Eurosystem collateral policy and framework: was it unduly changed?

IN-DEPTH ANALYSIS

Abstract
All Eurosystem credit operations, including the important open market operations, need to be based on adequate collateral. Liquidity is provided to banks against collateral at market price subject to a haircut. The Eurosystem has adopted its collateral framework in the course of the crisis to accept lower-rated assets as collateral. Higher haircuts are applied to insure against liquidity risk as well as the greater volatility of prices of lower-rated assets. The adaption of the collateral framework was necessary to provide sufficient liquidity to banks in the euro area periphery in particular. In crisis countries, special emergency liquidity assistance was provided. More than 80% of ECB’s liquidity (MRO&LTRO) is provided to banks in five countries (IT, ES, PT, IE, GR). The changes in the collateral framework were necessary for the ECB to fulfil its treaty-based mandate of providing liquidity to solvent banks and safeguarding financial stability. The ECB did not take on board excessive risks.
EXECUTIVE SUMMARY

- All Eurosystem credit operations, including the important open market operations, need to be based on adequate collateral. This means that when extending loans, the central bank requires collateral (assets pledged as security) to protect its balance sheet against the risk of default by the borrower (credit risk). The collateral is accepted at market price subject to a haircut. The haircut is applied to insure against liquidity risk and downward corrections in the prices of the collateral.

- The Eurosystem has adopted its collateral framework in the course of the crisis to accept lower-rated assets as collateral. The adaption of the collateral framework was necessary to provide sufficient liquidity to banks in the euro area periphery in particular but also to some banks in the core. More than 80% of ECB’s liquidity (MRO&LTO) is provided to five countries (IT, ES, PT, IE, GR). Haircuts were increased to insure against the greater liquidity risk and greater price volatility of lower-rated assets. In crisis countries, special emergency liquidity assistance (ELA) was provided. ELA is provided by national central banks with approval of the ECB governing council against collateral that does not meet the ECB’s collateral standard. Potential losses from ELA operations remain with the national central bank.

- In general, any collateral framework has an impact on prices and allocations. The ECB’s framework aims to minimize this impact by taking collateral at market prices. Nevertheless, prior to the crisis, the ECB’s collateral framework has been criticised as reducing liquidity risk premia and thereby contributing to the insufficient differentiation of sovereign risk. However, this effect has unlikely been substantial. In the crisis period, the ECB’s collateral policy has been criticised on the ground that it would allow the funding of large current account deficits in the face of a balance of the payment crisis. The argument of Sinn and Wollmershäuser (2011) is thus that the ECB liquidity – as a result of the changed collateral policy – had an impact on allocation of consumption and investment.

- While it is true that without ECB liquidity the adjustment of the current accounts in the periphery would have been more rapid, the ECB policy was still legitimate. In particular, the changes in the collateral framework were necessary for the ECB to fulfil its treaty-based mandate of providing liquidity to solvent banks and safeguarding financial stability. Without lowering the minimum required rating, banks in a number of countries would have been without access to the ECB liquidity window. Ultimately, the decision to stop granting liquidity to banks in one country of the monetary union is outside the scope of monetary policy. The creation of a banking union will mitigate some of the problems related to collateral policy. Overall, the ECB appropriately adapted its collateral framework and policy in the course of the crisis.
INTRODUCTION

Open market operations represent the key monetary policy instruments used by the ECB. All Eurosystem credit operations, including open market operations, need to be based on adequate collateral. This means that when extending loans, the central bank requires collateral (assets pledged as security) to protect its balance sheet against the risk of default by the borrower (credit risk). Monetary policy in the euro area is largely operated through lending central bank money to banks with fixed maturities and at a certain interest rate against collateral. Among the most important examples are the main refinancing operations (MRO) and longer-term refinancing operations (LTROs). Banks pledge collateral against these loans. Figure 1 below shows the composition of the ECB balance sheet. The main driver of changes in the size of the balance sheet are liquidity operations, for which collateral is needed.

Figure 1: Assets of the European Central Bank (EUR bn)

Source: ECB and Bruegel calculations

1 According to the "Guideline of the ECB of 20 September 2011 on monetary policy instruments and procedures of the Eurosystem" all Eurosystem credit operations (i.e. liquidity-providing monetary policy operations and intraday credit) have to be based on adequate collateral. Liquidity-providing monetary policy operations include the main refinancing operations and the longer-term refinancing operations. The Eurosystem has developed a single framework for eligible collateral common to all Eurosystem credit operations (also referred to as the 'Single List').
The definition of what is eligible as collateral is therefore of central importance for the implementation of monetary policy in the euro area. The Eurosystem introduced a single list of eligible collateral in January 2007. A collateral framework consists of a number of central considerations. Its central aim is to protect the balance sheet of the ECB and thereby the shareholders and ultimately the tax payers against undue risks. In the liquidity operations, the counterpart to the ECB is the bank that receives liquidity. The bank is required to return the liquidity after a certain period to the ECB, at which point it will recover the collateral. Only when the bank is unable to re-pay the liquidity it previously received, the ECB can use the collateral to prevent making a loss. The value of the collateral should therefore reflect the amount of liquidity given to the bank. The aim of the collateral framework is to define a framework that provides adequate protection against losses to the Eurosystem while at the same time defining enough eligible collateral so that solvent banks can access enough central bank liquidity. The framework is defined in the document “The implementation of monetary policy in the euro area: General documentation on Eurosystem monetary policy instruments and procedures” and subsequent updates.

Adequate access to ECB liquidity is of vital importance for banks and for the implementation of monetary policy. Banks need access to central bank liquidity for their daily operations. In particular, when interbank markets are under stress, the banking system relies heavily on central bank liquidity. The way the ECB regulates the access to central bank liquidity is, in turn, a central part of monetary policy. The collateral framework plays an important role in this regard.

The collateral framework of the Eurosystem is from time to time subject to political and academic critique. Buiter and Sibert (2004) have perhaps been among the most vocal and early critiques arguing that the collateral treatment of sovereign debt by the Eurosystem was at least in part responsible for the small sovereign yield differentials in the euro area. In particular, they argue that despite the differences between triple A and single A rating, all sovereign debt was accepted as collateral at the same haircut. By not properly differentiating the liquidity risk, the Eurosystem would implicitly weakening fiscal discipline. More recent critique focussed on the role of the collateral system in allowing to finance capital withdrawals from the euro area periphery during the recent balance of payment crisis.

In this note, we review the collateral framework of the Eurosystem and how it has developed throughout the crisis. We then add some considerations as regards the potential impact of the collateral framework on pricing and asset allocations before concluding.

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2 Before that date, the collateral framework was divided in two tiers. The first tier consisted of marketable debt instruments that have uniform eligibility criteria for the euro area countries set by the ECB. Tier 2 consisted of assets that were of particular importance for national financial markets. The eligibility criteria were set by the national central banks. In January 2007, the Eurosystem moved to a single collateral list. German banks were keen on including bank loans in the definition of collateral. See Bundesbank, monthly bulletin, April 2006 http://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Monthly_Report_Articles/2006/2006_04_eligible_collateral.pdf?__blob=publicationFile

3 Guideline ECB/2011/14
THE CHANGING COLLATERAL FRAMEWORK OF THE ECB

The main parameters for a collateral system are the definition of which assets are acceptable as collateral, what is the required rating of assets that to be accepted as collateral, and what is the imposed haircut on the market value of the asset. In the course of the crisis, the ECB adapted all three criteria of the collateral framework.

Table 1 summarizes the asset classes that the Eurosystem and other major central banks accept as collateral. The ECB accepts a greater variety of assets than other central banks. The Fed, for example, only accepts central government bonds and bonds of public sector institutions other than central governments. This is sufficient for the Fed to provide liquidity to the US banking system. In the euro area, in contrast, the banking system is not only much larger than in the US, it is also much more heterogeneous and embedded in 18 different national (legal and historical) systems. A broader definition of collateral is therefore necessary.

Table 1: Asset-classes eligible as collateral for major central banks

<table>
<thead>
<tr>
<th>Collateral</th>
<th>Eurosyst</th>
<th>BoE</th>
<th>Riksbank</th>
<th>SNB</th>
<th>Fed</th>
<th>BoJ</th>
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<tr>
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<td>Supranational institutions</td>
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<td>Gold</td>
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<td>Non-marketable assets</td>
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<td>Credit claims (bank loans)</td>
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<td>Cash as collateral</td>
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<tr>
<td>Cash including fixed-term deposits from eligible parties</td>
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The basic idea of the collateral framework is that lower-rated collateral is only accepted against higher haircuts. While liquidity is only provided at the market value of the asset, thereby taking into account higher default risks as priced in the markets, the larger haircut for lower rated collateral compensates for the larger risk of changes in valuation that lower-rated collateral represents for the Eurosystem as well as the higher liquidity risk of these assets.

The tables A1 and A2 in the annex describe the different categories of collateral according to rating and liquidity and the haircut that is applied to the different assets. As can be seen, the lower the rating, the bigger the haircut. For example, central government debt with the best rating and a maturity of 3-5 years would only be subject to a minimal haircut of 1.5-2.5%. Government debt rated between BBB* and BBB-, in contrast, would be subject to a haircut of 9-10%.

In the course of the crisis, the Eurosystem substantially adapted its collateral framework to ensure adequate access to liquidity. The ECB had to adapt the collateral standards in order to be able to provide sufficient liquidity to banks that were experiencing liquidity shortages. In particular, when the interbank market froze, the ECB had to fulfil its role as a lender of last resort and provide the banking system with adequate liquidity.

More specifically, the ECB adapted its rating standards as well as the haircuts that are applied to collateral. As the availability of top-rated collateral in the banking system fell, the ECB lowered the minimum required rating. To compensate for the increasing riskiness (i.e. increased volatility during the crisis), the ECB also increased the applied haircuts.

**Figure 2: Credit Rating Thresholds of the ECB’s Collateral Framework**

![Credit Rating Thresholds of the ECB’s Collateral Framework](image)

*Source:* European Central Bank

*Note:* Credit ratings following Fitch and Standard and Poor’s rating system
Figure 2 shows the developments of credit rating thresholds of the ECB’s collateral framework since 2008 for a number of assets. The following major steps can be noted:

- At the start of the crisis:
  - All eligible collateral except ABSs: credit rating threshold at A–
  - All ABSs: credit rating threshold at AAA
- 22 October 2008: credit rating threshold of all eligible collateral except ABSs lowered to BBB- as a temporary measure. It was decided on 8 April 2008 that this measure was to be made permanent (ECB/2011/14)
- 8 December 2011: credit threshold of ABSs whose underlying assets include either only residential mortgages or only loans to SMEs reduced to A- at issuance and at any time subsequently (ECB/2011/25)
- 20 June 2012: credit threshold of ABSs whose underlying assets include auto loans, leasing, commercial mortgages, consumer finance, residential mortgages or loans to SMEs reduced to BBB- at issuance and at any time subsequently
- 9 July 2014: credit threshold of ABSs whose underlying assets include auto loans, leasing, commercial mortgages, consumer finance, residential mortgages, loans to SMEs or credit card receivables reduced to BBB- at issuance and at any time subsequently (ECB/2014/31)

The ECB significantly changed the haircuts it applies to several types of collateral. Figure 3 shows the changes in the haircut for a number of marketable assets. The haircut for high rated uncovered bank bonds (with 5-7 residual maturity) and ABSs was increased by about 150% to a haircut of 12.5% and 16% respectively in September 2010. As already mentioned, the credit threshold of all eligible collateral except ABSs was lowered to BBB- in 2008, conditional on an additional 5 % haircut. Certain types of low-rated ABSs became eligible as collateral only in 2012 or later. With the recent improvement in market sentiments, the size of the haircuts applied to uncovered bank bonds, high-rated ABSs and some types of low-rated ABSs was lowered again.
Figure 3: Valuation Haircuts by asset classes in the ECB Collateral Framework

Source: European Central Bank
Notes: The haircuts of uncovered bank bonds and government debt instruments shown are those for assets with a residual maturity of 5-7 years. Haircuts shown are for fixed coupon assets.
High-rated: AAA to A-. Low-rated: BBB+ to BBB-
Lines are not continuous because those asset classes were not eligible as collateral beforehand.
Individual asset-backed securities, covered bank bonds (jumbo covered bank bonds, traditional covered bank bonds and other covered bank bonds) and uncovered bank bonds that are theoretically valued in accordance with Section 6.5 of the “Guidelines on monetary policy instruments and procedures of the Eurosystem” are subject to an additional valuation haircut. This haircut is directly applied at the level of the theoretical valuation of the individual debt instrument in the form of a valuation markdown of 5%

For government bonds, the Eurosystem modified the applied haircuts only slightly. At the start of the crisis only high-rated government debt instruments were accepted as collateral (remember that the minimum threshold on all marketable assets except ABSs was A-). These were given a valuation haircut of 3% for assets with a 5-7 year residual maturity. When lower-rated government bonds became eligible this was at an additional 5% haircut, at 8%. These haircuts remained constant until September 2013 when the haircuts of high-rated and lower-rated government bonds were changed to 2% and 10% respectively. However, for crisis countries, the ECB changed its collateral framework a number of times to allow government debt to become accepted as collateral again. Greek government bonds became eligible despite being below the BBB- minimum rating subject to a special haircut.
in December 2012. In May 2013, a similar decision was taken for Cypriot debt, a decision that could be reversed already in July thanks to the rating upgrade.

Figures 4 and 5 show the availability and use of collateral in the Eurosystem. As can be seen, the eligible collateral amounts to 14 trillion euros, the largest part of it being central government bonds.

**Figure 4: Eligible marketable assets by asset type (EUR tn, nominal amounts, averages of end-of-month data)**

![Collateral by Asset Type](image)

Source: European Central Bank

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In the course of the crises, the allocation of ECB liquidity across countries changed substantially. More and more ECB liquidity went in the banking systems of weaker countries. Figure 6 shows that the amount of liquidity in those countries increased substantially until the summer of 2012 when the announcement of the OMT programme calmed markets. The share of liquidity of banks in five countries of the euro area (IT, ES, PT, IE, GR) in total ECB liquidity currently exceeds 80% of the total liquidity.
In the crisis countries, the Eurosystem was experiencing the particular difficulty of having to provide liquidity to banks of countries that were at the brink of insolvency and had to ask for financial assistance. In these countries, the rating of assets that were held by the banking system often dropped significantly, which put severe limits on the ability of these banks to access ECB liquidity directly. At the same time, the ECB did not want to lower collateral standards even further as it was feared that the ECB would take too much risk on board. The solution to this problem was the so-called “ELA”, or “Emergency Liquidity Assistance”.

Emergency liquidity assistance (ELA) needs to be approved by the ECB governing council. The approval of the governing council is needed as ELA operations influence the amount of liquidity available in the euro area and therefore the monetary policy stance. ELA is essentially provided because of lack of available appropriate collateral for normal monetary policy operations. In ELA, the liquidity is given by the national central bank to banks resident in the country against lower quality collateral. For example, the collateral could be below-credit-threshold sovereign bonds for example. If the bank that had received liquidity is unable to redeem the liquidity to the national central bank, then the national central bank uses the low quality collateral to avoid losses. If there are losses, those losses remain with the national central bank and are not losses of the Eurosystem.
Figure 7 shows the developments of ELA to banks in Ireland, Greece, Cyprus and even Belgium, which needed special liquidity during its banking crisis. As can be seen, the amounts of liquidity used with the instrument were quite substantial at the height of the respective crises. This also reveals that the collateral framework did impose limits on the standard access to liquidity in a number of countries.

**Figure 7: Emergency Liquidity Assistance to banks in Ireland and Greece**

*Source:* Bank of Greece, Central Bank of Ireland, Central Bank of Cyprus, Central Bank of Belgium

*Note:* Since ELA operations aren’t very transparent, the amounts of Emergency Liquidity Assistance are proxied by the category “Other Assets” in the respective national central banks’ balance sheets before April 2012, and the category “Other claims on euro area credit institutions denominated in euro”. This change was due to a harmonisation of data publication in the Eurozone. In the case of Belgium we proxy ELA operations only by the “Other claims on euro area credit institutions denominated in euro” category.
THE IMPACT OF COLLATERAL FRAMEWORK ON ASSET ALLOCATIONS AND PRICES: CONCLUDING REMARKS

Only a small literature discusses the impact of the collateral framework on asset allocation and prices in the euro area. In general, collateral is influencing market prices as in an exchange between two parties, the collateral will reduce information uncertainties. Geanakoplos and Zame (2007) show that, in a general equilibrium model, the availability of collateral in an economy with default possibilities affects the prices in a number of markets as well as the allocation of assets. Brumm et al (2013) argue along similar lines. Chapman et al (2011) develop a general framework for central bank haircut policy and argue that the haircut provides an insurance against two types of risk: insurance against liquidity risk and insurance against downside risk of the price of the collateral. Setting a haircut involves a trade-off between the liquidity needs of the counterparties and portfolio choices. The Bank of Canada (2011) described how the collateral system is based on the mark-to-market principle and on applied haircuts. The report argues that haircuts can affect asset allocations and that during extreme crises, the central bank should actually lower haircuts in order to mitigate the shortage of liquidity.

In principle, the aim of the collateral framework of the Eurosystem is to avoid distorting prices and allocation. The basic idea is that assets are priced in markets and that the collateral framework does not alter the prices. The former chief economist of the ECB, Issing (2005), argued that

“All financial assets offered as collateral, including government bonds, are valued daily at market prices. In its collateral policy, the ECB therefore relies on the judgment of the market to distinguish among government bonds and, implicitly, the fiscal behaviour of member states. Moreover, the ECB sets credit standards for the eligibility of assets as collateral and is bound by the Treaty not to distinguish between government and private issuers in the implementation of these standards.” Issing therefore argues that markets decide on the prices of private as well as public assets and the ECB provides liquidity only against the market price of those assets.

Buiter and Sibert (2005) contradict this view and argue that the fact that all sovereign debt at the time was placed in the same category not only suggested to markets that sovereign debt has equal solvency but also that it has equal liquidity. As the Eurosystem is a large player in the Euromarkets, this signal in fact increased the liquidity of Greek and other bonds substantially and thereby lowered spreads. The artificial liquidity enhancement, they argue, would matter for the valuation and the valued credit risk of sovereign debt. While such a liquidity effect is possible, it is doubtful that this was one of the main drivers of low sovereign bond spreads prior to the crisis. In fact, liquidity risk premia are estimated to be rather small compared to the more important solvency risk premia. The low differentiation of sovereign yields is therefore rather a sign of a market assessment that solvency risks were comparable.

With the downgrade of a number of sovereign debt instruments in the course of the crisis, the Eurosystem had to adapt its collateral framework in order to allow banks to have sufficient eligible collateral and keep access to liquidity. Several sovereign debt instruments are now subject to larger haircuts than the top-rated sovereign debt instruments to reflect their lower liquidity and their greater market price volatility.
Anecdotal evidence from rating agencies suggests that the collateral framework as such does not influence the rating of banks. However, banks that rely on large amounts of ECB liquidity receive a worse rating ceteris paribus. This should not, however, be confounded with the impact of the collateral framework as such. On the contrary, the lowering of collateral standards was done in order to support banks in their access to liquidity.

The ECB had to significantly adapt its collateral framework when banks in the euro area periphery found it increasingly difficult to access liquidity in the interbank markets. This was particularly the case when the sovereign debt crisis was at its peak and investors and banks did not only fear that governments could default on their debt but also feared that countries could leave the euro and re-introduce national currencies again. In fact, when sovereign ratings fell below A-, a change in the collateral framework was necessary as most other assets in the same economy would have a rating below the government debt rating. In this particular situation, the ECB acted according to its treaty-based mandate, namely to provide liquidity to the banking system and prevent a financial crisis. It did so in a prudent manner by accepting collateral only at market price and applying a larger haircut for less credit-worthy assets. Limits on collateral availability would have implied limits on Target 2 balances, which would have meant that even solvent banks would have had to default due to unavailable liquidity. This would have violated a fundamental principle of central banking, which is to provide abundant liquidity to solvent banks in order to prevent financial crises. Limits on liquidity provisioning would thus not only have resulted in bank defaults, but could have triggered a major financial crisis with possible exits of countries from the euro.

The adaptation in the collateral framework was necessary in order to allow access to finance during the severe balance of payments crisis of the euro area periphery during 2010-12. This policy has been criticized by for example Sinn and Wollmershäuser (2011) as a de-facto fiscal bail-out. The authors argue that the ECB liquidity provisioning in fact permitted a slower adjustment of current accounts – in other words, the collateral policy has an impact on consumption, investment and allocation. Merler and Pisani-Ferry (2012) also interpret the capital outflows as a balance of payments crisis and argue that a tightening of collateral standards could have limited the Target 2 increases. However, such a step could not have been undertaken quickly without endangering the stability of the financial system.

The altered distribution of liquidity in the Eurosystem can, however, also be interpreted as a normal liquidity operation providing funds to banks that experience a liquidity run. As the banks are judged to be solvent by the relevant supervisor, such liquidity provisioning is a normal part of central bank action. Some evidence suggests that banks with questionable solvency used the collateral framework for continued access to liquidity with a view of delaying insolvency recognition. For example, Monte dei Paschi issued state guaranteed bonds that were then repurchased to be used as collateral for transactions with the Eurosystem. This example shows that the Eurosystem faced a very difficult situation as it had to rely on local supervisor’s assessment of the solvency of banks in its liquidity operations. The creation of a common supervision was therefore of great importance not least for the liquidity operations of the ECB.

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7 The Target 2 system is the payment system of the euro area. During the crisis, large creditor and debtor positions built up for different countries of the euro area. These balances reflected the amount of liquidity provided by the central bank on which the local banking system had to rely.
Overall, the ECB fulfilled its treaty-based mandate as a central bank for the entire euro area by adapting its collateral framework during the crisis. If it had acted differently, it would have put limits on access to liquidity and ultimately on the ability of countries to remain in the euro – a choice that is outside its mandate. With its changes in collateral policy, it did not unduly influence asset allocations and prices, nor did it take on board excessive risks thanks to haircuts and mark-to-market policy. Completing the banking union is desirable to reduce the risk for the Eurosystem in its liquidity operations.

REFERENCES

- Brumm, Grill, Kubler, and Schmedders (2013), Collateral requirements and asset prices, Swiss Finance Institute Research Paper No. 11-10
- Buiter, Willem and Sibert, Anne (2005), How the Eurosystem’s treatment of collateral in its open market operations weakens fiscal discipline in the Eurozone (and what to do about it), CEPR Discussion Papers 5387, CEPR
- Deutsche Bundesbank (2006), The creation of a single list of eligible collateral throughout the euro area, Article in Monthly Report April 2006
- ECB (2000), Guideline of the ECB of 31 August 2000 on monetary policy instruments and procedures of the Eurosystem (ECB/2000/7)
- ECB (2006), Guideline of the ECB of 31 August 2006 amending Guideline ECB/2000/7 on monetary policy instruments and procedures of the Eurosystem (ECB/2006/12)
- ECB (2008), Guideline of the ECB of 21 November 2008 on temporary changes to the rules relating to eligibility of collateral (ECB/2008/18)
- ECB (2012), Decision of the ECB of 19 December 2012 on temporary measures relating to the eligibility of marketable debt instruments issued or fully guaranteed by the Hellenic Republic (ECB/2012/32)
- ECB (2012), Decision of the ECB of 28 June 2012 amending Decision ECB/2011/25 on additional temporary measures relating to Eurosystem refinancing operations and eligibility of collateral (ECB/2012/11)
- ECB (2013), Collateral eligibility requirements: a comparative study across specific frameworks, July 2013
- ECB (2013), Decision of the ECB of 2 May 2013 on temporary measures relating to the eligibility of marketable debt instruments issued or fully guaranteed by the Republic of Cyprus (ECB/2013/13)
• ECB (2013), Decision of the ECB of 26 September 2013 on additional measures relating to Eurosystem refinancing operations and eligibility of collateral (ECB/2013/35)

• ECB (2013), Decision of the ECB of 26 September 2013 on additional temporary measures relating to Eurosystem refinancing operations and eligibility of collateral (ECB/2013/36)

• ECB (2013), Decision of the ECB of 28 June 2013 repealing Decision ECB/2013/13 on temporary measures relating to the eligibility of marketable debt instruments issued or fully guaranteed by the Republic of Cyprus (ECB/2013/21)

• ECB (2013), Decision of the ECB of 5 July 2013 on temporary measures relating to the eligibility of marketable debt instruments issued or fully guaranteed by the Republic of Cyprus (ECB/2013/22)

• ECB (2013), ELA Procedures, 17 October 2013

• ECB (2013), The Eurosystem collateral framework throughout the crisis, Article in monthly bulletin of July 2013, pp. 71-86.

• ECB (2014), Collateral eligibility and availability, July 2014


• Merler, Silvia and Pisani-Ferry, Jean (2012), Sudden stops in the euro area, Bruegel Policy Contribution.

• Pisani-Ferry, Jean and Wolff, Guntram (2012), Propping up Europe? , Bruegel Policy Contribution 2012|07, April 2012


### Table A1: The ECB’s Liquidity Categories

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<th>Category III</th>
<th>Category IV</th>
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<td>Credit institution debt instruments (unsecured)</td>
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<td>Debt instruments issued by non-financial corporations and other issuers (?)</td>
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<td>Category IV</td>
<td>Category V</td>
</tr>
<tr>
<td>Agency debt instruments (?)</td>
<td>Other covered bank bonds (?)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supranational debt instruments</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: European Central Bank*
### Table A2: Valuation haircuts applied to collateral

#### Levels of valuation haircuts applied to eligible marketable assets

<table>
<thead>
<tr>
<th>Credit quality</th>
<th>Residual maturity (years)</th>
<th>Category I</th>
<th>Category II (*)</th>
<th>Category III (*)</th>
<th>Category IV (*)</th>
<th>Category V (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>fixed coupon</td>
<td>zero coupon</td>
<td>fixed coupon</td>
<td>zero coupon</td>
<td>fixed coupon</td>
</tr>
<tr>
<td>Steps 1 and 2</td>
<td>0-1</td>
<td>0.5</td>
<td>0.5</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>(AAA to A-)</td>
<td>1-3</td>
<td>1.0</td>
<td>2.0</td>
<td>1.5</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>3-5</td>
<td>1.5</td>
<td>2.5</td>
<td>2.5</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
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<td>5-7</td>
<td>2.0</td>
<td>3.0</td>
<td>3.5</td>
<td>4.5</td>
<td>4.5</td>
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<tr>
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<td>7-10</td>
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<td>4.0</td>
<td>4.5</td>
<td>6.5</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>&gt; 10</td>
<td>5.0</td>
<td>7.0</td>
<td>8.0</td>
<td>10.5</td>
<td>9.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit quality</th>
<th>Residual maturity (years)</th>
<th>Category I</th>
<th>Category II (*)</th>
<th>Category III (*)</th>
<th>Category IV (*)</th>
<th>Category V (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>zero coupon</td>
<td>fixed coupon</td>
<td>zero coupon</td>
<td>fixed coupon</td>
</tr>
<tr>
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<td>8.0</td>
</tr>
<tr>
<td>(BBB+ to</td>
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<td>8.0</td>
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<td>14.5</td>
<td>15.0</td>
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<tr>
<td>BBB-)</td>
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<td>15.5</td>
<td>20.5</td>
<td>22.5</td>
</tr>
<tr>
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<td>5-7</td>
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<td>16.0</td>
<td>22.0</td>
<td>26.0</td>
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<tr>
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<td>7-10</td>
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<td>13.0</td>
<td>18.5</td>
<td>27.5</td>
<td>27.0</td>
</tr>
<tr>
<td></td>
<td>&gt; 10</td>
<td>13.0</td>
<td>16.0</td>
<td>22.5</td>
<td>33.0</td>
<td>27.5</td>
</tr>
</tbody>
</table>

(*) Individual asset-backed securities, covered bank bonds (jumbo covered bank bonds, traditional covered bank bonds and other covered bank bonds) and uncovered bank bonds that are theoretically valued in accordance with Section 6.5 of Annex I to Guideline ECB/2011/14 are subject to an additional valuation haircut. This haircut is directly applied at the level of the theoretical valuation of the individual debt instruments in the form of a valuation markdown of 5%. Furthermore, an additional valuation markdown is applied to own-use covered bonds. This valuation markdown is 8% for own-use covered bonds in CQS1&2 and 12% for own-use covered bonds in CQS3.

(**) Ratings are as specified in the Eurosystem’s harmonised rating scale, published on the ECB’s website at www.ecb.europa.eu

**Source:** European Central Bank

**Abbreviations:**

ABS: asset backed securities  
ECB: European Central Bank  
ELA: Emergency Liquidity Assistance  
EU: European Union  
LTRO: Long Term Refinancing Operation  
MRO: Main refinancing operations  
TLTRO: Targeted longer term refinancing operations