

DIRECTORATE GENERAL FOR INTERNAL POLICIES POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

Eurosystem collateral policy and framework - post-Lehman time as a "new collateral space"

IN-DEPTH ANALYSIS

Abstract

Collateral plays a central role in monetary policy. In recent years, its importance has increased as uncollateralised inter-bank borrowing has gradually been replaced by collateralised central bank lending. This has in turn affected collateral availability and the need for high-quality assets.

The European Central Bank has reacted to this development by creating a series of different measures to broaden collateral availability, including changing the eligibility rules (e.g., reducing rating thresholds for certain asset classes) or extending the eligible assets (e.g., allowing national central banks to accept bank loans as collateral).

In the context of these developments, this note assesses and comments on various aspects of the Eurosystem collateral policy and overall framework. In particular, it examines the economic implications of the current ECB collateral policy for asset allocation and relative asset price developments from a cross-country perspective.

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AUTHOR

Ansgar BELKE, University of Duisburg-Essen and IZA Bonn

RESPONSIBLE ADMINISTRATOR

Dario PATERNOSTER

Policy Department A: Economic and Scientific Policy

European Parliament B-1047 Brussels

E-mail: Poldep-Economy-Science@ep.europa.eu

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ABOUT THE EDITOR

To contact the Policy Department or to subscribe to its newsletter please write to: Poldep-Economy-Science@ep.europa.eu

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EXECUTIVE SUMMARY

Since the height of the financial crisis, banks have been able to borrow essentially unlimited amounts of money from the ECB. The only condition: they have to have adequate collateral - either securities or their own securitized loans - that they can sell to the ECB. Since collateral is the only remaining limit on banks' access to the ECB vault, collateral policy has great practical as well as symbolic significance: it is the main indicator of whether the central bank is following uniform and therefore credible rules, or whether banks are always getting whatever amount of money they want.

Collateral plays a central role in monetary policy. In recent years, its importance has increased as uncollateralised inter-bank borrowing has gradually been replaced by collateralised central bank lending. This has in turn affected collateral availability and the need for high-quality assets. The European Central Bank has reacted to this development by creating a series of different measures to increase collateral availability, including changing the eligibility rules (e.g., reducing rating thresholds for certain asset classes) or extending the eligible assets (e.g., allowing national central banks to accept bank loans as collateral). In the context of these developments, this note assesses and comments on various aspects of the Eurosystem collateral policy and overall framework. In particular, it examines the economic implications of the current ECB collateral policy for asset allocation and relative asset price developments from a cross-country perspective.

It shows that the Eurosystem's collateral framework has produced two major but opposing effects over time. First, the Eurosystem reached its quantitative target of increasing the available quantum of collateral. Second, this in turn worsened the quality of the ECB's pool of collateral for refinancing credits. What is more, the much greater qualitative broadening of the collateral base since the collapse of Lehman Brothers compared to its quantitative extension stands in sharp contrast to calls for good collateral. The note argues that large parts of this pattern may be well explained by the lender of last resort function of the ECB. However, it also identifies specific technical areas - such as the calculation of adequate haircuts - in which the ECB's procedure is not sufficiently transparent. As usual, the devil is in the details: issues for discussion in the context of the Monetary Dialogue include the problem of retained securities and own use of collateral, arbitrage possibilities in the collateral framework, the relationship between collateral framework and market functioning, the pivotal role of one small rating agency in determining the refinancing conditions of European banks as well as the relation between collateral policies and the scope of markets for risky assets. A general problem is that exiting from these exceptional collateral policies will be as difficult as exiting from unconventional monetary policies in general.

This paper also identifies a trade-off between short- to medium-term efficiency of unconventional monetary policy effectiveness and risk aversion of the ECB in terms of collateral policy. One example of a governance challenge in the field of collateral policies is that national central banks have in the past sometimes been too lenient with respect to the valuation and the eligibility of collateral. There is the risk that both the NCBs and market participants try to circumvent the ECB and Eurosystem collateral rules. In this regard, the NCBs should be prevented from exploiting loopholes of the collateral framework with the intention to unduly promote their domestic commercial banks. The paper makes also some considerations about what the collateral framework in general will look like after the crisis.

1. INTRODUCTION

Collateral plays a key role in monetary policy. Since Lehman and the European debt crisis, its importance has increased even further as uncollateralised inter-bank borrowing has been replaced by collateralised central bank lending, which in turn has reduced collateral availability and increased the need for high-quality assets (Eberl and Weber, 2014, p. 1). Moreover, collateral policy determines the attractiveness of certain asset classes such as covered bonds and asset-backed securities which in turn are the (purchase) target of the ECB's most recent unconventional monetary policy measures (Altomonte and Bussoli, 2014).

Over the years, the European Central Bank (ECB) has reacted to this development by introducing a variety of specific measures designed to increase the availability of collateral. These have included changing the eligibility rules (e.g., reducing rating thresholds for certain asset classes) and extending the eligible assets (e.g., allowing national central banks to accept bank loans as collateral).²

The ECB database contains about 40,000 items of eligible collateral that have to be valued on a daily basis. This is partly for historical reasons: the broad collateral framework has been designed to make sure that commercial banks from all member countries are able to benefit from the Eurosystem's refinancing operations. Admittedly, this represents a big challenge, which could become particularly acute in a crisis (ECB, 2013).

How has ECB's collateral policy been developing in recent years? Has liquidity provision been effective? For the latter, the ECB had to ensure that banks were technically able to collateralize the refinancing credit which they obtained from their home country's NCB (Eberl and Weber, 2014, p. 1). Yet this has led to some clustered shortages of collateral, and in turn posed the risk of hampering the transmission mechanism in some regions (Åberg, 2013). Collateral criteria thus played a major role during the crisis (see Eberl and Weber, 2014, p. 1, Drechsler et al., 2013, and Bindseil, 2013). The scope of the ECB decision to maintain or even raise collateral availability was to favour those assets whose eligibility would increase bank lending, particularly to small- and medium-sized enterprises (SMEs) and private households, i.e. asset-backed securities (ABS) as a securitized form of claims and credit claims as an non-securitized form (Åberg, 2013).

In more general terms, collateral policy has three important aspects. First, when there is stress in the markets, the central bank can counter the threat of collateral scarcity through increasing the eligible assets pool and thereby framing the markets' process of identifying high-quality assets (Levels and Capel, 2012, and BIS Committee on the Global Financial System, 2013). Second, central bank lending (like all other lending) entails non-negligible risks which are in the end shouldered by the public sector and the tax payer. Lending merely in exchange to good collateral could mitigate this problem (Belke and Polleit, 2010, Eberl and Weber, 2014, p. 2, and Tucker, 2009). In the light of the increasing degree of collateral scarcity, the main risk faced by central banks is credit risk. They could therefore define less liquid assets also as eligible collateral. But this trade-off between liquidity and credit risk may restrict a central bank's flexibility by tying up parts of its balance sheet (Chailloux, Gray and McCaughrin, 2008b). Third, when policy rates reach the zero lower bound and central banks grant liquidity to an unlimited extent, the eligible collateral

¹ See, for instance, Bindseil (2013), ECB (2011), pp. 93ff., Chaudron (2008) and Bundesbank (2013), chapter V "Geldpolitische Geschäfte".

² For earlier overviews see, for instance, ECB (2013b) and Hofmann (2011).

undoubtedly plays a decisive role in setting the limits of expansionary monetary policy (Bindseil, 2013, p. 26).³

Against this background, this paper discusses and assesses various aspects of the Eurosystem's collateral policy and overall framework. In particular, it considers the economic implications of the current ECB collateral policy for asset allocation and relative asset price developments in a cross-country perspective. Of course, an analysis spanning over multiple years cannot be comprehensively but must proceed from an examination of key examples. The collateral policy issues in the euro area are far too complex to be analyzed in a short paper. For a very comprehensive survey on Eurosystem collateral policy discussed in this Briefing paper, I recommend the paper by Eberl and Weber (2014).

The remainder of the paper is organised as follows. Section 2 assesses the guiding principles for the eligibility and use of collateral. Section 3 lists the measures used to increase collateral availability, distinguishing between changes in the eligibility rules and extensions of the set of eligible assets. Error! Bookmark not defined. Section 4 assesses the economic implications associated with the current ECB collateral policy. Section 5 concludes.

2. ELIGIBILITY AND USE OF COLLATERAL: GUIDING PRINCIPLES

Contrary to its counterparts such as the US Federal Reserve Bank, which tends to work with a very small number of primary dealers, the ECB's monetary policy is decentralized, meaning that it interacts with numerous counterparties in the form of national central banks (NCBs) (Eberl and Weber, 2014, p. 4). To be eligible as counterparties, financial institutions must be financially sound.

Article 18.1 of the Statute of the ESCB demands that all Eurosystem credit operations shall be backed by "adequate collateral". This concept of adequacy is based on two basic notions. First, collateral has to preserve the Eurosystem from losses through the bank's credit operations. Second, there has to be sufficient collateral provided to enable the Eurosystem to carry out its tasks (Åberg, 2013, Eberl and Weber, 2014, p. 4, ECB, 2014). While the "Single List" of eligible assets constitutes the general framework, it is the ECB's collateral eligibility criteria for assets - the general and the temporary eligibility rules - that ensures collateral adequacy. Important eligibility criteria that were considered temporary were incorporated into the general framework or are in force without any expiration date (Drechsler et al., 2013, Eberl and Weber, 2014, pp. 6ff., and ECB, 2014).

The actual transaction behind a monetary policy operation to provide liquidity usually represents a reverse transaction such as a collateralized loan or a repurchase agreement.⁴ In the latter case, the NCB claims the collateral in case the counterparty defaults. The adjusted market value of the assets which are provided as collateral has to exceed the liquidity provision's volume over the whole period used the reverse transaction. To figure out the collateral's adjusted market value, a haircut is applied to the market value of the financial asset used as collateral (Eberl and Weber, 2014, pp. 5 f., ECB, 2014). This haircut is calculated according to the liquidity and the maturity of the security and thus represents

³ Since the start of the financial crisis, the increase in the number of market participants influences the availability of collateral, among them central banks through their outright purchases of high-quality collateral. See, for instance, several previous Briefing papers written by the author himself and Singh (2013).

The counterparty can either opt for the earmarking system, in which every pledged asset is earmarked for one specific transaction, or a pooling system, in which the collateral is made allowance for as a whole to collateralize a loan. See Eberl and Weber, 2014, p. 5.

the ECB's risk control measure to protect its balance sheet (Eberl and Weber, 2014, Subsection 3.4.2., and Gros, Alcidi and Giovannini, 2012, p. 10).

Five general principles of the ECB's collateral framework are of central importance: (1) Close links between counterparties, (2) Provisions for controlling risk within the pool of collateral, (3) The valuation of eligible assets, (4) The European Credit Assessment Framework that the ECB uses to assess the eligible assets' credit quality, and (5) "Segmental pooling" (Eberl and Weber, 2014, pp. 10ff.).

Close links between counterparties

The non-eligibility of assets incorporating close links between counterparties was already contained in the initial General Framework dated 1 January 2001. If assets are guaranteed or issued by the counterparty submitting those, they were deemed ineligible (Directive 2000/12/EC). The most extreme case of close links is the own use of assets—for example, when an asset is issued and pledged by the same party (Eberl and Weber, 2014). However, strict eligibility rules have been watered down in the wake of the crisis (Eberl and Weber, 2014, pp. 10f.).

Starting in February 2009, for instance, all debt instruments which are defined by close links between counterparties, independent on whether they are marketable or non-marketable (or being own-use or not), have been treated as eligible, in case they are secured by a guarantee of a government of an EEA country and if they were in compliance with the general eligibility criteria. In addition, retail mortgage-backed debt instruments (RMBDs) with close links were deemed eligible. As of March 2015, the ECB also will no longer accept as collateral government-guaranteed uncovered bank bonds or covered bonds with close links between counterparties. Thus, uncovered bank bonds with close links between counterparties will not be accepted as collateral at all, while covered bank bonds with will remain acceptable (Eberl and Weber, 2014, p. 35).

Risk control measures

The risks incurred by the ECB when it conducts monetary policy operations comprise the risk of counterparty default, as well as liquidity and market risks specific to the collateral. The ECB applies a number of measures to control risk to marketable and non-marketable assets in an effort to mitigate such risks. From March 2004 on, the ECB's most frequently used risk control measures were "valuation haircuts" and "variation margins". Then, starting in 2010, the bank broadened its risk control framework to include the so-called "application of supplementary haircuts" and "limits in relation to the use of unsecured debt instruments" (Eberl and Weber, 2014, pp. 10ff.).

Valuation of assets eligible as collateral

Valuation principles are very important because they establish rules for assessing assets that are used as collateral. The valuation assigned to assets forms the basis for the application of risk control measures and the granting of refinancing credits. Valuation principles were broadly formulated in the initial General Framework. As is the case with the framework as a whole, these principles were successively modified over time. The Eurosystem currently assesses the marketable assets' value on the basis of a representative price prevailing on the last business day before the valuation date. If two or more prices are quoted, the smallest price is used. If no such price is available, the last trading price is used. If the latter is not available or prices have not moved over the last five trading days, either the asset's theoretical value or, for reasons of simplicity, the outstanding amount is used. The Eurosystem applies additional valuation haircuts for the

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value of covered/uncovered bank bonds and ABSs not derived from a market price (Eberl and Weber, 2014, pp. 13f.).

Notably, errors in the valuation of collateral impose significant risks for the conduct of monetary policy and the ECB's balance sheet. If an asset were overvalued and thus did not mirror the true underlying risk, the value of the collaterised security might not be sufficient to cover ECB losses in case of the counterparty's default (Eberl and Weber, 2014, pp. 14).

European Credit Assessment Framework

Since January 2007, the ECB has ensured that all assets considered as eligible match with uniform credit rating standards by establishing the Eurosystem Credit Assessment Framework (ECAF). The ECAF was created to evaluate the credit standing of collateral employing different credit assessment sources. The ECB had imposed a distinct hierarchy of credit ratings: type of issue comes first, followed by the issuer, and then the guarantor. NCBs are said to have occasionally violated this hierarchy classified assets in the wrong rating categories. For Spain, this was the case with short-term government securities, for France, with certain bank bonds. And every time NCBs erred in favour of the banks that submitted the securities (Brendel and Jost, 2013).

In September 2013, the ECB modified, i.e. watered down, the credit ranking, by the facto equating issuer and guarantor in the credit ranking hierarchy (Eberl and Weber, 2014, pp. 13f.).

Segmental pooling

The ECB employs its measures of risk control, usually "valuation haircuts", to attenuate the risks inherent in granting refinancing credits. These haircuts do not increase with lower credit ratings, however, but differ by the coupon structure and the respective residual maturity and the liquidity categories assets are classified into (Eberl and Weber, 2014, pp. 11ff. and 19ff.).

Drechsler et al. (2013) report that, contrary to the private market, the ECB subsidizes with its haircut policy some assets to the disadvantage of others. In particular, they find out that haircut subsidies turn out to be small for non-risky collateral but large in case of less safe collateral. This makes plausible that the pooled haircut value relates to the risk profile of a fairly safe asset and not to that of the lowest-rated asset within each segment. This subsidy on low-rated eligible collateral in terms of requirements for refinancing credits constitutes an incentive for counterparties to progressively use riskier assets as collateral underlying the ECB's refinancing credits (Eberl and Weber, 2014, pp. 16ff.).

3. MEASURES TO INCREASE COLLATERAL AVAILABILITY

The ECB has extended the list of assets eligible as collateral in the context of refinancing operations to facilitate banks' access to the Eurosystem's operations and reduce pressure on banks' balance sheets (ECB, 2014, Gros, Alcidi and Giovannini, 2012). The aim of this section is to assess both in quantitative and qualitative terms the extent to which the ECB's eligible collateral pool has been broadened during the crisis. It provides an overview of the chronological sequence of the changes, structured by asset classes, such as debt instruments issued/guaranteed by governments, debt instruments traded on non-regulated markets, bank bonds, asset-backed securities (ABSs) and corporate bonds.

From the onset of the financial crisis up to the end of 2013, the ECB has enlarged the pool of eligible collateral both qualitatively (section 2.1) and quantitatively (section 2.2).

3.1. Changing the eligibility rules

A reduction of rating thresholds for certain asset classes is defined as a typical change in a collateral eligibility rule. The following two items are prominent examples of such changes (Eberl and Weber, 2014, p. 21).

Example 1

The ECB's effort to shape and bring into force a coherent collateral framework was brought to an abrupt halt in September 2008 by the Lehman collapse. In October 2008, the ECB reduced the minimum credit rating threshold for eligible assets (excluding ABSs) from "single A" to "triple B". Whit this move, the ECB central bank initiated one of the most sweeping changes ever to its collateral framework. What is more, the ECB employed a uniform add-on haircut on all eligible assets which are rated lower than single A, in order to cope with the additional risk implied by such low-rated assets. This reduction was initially planned as a temporary measure, but has become permanent since January 2011, when the lowered minimum credit rating threshold became an ingredient of the General Framework.

Example 2

In February 2009, the ECB passed another amendment, which may at first appear minor but is highly significant in practice. The group of accepted External Credit Assessment Institutions (ECAIs) was expanded to include a fourth one, the Dominion Bond Rating Service (DBRS). Compared to the "big three" rating agencies—S&P, Moody's, and Fitch, which together hold a market share of about 95%— DBRS is a small Canada-based agency. Admittedly, taking into account one additional ECAI may spur competition and improve information on the collateral quality. If assessments among rating agencies differ, however, a tiny rating agency is granted the potential to affect refinancing conditions of European commercial banks. The experience with the four ECAIs' long-term credit ratings for Ireland, Italy, and Spain clearly reveal that DBRS's ratings have been pivotal (Eberl and Weber, 2014, pp. 14ff.).

3.2. Expanding the set of eligible assets

Allowing national central banks to accept bank loans as collateral may be regarded as one of several measures expanding the set of assets eligible for collateral. Here we provide some examples.

Debt instruments issued or guaranteed by governments

Government guarantees for risky assets are important because they represent a risk for taxpayers in the default case and are able to impact the valuation and thus the credit rating of the collateral, and can thereby affect the refinancing conditions.

The minimum credit rating threshold for assets which are government-related had already been diminished to "triple B" when the minimum rating was lowered for all assets, except for ABSs, in October 2008. Nevertheless, several countries had to make strong efforts to reach even this threshold (Eberl and Weber, 2014, p. 25). In order to accept these debt instruments as collateral, the ECB decided to suspend the application of the minimum credit rating threshold for debt instruments guaranteed or issued by the governments of Greece (May 2010), Ireland (April 2011), Portugal (July 2011), and Cyprus (May 2013). At the same time, the ECB declared that it would review "the relevant risk control measures [...] on a continuous basis." (ECB, 2011a).

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⁵ Note that "triple B" marks the last rating notch above junk status.

However, since this decision, tenets for valuation haircuts have merely been altered for Cyprus and Greece but not for Portugal and Ireland. Hence, in the case of the latter countries, the ECB is effectively applying the same valuation haircut to, for instance, a "C"-rated bond (S&P) as to a "BBB+"-rated bond (Eberl and Weber, 2014, p. 26).

However, given that Greek debt was apparently accepted as collateral to raise market liquidity, it would be counterproductive to insist on a large haircut. Thus, it appears as if the ECB's aim to promote the liquidity of Greek debt will necessarily increase the bank's exposure to the risk of capital losses on exactly that type of debt. The ECB can thus at best hope to receive compensation for such losses, for instance through a (gradual) recapitalisation by the euro area governments (Belke and Polleit, 2010, and Gerlach, 2010, p. 8).

The ECB broadened the eligibility of own-use assets to every asset with government guarantees in February 2009. This enabled market participants to securitize assets into bonds they retain. The latter are, however, never evaluated by a rating agency or the market per se. Due to the government guarantee, they can also still be employed as collateral for refinancing credits. What is more, the conditions for valuation haircuts would appear favourable to market participants if the rating of the government providing the guarantee is higher than that of the issuer. On the date the guidelines setting out the eligibility of own-use debt instruments which are government-guaranteed were implemented, new issuances of bonds guaranteed by governments skyrocketed. Declaring own-use government-guaranteed bonds eligible in combination with abandoning the minimum credit rating has thus pushed a significant share of these bonds into reverse transactions underlying refinancing credits at the ECB (Eberl and Weber, 2014, pp. 24ff.).

Debt instruments traded on non-regulated markets

The initial General Framework has already incorporated the condition that marketable assets have to be permitted to be traded on accepted regulated and non-regulated markets.⁶ The ECB has successively altered its eligibility criteria, thereby raising the quantity of non-regulated markets which are eligible over time (Eberl and Weber, 2014, p. 28).

When strict rules are applied for the admission of non-regulated markets to trading, the risk faced by the ECB for the eligibility of assets traded on those markets is approximately the same as for assets traded on regulated markets. But this assertion may be challenged for good reasons. On the one hand, the ECB itself explicitly denied to follow the goal of evaluating the intrinsic quality of non-regulated markets exhaustively. On the other hand, the three principles that the ECB established to accept non-regulated markets have not been applied in a consistent way and are thus of questionable effectiveness. In particular, transparency which is meant to grant the ECB "unimpeded access to information on the market's rules of procedures and operations, the financial features of the assets, the price formation mechanism, and the relevant prices and quantities" (ECB/2005/2), has not only been suspended repeatedly (see above) but it has also not been applied rigorously (Eberl and Weber, 2014, pp. 29).⁷

Bank bonds

For reasons of space, this paper does not discuss comment further on bank bonds. Important details can be found in Eberl and Weber (2014), pp. 31-35.

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⁶ A market has to obey criteria defined by the Investment Services Directive (93/22/EEC) in order to be to be regarded as "regulated"

regarded as "regulated".

7 For further details see Eberl and Weber (2014), pp. 28-31.

rating for homogeneous ABS backed by residential mortgages or loans to SMEs to "single A" (ECB/2011/25,

ECB/2012/12

Asset-backed securities

Figure 1 summarises the evolution of Asset-backed Securities as eligible collateral over time.

Eligibility of ABS denominated in ABS if the haircuts applied to ABS (ECB 2012/11, ECB/2012/17 ECB/2010/13 eligibility of ABS sussisting of swaps, oth ECB/2012/18, ECB/2013/4, ECB/2013/36) derivatives and sy (ECB/2010/1) teria for ABS, m AB5 and importantly "true s Ineligibility of ABS ration of ABS as liquidity
5 of marketable ality of ABS consisting of credit-links notes and ABS issued by enia for n haircut on ABS lity of ABS with ities established in n-EEA G10 countries (ECB/2005/17) 2014 2010 2011 2012 2013 19/12/2011 on of ABS from

rating (ECB/2008/11)

shes of other ABS tening of minimum of g to "triple A" (issua de A" (lifetime)

(ECB/2009/1)

period of remaining eligibility of ABS no

Increase of un

Figure 1 – Evolution of eligibility of Asset-Backed Securities (ABSs)

Source: Eberl and Weber (2014), p. 36.

To the question "(a)nd also what about the rating of the ABS you will buy, thinking specifically about those from Greece and Cyprus?", Draghi (2014) replied that the ECB has been accepting ABSs in its collateral for ten years. Hence, he argued, it was logical to go ahead with as much similarly as possible with standard collateral rules. However, Draghi also clarified once more that that ABS purchases bear a larger risk than ABSs accepted as collateral in refinancing operations.

Corporate bonds

Source: Authors' compilation

The ECB has graded corporate bonds as "debt instruments issued by corporate and other issuers" (ECB/2003/16)73. They have always been eligible for collateral purposes under the condition that they comply with the general criteria for the eligibility of marketable assets. Corporate bonds have therefore also been subject to all the same general changes in the eligibility criteria applied to marketable assets (discussed at length in Eberl and Weber, 2014, pp. 19ff.), although no specific provisions have been established to date (Eberl and Weber, 2014, p. 40).

3.3. Main patterns of ECB collateral policies – stylised facts

Table 1 summarises the ECB's most significant collateral policy actions during the period 2001 and 2013. Some additional, but less detailed information about the use of collateral by the ECB including the year 2014 can be found in Illing and König (2014), p. 21.

Table 1 – Summary and classification of main actions in ECB's collateral policy

D-4-	Action	Classification	
Date		tightening	loosening
30/05/2005	Ineligibility of equities	•	
01/01/2007	Abolition of idiosyncratic eligibility criteria (in- troduction of Single List)	•	
15/09/2008	Collapse of Lehman Brothers		
25/10/2008	Lowering of minimum credit rating for all assets except ABSs from "single A" to "triple B";		•
25/10/2008	eligibility of bank bonds traded in the STEP market		•
14/11/2008	Eligibility of marketable debt instruments issued in pounds sterling, yen or US dollars		•
01/02/2009	Eligibility of own-use government-guaranteed debt instruments;		•
	DBRS accepted as fourth ECAI		•

D-4-	Action	Classification	
Date		tightening	loosening
01/03/2009	Increase of minimum credit rating for ABSs from "single A" to "triple A" at issuance	•	
06/05/2010,	Suspensions of minimum credit rating for debt		
01/04/2011,	instruments issued or guaranteed by the		
07/07/2011,	governments of Greece, Ireland, Portugal; later		•
03/05/2013,	by governments under an EU/IMF program and		
09/05/2013	Cyprus		
10/10/0011	Idiosyncratic acceptance of credit claims by NCBs;		•
19/12/2011	lowering of minimum credit rating for specific ABSs from "triple A" to "single A" at issuance		•
29/07/2012	Lowering of minimum credit rating for all ABSs from "single A" to "triple B" at issuance and over lifetime		•
03/01/2013	Ineligibility of heterogeneous ABSs	•	
Source: Autho	rs' compilation.		

Source: Eberl and Weber (2014), p.40-41.

Two crucial stylized facts emerge from the qualitative analysis above (Eberl and Weber, 2014, p. 41). The ECB intensified its collateral policy activity first in response to the crisis since 2007 and then again in 2011. The former was preponderantly targeted at softening eligibility criteria (intensive margin) while also expanding the eligible collateral pool (extensive margin).

The ECB enlarged the pool of eligible collateral in quantitative terms, i.e. at the extensive margin. The ECB's policy of full allotment of refinancing credit ensured banks' disposed of a critical mass of paper to collateralize their refinancing credit (Eberl and Weber, 2014, pp. 41). This process is sketched in Figure 2 with an index for the breadth of the collateral pool.

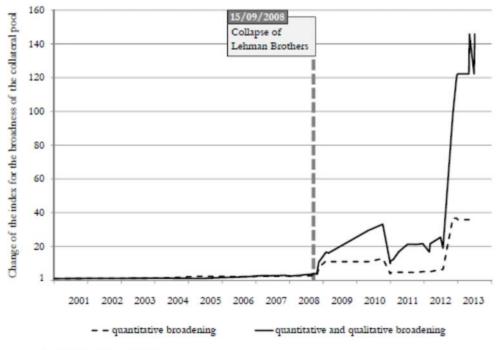


Figure 2 – Broadening of the eligible collateral pool

Source: Authors' compilation.

Source: Eberl and Weber, p. 44.

The index shows a quantitative increase in the breadth of the pool of collateral equivalent to a factor of 36 (Eberl and Weber, 2014, pp. 42f.). But the ECB also extended its pool of eligible collateral also qualitatively, i.e. at the intensive margin. This index displays a substantial qualitative enlargement of the collateral pool by a factor of 110. In other words, the quality standards for eligible collateral have been significantly lowered already at the end of 2013 (Eberl and Weber, pp. 44f.). The much greater qualitative broadening since the collapse of Lehman Brothers compared to the quantitative extension of the collateral base stands in sharp contrast to common calls for good collateral.

4. ECONOMIC IMPLICATIONS ASSOCIATED WITH THE CURRENT ECB COLLATERAL POLICY

This section takes a cross-country perspective in considering the economic implications of the current ECB collateral policy for asset allocation and relative asset price developments.

Implications for asset allocation in the euro area

The analysis presented in section 3 shows that the collateral framework has produced two major but opposing effects over time. First, the Eurosystem reached its quantitative target of increasing the available quantum of collateral. Second, this in turn worsened the quality of the ECB's pool of collateral for refinancing credits (Eberl and Weber, 2014, p. 18). The latter has been the most important element of the ECB's toolbox. It allows NCBs to grant large-scale special loans to their national commercial banks - as measured, for instance, by the TARGET balances (Illing and König, 2014, pp. 21f.). In order to guarantee the value of the collateral, the ECB started to buy collateral: after starting with 223 bn EUR purchases of sovereign bonds, the ECB has now committed itself to ABS purchases.

However, these measures will create an incentive for commercial banks to construct new ABS paper (which may become increasingly toxic) to clean up their balance sheets. Moreover, the banks' equity capital will be artificially increased due to the increase in the value of the non-sold assets. Hence, policymakers should first check whether this kind of collateral policy represents a hidden fiscal rescue of commercial banks, and, if so, whether this was the intended aim. Secondly, policymakers should put under scrutiny whether this approach is compatible with the commonly formulated European target of closing the investment gap in the North of the euro area. It seems counterproductive to use the ECB's collateral policy to re-channel savings towards the South. Indeed, ABS purchases resulting from a too-lax ABS collateral policy bear the danger that savings will be channeled in the periphery of the euro area, with the risk of a similar destructive impact on both the public sector and the real estate sector in the years as before the euro crisis (Belke, Oeking and Setzer, 2014).

The cross-country perspective

Turning to a cross-country perspective, several papers have contrasted the collateral framework of various central banks. Chailloux et al. (2008a), for instance, evaluate major central banks' initial policy reactions to the financial crisis. They also assess the collateral policies implemented in parallel with various other measures employed in southern countries. Chailloux et al. (2008b) and Cheun et al. (2009) survey the principles that have shaped the collateral frameworks of central banks worldwide, explain adaptations of these principles during the first years of the crisis, and compare the degree of similarity among them.⁹

One major reason for the different responses of central banks in terms of collateral policy has been, among others, discussed by Gros et al. (2012): the first stage of the financial crisis 2007-2009 looked similar in the USD and in the euro area. As a consequence, policy responses turned out to be also quite similar. The second stage of the crisis is, however, unique to the euro area.

Further issues

Relevant issues for discussion in the context of the Monetary Dialogue include (Åberg, 2013, and Bindseil, 2013):

- Retained securities and own use of collateral: from section 3.2 we know that the newly introduced eligibility of own-use government-guaranteed bonds joint with the suspension of the minimum credit rating has pushed a significant part of these bonds directly into reverse transactions for ECB refinancing credits.
- Arbitrage possibilities in the collateral framework: from section 3.2 we also know that in the cases of Portugal and Ireland, the ECB de facto deducts the same valuation haircut to a "C"-rated bond as to a "BBB+"-rated bond.
- Relationship between collateral framework and market functioning: scarcity of collateral for sound banks and other side effects on healthy parts of the euro area economy.
- Pivotal role of small rating agency: DBRS, a relatively small rating agency, was granted the potency to sweepingly influence the refinancing conditions of European commercial banks.

⁸ See, however, Draghi (2014a) who cites evidence in favor of much less risk in terms of default probabilities contained in euro area ABSs than in the US ABSs.

Studies on these topics have also been provided by the ECB (2013a) and by the BIS Markets Committee (2013), which compares 16 central banks around the world.

 Relation between collateral policies and the scope of markets for risky assets: collateral policy determines the attractiveness of certain asset classes which in turn are the target of the ECB's current purchases (asset-backed securities, covered bonds and maybe rather soon also corporate bonds). How to avoid the resulting incentives to unlock these asset markets to an excessive extent through loosening collateral standards?

A key problem is the permanent nature of the "crisis collateral framework", which was originally intended to remain in place only on a temporary basis. (Eberl and Weber, 2014, p. 7). Exiting from these exceptional collateral policies will be no less difficult than abandoning unconventional monetary policies in general: the ECB will be confronted with tricky questions of how to get rid of the purchased assets, as soon as the economic environment has improved (Gerlach, 2010, p. 8).

Policy tradeoffs

Finally, there seems to be a tradeoff between short- to medium-term efficiency of unconventional monetary policy effectiveness and risk aversion of the ECB in terms of collateral policy. Overall, the ECB has responded forcefully to the crisis through "credit easing", and is at the same time striving to minimize its own risk. This implies that its policy has not been and will not be entirely effective (Gros, Alcidi and Giovannini, 2012, p. 18).

In the same vein, there is now a danger that other ECB instruments might also be decreasing in their effectiveness. In case of the LTROs, the ECB did not limit itself to extend long-term funding against an extended pool of assets eligible as collateral. The bank significantly raised the haircuts applied to these assets, sometimes by 50 to 75 percent. This implies that substantial overcollateralization is needed to get access to, e.g., LTRO financing. For instance, commercial banks have to pledge assets with a market value somewhere between 2 and 4 times the loan received, which may make commercial banks more resilient to borrow from the central bank. Hence, in case of insolvency, the claims of unsecured creditors of banks will be met only to a minor extent. Private investors will thus hesitate even more to endow commercial banks with funding. As one dire consequence, the LTRO might not work fully in case it were attempted again (Gros, Alcidi and Giovannini, 2012, p. 18).

5. CONCLUSIONS

Governance challenges

NCBs have in the past sometimes been too lenient with respect to the valuation and the eligibility of collateral. There is the risk that NCBs, but also market participants, try to circumvent the ECB and Eurosystem collateral rules (ECB, 2013). Above all, NCBs should be prevented from exploiting loopholes present in the collateral framework with the intention to unduly promote their domestic commercial banks. ¹⁰

As regards the ECB, a key governance challenge is to guarantee a strong committment by the Governing Council in terms of collateral rules and their enforcement. Second, the valuation of collateral shall also be based on a systematic monitoring of market data. One of the main tasks (of the Governing Council) is the regular review of the risk control

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¹⁰ And closely connected with that: a commercial bank may only obtain Emergency Liquidity Assistance (ELA) credit if its collateral pool is fully exhausted. But in this case, the bank tends to not only have a liquidity problem but a solvency problem as well. Illing and König (2014) discuss this issue in the context of a "constructive ambiguity" behavior of the Eurosystem which cannot prevent moral hazard.

measures' adequacy in the collateral framework. The single collateral framework shall be applied in the same way by all central banks.

As long as the risks can be shifted from the taxpayers in one euro area member state to another through "collateral rule arbitrage" or other of the ECB's unconventional monetary policies, statements like "... All central banks must have the same interest: to reduce the risk stemming from our operations. If there is a loss it is a loss for all of us ..." (ECB, 2013) may be wishful thinking. In the same vein, one may question whether the unanimous agreement in the Governing Council to install a compliance unit and a collateral experts network at the ECB to search for inconsistencies and factual errors in the eligible asset database and report back (ECB, 2013) is a corroboration of the common will of the Governing Council. In addition, one may ask how non-partisan and non-biased the "collateral experts" are. Are they unaffected by the collateral policy choices of the ECB?

In the future, policymakers should strive for a simplification of the collateral system and rules as much as possible, while not forgetting that keeping collateral available to all counterparties in the euro area is crucial in allowing proper monetary policy implementation (ECB, 2013). And make sure (admittedly, a technically demanding task) that the increasing degree of complexity of the system does not induce the Eurosystem to overstretch its lending to financial institutions - even though it does not stop to stress that all operations have been over-collateralized.

What will the collateral framework in general look like after the crisis?

The overall aim of policymakers should be to eradicate all of the temporary measures instituted during the crisis as soon as the situation on the financial markets allows. One should not leave any of these assets in the permanent list, because they entail risks and this would fragment the framework for European monetary policy. The general collateral framework could be expanded if high creditworthiness standards were employed (ECB, 2013).

What should be strictly avoided is the treatment of collateral framework not only an instrument for risk control purposes, but also as a monetary policy instrument. Collateral policy shall not address country-specific monetary policy issues. Applying country-specific collateral requirements would ultimately mean that financial risks would be redistributed between countries (ECB, 2013).

Things look more ambiguous with regard to problems related to shortage of collateral in specific countries. There is no unanimous consensus among economists on whether the two goals of repairing the monetary transmission mechanism via the expansion of the collateral framework and protecting the ECB from incurring into excessive risks can be both achieved (ECB, 2013). Some of the arguments cited in the previous sections would at least suggest no.

According to some observers, the acceptance of, for instance, Greek debt instruments as collateral, accompanied by direct purchases of the same item in secondary markets, increases risks for the ECB's balance sheet. Others, argue that the ECB should not worry about risks and losses from its collateral policies because central banks can operate with negative equity capital (Belke and Polleit, 2010, and ECB, 2013). Technically and legally, the ECB could continue to operate with a negative equity. But this would in the end undermine its confidence and the trust in the euro. For these reasons, it should not be permitted.

ECB representatives like Benoît Coeuré (ECB, 2013), however, tend to support this view.

For instance, Bindseil (2013) assesses how the collateral framework can be interpreted beyond its essential aim of protecting the central bank, as a financial stability and unconventional monetary policy instrument.

One key question are: Who will review "the relevant risk control measures [...] on a continuous basis" and how. Are auditors like Wyman, Blackrock and Deutsche Bank sufficiently independent and capable bodies to contribute to the success of unconventional collateral policies (and the covered bond and ABS purchases through CBPP3 and ABSPP) which serve the benefit of the euro area as a whole? What is the operational power of the ECB compared to the 18 NCBs of the euro area which are doing the bulk of day-to-day work? As an example, the ECB has around 1,600 employees, about one-sixth of the number of people working for the Bundesbank. Can this relatively lean infrastructure effectively monitor the NCBs (see, for instance, Brendel and Jost, 2013)?

REFERENCES

- Åberg, P. (2013): Recent developments in eligible and used collateral, European Central Bank, Financial Markets and Collateral, Frankfurt/Main, 22 January.
- Altomonte, C., Bussoli, P. (2014): Asset-backed securities: the key to unlocking Europe's credit markets?, Bruegel Policy Contributions, Issue 2014/7, Bruessels, July.
- Belke, A. Oeking, A., Setzer, R. (2014): Exports and capacity constraints A smooth transition regression model, ECB Working Papers 1740, European Central Bank, Frankfurt/Main.
- Belke, A., Polleit, T. (2010): How much fiscal backing must the ECB have? The Euro area is not the Philippines, in: Économie Internationale, Vol. 124, pp. 5–30.
- Bindseil, U. (2013): Central bank collateral, asset fire sales, regulation and liquidity, ECB Working Papers 1610, European Central Bank, Frankfurt/Main.
- BIS Committee on the Global Financial System (2013): Asset encumbrance, financial reform and the demand for collateral assets, CGFS Papers 49, Bank for International Settlements, Basle, May.
- BIS Markets Committee (2013): Central bank collateral frameworks and practices, Report by a Study Group established by the BIS Markets Committee, March.
- Brendel, M., Jost, S. (2013): EZB leistet sich gefährliche Regelverstöße, Die Welt, 7 April.
- Bundesbank (2013): Allgemeine Geschäftsbedingungen der Deutschen Bundesbank.
 Bankrechtliche Regelungen 5, Frankfurt, Germany.
- Chailloux, A., S. Gray, U. Klüh, S. Shimizu, Stella, P. (2008a): Central bank response to the 2007-08 financial market turbulence: experiences and lessons drawn, IMF Working Paper 210, September 2008.
- Chailloux, A., Gray, S., McCaughrin, R. (2008b): Central bank collateral frameworks: principles and policies, IMF Working Paper 222, September.
- Chaney, T. (2008): Distorted gravity: The intensive and extensive margins of international trade, in: American Economic Review, Vol. 98/4, pp. 1707–1721.
- Chaudron, R. F. D. D. (2008): Collecting data on securities used in reverse transactions for the compilation of portfolio investment – How to compromise between theory and practice, in: Bank for International Settlements, ed., IFC's Contribution to the 56th ISI Session, Lisbon, 2007, IFC Bulletin 28, Basel, Switzerland.
- Cheun, S., Köppen-Mertes, I., Weller, B. (2009): The collateral frameworks of the Eurosystem, the Federal Reserve System and the Bank of England and the financial market turmoil, ECB Occasional Paper Series 107, December.
- Draghi, M. (2014): Introductory statement to the press conference (with Q&A), Naples, 2 October.
- Draghi, M. (2014): Introductory statement to the press conference (with Q&A),
 Frankfurt/Main, 6 November.
- Drechsler, I., T. Drechsel, D. Marques-Ibanez, Schnabl, P. (2013): Who borrows from the lender of last resort?, NYU-Stern and ECB, August, mimeo.
- Eberl, J., Weber, C. (2014): ECB collateral criteria: A narrative database 2001–2013, Ifo Working Paper No. 174, Munich, February.

- European Central Bank (2011): The monetary policy of the ECB, Frankfurt/Main, Germany.
- European Central Bank (2011a): ECB announces the suspension of the rating threshold for debt instruments of the Irish government, Press Release, Frankfurt/Main, 31 March.
- European Central Bank (2013): Joint interview of Benoît Coeuré, Member of the Executive Board of the ECB, and Joachim Nagel, Member of the Executive Board of the Deutsche Bundesbank, conducted by Mark Schroers of Boersen-Zeitung on 12 September 2013 and published on 18 September 2013, Frankfurt/Main.
- ECB (2013a): Collateral eligibility requirements A comparative study across specific frameworks, ECB Study, Frankfurt/Main, July.
- ECB (2013b): The Eurosystem collateral framework throughout the crisis, ECB Monthly Bulletin, Frankfurt/Main, July.
- European Central Bank (2014): Collateral eligibility Follow-up to the Report to the report on "Collateral eligibility requirements a comparative study across specific frameworks, Frankfurt/Main, July.
- Gerlach, S. (2010): The Greek sovereign debt crisis and ECB policy, Document requested by the European Parliament's Committee on Economic and Monetary Affairs, Brussels, 8 June.
- Gros, D., Icidi, C., Giovannini, A. (2012): Central banks in times of crisis The Fed vs. ECB, Directorate General for International Policies. Policy Department A: Economic and Scientific Policies, June.
- Hofmann, C. (2011): Central Bank Collateral and the Lehman Collapse, in: Capital Markets Law Journal, Vol. 6, pp. 456-469.
- Illing, G., König, P. (2014): The European Central Bank as lender of last resort, DIW Economic Bulletin 9.2014, Deutsches Institut für Wirtschaftsforschung (DIW), Berlin, pp. 16-28.
- Levels, A., Capel, J. (2012): Is collateral becoming scarce? Evidence for the euro area, DNB Occasional Studies 1, Amsterdam.
- Singh, M. (2013): The changing collateral space, IMF Working Paper 25, January 2013.
- Tucker, P. (2009): The repertoire of official sector interventions in the financial system: last resort lending, market-making, and capital, Remarks at Bank of Japan International Conference, May 2009.