banks having bought at the highs risk facing large losses at exactly the time Spain needs to fund at higher yield levels – **the correlation between banks and sovereigns has increased to one** and the risk, ultimately, lies with the ECB – and hence the stronger euro area countries.

In order to gauge the scope of speculative demand at the LTRO and the use of the sovereign carry trade – in the table below we outline the "all-in" financing cost associated with using the 3-year LTROs. In practice it is hard to calculate total costs – we make various assumptions.

- First, we assume a path of policy rates over the next three years (see Exhibit 9).
- Second, we impose an average haircut for additional credit claims that are likely to be financed at the next 3-year LTRO. We calculate the average haircut to be 42%, i.e., if one placed collateral worth €100 at the ECB, it only leads to financing of €58. The remaining €42 has to be funded in the market.
- Third, we include, the Basel III capital charge for holding the asset on balance sheet in the first place.

Exhibit 9: Assumptions for MRO over next three years

	MRO rate
Q1 2012 - Q2 2012	1
Q3 2012 – Q4 2013	0.75
Q1 2014	1
Q2 2014	1.25
Q3 2014	1.5
Q4 2014	2
Q1 2015	2

Source: Credit Suisse

- We calculate the cost of financing the haircut (in this example €42) and the Basel III charge by assuming a financing rate equal to 2-year CDS plus 3m Euribor.
- The "total" LTRO cost is the sum of the average 3-year refinancing rate and the cost of financing the haircut and the Basel III balance sheet charge.

The results are shown in Exhibit 10 – we compare the total LTRO cost with current yields on 2-year sovereign bonds for the countries that are participating in additional credit claims. We assume that banks are the main investors involved in the "carry trade" with the ECB; hence, we expect the return from holding sovereign bonds does not fall below the "financing" cost of using the LTRO. Thus, using this simplistic example, the "total" financing cost of the LTROs should in a way represent a lower bound for front-end sovereign yields.

Exhibit 10: Approximation of "all-in" funding cost for the LTRO operations

	Average Repo Rate (bps)	Average ECB haircut (%)	Basel II - capital charge (%)	Marginal funding cost (2Y CDS + 3M Euribor)	Total LTRO cost (%)	2y Sovereign yield (%)	Difference between "total" LTRO cost and 2y yield (%)	Change in 2y yield since 21st Dec (bps)
Austria	102.1	41.9	0.0	229.6	2.0	0.9	-1.1	-55
France	102.1	41.9	0.0	239.6	2.0	0.7	-1.3	-23
Belgium	102.1	41.9	1.6	302.6	2.3	1.4	-1.0	-100
Italy	102.1	41.9	4.0	472.6	3.2	2.9	-0.3	-210
Spain	102.1	41.9	4.0	448.6	3.1	2.8	-0.3	-100
Portugal	102.1	41.9	12.0	1522.6	9.2	12.7	3.5	-220
Ireland	102.1	41.9	8.0	715.6	4.6	4.3	-0.3	-200

Source: Credit Suisse

Given that front-end yields have fallen below our proxy for the “total” financing cost of the LTRO, we expect less demand from banks to reinvest ECB funds solely in European government bonds.

There is also, lest we be tempted to want to forget, the small issue of Greece’s debt restructuring. which will coincide with the second 3Y LTRO. This is a perfect (painful) reminder that the risks associated with the sovereign carry trade are not negligible. For this reason and the fact that sovereign spreads have already compressed, we expect a smaller proportion of speculative demand in the February LTRO than say, June 2009.

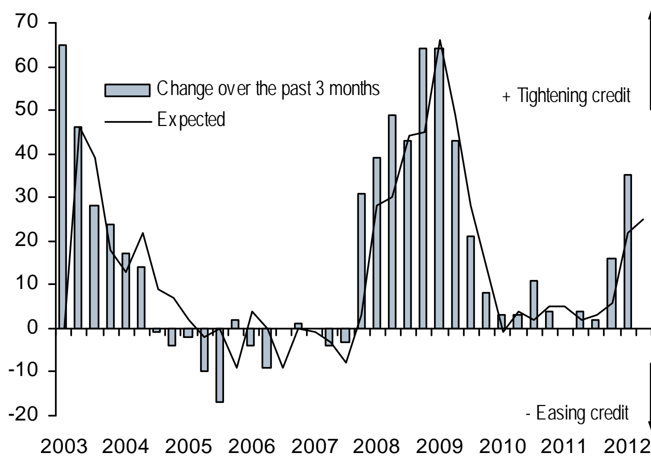
Rather we expect demand to be driven by funding requirements and in light of the uncertainty around the situation in Greece, we believe banks are likely to err on the side of caution and take down more funding rather than less from the ECB.

LTROs buy time but the effect on growth is less clear

In our view, the LTROs are an efficient tool to buy time, but we are more skeptical on the long-term growth impact. Unless all this excess liquidity is finding its way to small and medium enterprises and for business investment, it will be hard to see any significant effect on growth. The recent ECB bank lending surveys are not supportive in this regard, with credit conditions tightening sharply in Q4 2011 and expected to tighten further in Q1 this year.

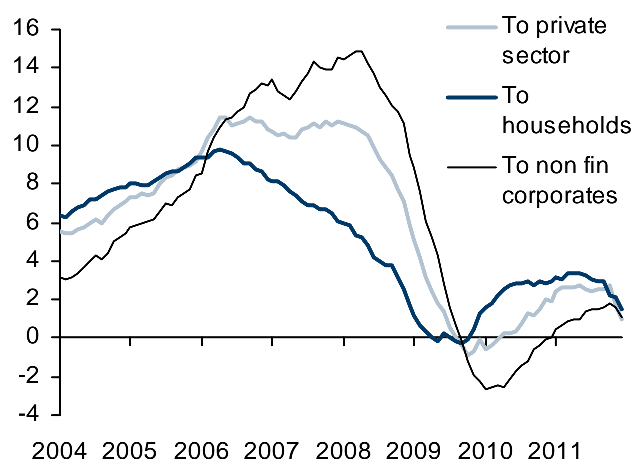
Exhibit 11 shows that banks still expect credit conditions to tighten further over the next three months. The worrying fact to us was that these surveys were conducted after banks were told that the ECB will hold 3-year LTROs. Bank credit to the private sector has also been slowing – we will be watching both these metrics closely to see if the LTROs are changing banks’ appetite to extend loans and the private sector’s appetite to take on new loans.

Exhibit 11: Tighter credit standards applied to approval of credit lines



Source: ECB bank lending survey, Credit Suisse Economics

Exhibit 12: Loans of MFIs to private sector and households (% YoY)



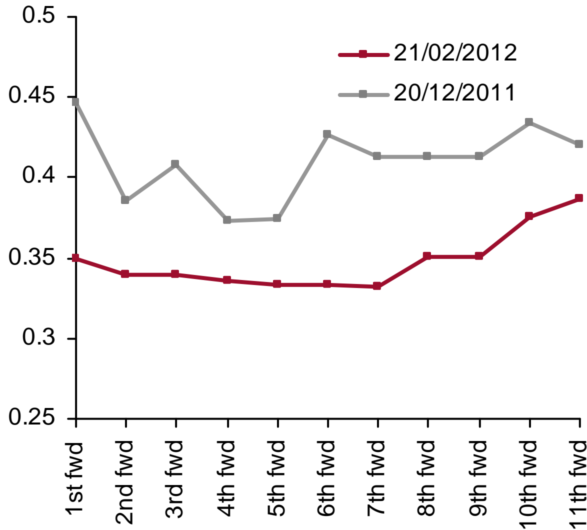
Source: European Central Bank, Credit Suisse Economics

Market impact of 3-year LTROs

Some would say that the 3-year LTROs have already achieved their goal in stabilizing money markets – we remain skeptical. Until we see a recovery in inter-bank lending and transmission of the excess cash to small and medium enterprises, we remain skeptical of the long-term success of the LTROs.

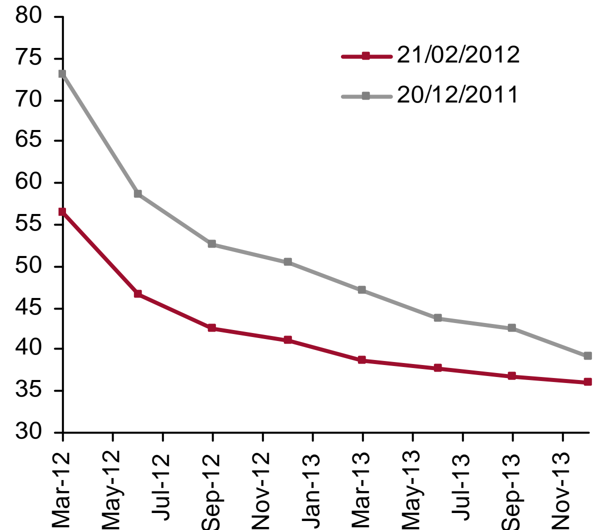
Exhibit 13 and Exhibit 14 show the reaction on short-end rates following the LTRO – as we expected, forward EONIA rates moved lower and FRA/EONIA spreads tightened. Although excess liquidity remains inordinately high, as we showed above, we expect this trend to continue. 3m Euribor has fallen by 15bp since the December 3-year LTRO. It is also likely to fall below the repo rate once again, as we highlighted earlier.

Exhibit 13: Following the LTRO, the market pushed 1m ECB EONIA rates to the 0.35% floor



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Exhibit 14: FRA/EONIA spreads tightened with the spot basis coming in by 20bp



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

New measures announced by the ECB

Following on from our previous discussion of the long-term questions raised by the latest ECB announcements, we now delve deeper into the technicalities of the details announced and how this affects our expectation for the February 3-year LTRO.

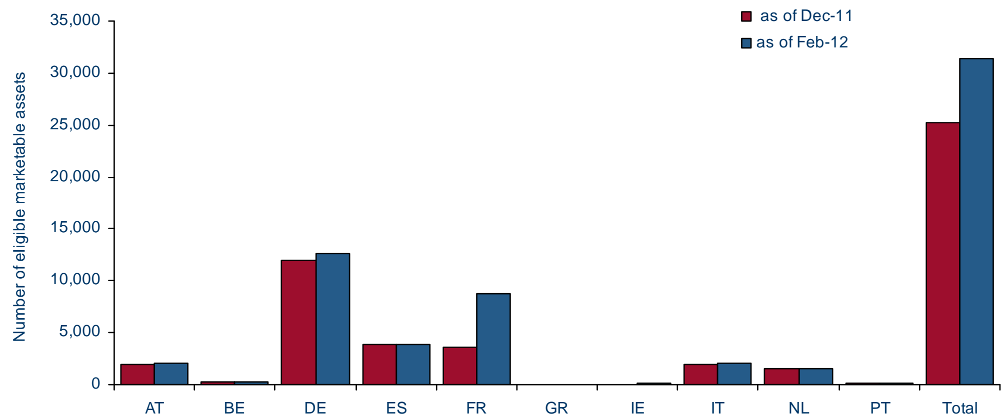
In this section, we outline the new measures introduced by the ECB to support the financial system in chronological order. We also find it instructive to compare the existing Eurosystem framework to the new NCB-specific rules and haircuts for credit claims. We end this section by summarizing country-by-country usage of the December 3-year LTRO. This will be useful in the final section where we discuss our estimate of the February LTRO.

ECB allows non-traded bank debt in repo operations

In **September 2011**, the ECB removed the restriction that debt instruments issued by credit institutions (except covered bonds) are only eligible if they are traded on a regulated market. This announcement was made effective 1 January 2012. This allows banks to post bonds at the ECB that were issued solely for the purpose of raising repo-eligible assets for funding at the ECB.

Exhibit 15 shows the number of bonds now included in the list of eligible marketable assets compared to December last year. The main point to highlight here is that of the 10,000 instruments added to the collateral pool, more than 4,000 were from French banks.

Exhibit 15: Number of instruments now eligible under marketable assets



Source: Credit Suisse, European Central Bank

The ECB also changed the limits for uncovered bank bonds. Unsecured bank debt, mainly medium-term notes, deposit certificates and medium-term negotiable notes, were eligible from 2008 to end of 2010 as a temporary measure. From this year, they are again considered eligible if the value assigned does not exceed 5% of the overall collateral submitted (lowered from 10% in 2011). This measure serves to reduce the proportion of unsecured bank debt posted to the ECB – but crucially does not limit the amount of collateral posted.

Announcement of 3-year LTROs and Additional Credit Claims (ACCs)

On **8 December** the ECB announced the following measures in order to bolster short-term liquidity:

- **Two 36-month LTROs** with the option of early repayment after one year. These operations are conducted on a full allotment, fixed rate basis, with interest paid when the operation matures. The first 3-year LTRO was held on 21 December, and banks borrowed €489bn in this operation. The second 3-year LTRO is allotted on the 29 February.
- **Reduction in reserve requirements** from 2% to 1%, effective since 18 January. This returned close to €103bn to banks.
- **Reduction in rating threshold for certain ABS** to a second-best rating of at least single A at issuance, and at all times subsequently. The underlying assets of these securities must comprise RMBS and loans to SMEs. The previous requirement was AAA at issuance. The ECB kept the restriction that this applies to the second-best rating.
- **Inclusion of additional performing credit claims** that satisfy specific criteria as a temporary solution. Eligibility to be determined by individual National Central Banks (NCBs) with the loss borne only by NCBs authorizing their use. External credit assessment institutions (ECAI) rating levels will no longer apply uniformly and collateral will be assessed on a case-by-case basis. The ECB will review this program in six months' time.

  So far, seven countries have decided to expand their eligible collateral: **Austria, France, Italy, Spain, Portugal, Cyprus and Ireland**. More details are shown in Exhibit 16 below. The matrix of haircuts for these newly eligible credit claims is the same across the seven participating NCBs, but the type of asset, debtor, credit standard, currency, minimum size and procedures depend on the individual NCB.

  All NCBs have **reduced the minimum credit standard requirements** to at least Credit Quality Step 4[1] (Austria, France, Italy and Spain) and some have reduced the requirement to Step 5 (Ireland, Portugal and Cyprus). This would reduce the credit rating requirement to BB- or even below for certain countries. In fact, the Bank of Portugal suspended the minimum credit rating for portfolios of credit claims. For reference, the current Eurosystem harmonized rating scale accepts a minimum rating of BBB- by at least one rating agency (Credit Quality Step 3).

  The NCBs are **allowed to accept an expanded set of performing credit claims**. For example, in Spain, mortgage loans are excluded; however, in Italy and Portugal and Ireland, these types of credit claims are allowed. See table for more details.

  The French, Spanish, Irish and Cypriot NCBs are **allowing other G10 currencies**. Only the Bank of Cyprus released details on the schedule of additional haircuts for foreign currency credit claims. To our understanding, the haircuts are to be harmonized across all participating NCBs – this data therefore give us an idea of haircuts for all other central banks.

  In our view, the fact that some NCBs are allowing foreign currency-denominated assets while others are not, in our view, may allow for some funding arbitrage. It supports banks transferring assets between jurisdictions in order to take advantage of easier financing conditions in these seven countries.

[1] CQS 4 corresponds to a probability of default (PD) of between 0.4% < PD< 1% over a one-year horizon.

Exhibit 16: Details on newly eligible credit claims determined by NCBs

	Credit Quality Standard (CQS)	Maximum Probability of Default at 1year (PD)	Eligible credit claims	Additional Currency accepted	Size of credit claim	Maturtiy of loans
Austria	CQS 1-4	1.0%				
France	CQS 1-4	1.0%	* Export credit guaranteed by COFACE * Real-estate residential loans: if they are a mortgage or guaranteed by a financial institution and if debtor located in France and loan governed by French law (1)	* USD denominated		Minimum residual maturity of 1 month
Italy	CQS 1-4	1.0%	* Internal rating assessment system, VALCRE, can be used to assess credit-worthiness * Financial leasing and non-recourse factoring contracts * Loans guaranteed by SACE			
Spain	CQS 1- 3 (may extend to CQS 4)	0.4% (may extend to 1.0%)	* Performing corporate loans (other than mortgages) * Public Sector loans (other than mortgages) * Credit Claims not governed by Spanish law might be accepted at a later stage	* Other major currencies		
Portugal	CQS 1-5	1.5%	Accept individual credit claims up to PD < 1.5% Accept homogeneous portfolios of credit claims (no minimum CQS) relating to: * Mortgage-backed loans to households * Consumer Credit to households * Loans to enterprises other than financial corporations * COFACE rating tool accepted		Reduced from €500, 000 to €100,000	
Ireland	CQS 1-5	1.5%	*Pools of secured (including Irish and UK mortgages) and unsecured (eg. Loans to non-financial corporates) credit claims *On a phased basis, the CBI will accept residential mortgages governed by UK law or secured by UK assets	* GBP denominated loans will be subject to an additional FX haircut	* Secured (residential and commercial mortgages) > 10K * Unsecured credit claims > 250K	* Secured (residential and commercial mortgages) > 3months and < 40years * Unsecured credit claims - no maximum
Cyprus	CQS 1-5	1.5%	* Credit claims for which the NCB can claim full repayment in case of default - excl u ding leasing, syndicated loans (2) * Individuals, municipalities and other local authorities are eligible debtors (3)	* 16% additional haircut: USD, GBP, CHF, CAD, AUD * 26% additional haircut: JPY	No minimum	Minimum maturity of 1 month

Source: Ireland Credit Suisse, European Central Bank ;
(1) If they benefit from a mortgage or first-rank privilege or a guarantee from insurance or credit institution and if they satisfy debtor located in France, loan agreement governed by French law and residual maturity of 1month at least:
(2): Other than leasing contracts, syndicated loans and credit claims backed by real estate assets
(3) The debtor and guarantor can be established in EEA in cases where the NCB is the home supervisor of the counterparty. Note: Portugal has also decided to allow the simplification of ex-ante procedures regarding the authorization to use credit claims.

Existing harmonized collateral system – eligibility criteria

In order to understand the impact of these changes to collateral rules, we briefly outline the existing Eurosystem credit operations framework. Eligible assets can be either marketable (e.g., sovereign, supranational, agency debt, covered bank bonds, corporate debt, etc), or non-marketable (credit claims, non-marketable retail MBDs, fixed term deposits).

Exhibit 17 shows the criteria across the euro area, which is set in the 2007 "Single List" framework. More details on the Eurosystem credit assessment framework (ECAF) can be found in the General Documentation (http://www.ecb.int/pub/pdf/other/gendoc2011en.pdf[2], page 64).

[2] Credit Suisse has not reviewed the linked site and takes no responsibility for the content contained therein. This link is provided solely for your convenience and information. Following this link or any other link on the Credit Suisse Web site shall be at your own risk.

Exhibit 17: Eligible assets for monetary policy operations – Harmonized versus NCB-ruled credit claims

Cells highlighted: criteria have been recently changed by the ECB and NCBs

Eligible assets for Eurosystem monetary policy operations				
Eligibility Criteria	**Marketable Assets**	**Non-marketable Assets**		
Type of asset	ECB debt certificates, sovereign, supranational, agency debt, covered bank bonds, corporate debt etc.	**Existing credit claims**	**"Additional credit claims" (*): see table below**	**RMBDs (mortgage backed debt)**
	Harmonised across Eurosystem	Harmonised across Eurosystem	National Central Bank specific	Harmonised across Eurosystem
Credit standards	High credit standards defined using ECAF rules	(Harmonised) ECAF rules: CQS 1-3	NCB ruled (*) : increased to CQS 4 (AT-FR-IT) and CQS 5 (PT, IE, CY). PT removed minimum for portfolios of credit claims	ECAF rules
	Unlisted bank bonds			
	Rating threshold reduced to single-A for ABS			
Type of issuer	CBs, public/private sector, International and Supranational institutions	Public sector, Non-fin corp., Int. and Sup. Inst.	NCB ruled (*)	Credit institutions
Settlement	Instruments must be centrally deposited in book-entry form with CBs or a SSS fulfilling the ECB's minimum standards	Eurosystem procedures	Some extension (*), e.g. on internal rating assessment system acceptance (FR,IT, PT)	Eurosystem procedures
Acceptable markets	Regulated and Non-Reg accepted by the ECB	N/A	N/A	N/A
Currency	Euro	Euro	Some extension(*): FR,SP,IE, CY	Euro
Minimum size	N/A	Law of EU member state for domestic use/ €500,000 for cross-border use	Some extension(*): FR, IE, CY, PT	N/A
Governing laws	Law of the EU member state	Law of EU member state	Law of EU member state	N/A
Place of Establishment	Issuer: EEA or G10 countries; Debtor and guarantor: EEA	Euro area	Euro area	Euro area

Source: European Central Bank, (*): See table above

The definition of credit claims (i.e., bank loans) that are Eurosystem-wide includes the following:

- **Type of asset**: It is a debt obligation of a debtor vis-à-vis the Eurosystem. It must have (a) a fixed, unconditional principal amount and (b) an interest rate that cannot result in a negative cash flow;
- **Type of debtor**: Eligible non-financial corporations, public sector entities and inter-/supra-national institutions;
- **Credit standards**: the quality is assessed through underlying creditworthiness of debtor or guarantor.
- **Governing laws**: the "mobilization agreement" between the NCB and the claim counterparty that allows the loan to be mobilized as collateral must be governed by the law of the Member State;
- **Currency** of denomination and minimum size: euro. At the time of submission the credit claim must meet a minimum **size threshold**. For domestic credit claims, this is determined by the NCB. For cross-border use, a minimum threshold of €500,000 is applicable.
- Haircuts differ according to the residual maturity, type of interest payment, credit quality category and the valuation methodology applied by the NCB (more details in Exhibit 18 below).

Exhibit 18 shows the comparison of the graduated haircuts imposed on marketable assets versus credit claims. As shown the existing haircuts imposed on credit claims are much more punitive than for marketable assets.

In this table we also include the haircuts imposed on additional credit claims that will be applied by NCBs individually. The additional haircuts apply to Credit Quality Step 4 and 5 (CQS 4 and CQS 5) and will be implemented at the NCB level. This table highlights the complexity of haircuts on non-marketable assets – for assets that are allowed at the Eurosystem level, the maximum haircut applicable is 65% of the asset value.

If we include the additional credit claims, the new haircuts for CQS 4 are in a range of 42%-80% and a range of 54%-85% for CQS 5. These haircuts are very punitive indeed. In fact the ECB in the latest Monthly Bulletin stated that of the €600-700bn additional collateral that will be available under the wider collateral pool, only €200bn will be lent out, after adjusting for haircuts. This further emphasizes the harshness of the new haircuts.

Exhibit 18: Levels of valuation haircuts for newly eligible credit claims versus marketable and non-marketable assets (%)

Levels of valuation haircuts applied to eligible:													
Marketable assets										Harmonised Credit claims		Credit Claims ruled by NCBs	
CQS 1 & 2 (AAA to A-)										CQS 1 & 2 (AAA to A-)		CQS 1 and 2 (AAA to A-*)	
Maturity (yrs)	Category I Fixed Coupon	Category I Zero Coupon	II Fixed Coupon	II Zero Coupon	III Fixed Coupon	III Zero Coupon	IV Fixed Coupon	IV Zero Coupon	V	Theoretical price assigned by the NCB	Outstanding amount assigned by the NCB	Maturity (yrs)	
0-1	0.5	0.5	1.0	1.0	1.5	1.5	6.5	6.5	16.0	8	10.0	0-1	10.0
1-3	1.5	1.5	2.5	2.5	3.0	3.0	8.5	9.0	16.0	11.5	17.5	1-3	17.5
3-5	2.5	3.0	3.5	4.0	5.0	5.5	11.0	11.5	16.0	15	24.0	3-5	24.0
5-7	3.0	3.5	4.5	5.0	6.5	7.5	12.5	13.5	16.0	17	29.0	5-7	29.0
7-10	4.0	4.5	5.5	6.5	8.5	9.5	14.0	15.5	16.0	18.5	34.5	7-10	34.5
>10	5.5	8.5	7.5	12.0	11.0	16.5	17.0	22.5	16.0	21	44.5	>10	44.5
CQS 3 (BBB+ to BBB-)										CQS 3 (BBB+ to BBB-)		CQS 3 (BBB+ to BBB-*)	
0-1	5.5	5.5	6.0	6.0	8.0	8.0	15.0	15.0	NA	15.5	17.5	0-1	10.0
1-3	6.5	6.5	10.5	11.5	18.0	19.5	27.5	29.5	NA	28	34.0	1-3	17.5
3-5	7.5	8.0	15.5	17.0	25.5	28.0	36.5	39.5	NA	37	46.0	3-5	24.0
5-7	7.5	8.5	18.0	20.5	28.0	31.5	38.5	43.0	NA	39	51.0	5-7	29.0
7-10	9.0	9.5	19.5	22.5	29.0	33.5	39.0	44.5	NA	39.5	55.5	7-10	34.5
>10	10.5	13.5	20.0	29.0	29.5	38.0	39.5	46.0	NA	41	64.5	>10	44.5

CQS 4 (BB+ to BB-*)	
0-1	42.0
1-3	62.0
3-5	70.0
5-7	78.0
7-10	78.0
>10	80.0
CQS 5 (< BB-*)	
0-1	54.0
1-3	70.0
3-5	78.0
5-7	83.0
7-10	84.0
>10	85.0

Definition of the liquidity categories:

Category I: Central government debt instruments and debt instruments issued by central banks

Category II: Local and regional government debt instruments, Jumbo covered bonds, agency debt instruments and supranational debt instruments

Category III: Traditional covered bank bonds, structured covered bank bonds, multi-cédulas and debt instruments issued by corporate and other issuers

Category IV: Credit institution debt instruments (uncovered): additional valuation markdown of 5%

Category V: Asset-backed securities

Suspension of the minimum credit rating threshold in the collective eligibility

0.5	Matrix haircut for Europeangovernment bonds, except Cyprus, Greece, Portugal government bonds
5.5	Matrix haircut for Cyprus, Greece and Portugal Government bonds

Credit Quality Steps (CQS)

Marketable and non-marketable assets (including harmonised credit claims) are subject to the Eurosystem's harmonised rating scale.

Newly eligible credit claims are subject to NCBs specific requirements.

The Eurosystem considers a probability of default over a 1y horizon of:
- **0.10% as equivalent to a CQS 2**
- **1.0% as equivalent to CQS 4**
- **0.4% as equivalent to CQS 3**
- **1.5% as equivalent of CQS 5**

Source: Credit Suisse, European Central Bank; CQS: Credit Quality Step; DP: Default Probability, *Estimate of rating

December 3-year LTRO

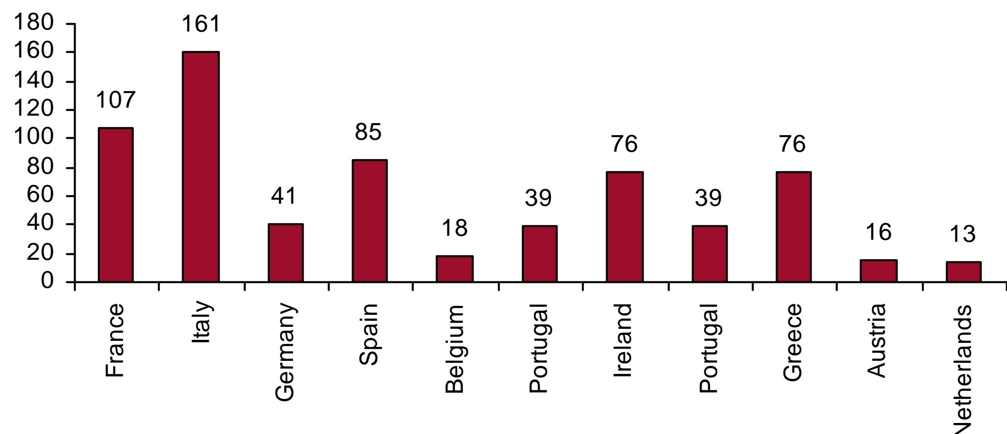
In order to fully understand or analyze market demand for the February 3-year LTRO, we also summarize the results of the 21 December 3-year operation. A total of €489bn was borrowed by 523 credit institutions. Exhibit 20 below shows the change in usage of the Eurosystem open market operations by country. It plots the difference of amounts borrowed by monetary financial institutions to the ECB (via open market operations), between November and December[3].

Gross uptake by country

The gross uptake of the December LTRO was €489bn by 523 banks. Italy has been the largest contributor, with more than €160bn uptake in December. France and Spain also have an extensive usage of longer-term operations, with €107bn and €85bn, respectively, in gross borrowing. From the program countries, Greece and Ireland borrowed €76bn each.

The sum of the numbers in Exhibit 19 is higher than €490bn, as there were also 1m and 3m LTROs in December that we cannot separate out. Also certain countries only report total borrowings and do not distinguish between MRO and LTRO operations; hence, this pushes the total upward in Exhibit 19.

Exhibit 19: €489bn gross uptake at the December 3Y LTRO (EUR bn)



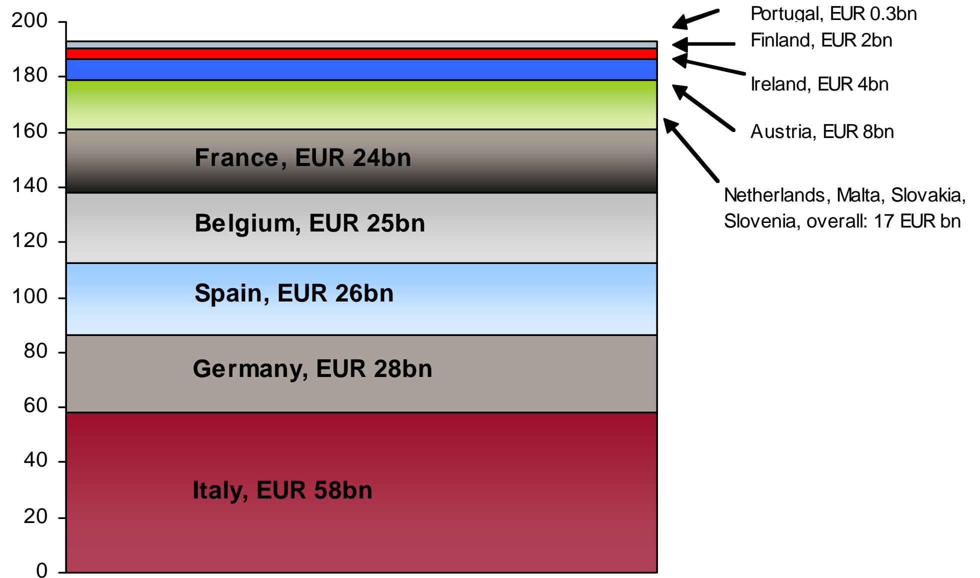
Source: Credit Suisse, European Central Bank, *Netherlands, Austria and Greece disclose total OMO borrowing

Net uptake by country

The net take-up is defined as the pure injection of liquidity from open market operations – so basically it's the total borrowing less any rolled over borrowings. The net increase in liquidity injected into the Eurosystem was €193bn, after accounting for rolling LTROs and MRO reductions. Of the net €193bn lent on 21 December, **€58bn went to the Italian banks** and nearly **€25bn each for the Belgium and Spanish banks.** Exhibit 20 shows the breakdown of the uptake for the countries that have released borrowing at the ECB in December. France, Germany, Spain and Belgium all took roughly the same amount; the largest outlier was the Italian banks.

[3] This is a proxy, as countries like Netherlands, Greece and Austria do not specify the breakdown of monthly MRO and LTRO operations.

Exhibit 20: €193bn net uptake at the December 3Y LTRO – a big uptake by Italian banks (EUR bn)



Source: Credit Suisse, National Central Banks

Estimating the February LTRO

In this section, we outline the main sources of demand for the February 3-year LTRO (bank refinancing needs, deposit replacement, speculative demand, switching demand from MROs and ELAs into the LTRO).

Aggregating these different sources of demand, and adjusting for the reduction in the reserve ratio, **we estimate for the February 3-year LTRO between €350bn and €450bn**. This estimate is still on the conservative side – if for example, the Greek PSI program is delayed or is not as successful in this first round, market uncertainty could push banks to increase their demand in February as "insurance" against loss of market access.

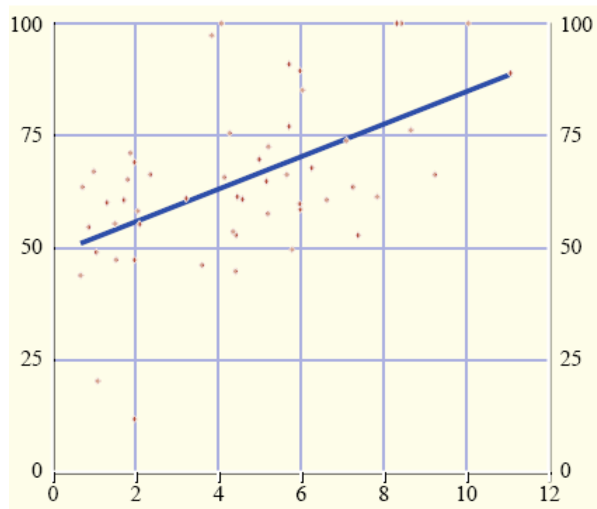
1. Refinancing needs amount to €350bn for rest of 2012

According to the ECB Financial Stability Review, over the next three years banks' financing needs amount to €1.5trn, including €550bn coming due this year. We expect a large proportion of this year's redemptions to be financed via the ECB's LTROs given the attractive borrowing rate as well as recent analysis conducted by the ECB.

The ECB January monthly bulletin (p31) discussed the relationship between upcoming bank redemptions and bidding behavior at the last LTRO. President Draghi also mentioned for the first time at the January ECB meeting: "*the bidding behavior in the access to the LTRO is also dependent on the amount of bonds coming due for that specific institution in the first quarter of this year*."

Exhibit 21: Rollover needs in the next three years and bidding behavior

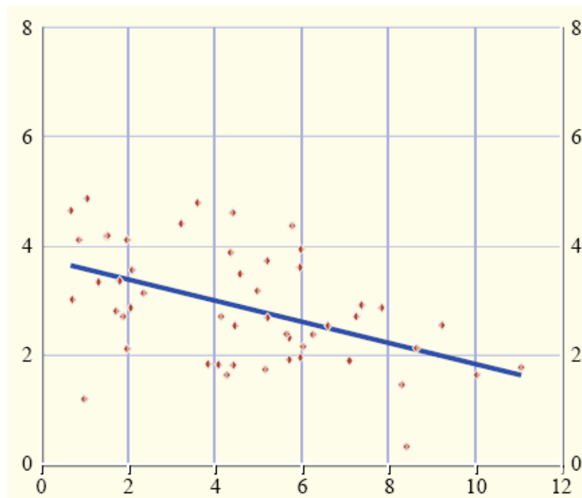
(y-axis: % of long term debt securities maturing in 2012-2014 and x-axis: bid amount in the 3Y LTRO as a % of total assets)



Source: European Central Bank, Fitch Ratings and DCM Dealogic

Exhibit 22: Residual maturity of outstanding debt and bidding behavior

(y-axis: weighted average residual maturity of outstanding longer-term debt securities; x-axis: bid amount in the 3Y LTRO as a % of total assets)



Source: European Central Bank, Fitch Ratings and DCM Dealogic

Exhibit 22 and Exhibit 23, extracted from the ECB January Monthly Bulletin, show that the amount bid at the December LTRO was positively correlated with the amount of debt redemptions banks face in the next three years. This report showed that on average there is **a negative relationship between the residual maturity of outstanding debt and the size of the bids submitted, i.e., the shorter the maturity of the loan, the higher the bid posted to the LTRO**. Given €350bn in redemptions leftover for 2012, one might expect another considerable uptake at the 29 February 3Y LTRO using the ECB's analysis.

2. Deposit flight from periphery to core countries

Exhibit 23 shows the evolution of outstanding deposits held with European banks in 2011. The main point to highlight is the sharp fall in deposits held at Spanish and Italian banks. Across the periphery, bank deposits fell by €120bn over 2011. On the contrary, French and German banks have seen an increase of deposits by over €100bn each during the same period.

Exhibit 23: Bank deposits held by households and non-financial corporations

(EUR bn)	Austria	Belgium	Germany	Spain	Finland	France	Greece	Ireland	Italy	Neth	Portugal	EAP5
Outstanding Dec 2010	303	466	2973	1730	118	1734	216	201	1424	819	226	3797
Outstanding Dec 2011	316	474	3091	1682	125	1871	180	196	1384	857	233	3675
Change in deposits in 2011	13	8	118	-48	7	137	-36	-5	-40	38	7	-122
Change as % outstanding in 2011	4.11%	1.69%	3.82%	-2.85%	5.60%	7.32%	-20.00%	-2.55%	-2.89%	4.43%	3.00%	-5.06%

Source: European Central Bank, Credit Suisse; EAP5 : Greece, Ireland, Italy, Portugal and Spain.

To a large extent the recent fall in deposits, together with the high bank bond redemptions discussed above, imply that financing needs for banks still remains high. If we continue to see deposits falling at their current pace in the periphery, we believe it would place upward pressure on demand at the February LTRO.

The decrease in the ECB reserve requirement ratio from 2% to 1%, effective since 18 January could help cover the fall in bank deposits. Overall the change in the reserve ratio led to an injection of €103bn into the Eurosystem. To some degree this reduces the need for refinancing at the February LTRO, but given that this is the last scheduled unlimited 3Y LTRO and pressure on medium-term refinancing still remains high, we expect the uptake at the next 3Y tender to be at least as large as the one in December.

3. Outstanding stock of credit claims on MFIs' balance sheet

We also tabulate loans from monetary financial institutions (MFIs) to households and non-monetary financial intermediaries in Exhibit 24. This table shows the amounts outstanding for the additional credit claims. For the seven NCBs involved in the wider collateral pool, total loans to other financial intermediaries amount to €530bn. Although we do not have the exact details of the country break-down of wider collateral, this table provides a rough approximation – the majority of additional credit claims are held with French, Spanish and Italian banks.

Exhibit 24: Outstanding bank loans to non-financial private sector

As of Dec-11, EUR bn	Euro Area	Ireland	Cyprus	Spain	France	Italy	Austria	Portugal	7 NCBs
Households	5244.5	112.7	23.9	860.7	1070.1	618.7	144.1	140.6	2,971
Non-monetary financial intermediaries*	1114.7	47.1	5.3	86.5	137.7	210.7	34.1	11.1	533
Insurance corporations and pension funds	83.8	1.2	0.1	17.4	36.3	6.5	0.2	1.6	63
Total	6,443	161	23.9	965	1,244	836	178	153	3,566

Source: Credit Suisse, European Central Bank, * Other than insurance corporations and pension funds

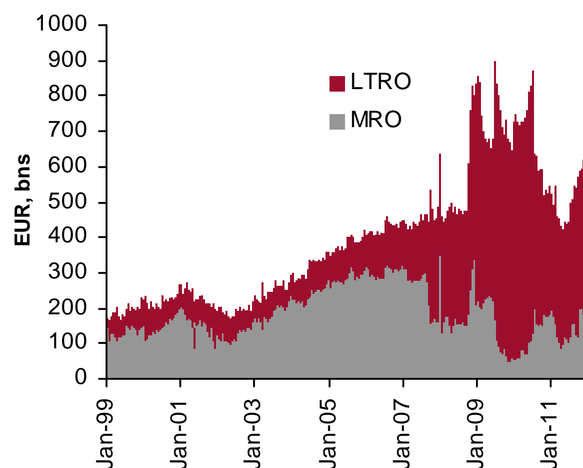
In the February ECB Monthly Bulletin, the ECB estimates that nearly €600-700bn in additional credit claims will become eligible for Eurosystem operations – the main point to take from this is that, after accounting for haircuts, this only equates to a €200bn liquidity provision.

4. Switching from MROs and ELA into LTROs

The main refinancing operations (7-days) are likely to be used less following the February LTRO, especially if the take-up at the three-year operation is as significant as we expect. Exhibit 25 shows how MRO borrowing fell following the first 1y LTRO in June 2009 – MRO borrowing fell by over 50% then.

Currently banks are borrowing €140bn at the weekly MROs. We expect 50% of these borrowings to be shifted to the 3-year LTRO.

Exhibit 25: Demand at the MROs fell to about €50bn post June 2009 1y LTRO



Source: Credit Suisse, European Central Bank

Our economists estimate Emergency Lending Assistance (ELA) in Greece, Ireland, and Belgium to amount to close to €110bn. Our understanding is that the borrowing rates for ELA financing are significantly above policy rate, i.e., at least 200bp over repo. Given that banks will be able to borrow unlimited funds at close to 1% over a three-year horizon, we expect a significant proportion of ELA financing to be moved into the February LTRO.

5. Speculative demand for the "carry trade"

In order to gauge the scope of speculative demand at the LTRO and the use of the sovereign carry trade – in the table below we outline the "all-in" financing cost associated with using the 3-year LTROs. In practice it is hard to calculate total costs of financing – we make various assumptions.

- First, we assume a path of policy rates over the next three years (Exhibit 26 summarizes our assumption).
- Second, we impose an average haircut for additional credit claims that are likely to be financed at the next 3-year LTRO. We calculate the average haircut to be 42%, i.e., if one placed collateral worth €100 at the ECB, it only leads to financing of €58. The remaining €42 has to be funded in the market.
- Third, we include the Basel III capital charge for holding the asset on balance sheet in the first place (we assume capital charges are linked to sovereign rating).

Exhibit 26: Assumptions for MRO over next three years

	Forecasted MRO rate (%)
Q1 2012 - Q2 2012	1
Q3 2012 – Q4 2013	0.75
Q1 2014	1
Q2 2014	1.25
Q3 2014	1.5
Q4 2014	2
Q1 2015	2

Source: Credit Suisse

- We calculate the cost of financing the haircut (in this example €42) and the Basel III charge by assuming a financing rate equal to 2-year CDS plus 3m Euribor.
- The "total" LTRO cost is the sum of the forward refinancing rate and the cost of financing the haircut and the Basel III charge.

The results are shown in Exhibit 27 – we compare the total LTRO cost with current yields on 2-year sovereign bonds for the countries that are participating in additional credit claims. We assume that banks are the main investors involved in the "carry trade" with the ECB; hence, we expect the return from holding sovereign bonds does not fall below the "financing" cost of using the LTRO. Thus the "total" financing cost of the LTROs should in a way represent a minimum bound for front-end sovereign yields.

Exhibit 27: Approximation of "all-in" funding cost for the LTRO operations

	Average Repo Rate (bps)	Average ECB haircut (%)	Basel II - capital charge (%)	Marginal funding cost (2Y CDS + 3M Euribor)	Total LTRO cost (%)	2y Sovereign yield (%)	Difference between "total" LTRO cost and 2y yield (%)	Change in 2y yield since 21st Dec (bps)
Austria	102.1	41.9	0.0	229.6	2.0	0.9	-1.1	-55
France	102.1	41.9	0.0	239.6	2.0	0.7	-1.3	-23
Belgium	102.1	41.9	1.6	302.6	2.3	1.4	-1.0	-100
Italy	102.1	41.9	4.0	472.6	3.2	2.9	-0.3	-210
Spain	102.1	41.9	4.0	448.6	3.1	2.8	-0.3	-100
Portugal	102.1	41.9	12.0	1522.6	9.2	12.7	3.5	-220
Ireland	102.1	41.9	8.0	715.6	4.6	4.3	-0.3	-200

Source: Credit Suisse

Given that front-end yields have fallen below our proxy for the "total" financing cost of the LTRO, we expect less appetite from banks to reinvest ECB funds solely in European government bonds. Moreover, the recent stark reminder we get from the Greek restructuring is that (European) sovereign debt can no longer be treated as a "risk-free" asset.

6. Market implications for February LTRO – scenario analysis

We summarize the points 1-5 discussed here as follows:

- Of the old LTROs (1m and 3m operations), €50bn was not rolled into existing LTROs. We expect this to be placed at the ECB;
- MRO usage is likely to fall as it did following the first 1Y LTRO in 2009 – the minimum MRO usage was €50bn in November 2009. Current MRO usage is €140bn – so there is potentially €50-100bn that can be migrated into the 3Y LTRO;
- Emergency Liquidity Assistance (ELA) financing – our economists estimate usage by Irish, Belgian and Greek banks via ELAs to be nearly €110bn; a large proportion of this can be moved to the LTRO;
- We calculate bond refinancing needs at €350bn for the rest of 2012. We expect some of this was financed in December and some to be financed in February. The fact that banks have been able to access the market in January may act to reduce this demand at the ECB LTRO;
- Deposit flight from peripheral European banks amounted to €120bn in 2011 (see Economics: Money Matters and EST, 20-Jan-11) – we expect some of this drop in deposits to be financed via the ECB;

Exhibit 28: Summary of known financing needs before 29 February

Item	Amount (€, bn)
MRO/LTRO switch to LTRO usage	100
ELA financing moved to Eurosystem	110?
Reduction in Reserve Ratio on 18 Jan	-103
Refinancing needs for 2012	350
Additional credit claims	200
Deposit flight out of Peripheral Banks	120

Source: Credit Suisse

- Additional credit claims are likely to lead to €200bn additional liquidity – according to the January ECB Monthly Bulletin; and
- The reduction in the reserve requirement has released €103bn back to banks, reducing financing need.

If all these measures are used to their maximum, we calculate a gross uptake of over €750bn – we see this as a very large number. Because of the recent improvement in banks' access to the market, improvement in peripheral sovereign bonds, and the likely positive impact from the stabilization of deposits, we keep our estimate conservative. On a more politically sensitive point, the ECB has also been guiding expectations closer to the December LTRO. We expect the gross uptake to be in a range of €350-450bn. Current consensus (as of 15 February) is for a gross uptake of €400bn, according to a recent Reuters poll.

In the table below we provide analysis of various scenarios and our expected market impact. Market consensus is €400bn as of 15 February – but the dispersion of expectations remains high; some market participants are still expecting a €1 trillion take-up.

Exhibit 28 tabulates our expected market reaction. We break down our view into short-term and long-term market impact.

Exhibit 29: Scenario analysis: we expect gross uptake near €350-450bn

Gross uptake	Short term market impact	Long term market impact	Probability
<<€ 200 bn (significantly less than consensus)	• Negative for risk - front end of peripheral curves sell off. • Italy/Spain underperform • German curve flattens	• Reduces the link between banks and sovereigns – positive in long run • Positive for bank deleveraging	30%
€ 200 - 450 bn	• Positive for risk - Italy/Spain outperform. • Peripheral TBills and <3y bonds outperform – we would look to sell periphery in such a rally • German curve steepens • Focus on regional breakdown of borrowing to guide country bond performance	• Impact will depend on credit transmission channel. • Increases link between banks and sovereigns which is long term negative for balance sheet repair. • On its own, the LTRO does not address the structural problems. • Long term uncertain as we may return to the same issue next February	50%
>>€ 450 bn (above consensus)	• Positive for risk - Peripheral TBills and <3y bonds outperform – we would look to sell periphery in such a rally • Bunds sell off and German curve steepens. • Raises questions about why uptake so large? • Focus on regional breakdown of borrowing • Asset price inflation possible	• Impact will depend on credit transmission channel and fear of Greek contagion. • Increases link between banks and sovereigns which is long term negative for balance sheet repair. • On its own, the LTRO does not address the structural problems in Europe. • Encumbrance of bank assets increases structural subordination of unsecured bank debt	20%

Source: Credit Suisse

A smaller-than-expected uptake (so less than €200bn) would only equate to €100bn in new liquidity – we expect the market to be disappointed with such a result. The knee-jerk reaction is likely to be peripheral spread widening, particularly in Spain and Italy front end. In the long run we see a small uptake as positive as it limits the link between banks and sovereigns.

On the other hand, an extraordinary large uptake, say above €500bn, would be a strong signal that banks will be awash with cash for the next year at the very least. In a way a large take-up ironically may make market access for banks easier – the exact dynamic we noticed following the December 3-year LTRO. The knee-jerk reaction is likely to be a strong rally in risky assets with peripheral 2s10s yield curves steepening and peripheral spreads tightening. In fact, we would use any significant outperformance of the periphery, on a large number, to initiate short positions. This is because in this scenario, the banks-sovereign link becomes stronger and sovereigns have less incentive to push through structural reforms.

A very large take-up in the long run would also be negative in our view, as it disincentivizes banks to make the structural reforms necessary to make them viable concerns. A strengthening of the sovereign-bank negative feedback loop prolongs the problems in Europe – we expect the market to once again question the sustainability of this. A large uptake, without any growth opportunities is the key risk, in our view.

Appendix – European bank exposure to sovereign debt

Exhibit 30: BIS data showing total exposure of European banks (x-axis) to peripheral sovereigns (y-axis)

End of Q3 2011, EUR bn		Bank Nationality								
	Type of exposure	Germany	Spain	France	Italy	Non-Eur	Belgium	Europe	UK	Total
Greece	**Foreign claims**	**14.0**	**0.8**	**36.1**	**2.4**	**5.8**	**1.0**	**78.9**	**8.7**	**84.7**
	Public Sector	8.5	0.3	5.5	1.1	1.2	1.0	23.0	1.6	24.2
	Banks	0.7	0.0	0.4	0.1	1.2	0.0	3.1	0.8	4.3
	Non-bank private sector	4.8	0.5	30.2	1.2	3.4	0.0	52.8	6.4	56.1
	Unallocated sector	0.0	0.0	...	...	0.0	0.0	0.1	...	0.1
	Other exposures	**3.2**	**0.3**	**5.9**	**1.2**	**31.8**	**0.1**	**24.4**	**9.9**	**56.2**
	Total exposures	**17.3**	**1.1**	**42.0**	**3.6**	**37.6**	**1.1**	**103.4**	**18.7**	**141.0**
Ireland	**Foreign claims**	**76.6**	**6.5**	**21.9**	**12.0**	**56.5**	**17.6**	**269.6**	**103.3**	**326.0**
	Public Sector	2.1	0.1	2.0	0.4	2.2	0.5	10.3	3.5	12.5
	Banks	15.1	0.6	7.4	3.4	8.8	0.6	45.9	13.6	54.7
	Non-bank private sector	59.4	5.8	12.5	8.1	45.4	16.3	212.7	86.3	258.1
	Unallocated sector	0.0	0.0	...	0.0	0.0	0.2	0.8	...	0.8
	Other exposures	**26.5**	**3.3**	**21.6**	**9.5**	**42.9**	**1.8**	**121.2**	**49.0**	**164.2**
	Total exposures	**103.1**	**9.8**	**43.4**	**21.5**	**99.4**	**19.4**	**390.8**	**152.4**	**490.2**
Portugal	**Foreign claims**	**22.6**	**59.4**	**19.4**	**2.6**	**5.1**	**2.4**	**132.6**	**17.6**	**137.6**
	Public Sector	5.9	4.9	4.0	0.4	1.0	1.4	19.9	1.3	20.9
	Banks	6.6	3.5	4.7	1.2	1.4	0.7	21.0	2.4	22.4
	Non-bank private sector	10.1	51.0	10.6	1.1	2.7	0.3	91.7	13.9	94.4
	Unallocated sector	0.0	0.0	...	...	...	...	0.0	...	0.0
	Other exposures	**5.4**	**14.7**	**3.6**	**2.3**	**38.2**	**0.1**	**37.9**	**8.9**	**76.1**
	Total exposures	**28.0**	**74.1**	**23.0**	**4.9**	**43.3**	**2.5**	**170.5**	**26.6**	**213.8**
Spain	**Foreign claims**	**121.3**	**...**	**108.9**	**22.3**	**57.9**	**16.0**	**445.0**	**70.2**	**502.8**
	Public Sector	19.9	...	20.4	4.8	12.6	2.8	59.5	4.6	72.1
	Banks	47.3	...	26.7	5.0	18.3	7.9	129.2	14.3	147.5
	Non-bank private sector	54.1	...	61.9	12.5	27.0	5.3	255.9	51.3	282.9
	Unallocated sector	0.0	...	...	0.0	0.0	0.0	0.3	...	0.3
	Other exposures	**32.2**	**...**	**26.0**	**10.8**	**127.5**	**0.8**	**124.2**	**37.8**	**251.7**
	Total exposures	**153.5**	**...**	**134.9**	**33.0**	**185.4**	**16.8**	**569.2**	**108.0**	**754.6**
Italy	**Foreign claims**	**109.1**	**26.8**	**280.7**	**...**	**...**	**16.7**	**554.7**	**46.2**	**612.4**
	Public Sector	33.5	7.6	62.0	...	29.8	8.5	136.9	6.4	166.6
	Banks	30.3	2.1	28.0	...	10.6	6.8	88.4	5.9	99.0
	Non-bank private sector	45.2	17.1	190.7	...	17.4	1.4	328.7	33.9	346.1
	Unallocated sector	0.0	0.0	...	...	0.0	0.0	0.7	...	0.7
	Other exposures	**42.5**	**13.0**	**68.6**	**...**	**0.0**	**3.4**	**199.1**	**44.5**	**411.5**
	Total exposures	**151.5**	**39.8**	**349.4**	**...**	**...**	**20.1**	**753.8**	**90.7**	**1023.9**
EAP5	**Foreign claims**	**343.6**	**93.5**	**467.1**	**39.2**	**125.2**	**53.8**	**1480.7**	**246.1**	**1663.7**
	Public Sector	70.0	12.9	93.9	6.6	16.9	14.2	249.7	17.4	296.3
	Banks	99.9	6.2	67.3	9.7	29.8	16.1	287.5	36.9	327.9
	Non-ban private sector	173.6	74.4	305.9	22.9	78.5	23.3	941.8	191.7	1037.6
	Unallocated sector	0.0	0.0	...	...	...	...	1.8	...	1.8
	Other exposures	109.8	31.4	125.7	23.8	240.5	6.2	506.9	150.2	959.8
	Total exposures	453.4	124.8	592.8	63.0	365.7	60.0	1987.6	396.3	2623.5

Source: BIS, Credit Suisse

ECB Reference Guide

CREDIT SUISSE

"The primary objective of the ECB's monetary policy is to maintain price stability. The ECB aims at inflation rates of below, but close to, 2% over the medium term."

CREDIT SUISSE

Governing Council - executive board (6)		
	Country	Hawk-o-meter
Mario Draghi, President	IT	3
Vítor Constâncio, VP	PT	3
Peter Praet	BE	3
JM González-Páramo	ES	4
Jorg Asmussen	DE	5
Benoit Coeure	FR	-
Governing Council (17)		
	Country	H-o-m
Patrick Honohan	IR	2
Jozef Makúch	SK	2
Christian Noyer	FR	2
Miguel F. Ordóñez	ES	2
Josef Bonnici	MT	3
Luc Coene	BE	3
Carlos Costa	PT	3
Marko Kranjec	SI	3
Erkki Liikanen	FI	3
Andres Lipstok	EE	3
Athanasios Orphanides	CY	3
George A. Provopoulos	GR	3
Ignazio Visco	IT	3
Klaas Knot	NL	4
Ewald Nowotny	AT	4
Yves Mersch	LU	5
Jens Weidmann	DE	5

Hawk-o-meter: 1 (dovish) - 5 (hawkish)

ECB main policy tools	
Policy tool	**Description**
Main refinancing/repo rate	This is the official policy rate, the 1-week repo rate. It is the interest rate used to remunerate banks' current account holdings
Deposit rate	The rate at which banks place deposits overnight with the ECB. It is currently 75bp below policy rate
Marginal lending rate	The rate at which banks borrow on a collaterised basis overnight from the ECB. The marginal lending rate is currently 75bp above the policy rate
Open market operations	
Main refinancing operation (MRO)	MROs are 7-day refinancing operations held weekly against collateral. Currently conducted at a fixed rate (repo) and for full allotment*
Special term refinancing operation	STROs are held once a month and maturity length is one maintenance period. Currently conducted at a fixed rate (average repo) and for full allotment*
Long-term refinancing operation (LTRO)	LTROs include 3-month (held monthly) operations as well as two 3-year operations (Dec-11 and Feb-12). Currently conducted at a fixed rate* (the average main refinancing rate over the life of the operation) and for full allotment
Unconventional/extraordinary measures	
FX swap facility	The National CBs (or ECB) buy (or sell) euro against another currency and at the same time sell (or buy) it back in a forward transaction. Major central banks introduced FX swap lines in Dec-07. In Sep-11, the ECB extended US dollar liquidity-providing operations up to Aug-12. The ECB will hold three 84-day USD refinancing operations over 2011 yearend. The ECB also holds weekly 7-day USD operations. These are currently conducted at a fixed rate with full allotment. Large additional haircuts above normal collateral haircuts are applied (7-day: +12%, 84-day: +20%)
Covered Bond Purchase Program (CBPP)	CBPP1 ran from July-09 to June-10 for €60bn. CBPP2 is running from Nov-11 to Oct-12 for €40bn. Purchases are distributed across primary and secondary markets
Securities Market Program (SMP)	SMP started in May-10 with the ECB buying Greek, Portuguese and Irish bonds. In Aug-11, the ECB extended the program to include Spain and Italy. Purchases are sterilised via 1-week term deposits (which are eligible for ECB repo operations) and are not limited to sovereign debt

* A measure introduced during the crisis.

Eligible assets for Eurosystem monetary policy operations				
Eligibility Criteria	**Marketable Assets**	**Non-marketable Assets**		
Type of asset	ECB debt certificates, sovereign, supranational, agency debt, covered bank bonds, corporate debt etc.	Existing credit claims	"Additional credit claims"(*): see table below	RMBDs (mortgage backed debt)
	Harmonised across Eurosystem	Harmonised	National Central Bank specific	Harmonised
Credit standards	High credit standards defined using ECAF rules	(Harmonised) ECAF rules: CQS 1-3	NCB ruled (*) :ease up to CQS 4 (AT-FR-IT) and CQS 5 (PT, IE. CY)	ECAF rules
	Unlisted bank bonds			
	Rating threshold reduced to single-A for ABS			
Type of issuer	CBs, public/private sector, International and Supranational institutions	Public sector, Non-fin corp., Int. and Sup. Inst.	NCB ruled (*)	Credit institutions
Settlement	Instruments must be centrally deposited in book-entry form with CBs or a SSS fulfilling the ECB's minimum standards	Eurosystem procedures	Some extension (*), e.g. on internal rating assesstment system acceptance (FR,IT, PT)	Eurosystem procedures
Acceptable markets	Regulated and Non-Reg accepted by the ECB	N/A	N/A	N/A
Currency	Euro	Euro	Some extension(*): FR,SP,IE, CY	Euro
Minimum size	N/A	Law of EU member state for domestic use/ € 500,000 for cross-border use	Some extension(*): FR, IE, CY, PT	N/A
Governing laws	Law of the EU member state	Law of EU member state	Law of EU member state	N/A
Place of Establishment	Issuer: EEA or G10 countries; Debtor and guarantor: EEA	Euro area	Euro area	Euro area

Levels of valuation haircuts applied to eligible:

Marketable assets										Harmonised Credit claims		Credit Claims ruled by NCBs	
CQS 1 & 2 (AAA to A-)										CQS 1 & 2 (AAA to A-)		CQS1&2 (AAA to A-*)	
Maturity (yrs)	Category I Fixed Coupon	Category I Zero Coupon	II Fixed Coupon	II Zero Coupon	III Fixed Coupon	III Zero Coupon	IV Fixed Coupon	IV Zero Coupon	V	Theoretical price assigned by the NCB	Outstanding amount assigned by the NCB	Maturity (yrs)	
0-1	0.5	0.5	1.0	1.0	1.5	1.5	6.5	6.5	16.0	8	10.0	0-1	10.0
1-3	1.5	1.5	2.5	2.5	3.0	3.0	8.5	9.0	16.0	11.5	17.5	1-3	17.5
3-5	2.5	3.0	3.5	4.0	5.0	5.5	11.0	11.5	16.0	15	24.0	3-5	24.0
5-7	3.0	3.5	4.5	5.0	6.5	7.5	12.5	13.5	16.0	17	29.0	5-7	29.0
7-10	4.0	4.5	5.5	6.5	8.5	9.5	14.0	15.5	16.0	18.5	34.5	7-10	34.5
>10	5.5	8.5	7.5	12.0	11.0	16.5	17.0	22.5	16.0	21	44.5	>10	44.5
CQS 3 (BBB+ to BBB-)										CQS 3 (BBB+ to BBB-)		CQS3 (BBB+ to BBB-*)	
0-1	5.5	5.5	6.0	6.0	8.0	8.0	15.0	15.0	NA	15.5	17.5	0-1	17.5
1-3	6.5	6.5	10.5	11.5	18.0	19.5	27.5	29.5	NA	28	34.0	1-3	34.0
3-5	7.5	8.0	15.5	17.0	25.5	28.0	36.5	39.5	NA	37	46.0	3-5	46.0
5-7	7.5	8.5	18.0	20.5	28.0	31.5	38.5	43.0	NA	39	51.0	5-7	51.0
7-10	9.0	9.5	19.5	22.5	29.0	33.5	39.0	44.5	NA	39.5	55.5	7-10	55.5
>10	10.5	13.5	20.0	29.0	29.5	38.0	39.5	46.0	NA	41	64.5	>10	64.5

CQS4 (BB+ to BB-*)	
0-1	42.0
1-3	62.0
3-5	70.0
5-7	78.0
7-10	78.0
>10	80.0
CQS5 (< BB-*)	
0-1	54.0
1-3	70.0
3-5	78.0
5-7	83.0
7-10	84.0
>10	85.0

Definition of the liquidity categories:

Category I: Central government debt instruments and debt instruments issued by central banks

Category II: Local and regional gvt debt instruments, Jumbo covered bonds, agency and suprabational debt instruments

Category III: Traditional and structured covered bank bonds, multi-cédulas and debt instruments issued by corporate and other issuers

Category IV: Credit institution debt instruments (uncovered): additional valuation markdown of 5%

Category V: Asset-backed securities

Suspension of the minimum credit rating threshold in the collective eligibility

0.5	Matrix haircut for Europeangovernment bonds, except Cyprus, Greece, Portugal government bonds
5.5	Matrix haircut for Cyprus, Greece and Portugal Government bonds

Credit Quality Steps (CQS)

Marketable and non-marketable assets (including harmonised credit claims) are subject to the Eurosystem's harmonised rating scale.

Newly eligible credit claims are subject to NCBs specific requirements.

The Eurosystem considers a probability of default over a 1y horizon of:	**• 0.10% as equivalent to a CQ! • 1.0% as equivalent to CQS 4**
	• 0.4% as equivalent to CQS 3 • 1.5% as equivalent of CQS 5

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23 February 2012

Source: ECB and Credit Suisse

ECB Meeting and Maintenance Periods				
	Council Meeting	Start MP	End MP	Days
Jan-12	12-Jan	18-Jan	14-Feb	28
Feb-12	09-Feb	15-Feb	13-Mar	27
Mar-12	08-Mar	14-Mar	10-Apr	28
Apr-12	04-Apr	11-Apr	08-May	28
May-12	03-May	09-May	12-Jun	35
Jun-12	06-Jun	13-Jun	10-Jul	28
Jul-12	05-Jul	11-Jul	07-Aug	28
Aug-12	02-Aug	08-Aug	11-Sep	35
Sep-12	06-Sep	12-Sep	09-Oct	28
Oct-12	04-Oct	10-Oct	13-Nov	35
Nov-12	08-Nov	14-Nov	11-Dec	28
Dec-12	06-Dec	12-Dec	15-Jan	35

Long term rating			
Country	**Fitch**	**Moody's**	**S& P**
Austria	AAA S	Aaa N	AA+
Belgium	AA	Aa3 N	AA
Cyprus	BBB-	Baa3 *-	BB+
Estonia	A+ S	A1 S	AA-
Finland	AAA S	Aaa S	AAA
France	AAA N	Aaau N	AA+
Germany	AAA S	Aaau S	AAA
Greece	CCC	Ca	CC
Ireland	BBB+ *-	Ba1 N	BBB+
Italy	A-	A3 N	BBB+
Luxembourg	AAA S	Aaa S	AAA
Malta	A+ S	A3 N	A-
Netherlands	AAA S	Aaau S	AAA
Portugal	BB+ N	Ba3 N	BB
Slovakia	A+ S	A2 N	A
Slovenia	A	A2 N	A+
Spain	A	A3 N	A

Country has been downgraded since Jan 12

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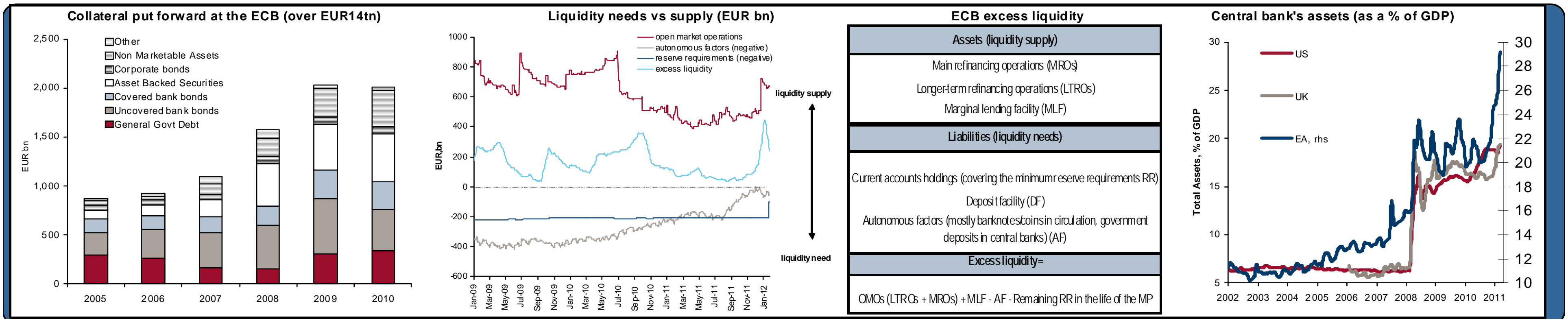
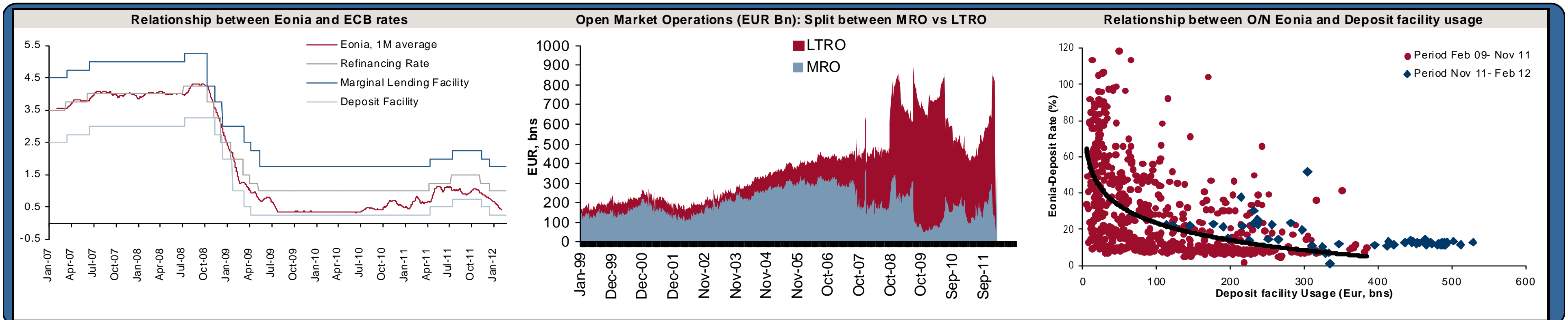
" The primary objective of the ECB's monetary policy is to maintain price stability. The ECB aims at inflation rates of below, but close to, 2% over the medium term."





Calendar of ECB non-conventional measures

Phase	TURMOIL	CRISIS-INTENSIFICATION	PHASING-OUT	SOVEREIGN DEBT CRISIS	
Year	2007 / 2008	2009	2010	2011	2012
Month	8 9 10 11 12 1 2 3 4 5 6 7	8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11	12 1 2 3 4	5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12	1 2

Fixed-rate full allotment in:
- Main Refinancing Operations (MRO)
- Longer-Term Refinancing Operations (LTRO)

Special maintenance period operations
Supplementary 3-m LTRO
6-month LTRO
12-month LTRO
3-year LTRO
US Dollar-providing operations
CH Franc-providing operations
Covered Bond Purchase Programme (CBPP)
Securities Markets Programme (SMP)

Bloomberg Tools

CSST	*CS Global OIS Directory*
CSOI	*CS Basis-Point Rate Priced*
ECB	*ECB Portal Page*
MMR	*Global Money Rate Monitors*
BTMM	*Bloomberg MM Monitor*
ISDA	*Swap fixings*
SLIQ	*Short Term Liquidity*

ECB website

ECB Monetary Policy:

http://www.ecb.int/mopo/html/index.en.html

Check eligibility of an asset:

https://mfi-assets.ecb.int/query_EA.htm

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Disclosure Appendix

Analyst Certification
Marion Pelata, Thushka Maharaj, Helen Haworth and Christel Aranda-Hassel each certify, with respect to the companies or securities that he or she analyzes, that (1) the views expressed in this report accurately reflect his or her personal views about all of the subject companies and securities and (2) no part of his or her compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this report.

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Sell: Indicates a recommended sell on our expectation that the issue will deliver a return lower than the risk-free rate.

Corporate Bond Fundamental Recommendation Definitions
Buy: Indicates a recommended buy on our expectation that the issue will be a top performer in its sector.
Outperform: Indicates an above-average total return performer within its sector. Bonds in this category have stable or improving credit profiles and are undervalued, or they may be weaker credits that, we believe, are cheap relative to the sector and are expected to outperform on a total-return basis. These bonds may possess price risk in a volatile environment.
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