

Marketable financial instruments of banks and their role as collateral in the Eurosystem

The launch of monetary union saw a narrowing of the gap between banks' market-based funding and traditional deposit business, a development that was buoyed by measures designed to promote the financial markets and the process of European integration.

The Eurosystem's willingness to accept many of banks' marketable financial instruments as collateral in its refinancing operations is a hallmark of a monetary policy operating framework based on broad collateral eligibility and a wide access policy offering a large number of banks access to refinancing facilities in an effort to promote equal treatment among counterparties in the euro area.

The refinancing operations conducted by the Eurosystem are essentially large-scale, short-term credit operations for which the banks need to hold a sufficient stock of eligible assets as collateral. The Eurosystem's broad collateral eligibility policy sets it clearly apart from other central banks.

Since the onset of the financial and sovereign debt crisis more than seven years ago, the Eurosystem has rolled out a wide variety of measures supporting the markets for bank financial instruments. Its aim has been to avert severe impasses in the availability of collateral and their destabilising effects on the markets while simultaneously keeping its own risk control measures at a sufficiently elevated level. But no matter how much the Eurosystem influences the design and use of banks' marketable financial instruments, there is no getting around the need for adjustments within the banking sector.

Looking to the future, banks might see less of a need, at least temporarily, to hold a stock of eligible assets for regular refinancing operations given that the Eurosystem has purchased more substantial and longer-dated stocks of securities as part of the expanded asset purchase programme and thus provided an abundant supply of liquidity through this channel. By contrast, the regulatory playing field which has emerged during the course of the crisis looks set to exert a stronger influence over banks' marketable financial instruments.

Financial instruments and collateral

Market-based debt financing by banks was already closing the gap on traditional deposit business in Germany before the launch of monetary union, riding on the wave of financial market deregulation that was unleashed in the 1990s.¹ Other euro-area member states followed suit as the process of integration took shape. During the course of crisis, however, market-based financing by euro-area banks came under severe and widespread pressure, and the Eurosystem, knowing full well that bank financial instruments play an instrumental role as collateral in refinancing operations, responded accordingly.

Euro-area banks' sources of debt financing

Euro-area banks obtain the bulk of their debt financing from customer deposits, short-term borrowing from banks and other institutional investors as well as by issuing market-based financial instruments. Besides issuing own-name bonds, they also raise funding by placing securitised transactions, namely asset-backed securities (ABSs),² in the markets.

Funding costs largely dictated by liability cascade

The choice of market-based financial instruments is largely determined by their relative cost, which rises with the investor's risk of participating in potential losses, with own funds being the most risky instrument of all. According to the liability cascade in the field of debt financing, investors in subordinated uncovered bank bonds are first in line to shoulder losses, followed by those holding senior paper. Uncovered paper does not afford creditors any preferential rights for satisfaction of their claims, making it the most expensive source of market-based debt financing for banks. Besides placing these bonds in the capital market, banks can also choose to issue commercial papers (CPs) and certificates of deposit (CDs), which are two types of uncovered short-term paper.³

Investors in covered bank bonds, an asset class which also includes Pfandbriefe, are less at risk

of participating in potential losses and also enjoy a more generous safety margin. These instruments are backed by a pool of assets which can be legally segregated and which serve as additional collateral in the event of insolvency, affording "belt and braces" protection to holders of this paper, who can assert claims against both the issuer and the cover fund. The value of the cover fund is dictated by the quality of its constituent assets, which might include mortgage loans or claims on the public sector, and by the extent to which it is legally segregated from the insolvency estate.

Securitisations are a vehicle which enable banks to offload their credit portfolios (and the attendant risk), freeing up their equity capital and cutting their funding costs. In a traditional loan securitisation arrangement, a bank's pool of loans is sold to a special purpose vehicle (SPV) established specifically for that purpose. At the same time, the SPV places securities in the capital market which are secured by the payment claims from those loans, meaning that they are backed by the interest and principal repayments on the underlying pool of loans.⁴ This transforms these assets into negotiable instruments. Unlike covered bonds, securitisations do not give investors "belt and braces" protection

Securitisations offload risk, cutting bank funding costs

¹ See Deutsche Bundesbank, Structural developments in the German banking sector, Monthly Report, April 2015, pp 35-60.

² Securitisation in the euro area is discussed in Deutsche Bundesbank, The shadow banking system in the euro area: overview and monetary policy implications, Monthly Report, March 2014, pp 15-34.

³ CDs are securitised fixed-term deposits of banks. CPs are similar, except that they can also be issued by industrial and commercial enterprises or by public debtors. Both of these instruments were once used predominantly in English-speaking countries as a means of raising short-term funding before being introduced across Europe. They are usually uncovered, since the legal and technical costs of furnishing cover are relatively high for short-term paper. That being said, banks have also been known to issue asset-backed commercial papers (ABCPs), but this particular market segment is dominated by special purpose vehicles (SPVs).

⁴ This is known as true-sale securitisation. In a synthetic transaction, meanwhile, the securitised loans remain in the bank's ownership, with only the risk being transferred to the financial market. See Deutsche Bundesbank, New legal and regulatory framework for the German securitisation and Pfandbrief market, Monthly Report, March 2006, pp 37-59.

against default, since the payment claims are backed solely by the underlying credit claims which have been transferred in both legal and economic terms to an SPV.

However, it became evident during the crisis that banks were indeed at risk of participating in potential losses on securitisations since they had provided liquidity facilities or guarantees to the SPVs issuing the securities.

Banks' market-based financial instruments a crucial factor in Eurosystem collateral framework, ...

Banks use marketable financial instruments issued by other banks and, under certain conditions, their own-name instruments as collateral in Eurosystem refinancing operations. The bulk of the bank bonds issued in the euro area and the securitisations of underlying loans granted by euro-area banks qualify as eligible collateral, meaning that they are accepted in credit operations conducted with the Eurosystem (see the adjacent chart). Hybrid instruments, subordinated bank bonds and equity instruments, on the other hand, are not generally eligible assets.

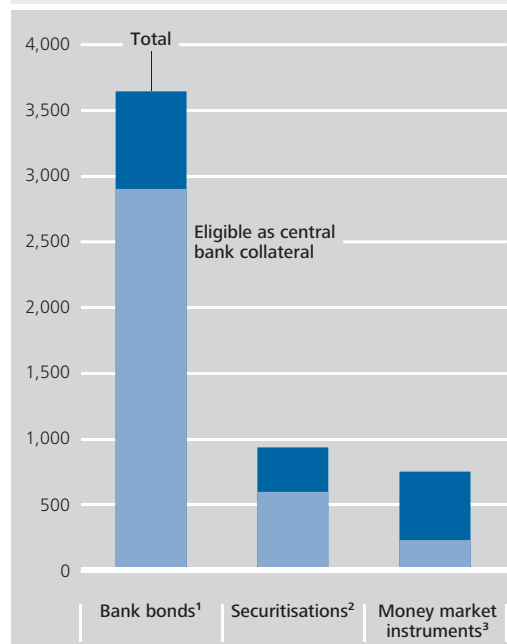
Banks holding a stock of eligible assets have the ability, in principle, to access central bank money, the most liquid type of asset. Banks' financial instruments accounted for roughly a third of eligible marketable assets at the end of March 2015, behind government bonds, which make up around half. As far as their actual use as collateral for Eurosystem credit operations is concerned, bank financial instruments are in fact more significant than government bonds, not least because the use of eligible assets depends on the banks' business models, which means that it does not necessarily reflect the structure of the total available pool of eligible assets.

... but experiencing structural shifts over time

Broad collateral eligibility and a wide counterparty access policy to refinancing operations are hallmarks of the Eurosystem's monetary policy framework and its goal of promoting the equal treatment of counterparties in the euro area.⁵ The Eurosystem thus takes an essentially neutral stance in terms of the type of collateral it accepts, allowing banks running different

Marketable financial instruments of euro-area banks and their eligibility as central bank collateral

€ billion, as at 2015 Q1



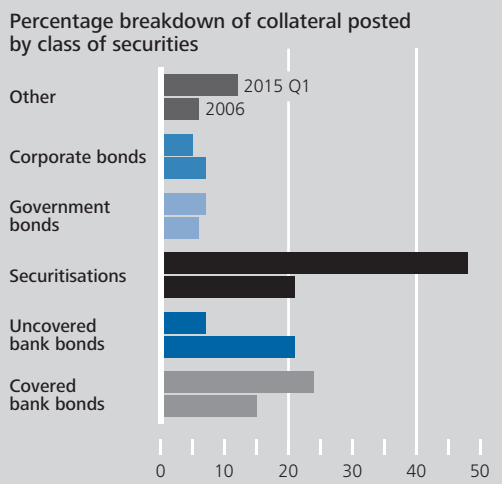
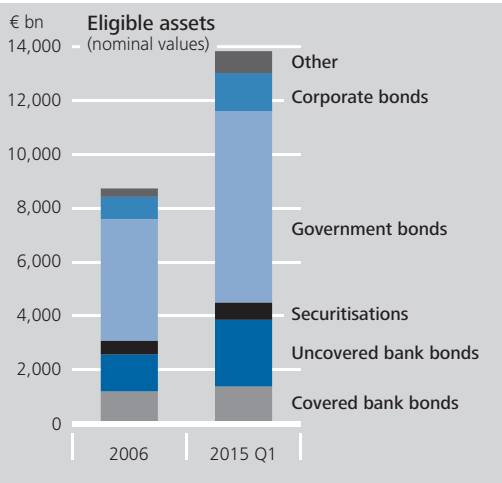
Source: ECB. **1** Debt securities with a term of two years or more. **2** Securitisations of loans granted by banks in the euro area. **3** Debt securities with a term of less than two years.
 Deutsche Bundesbank

business models to participate in its monetary policy operations.

In the pre-crisis era, German banks accounted for roughly half of the mean take-up of monetary policy refinancing operations in the euro area, followed by counterparties from Spain, France and Italy, which together accounted for roughly a fifth. German banks chiefly used covered and uncovered bank bonds as collateral for their credit operations since their market-based funding had already reached a high level, and they also used these financial instruments as a form of investment. What is more, banks from Germany were a readily available source of liquidity for other banks in the euro area.

⁵ Generally speaking, all the Eurosystem's credit operations need to be backed by sufficient collateral. A summary can be found in Deutsche Bundesbank, The Eurosystem collateral framework, Monthly Report, January 2015, pp 35-36.

Eligible assets and their use as collateral in the Eurosystem*



Source: ECB. * Collateral posted by euro-area banks for credit operations with the Eurosystem, shown after valuation and haircuts.
 Deutsche Bundesbank

Risk was viewed in an altogether different light in the post-crisis era, dampening the cross-border redistribution of liquidity among banks and forcing counterparties in the crisis countries to increasingly tap the Eurosystem for their liquidity needs. German counterparties' involvement in monetary policy refinancing operations plummeted, notably because they scaled back their substantial pre-crisis exposures to euro-area crisis countries, thereby diminishing outflows of liquidity. This also transformed the composition of the collateral posted with the Eurosystem such that it reflected the availability of eligible assets at banks in crisis countries to a greater extent (see the above chart). The pro-

portion of securitisations used as collateral was up on uncovered bank bonds, even though marketable financial instruments of banks continued to be the predominant form of collateral on the whole for Eurosystem refinancing operations.

The Eurosystem's basic duty is to avert imbalances in collateral availability and the detrimental effect they would have on market stability while at the same time keeping its own risk control measures at an appropriate level in an effort to avoid sustaining financial and reputational losses itself. The crisis exacerbated this dichotomy because a number of markets in bank financial instruments were at risk of collapsing.

The quality of a debt instrument posted as collateral is largely dictated by the issuer's credit quality and the extent to which the debt claim can be converted into cash. In the case of securities, standardised external assessments such as ratings can often be used to augment in-house evaluations of a creditor's creditworthiness, lifting the level of homogenisation and boosting market liquidity. This has the knock-on effect of making it easier to realise the collateral, since securities traded in liquid markets are usually less volatile and thus easier to offload.

But what market prices tell us about a debtor's solvency depends on the market's ability to factor that information into prices. And market liquidity can change rapidly, complicating the task of realising collateral.

Valuation haircuts are one of the risk control measures which the Eurosystem uses as part of its collateral framework. Haircuts are set to allow for default, liquidity and market risk, and they help to determine an asset's value as collateral. While this allows the Eurosystem to smooth out financial risk (in purely mathematical terms) across the various financial products, there are reasons for privileging a smaller collateral pool with lower valuation haircuts over a

Eurosystem collateral framework torn between stabilising the market and keeping risks in check

Marketability simplifies collateral quality checks, ...

... but it also harbours risks

Adjust valuation haircuts to suit risk exposure

broader one with correspondingly higher valuation haircuts. Papers bearing low financial risk tend to be more easily realised and harbour less reputational risk for the central bank.

That is why other central banks have traditionally preferred a smaller collateral pool with lower valuation haircuts.⁶ As government debt securities involve little liquidity risk, assuming the outstanding volume is sufficiently high, they are a class of security that is normally privileged – all the more so as the credit risk of an issuer with tax sovereignty in its home country is typically considered to be low or is even disregarded altogether.

In an international comparison, central banks differ substantially from one another in terms of the need to ensure that a sufficient pool of collateral is available for refinancing operations. The monetary policy framework operated by the Eurosystem generally envisages a relatively high volume of fixed-term credit operations with terms of between one week and three months, for which banks need to maintain a sufficient stock of eligible assets as collateral. The Eurosystem opts for this type of operation to refinance what is known as the structural liquidity deficit – that is to say, a recurring need for liquidity – which exists within the euro area’s banking system primarily due to the high volume of banknotes in circulation (see the box entitled “Structural liquidity position of the banking system” on pages 36 and 37). It is at the central banks’ discretion how they go about plugging this liquidity gap in the banking sector. Alongside fixed-term monetary policy credit operations, central banks can also elect to close the structural liquidity deficit by purchasing longer-term securities outright, which is a method commonly used by the Federal Reserve System in its purchases of central government bonds. This means that banks need to hold a smaller stock of eligible assets for collateralised credit operations. Central banks set out to achieve different objectives by choosing which eligible assets they purchase or accept as collateral in the refinancing operations con-

ducted to cover the liquidity deficit. The Bundesbank, for instance, used to largely avoid building up a fairly substantial stock of long-term government bonds so as to stifle any suspicions that it might be funding government budget deficits, instead purchasing short-term assets anchored in the real economy to plug the liquidity gap (see the box entitled “Elements of the real economy anchored in the monetary policy framework” on page 38).

In the euro area, the high and rising volume of banknotes in circulation, being the chief component of the structural liquidity deficit, was the main factor driving the level and growth of refinancing operations in the pre-crisis era. The crisis severed this connection. Since then, the volume of refinancing operations has ballooned on the back of the Eurosystem’s non-standard measures, transforming both the structural make-up and the growth of the central bank’s balance sheet. Monetary policy operations became increasingly longer-dated, grew much faster than the volume of banknotes in circulation, and contributed substantially to the expansion of the Eurosystem’s balance sheet. This connection was likewise severed in the Federal Reserve System, yet the growth in the Fed’s balance sheet was fuelled primarily by outright purchases of longer-term securities rather than fixed-term credit operations.⁷ Central banks aiming to hit a specific exchange rate target provide more liquidity than would normally be required by purchasing foreign exchange in normal and in crisis times. Here, too, there is barely any need for covered credit operations

Banking sector’s structural liquidity position another key factor in role played by monetary policy collateral

International differences in the role of collateral in central bank refinancing operations

⁶ See S Cheun et al (2009), The collateral framework of the Eurosystem, the Federal Reserve System and the Bank of England and the financial market turmoil, ECB Occasional Paper No 107.

⁷ The central bank’s crisis-response policy of expanding its balance sheet by rolling out asset purchase programmes is often dubbed “quantitative easing”, but there is no generally accepted definition for this phenomenon, and the measures taken in this context and the rationale for doing so differ from one central bank to the next. The economists Claudio Borio (Bank for International Settlements) and Piti Disyatat (Bank of Thailand) therefore use a more general term of reference, preferring to speak of “balance sheet policy”. See C Borio and P Disyatat, Unconventional monetary policies: an appraisal, BIS Working Papers No 292, November 2009.

Structural liquidity position of the banking system

Central bank money is made up of banknotes and central bank reserves. It is the central bank's sole prerogative to create and set a price for central bank money. Central bank reserves are the reserves that banks hold in their current accounts with the central bank. Banks need this liquidity to pay the central bank for cash withdrawals by their customers, to maintain working balances for participation in cashless payments, and to meet the minimum reserve requirement defined by the Eurosystem. In the context of the minimum reserve requirement, the Eurosystem obliges banks to hold reserves in their accounts with the central bank which are usually calculated as a percentage of certain bank liabilities, such as customer deposits. Central bank reserves held in excess of the minimum reserves are referred to as excess reserves. Banks normally hold only a small volume of excess reserves if secure and higher-yielding investment opportunities are available elsewhere.

Cash withdrawals are an integral factor for creating and expanding a structural liquidity deficit within the banking system. In a growing economy, cash withdrawals usually rise in a structural manner; in the case of the euro, the increase is probably also fuelled by demand for euro currency outside the euro area. Overall, then, cash withdrawals at banks are higher than repayments, which creates and enlarges a structural liquidity deficit caused by the banknotes in circulation. This normally boosts the volume of monetary policy refinancing operations in the Eurosystem (see the chart on page 37). By setting the monetary policy interest rate, the Eurosystem determines the price for refinancing.

Moreover, there are other factors impacting on the structural liquidity position of the

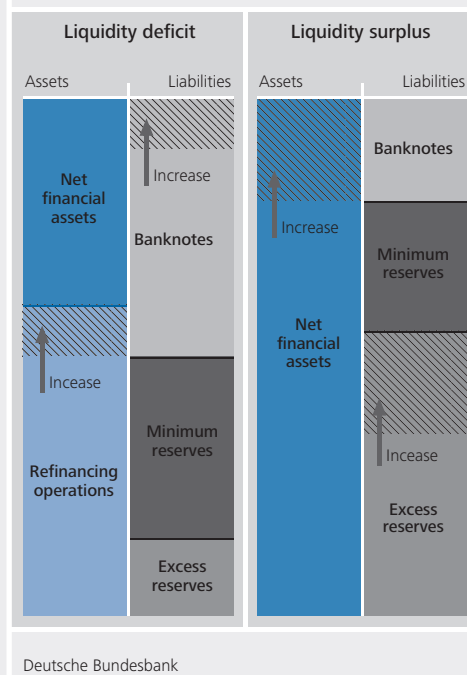
banking system vis-à-vis the Eurosystem. As a case in point, an increase in reserve assets or in securities portfolios in the Eurosystem pushes down the structural liquidity deficit since the central bank pays for the purchase of securities by providing central bank reserves. By contrast, an increase in government deposits with the central bank pushes up the liquidity deficit as these deposits drain central bank money from the banking system. In the stylised central bank balance sheets shown overleaf, the factors pushing down the liquidity deficit (here: reserve assets plus securities portfolios less government deposits) are condensed in the net financial assets item. Thus, the banking system's structural liquidity position vis-à-vis the Eurosystem can be derived from the central bank balance sheet. If the volume of liquidity-absorbing factors (banknotes and minimum reserves are shown explicitly) exceeds the amount of liquidity-providing factors (ie net financial assets) there is a structural liquidity deficit in the banking system which – together with low excess reserves – is covered by monetary policy refinancing operations.

By the same token, if the volume of liquidity-providing factors exceeds the level of liquidity-absorbing factors, the banking system has a structural liquidity surplus vis-à-vis the Eurosystem. The surplus can emerge as the result of large-scale asset purchases or foreign reserves. The "surplus" excess reserves generated in this way, which go beyond the liquidity needed to finance banknotes in circulation, minimum reserves and working balances, initially remain entirely in the banks' current accounts with the central bank if the latter takes no further action.

The crisis drove up the volume and share of longer-term refinancing operations in the

Eurosystem, contributing to a build-up of excess reserves in the banking sector. The large-scale asset purchases over a broader range of maturities might leave the banking system with a structural liquidity surplus vis-à-vis the Eurosystem, at least in the medium term and over a number of years (simplified in the adjacent chart). If the Eurosystem is forced to raise interest rates and tighten the monetary policy reins in this setting, it has two options. First, it could initially restore a structural liquidity deficit by selling securities or increasing minimum reserve requirements, say. In this scenario, interest rates would again be managed via liquidity-providing monetary policy refinancing operations. The alternative second option would be for the Eurosystem to manage interest rates via liquidity-absorbing monetary policy operations or by adjusting the deposit facility rate.

How different structural liquidity positions of banks vis-à-vis the Eurosystem affect central bank balance sheets



as a source of regular refinancing, and the role played by eligible assets in the banking sector is more negligible as a result.

of these securities, and thus also their use as collateral, and crimp market liquidity should supply trail behind the increased demand.⁹

Eurosystem purchase programmes initially designed to support markets, ...

The introduction of a one-year covered bond purchase programme (CBPP1) in July 2009 was the first time that the Eurosystem added outright purchases to its monetary policy toolkit. The idea behind the Eurosystem's purchases was to stimulate the credit supply and real economic activity in the euro area by supporting the markets for these bank financial instruments. CBPP1 was succeeded by a second purchase programme, dubbed CBPP2, in November 2011.⁸

These purchase programmes¹⁰ did not impact substantially on the banking sector's liquidity position at that time on account of their meagre volumes. But matters look set to change fundamentally in the course of the ongoing implementation of the expanded asset purchase programme (EAPP), which the Eurosystem is committed to continuing until such time as the Governing Council of the ECB sees

... but a reversal is currently under way

The success of a purchase programme designed to shore up the market hinges on the market conditions for the financial instruments in question. On the one hand, stronger demand from the central bank can stimulate issuing activity and support the market. On the other, the Eurosystem can rein in the availability

⁸ The announced target volume of a nominal €60 billion was purchased under CBPP1, and the mere announcement was seen to have an impact on banks' refinancing costs. The lack of a sufficient supply of covered bonds in the primary market was one of the main reasons why only €16 billion of the planned purchase volume of €40 billion was drawn down under CBPP2.

⁹ See the remarks on the scarcity channel and the structural channel in Bank for International Settlements, Central bank operating frameworks and collateral markets, CGFS Publications No 53, March 2015.

¹⁰ The same holds true for the Securities Markets Programme (SMP) introduced in May 2010.

Elements of the real economy anchored in the monetary policy framework

In the Eurosystem, banks' financial instruments are not required to fulfil a specific purpose to be accepted as collateral for monetary policy operations. For example, an uncovered bank bond and a securitisation backed by loans to small and medium-sized enterprises (SMEs) can both qualify as eligible collateral, even though the quality of the bank bond is based on the issuer's creditworthiness and not the business conducted with the funds raised. By contrast, in the case of the securitisation, it is not the bank that issued the underlying loan which is liable; instead, the payment flows are covered only by the underlying credit claims which usually have a specific purpose.

However, with the introduction of targeted longer-term refinancing operations (TLTROs), which the Eurosystem is conducting as a non-standard measure from September 2014 until June 2016, a liquidity-providing central bank operation draws on a credit institution's business policy more directly because these instruments are at least partly linked to banks' past and new lending to the private sector. This mechanism thus sets certain incentives for banks to avoid negative net lending or granting additional loans. TLTROs exhibit parallels with the Bundesbank's former discount credit as "quotas" are also in place for TLTROs, although these are not enforced as strictly as they used to be for the discount credit ("rediscount quota").

The Bundesbank's monetary policy framework in the past essentially gave the discount credit a prominent role in the refinancing of banks. According to section 19 of the Bundesbank Act (*Bundesbankgesetz*), the Bundesbank was allowed to purchase

and sell bills of exchange with a residual maturity of no more than 90 days if they met certain criteria. These discount bills of exchange had to be "fine trade bills", which meant that, as a rule, they were backed by three parties known to be solvent and, more importantly, that they had emerged as a result of goods delivered or services rendered between enterprises or self-employed parties. The purpose of this was to establish a close link between banks' asset-side business anchored in the real economy and central bank refinancing. The basic rationale behind the monetary policy framework was thus based on the "real bills doctrine", according to which the need for and creation of paper money was in itself limited by the requirements of trade and could, therefore, not have an inflationary impact.

Additional parallels can be seen in today's collateral framework, which, besides loans to non-financial corporations in the form of non-marketable assets based on bank lending to non-financial corporations, also comprises securitisations of loans to SMEs. However, the ties with trade activities are not as strong as they used to be under the Bundesbank's former framework.

a sustained adjustment in the path of inflation that is consistent with its aim of achieving inflation rates below, but close to, 2% over the medium term. Two components of the EAPP package are the covered bond purchase programme (CBPP3) and asset-backed securities purchase programme (ABSPP), both of which were officially launched in September 2014, while purchases under these programmes started in October 2014. These have been augmented since March 2015 by purchases of bonds issued by euro-area central governments, agencies and European institutions (an initiative known as the public sector purchase programme, or PSPP). Monthly purchases under the EAPP will amount to €60 billion, the bulk being used under the PSPP. All in all, the Eurosystem is planning to make purchases totalling €1.14 trillion until September 2016. Although collateral eligibility will continue to be a key criterion under the purchase programme – it is, after all, a *sine qua non* for a security’s admissibility as a purchasable asset – the importance of eligibility for the provision of liquidity in the Eurosystem will be confined to a narrower asset pool, given that purchases will mostly focus on paper issued by the public sector. What is more, the Eurosystem looks set to conduct its monetary policy in a setting characterised by a structural liquidity surplus, at least for a time, on account of the accumulation a substantial, longer-term stock of securities. Assuming the redistribution of liquidity among euro-area banks proves effective, this might diminish the scope of collateralised credit operations with the Eurosystem and the need for banks to maintain a stock of eligible assets.

One conclusion that can be drawn from the current state of play is that the interrelationship between central bank operating measures and banks’ market-based financing activities hinges on the monetary policy framework. The Eurosystem has so far conducted its operations within a monetary policy framework in which that interrelationship was relatively strong, visibly so after the onset of the crisis. The next section of this article will look at longer-term

developments in the individual markets for bank financial instruments and consider how changes brought about by the crisis in these markets have impacted on the use of collateral and the design of the Eurosystem’s collateral framework.

Development of market-based funding sources of euro-area banks

Market-based funding via the issuance of debt securities largely followed the course of banks’ business development in the euro area as a whole. The stock of bank bonds doubled between the launch of monetary union and the onset of the crisis, and has been declining since 2012 (see the chart on page 40).¹¹

At the same time, there was a shift in the regional shares of the market for euro-area bank bonds. At the start of monetary union, German banks issued more than half of the stock, not least because the share of capital market funding had already risen in the 1990s thanks to legislation to promote financial markets.¹² Germany’s share has almost halved since then and is currently roughly on a par with that of French bank bonds, which rose following the launch of monetary union – as did the shares of other member states.

This development was influenced by the covered bond segment, which is characterised by national particularities owing to differences

Banks’ market-based borrowing largely tracked their business development ...

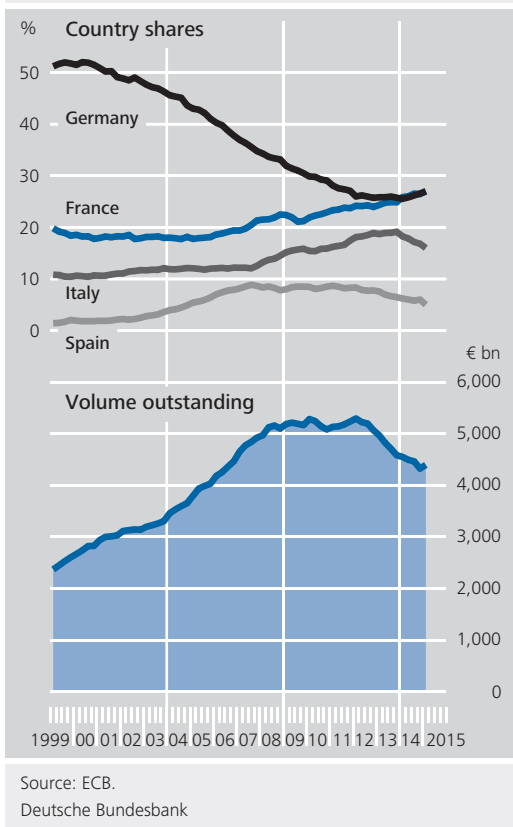
... and national particularities

Developments in the market for covered bonds ...

¹¹ This development can be tracked through the liabilities item “debt securities” in the statistics on monetary financial institutions (MFIs) excluding the Eurosystem. It broadly followed the development of aggregate total assets held by euro-area banks. Stocks are reported at market values. The development is therefore partly price-driven.

¹² See Deutsche Bundesbank, Structural developments in the German banking sector, Monthly Report, April 2015, pp 40-41.

Bank bonds in the euro area



in the legal and regulatory frameworks.¹³ The volume of covered bank bonds, measured at market prices, grew extremely strongly at the start of monetary union (see the above chart). After increasing almost fourfold up until the financial crisis, the market in the euro area saw significantly weaker growth after the onset of the crisis, despite the Eurosystem's market-supporting purchase programmes.¹⁴

... led to a decline in the outstanding volume in Germany even before the crisis, ...

The German market was once dominated by public Pfandbriefe, which are backed by claims on government borrowers, followed by mortgage Pfandbriefe.¹⁵ A number of mortgage banks and Landesbanken were forced to adapt their business models in response to the abolition of state guarantees (*Gewährträgerhaftung*) and the modification of guarantors' responsibility for ensuring their institutions' solvency (*Anstaltslast*). As a result, many Pfandbrief issuers have been reducing their credit business with public sector entities for some time, which

leads to dwindling cover funds and thus volumes of public Pfandbriefe.

The French market for covered bank bonds, on the other hand, was boosted by changes to the legal framework. In 1999, legislation was passed on the issuance of *Obligations Foncières* (OFs). Since that time, the French market has grown at a rapid pace owing, amongst other things, to the introduction of structured covered bank bonds and finally to the creation of an additional variety, called *Obligations de Financement de l'Habitat* (OFHs). The background to this development was the role played by covered bank bonds in funding the major growth in the French mortgage market.¹⁶ However, market growth in France has also been declining slightly in the last two years, mainly because of a gloomier economic outlook, subdued (mortgage) lending by French banks and the tighter French tax law for real estate transactions which came into force in 2012.

... but to an increase in France, ...

The Spanish covered bank bond market saw even more dynamic growth than the French market after monetary union was established and on the back of exaggerations in the real estate market, but then clearly slumped during the crisis. In Spain, a distinction is made between mortgage-backed bank bonds (*Cédulas*

... while in Spain they were influenced by exaggerations and adjustments in the real estate market

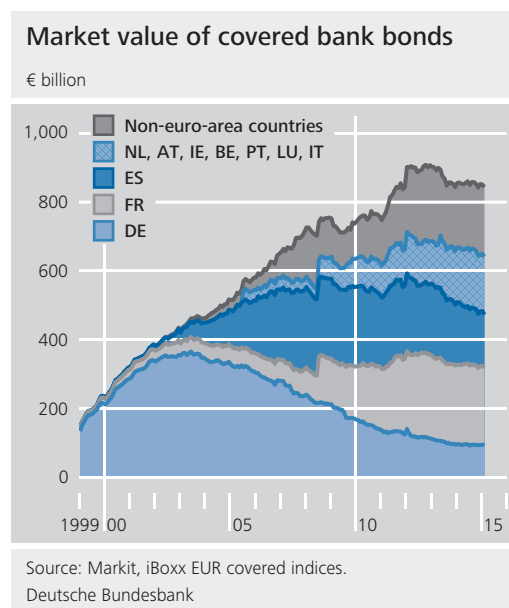
¹³ For an overview, see European Banking Authority (2014), Report on EU Covered Bond Frameworks and Capital Treatment. Although regulatory requirements for covered bonds under EU Regulation 575/2013 helped bring about a minimum level of harmonisation, in terms of the design and realisability of the cover fund, the market for covered bank bonds retains a stronger national character, not least because structures have evolved over time. In the market for uncovered bank bonds, on the other hand, the emphasis is on the creditworthiness of the individual institution.

¹⁴ iBoxx EUR covered indices show the development of negotiable euro-denominated bearer instruments starting from an issue volume of €500 million. The share in the total volume of paper placed by issuers outside the euro area has gained in importance considerably in the past few years and is even responsible, almost entirely, for the increase recorded since 2008.

¹⁵ In addition, a relatively small number of ship and aircraft Pfandbriefe are issued in Germany.

¹⁶ The increase in the French market segment at the beginning of 2008 can largely be ascribed to the new classification of French covered bank bonds in the iBoxx index.

Hipotecarias, CHs) and bank bonds backed by public sector loans (*Cédulas Territoriales*, CTs). A special feature of the Spanish market is the *Multi Cédulas*, which are issued by an SPV and thus used to finance a pool of CHs from different issuers. After a sharp rise in the Spanish market value, which, owing to the overpricing in the real estate market, was driven mainly by issuance of CHs alongside price effects, this finally overtook the German market value in the first quarter of 2008. The onset of the financial market turbulence in 2007 quickly made itself felt on *Cédulas*. These securities were seen as being of a lower quality during the intensifying real estate crisis, culminating in borrowers sometimes failing to service Spanish banks' mortgage loan portfolios in 2011.¹⁷ Spanish banks, which were required to increase provisioning for loan defaults, were additionally downgraded by rating agencies, which also impacted on the rating assigned to *Cédulas*.



Eurosystem and to obtain funding from credit operations with the central bank. Because of this, their use as collateral in credit operations with the Eurosystem rose considerably after 2008, so the Eurosystem first tried to counteract this by setting limits²⁰ and then responded with a ban on their use.²¹ The proportion of uncovered bank bonds posted as collateral in the Eurosystem fell accordingly, from 32% at the end of 2009 to the current level of 12% (2015 Q1).

Own-use covered bank bonds forced adjustments to the Eurosystem's collateral framework

As a result, certain individual Spanish issuers were locked out of the capital markets. Instead, greater volumes of *Cédulas* were issued so that they could be submitted as collateral to obtain Eurosystem funding.¹⁸ In response to the increased posting of these bonds as collateral, the Eurosystem introduced supplementary valuation haircuts for own-use covered bank bonds on 1 November 2013.

Government-guaranteed uncovered bank bonds now generally no longer eligible as collateral

Uncovered bank bonds, by contrast, are generally not permitted to be submitted as collateral by the counterparty if it is the issuer itself or is closely linked to the issuer. Until March 2015, government-guaranteed own-issue bonds were exempted from this rule, however.¹⁹ The issuance of government-guaranteed securities was the reason behind the temporary revival of issuing activity during the crisis, particularly in 2009 (see the above chart), as there were significantly greater differences in banks' funding costs across risk categories and borrowing via the issue of uncovered bank bonds was more difficult given investors' greater risk aversion. This government guarantee enabled banks to use their own-name bonds as collateral in the

¹⁷ The banking crisis snowballed into a sovereign debt crisis in Spain, as numerous banks came to be reliant on government assistance. On 25 June 2012, Spain applied for financial assistance from the euro-area member states to prop up its banks. The Eurogroup approved the financial sector reform package on 20 July 2012. An 18-month programme with a maximum volume of €100 billion was agreed upon.

¹⁸ ECB 2013/35 Article 8 (4). In principle, covered bank bonds may also be submitted as collateral by the issuing institution if they satisfy the requirements of Article 129 (1) to (3) and (6) of Regulation (EU) No 575/2013.

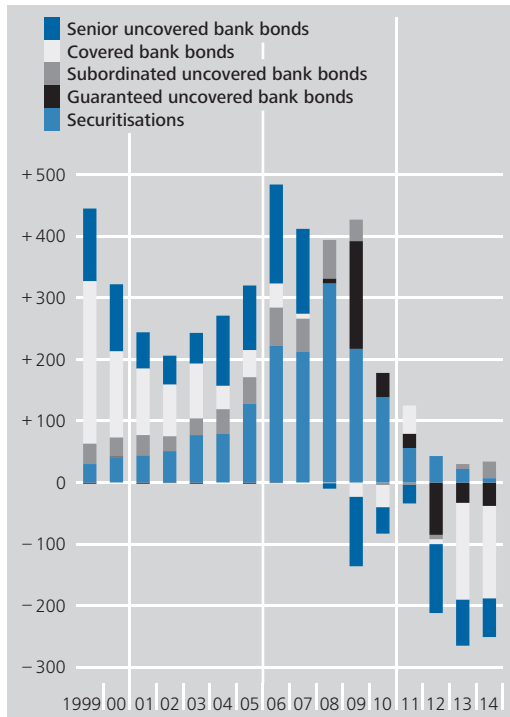
¹⁹ Government guarantees can decisively improve the value of a bond, but can also bring it into a direct relationship with fiscal solvency.

²⁰ With effect from 3 July 2012, the nominal volume of government-guaranteed uncovered bank bonds issued by a counterparty (or a closely linked counterparty) itself and used as collateral may not exceed the nominal volume submitted as at this date.

²¹ Since March 2015, issuers or closely linked counterparties have no longer been permitted to use their own government-guaranteed uncovered bank bonds as collateral.

Net issuance of marketable financial instruments by euro-area banks*

€ billion



Source: Dealogic. * Including retained issues.
 Deutsche Bundesbank

Rapid growth in the securitisation market followed by massive market destabilisation in the crisis, ...

Issuing activity in the securitisation market grew at a rapid pace up until 2008 (see the above chart). However, the crisis and developments in the real estate market caused issuance to fall sharply, and the recovery since then has only been very slow. The initial trigger of the global financial market crisis was the US subprime crisis in 2007, in the wake of which securitisations backed by subprime US mortgages were found to be worthless. Although European securitisations were much less prone to default, intransparent structures – including in Europe – meant that trust in these securities waned sharply. Owing to the balance sheet adjustments in the banking sector, issuance has fallen back to the low level at the beginning of the millennium.

... accompanied by structural change in the underlying assets

The European securitisation market has also changed in terms of the structure of the underlying assets. ABSs backed by loans for private housing (residential mortgage backed securities, or RMBSs) and originating primarily from

the Netherlands, Spain and Italy have constituted the most issued securitisation category to this day. However, new issuance of these ABSs plummeted by roughly 90% due to the crisis. In the context of this trend, which is shrinking the market overall, volumes of securitisations linked to the real economy – including securitisations of loans to small and medium-sized enterprises (SMEs) and to consumers – have remained relatively stable, if low, since 2007. Their share in the total volume has thus risen. Otherwise, the auto ABS segment proved to be crisis-resistant, because most issuers of these securities come from France and especially Germany, which were not hit as hard by the financial crisis.

When the securitisation market lost breadth and depth in summer 2008, banks increasingly used these securities as collateral in Eurosystem operations. A considerable portion of newly issued ABSs remained in the balance sheets of the original creditors of the credit claims (originators) or were even issued specifically for use in refinancing operations with the Eurosystem. The option of using these retained issues as collateral for Eurosystem refinancing operations put a brake on the reduction in issuing activity.

In response to these developments, the Eurosystem began by increasing its risk control measures and tightening the acceptance criteria for the use of ABSs as collateral. In addition, the ECB Governing Council decided in December 2010 to introduce information requirements for ABSs at the level of individual loans (loan level data, or LLD) within the Eurosystem's collateral framework, in a move to increase transparency concerning ABSs.²² While implementing higher transparency requirements, the Eurosystem loosened the rating requirements for certain ABSs which meet extra

Issuing activity in the securitisation market and use as collateral in the Eurosystem closely linked at times during the crisis

Adjustments to Eurosystem's collateral framework and higher transparency requirements

²² Since January 2013, the availability of current LLD (updated at least quarterly) has been a compulsory prerequisite for the eligibility of RMBSs and SME ABSs as collateral. Other ABS categories followed in March 2013 and January 2014. The European DataWarehouse provides a data register for loan-by-loan structural data.

criteria. The collateral framework for securitisations was thus extended again to a certain extent.

Increasing borrowing by issuing money market instruments in the euro area until the crisis ...

The market for money market paper also grew strongly until the crisis hit, and has been shrinking since then, although these securities essentially play a comparatively minor role as collateral in the Eurosystem. The stock of money market paper issued by banks doubled from the start of monetary union until mid-2008, peaking at one-quarter of banks' total outstanding debt instruments. The market for euro commercial papers (ECPs) in particular recorded strong growth, as it appeals to a broad base of investors and was one of the first CP markets in Europe to bring together international issuers and traders.²³

... is declining again, however, despite initiatives to revive it

After the crisis began, however, the importance of money market paper dwindled to the current level of 17% (as at 2015 Q1) of debt instruments issued by euro-area banks, despite a European initiative to boost this market segment. In order to continue fostering the integration and development of a European market for money market paper, the European Banking Federation (EBF) and the Financial Market Association (ACI) launched the STEP (Short-Term European Paper) initiative in 2001 with the backing of the Eurosystem.²⁴ The aim was to secure the necessary market liquidity by defining uniform market and quality standards. Issuance programmes that meet these criteria can, upon application, carry the STEP label.²⁵ The Eurosystem additionally decided in October 2008 to accept STEP money market paper issued by banks as collateral for the Eurosystem's monetary policy operations.²⁶

■ Conclusion and outlook

The Eurosystem's monetary policy framework ...

Market-based financial instruments of banks have so far accounted for a high share of the eligible assets accepted by the Eurosystem for refinancing operations with banks. There is thus an interrelationship between the design of

the Eurosystem's collateral framework and the markets for these financial instruments.

During the crisis, it became apparent that the Eurosystem can have a temporarily stabilising effect through the design of its collateral framework, by stemming disorderly adjustment processes in the financial system which potentially have severe consequences for the real economy. However, these measures cannot be allowed to replace adjustments in the banking sector that are needed in the medium term.

The new regulatory setting currently has, and will have in the future, an increasing influence on the development of banks' market-based financial instruments. For example, the liquidity coverage ratio (LCR) will be introduced in October this year as a minimum standard in the EU. Banks will be required to hold a liquidity buffer consisting of high-quality liquid assets (HQLA) defined by regulators in order to withstand an acute stress scenario lasting for 30 days. In principle, uncovered bank bonds cannot be counted towards the liquidity buffer. However, the new European liquidity requirements are likely to boost banks' demand for covered bank bonds, and to a lesser extent, for ABSs as well.²⁷

... and crisis measures taken thus far are closely linked with banks' marketable financial instruments

Future development of banks' market-based financing more heavily shaped by the regulatory setting

²³ ECB, Euro Money Market Study 2006. Alongside French money market paper (French CDs), ECPs account for the bulk of European money market paper. The majority of issuers in the ECP market come from the euro area; in 2014, their share stood at 62%.

²⁴ The ECB publishes aggregated data on the STEP market on its website.

²⁵ A large portion of this paper is issued by banks and constitutes ECPs and French CDs. See ECB, Euro Money Market Study 2010.

²⁶ Debt instruments issued by credit institutions and traded on authorised unregulated markets were generally eligible as collateral. Besides STEP paper, this also applied to French CDs. See ECB (2010), loc cit.

²⁷ Pursuant to Commission Delegated Regulation (EU) No 2015/61 with regard to the LCR, level 1 HQLA include covered bonds of credit quality step 1 with a minimum issue volume of €500 million. Level 2A HQLA include, inter alia, covered bonds of credit quality step 2 or higher with a minimum issue volume of €250 million. Level 2B assets include certain ABSs. Besides the RMBSs proposed in the Basel framework, auto ABSs, SME ABSs and consumer finance ABSs can also be added to the LCR as level 2B HQLA.

On the other hand, the European Bank Recovery and Resolution Directive (BRRD) could create an additional need to issue uncovered bank bonds. According to this Directive, EU member states must ensure that institutions at all times comply with a minimum requirement for own funds and eligible liabilities which can be used to absorb losses.²⁸ At the European level, the minimum requirements for own funds and eligible liabilities (MREL) are scheduled to enter into force in January 2016 at the latest, as part of the implementation of the BRRD.

In the subordinated bank bonds segment, current issuing activity, although low, is almost exclusively attributable to the issuance of contingent convertibles (CoCos), which the issuing institution can count towards its regulatory capital. Until all banks in the European Union

have fulfilled the capital requirements, even more issues are to be expected in this segment from some institutions. However, CoCos are not eligible as collateral because of their subordinated status.

After launching the expanded asset purchase programme, the Eurosystem could, in future, be implementing monetary policy in the setting of a structural liquidity surplus, at least temporarily. In this setting, collateralised refinancing operations and the need for banks to hold a stock of eligible assets as collateral are likely to take on a less important role than in the past.

Interrelationship between monetary policy framework and financial instruments of euro-area banks could diminish in future

²⁸ For further details, see Deutsche Bundesbank, Europe's new recovery and resolution regime for credit institutions, Monthly Report, June 2014, pp 31-55.