



Capital market bank funding

(Not such a) brave new world ...

August 2, 2012

Author
Meta Zähres

Editor
Bernhard Speyer

Deutsche Bank AG
DB Research
Frankfurt am Main
Germany
E-mail: marketing.dbr@db.com
Fax: +49 69 910-31877

www.dbresearch.com

DB Research Management
Ralf Hoffmann | Bernhard Speyer

The years preceding the crisis were characterised by banks increasingly tapping the market for funding while at the same time the importance of deposits was declining, the securitisation market was expanding rapidly and the market environment was one of low interest rates and high liquidity.

During the financial crisis it became clear that these developments were also accompanied by a lack of risk awareness, conflicts of interest along the securitisation chain, excessive confidence in the risk models of the ratings agencies and a lack of transparency concerning the quality of the underlying collateral and the business structures. The banks' access to the capital market, especially with securitisations, is still impeded globally; many banks can largely only obtain funding via the central banks, via short-term repo activities or by issuing Pfandbriefe. The market for unsecured bank bonds remains fraught with major uncertainty.

Many of the changes that have shaped the funding landscape since the crisis are proving to be long-term trends that will be lasting impediments to the refinancing of banks. These include 1) investors' risk aversion, 2) the perceived limited transparency concerning the risks attached to debt securities, 3) the ongoing measures being conducted by the central banks, 4) the new regulatory rules on bondholder liability, 5) the lack of availability of high-quality securities and 6) the relative volume of encumbered assets.

Banks currently find themselves in a sticky situation with regard to their funding options: the current situation promotes the issuance of secured bonds, but the options for procuring debt capital in this way are limited.

In general, bank bonds will be perceived as more risky in future; capital market funding will become more costly for banks on a sustained basis. Issuing unsecured bonds in particular is relatively expensive at present and this will also remain the case, so bank funding via the capital market will stay at a structurally higher level than before the crisis.

Probable consequences of these developments are: 1) that banks must shrink their assets, 2) that banks must look for alternative/additional sources of funding and 3) that higher funding costs will be incurred, which will weigh on banks' profitability.



Introduction

Since the financial crisis, which commenced in late summer 2007, there have been significant changes not only in the regulatory environment in which banks operate but also in the market conditions. In particular the funding, that is the refinancing, of banks has been in upheaval since the financial crisis erupted.

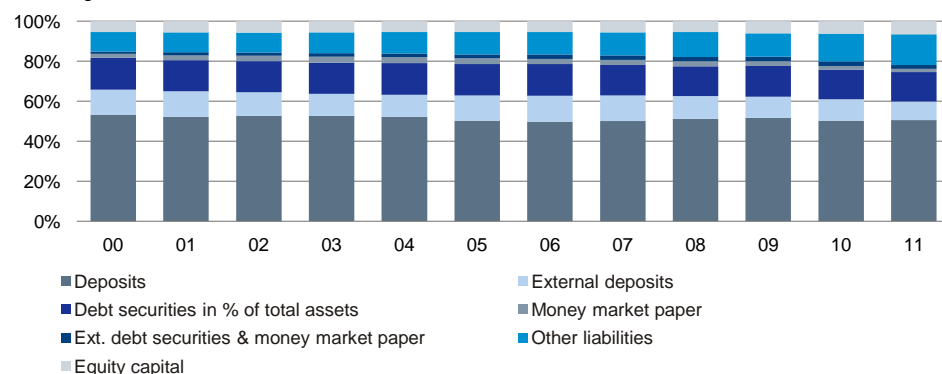
The banks' funding mix has on the one hand always been subject to several variables, and on the other to a certain inertia. The aggregated figures of eurozone banks show that in the last 10 years preceding the financial crisis there were no fundamental structural changes in the funding mix (chart 1). Nevertheless, there have always been clear trends that have shaped the funding mix. Prior to the crisis there was, for example, increased funding via asset-backed securities, the greater use of wholesale funding and, in return, the declining importance of traditional funding instruments such as deposits. The reasons for this included increased growth in banks' balance sheets, the fact that deposits did not keep pace with this growth, and investors' search for higher-risk and higher-yielding products.

Since the financial crisis erupted these trends have been broken or altered in part: money is no longer "cheap", a more discriminating approach is being adopted and there is greater demand for security and simplicity ("flight to quality and simplicity"). The regulatory changes are another factor which means that banks will have to adjust their funding mix in future. We shall therefore seek to analyse to what degree the crisis and the resulting developments have impacted and will impact long-term, capital market bank funding.

Balance sheet of euro-area banks: Liabilities side

1

Percentage shares



External: creditor domiciled outside the euro area

Sources: ECB, DB Research

Bank funding: An introduction

Basically, banks can obtain funding using a variety of instruments: besides issuing bonds on the capital market, banks rely, for example, on customer deposits¹, central bank financing, the interbank market and equity capital. Long-term debt securities issued on the capital market include unsecured and secured bank bonds. In general there is no typical bank funding profile: the decision on which funding instruments to choose depends on many factors such as the business model, the current market situation and the individual company situation. Banks are, however, always actively seeking the optimum funding mix. The search for appropriate funding instruments represents a constant

¹ For more on deposit funding, see Ahlswede, Schildbach (2012).



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optimisation problem, which the bank actively attempts to solve. Banks take a variety of factors into account when they assess the differing funding instruments:

- How well does the respective refinancing instrument fit in with the rest of the funding mix?
- What is the maturity structure of the balance sheet?
- What funds are actually available? Is it, for example, at all possible to tap equity and/or debt funding in the capital market and does it make commercial sense? This depends not only on the availability of market access among other things, but also on the coupon to be paid. If, for example, the rating is poor or the bank is very small, then capital market funding is relatively expensive.
- Which funding instruments are permitted by law? For example, not every bank has a licence to issue Pfandbriefe.

Accordingly, the make-up of funding profiles differs according to the business area, rating and/or location.

Business area

Differences in bank funding profiles arise, for example, depending on the company's core business: banks focused on private clients or savings banks have traditionally tended to base their funding on customer deposits, whereas a number of investment banks have no deposits at all.²

As a rule, commercial banks and investment banks do more of their refinancing via the capital market. In addition, financial institutions can be limited by law to a specific line of business such as mortgage banks or structured finance providers.

Rating

In addition to the line of business the rating also influences the funding profile: banks with a better rating have easier access to capital market funding at acceptable risk premia than banks with worse ratings. The current market situation in particular is resulting in issuance patterns that differ widely from one bank to another: most of the banks with better ratings still have access to unsecured funding, whereas banks with poorer ratings have been shut out of the market for unsecured bonds for quite some time already. Investors' perception of whether a bank is financially strong or weak is also influenced by whether the bank's home country is battling with sovereign debt problems: banks in countries with serious public finance problems have to contend with higher funding costs.

Location: Regional differences

Location is a factor not only with regard to the home country of the bank and its fiscal situation, but also with regard to regional practices: the capital market share of bank funding is intuitively highest in the more market-based systems, for example in the UK or France. Accordingly, deposit funding occurs most frequently for example in banking markets that are largely based on the traditional commercial bank principle – such as in most southern and central eastern European banking markets (chart 2). Another factor is how developed the respective financial market is.

² This is partly because several investment banks, especially in the US, did not have bank licences prior to the crisis and therefore they were not allowed to hold any deposits.

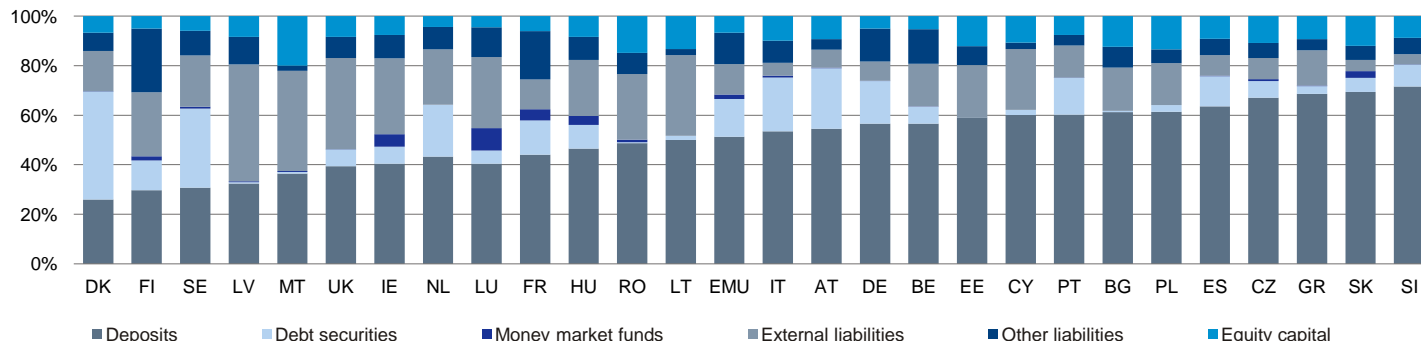


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Balance sheet of European banks: Liabilities side

2

Percentage shares, Q2 2011



External: for euro members – creditor domiciled outside the euro area; for non-euro members – all non-residents

Sources: ECB, DB Research

The majority of the long-term capital market funding has traditionally been senior unsecured bonds, followed by secured debt paper such as Pfandbriefe or asset-backed securities. There are regional differences between secured debt instruments: Pfandbriefe have enjoyed relatively high popularity for decades already, especially in Germany. In Anglo-American countries secured capital market funding has mainly taken the form of securitisations and asset-backed money market paper. As the image of securitisation suffered badly during the financial crisis, the appeal of Pfandbriefe could grow in these countries, too, in future: in the UK in 2011 the share of issuance of mortgage-backed securities could already be seen to be declining; this decline was offset by a rise in Pfandbrief issuance.

Secured and unsecured funding

With a secured bond the debtor deposits assets as collateral for the bond; established asset classes for this purpose include mortgages and other retail client loans. With unsecured bonds, by contrast, creditors have no rights to any kind of collateral. In the case of insolvency the holders of unsecured bonds receive payments from the insolvency assets according to their rank in the order of priority. For the greater risk attached to an unsecured bond than to a secured bond investors are compensated with a higher return.

Advantages of a secured instrument for investors

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ABS mostly generate higher returns for an identical level of risk as the yield spread provides compensation for the early repayment risk, the redemption of the cashflows and the uniqueness of the instrument. Furthermore, investors are thereby enabled to invest in otherwise illiquid or inaccessible assets. Moreover, structured issues are often tailored to the needs of investors. Securitisations can also carry with them a relatively low event risk, if the cover pool is sufficiently diversified and is thus relatively immune to event risk.

Common types of secured funding

The securitisation of loans refers to the bundling of assets into a pool of differing types of contractual debts. These debts include, for example, home loans, commercial real estate loans, loans or promissory notes.

In principle, everything that yields a predictable and stable cashflow can be used as collateral: all loans that are relatively homogeneous with regard to the group of creditors, maturity or interest rate risks can be pooled as collateral. Securitisation enables debt to be bundled and sold as bonds via pass-through securities³ in tranches with differing seniorities. Secured bonds can essentially be split into four categories:

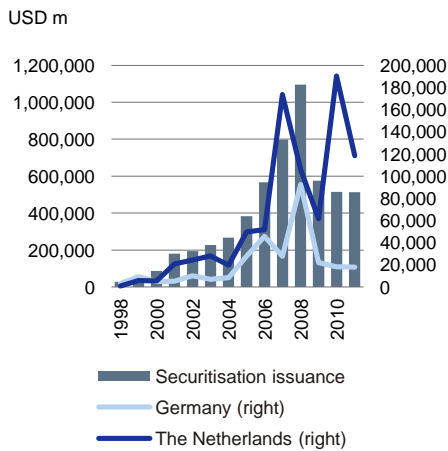
³ With pass-through securities incoming cashflows from the asset pool are passed straight through and unchanged to the owners of the ABS. The paper securitises proportional claims on the pool.



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Volume of securitisation issuance in Europe

4



Source: Sifma

1. Asset-backed securities (ABS)⁴,
2. Mortgage-backed securities (MBS),
3. Pfandbriefe and
4. Securitised debt instruments such as collateralised debt obligations (CDOs).

Asset-backed securities

As part of the process of issuing asset-backed securities a special-purpose vehicle (SPV) is established to purchase assets from the originator and securitise them.⁵ The securities are assessed by rating agencies and secured against default via overcollateralisation and the creation of a liquidity reserve.

A distinction is drawn between true-sale and synthetic securitisations: with true sales the credit risk is transferred off the balance sheet to the investor, i.e. the originator's balance sheet is reduced by the volume of the tranches that are placed in the capital market. The asset items thus cease to be owned by the seller in their entirety, including all the associated risks. The risk-weighted assets are also reduced. With synthetic securitisations, by contrast, no contractual transfer occurs, but only a transfer of some or all of the risks associated with the asset with the aid of credit derivatives. Synthetic securitisations thus have no impact on the balance sheet, although here, too, the credit risk is transferred and the risk-weighted assets are reduced.

The transfer of credit risk basically allows the redistribution of risk: the investor's claim is on the securitised cover pool, which is "static", i.e. defaults or early repayments are passed on straight to the investors. If the originator becomes insolvent, payments can still be effected from the cover pool.

Mortgage-backed securities

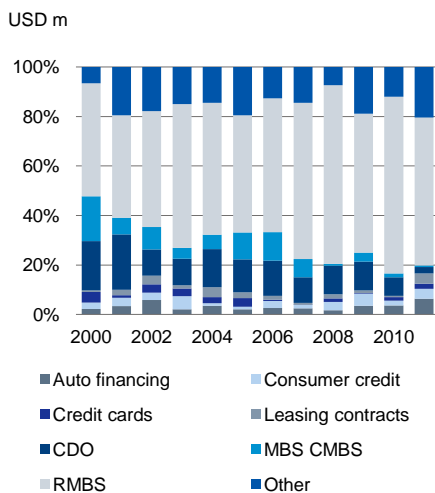
MBS are ABS of a particular kind. MBS are bonds secured on private mortgage loans and are thus either residential mortgage-backed securities (RMBS) or commercial mortgage-backed securities (CMBS). Residential mortgage-backed securities are the most important asset class of securitised products in Europe. Guarantees and the supervision of the collateral are as a rule not subject to statutory regulation, but are agreed at the individual contract level.

Pfandbriefe/Covered Bonds

Pfandbriefe are a special type of secured bonds. They are covered by a special pool of assets which in most cases "overcollateralises" the bond. There are also precise legal provisions specifying what is permissible for packaging in Pfandbriefe. These include, for example, claims on local, regional or national public-sector authorities or mortgage loans that do not exceed a specific, maximum loan-to-value ratio. The result is a high-quality bond that usually receives a better rating than senior unsecured bonds from the same issuer. Thanks to the overcollateralisation Pfandbriefe also carry a very low investment risk: making a loss on an investment in Pfandbriefe would require in principle both a default by the issuer and substantial losses on the underlying cover pool. The legal provisions, such as those for the German Pfandbrief⁶, also prescribe

Market performance of structured products in Europe

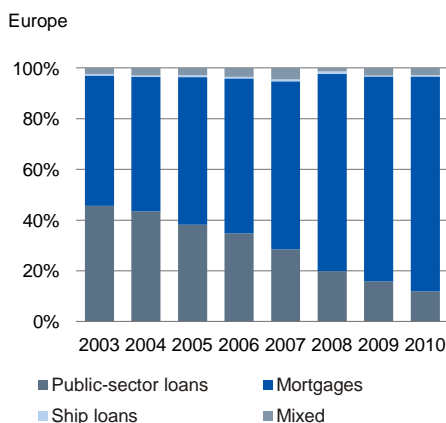
5



Source: Sifma

Pfandbrief issuance by underlying

6



Source: ECBC

⁴ Typical forms of collateral are home loans, auto loans, credit card receivables or student loans.
⁵ In the "pass-through process" the assets are effectively transferred to the SPV for legal and accounting purposes. This process is the standard procedure, unlike the "pay-through process", in which only cashflow from the assets are passed through. With synthetic securitisations based on credit derivatives, by contrast, only the credit risk is sold.
⁶ The German Pfandbrief market is regulated via the "Pfandbrief Act", which ensures among other things that only mortgages with an LTV of up to 60% can be securitised in Pfandbriefe (Section

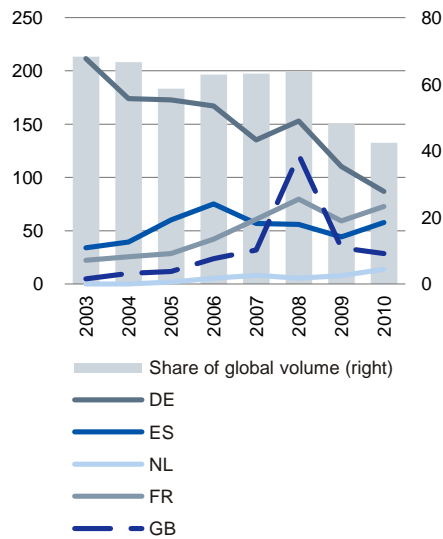


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Pfandbrief issuance

7

EUR bn (left), % (right)



Source: ECBC

strict rules for the selection of assets that may be used as collateral for Pfandbriefe. Consequently, Pfandbriefe can as a rule be placed in the market at a lower premium than other asset-backed securities.

The differences between MBS and Pfandbriefe: No balance-sheet transfer, dynamic cover pool

In contrast with ABS/MBS during the issuance process for Pfandbriefe there is definitely no balance-sheet transfer and thus no transfer of credit risk for the assets deposited as collateral. In addition, the investor's claim is on a dynamic cover pool. This means that if a loan in the cover pool defaults or a loan is repaid prematurely, it is replaced by the issuer with a new, performing loan. If the issuer becomes insolvent, the statutory trustee is responsible for the settlement; with securitisations, by contrast, this is done by the investors themselves. Due to the "dual recourse" system, i.e. the right to assert a claim on the issuer and if necessary the cover pool in the case of insolvency, Pfandbriefe generate higher compensation in the case of a default than other structured or unsecured products.

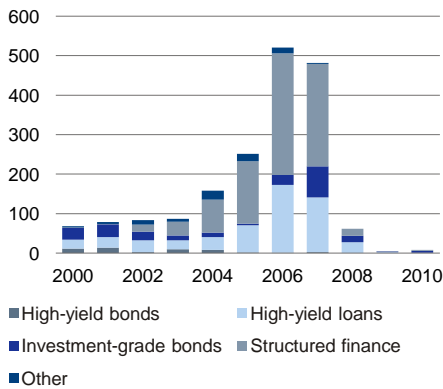
Collateralised debt obligations (CDOs)

CDOs securitise assets that can take the form of bonds or loans. CDOs are issued by a special purpose vehicle, as are ABS. Value and payment terms are usually derived from a portfolio of fixed-income basic instruments. The different types of CDOs are: collateralised loan obligations (CLOs) that comprise credit claims; collateralised bond obligations (CBOs) that comprise traded bonds; collateralised synthetic obligations (CSOs), which are CDOs that are mainly backed by credit derivatives; structured CDOs or commercial property CDOs and collateralised insurance obligations (CIOs), which are products backed by insurance or reinsurance contracts. During the financial crisis many of a CDO's assets were subprime MBS bonds, which is why the CDO market has contracted significantly since the financial crisis.

CDO issuance by underlying

8

USD bn



Source: Sifma

Bank funding has been changing since the crisis

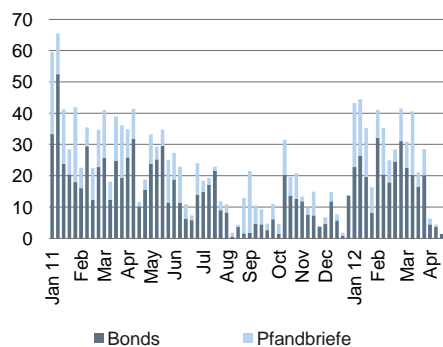
The years preceding the crisis were marked by banks relying more on the market for their funding, a rapid expansion in the securitisation market and a credit environment with low interest rates and high liquidity. Deposit funding, by contrast, became less important. Banks increasingly funded their assets via short-term debt in the form of repos or short-dated ABS. Securitisations were one of the most important funding instruments for banks: at their peak they constituted over 30% of long-term issuance by European banks. The interest premium for banks also remained at a low level on account of low risk aversion in the market. The spreads between secured and unsecured bonds were relatively small, i.e. the credit risks of both classes were given relatively similar ratings.

During the financial crisis it then became clear that these developments had, however, also been promoted by conflicts of interest along the securitisation chain, an inappropriately high level of confidence in the risk models of the ratings agencies and a lack of transparency concerning the quality of the underlying collateral and the business structures. These shortcomings resulted in the demand for secured products, particularly for securitisations in the form of ABS, collapsing during the crisis as investors withdrew from the market. The fact that securitisation has almost completely disappeared as a funding instrument

Bond issuance in 2011 / 2012

9

USD bn per week



Source: Dealogic

14) and that the present values of the securities in circulation including an overcollateralisation are covered at all times (Section 4).

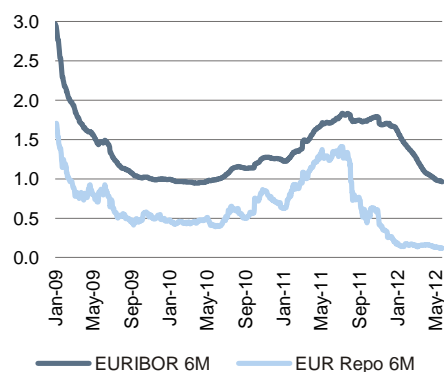


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Yield spreads

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Secured vs. unsecured, 6-month rates (%)



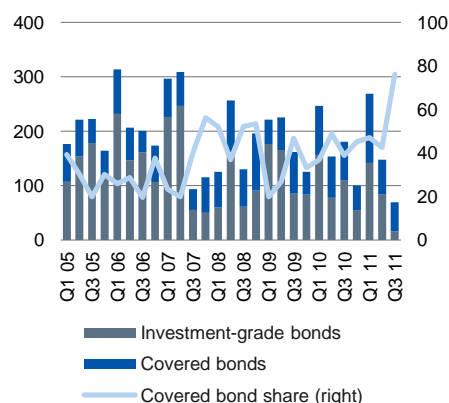
EUR Repo is the rate for secured interbank financing. The spread between EURIBOR and EUR Repo is the unsecured funding premium.

Source: Deutsche Bank

Issuance by European banks

11

EUR bn (left), % (right)



Sources: Dealogic, DB Research

with the unfolding of the crisis is one reason why it has become increasingly difficult for banks to obtain capital market funding on a major or usual scale.⁷

The issue volumes of unsecured bonds also fell significantly during the crisis: in the eurozone, for example, they dropped 8% in 2007 and by a further 13% in 2008. Part of the reason for this was a shift in demand among investors. When problems became apparent in the banking sector the initial response of investors was to turn more frequently to other instruments that were supposedly safe, such as government bonds. Issues of Pfandbriefe that were not retained by the issuers⁸ have also fallen since 2008. All the same, Pfandbriefe were a key contributor to the banks in the eurozone even being in a position to maintain access to the capital market as the crisis continued.

Recently there has even been a rise in the issuance of certain types of bond, especially Pfandbriefe: issuance of Pfandbriefe increased in 2011 to average around 45% of debt financing. Access to the capital market for banks remains, however, impeded globally. In particular, it seems as if currently it is virtually only banks with good to very good credit ratings that are in a position to place unsecured bonds in the market – and even then only at significantly higher costs than before the crisis. Weaker banks' access to the unsecured bond market has been severely restricted since the start of the crisis. For instance, issuance of unsecured senior bonds fell to 38% of debt capital in Q2 2011, compared with an average figure of 51% since 2000.

Investor interest in securitisations remains low, especially in Europe. The issues executed since the crisis in the securitisation market have been driven specifically by non-market-related factors, such as public-sector programmes: they have been retained, for example, as collateral in order to obtain central bank liquidity.

At the moment, too, many banks can only obtain refinancing via short-term repo activities or continued issuance of Pfandbriefe – if they avail themselves or can avail themselves of capital market funding at all. Conversely, the market for unsecured bank bonds in Europe continues to be fraught with major uncertainty. Q1 2012 in particular served as an indicator of how the sentiment would develop in 2012 since redemptions were at their highest in the first quarter. Furthermore, issuers would normally have already funded the imminent redemptions three to six months in advance; this, too, did not occur in 2011. Initially both the secured and unsecured bank bond markets in the EU made a relatively solid start in Q1 2012 – with weekly issue volumes of up to EUR 18.3 bn and partly at a moderate spread of 75 basis points above the 3-month Euribor.⁹ A large proportion of these placements were, however, executed by banks that are regarded as very sound. Also, the ECB provided massive support for bank refinancing during the first quarter via its LTRO programme. Since April the optimism, has, however, already subsided again; the market environment for capital market funding remains difficult for the majority of banks.

Capital market funding: Factors

Many of the changes that have shaped the funding landscape since the crisis could prove to be long-term trends that will be lasting impediments to bank financing. Essentially, there are six identifiable factors that have influenced long-term capital market bank funding since the crisis and will continue to be major influences in the next few years, too. These trends are: 1) the risk aversion of

⁷ ECB.

⁸ Pfandbriefe that are not placed in the market can be used for example as collateral at central banks or CCPs.

⁹ At best, a maximum of eight Pfandbrief issues with a total volume of EUR 9.2 bn and six senior unsecured bonds with a total value of EUR 9.1 bn could be placed in one week during Q1/12.



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investors, 2) the continuing perception that there is low transparency concerning the risks attached to the debt securities, 3) the ongoing central bank measures, 4) the new regulatory requirements, 5) the dearth of access to high-quality collateral and 6) the relative volume of encumbered assets.

1) Risk aversion of investors

Since the financial crisis there has been a sharp increase in investors' risk aversion. This has also hit the banking sector in particular, with investors currently looking primarily for a safe home for their capital rather than for yield. The pre-crisis "search for yield" has now become a "flight to quality and simplicity". This trend is being driven by concerns about i) the creditworthiness of certain issuers, ii) systemic risks and iii) the banks' balance sheets which are regarded as opaque.

This risk aversion will probably only recede significantly once there is an economic recovery and greater certainty concerning the solution of the European sovereign debt crisis. One decisive factor will thus be whether European policymakers succeed in presenting a credible plan for rebuilding confidence in the market in future and for the long term. For example, some 50% of respondents to the "Fixed-Income Investor Survey" conducted by Fitch were of the opinion that solving the European sovereign debt crisis alone would result over the long term in bank bonds again being seen as a worthy investment. Initiatives such as more stringent capital standards, clarity concerning the resolution mechanisms and limits on assets that can be used as collateral will, however, not be enough to re-establish confidence in the creditworthiness of the banks.

Moreover, the positive correlation between sovereign debt and bank risks has increasingly not only had an impact on the unsecured bond markets, but also on securitised debt instruments: market activities in the securitisation segment are almost only conducted in the countries with limited risks attached to their sovereign debt and a relatively robust economic situation.¹⁰ The "Covered Bond Investor Survey" from Fitch Ratings also finds that investors are only planning to increase their investments in Pfandbriefe in certain regions; for example in Scandinavia, Canada, Australia, the UK and the Netherlands. The survey also shows that, since the crisis, investors have displayed little desire to experiment with regard to the type of collateral for Pfandbriefe: for example, only 35% of respondents would feel confident buying Pfandbriefe that are backed by assets other than mortgages or public bonds – and they would only do so at higher spreads. Plans by issuers to back Pfandbriefe with less traditional assets such as SME loans thus currently appear to offer relatively little prospect of success.

Overall, the conclusions that can thus be made are that firstly the risk aversion of investors has risen significantly since the crisis erupted, and that secondly this will also remain the case for the time being – especially as long as the market situation does not improve significantly.

2) Low transparency concerning the risks taken

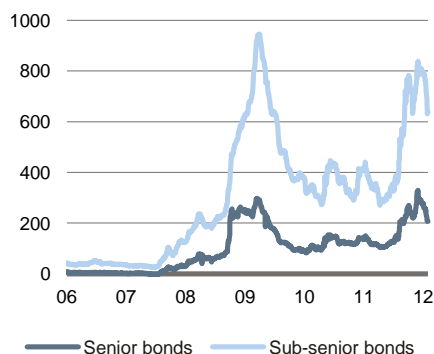
The change in investors' risk aversion is also particularly influenced by the perception that transparency is low. The risks associated with these intran transparencies are very difficult to quantify for investors. Furthermore, the lack of transparency leads to information asymmetries, which further increases the risk aversion of investors.

The perception of insufficient transparency is based mainly on two factors: i) the fundamental implicit and explicit risks in banks' balance sheets which investors

Risk premia for bank bonds have not yet recovered

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iBoxx Euro Bank debt indices, asset swap spread (bp)

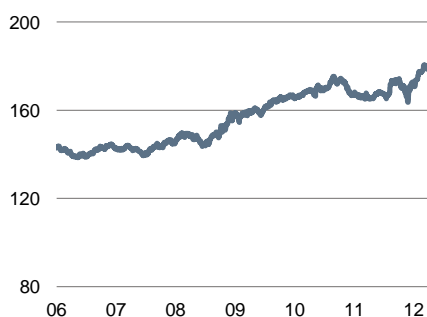


Source: Deutsche Bank

Risk premia for eurozone are not on a recovery course

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iBoxx EUR Eurozone index level



Source: Deutsche Bank

¹⁰ ECB.



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Pros and cons of more stringent disclosure obligations

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Pros:

- Market participants can make decisions on a sounder basis if they are better informed. This means that investors feel less exposed to market uncertainty
- The credibility of the information can be assessed more accurately
- More stringent disclosure obligations provide banks with positive behavioural incentives, for example to guarantee more risk-commensurate conditions, or to limit per se specific volumes/types of business
- Provide the bank with signalling opportunities
- Can have an economic impact: systemic risks are limited, as market participants can be more discriminating thanks to the improved information situation; bolsters monitoring opportunities for shareholders and banking supervision measures

Cons:

- Potential market overreaction
- Contagion dangers for other banks and
- Costs (in particular there is an incentive problem, since the beneficiary of the information does not pay the costs)

are often incapable of gauging and ii) uncertainty about the quality of the (cover) assets, i.e. uncertainty about what an investor actually receives in the case of an insolvency.

The background is that banks usually do not have to supply detailed information about which of their assets are encumbered and where. Also, with secured funding instruments the transparency about the quality and quantity of publicly available information about the cover pool is decisive, because this indicates which financial assets are encumbered as collateral and what the quality of these assets is.

Current measures consistently attempt to guarantee greater transparency in the markets and especially in the securitisation markets. In October 2011, for example, the Financial Stability Board (FSB) published a consultation document on new principles for subscribing to RMBS, and from summer 2012 the ECB intends to require that banks submit loan-level information on the ABS they deposit as collateral with the ECB. A data portal is planned for this purpose, and it is also to be made accessible to investors and the general public.

Another initiative aimed at generating improved quality signals in the securitisation markets is the “Prime Collateral Securities” (PCS) programme. It is a “securitisation labelling initiative” that is currently being pursued by the European financial industry spearheaded by the European Financial Services Round Table (EFR). The objective is to create a new segment in the securitisation market and to thereby rehabilitate securitisation – a product whose image has been so adversely affected by the crisis. The idea of setting a standard for securitisations is not a new one and has also already been practised for several years in the German market, for example in the form of TSI certification.¹¹

The PCS programme

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The PCS programme aims to design a comprehensive market convention that is based primarily on standardisation and transparency as well as creating a brand with specific qualitative attributes. By combining this with other supporting activities such as market-making the aim is thus to generate sufficient and above all crisis-proof liquidity in the primary and secondary markets.

3) Central bank measures

Since the financial crisis erupted central banks have adopted a variety of measures to prop up financial markets. These measures include:

- In the US: “quantitative easing” by the Fed, which resulted in large volumes of liquidity being pumped into the banking system.¹² The Fed’s measures included USD 2.3 tr of asset purchases, spent on MBS and US Treasuries.
- In the UK: the Bank of England’s “Special Liquidity Scheme” (SLS), which allowed banks to swap MBS or Pfandbriefe for government bonds in order to maintain market liquidity.
- In the eurozone: the ECB is supporting bank funding by granting full tender allotment to generate liquidity.¹³ This has enabled banks that deposited collateral to borrow from the ECB at low rates and thereby to obtain central bank liquidity.

The ECB has also supported the Pfandbrief market via its EUR 60 bn covered bond purchase programme (CBPP). Under the CBPP, the ECB has purchased Pfandbriefe that satisfy minimum quality standards, thereby ensuring liquidity in this market segment.

¹¹ The True Sale International (TSI) certification was created in 2004 following an initiative by 13 banks to promote and develop the German securitisation market. The aim is for banks to securitise their loans via a standardised process agreed with all market participants and thereby to ensure that TSI-certified securitisation transactions conform to a high standard with regard to transparency, investor information and market-making.

¹² The Fed halted its liquidity measures in March 2012.

¹³ The “longer term refinancing operation” (LTRO) is an element of the liquidity provision. In December 2011 a first three-year LTRO tender was launched; a second was launched at the end of February 2012.

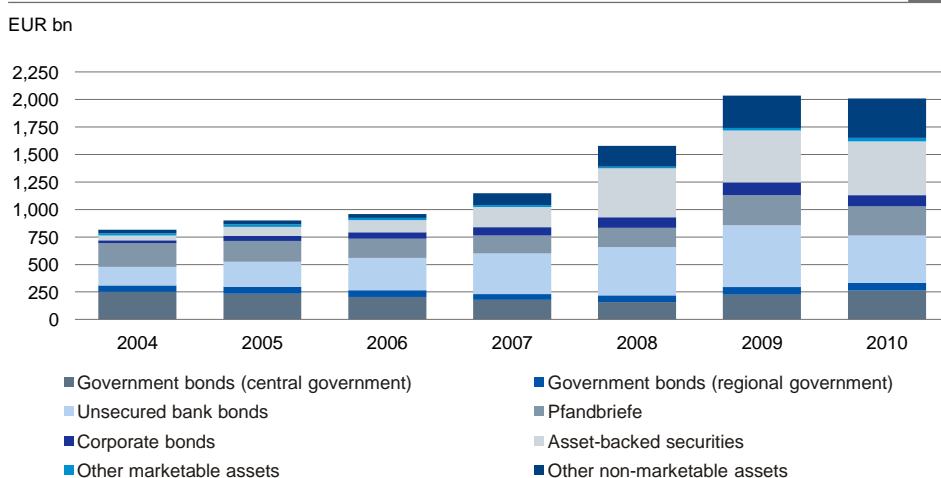


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The impact of these central bank measures on bank funding can be split into direct and indirect effects: the direct effect stems from programmes such as the ECB's CBPP, which provides incentives for banks to issue a certain type of bond – in this case Pfandbriefe. The central bank thereby enhances the appeal of one instrument relative to other instruments. One indirect effect arises, on the one hand, from the fact that banks wanting to obtain liquidity from the central bank require assets/securities/cash in order to deposit them as collateral with the central bank. Since the financial crisis erupted ABS and unsecured bank bonds, for example, have made up the lion's share of collateral in the Eurosystem (see chart 16). On the other hand, the relative appeal of the assets changes: "quantitative easing" for example results in government bonds becoming more liquid.

Eurosystem collateral by asset class

16



Source: ECB

4) The new regulatory environment

The new regulatory framework for the banking sector will also have a long-term impact on funding markets and alter the preferences of investors. The initiatives include the planned bail-in mechanisms – with the associated removal of the implicit taxpayers' guarantees for bondholders – and the new Basel III liquidity and capital standards. These initiatives will permanently alter investors' perception of the risk attached to bank bonds.

Cross-fertilisation with other initiatives

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The new regulatory standards for insurance companies, Solvency II, also seek to improve the liquidity profiles of insurers. As January 2013 will see the implementation of both the new capital and liquidity standards for banks (Basel III), and the new capital adequacy regime for insurance companies (Solvency II), and insurers are major institutional investors – also in bank bonds – cross-fertilisation resulting from this joint implementation cannot be ruled out (see Zähres, 2011).

Solvency II also contains strict capital standards for securitised instruments, such as ABS and structured financial products, but not for Pfandbriefe. The capital standards thus make Pfandbriefe more attractive for insurance companies and ABS less attractive.

Basel III capital and liquidity standards

In December 2010 the Basel Committee published its proposals for new standards on bank capital adequacy and liquidity (Basel III). These include the introduction of two regulatory standards, the NSFR and the LCR, which aim to put bank funding on a more sound basis.

Net Stable Funding Ratio (NSFR)

The aim of the NSFR is the reduction of mismatches between the maturity structures of assets and liabilities in banks' lending and deposit activities, i.e. to ensure matched maturity funding. Funding gaps beyond the LCR time horizon are also to be averted (see below). The objective of the NSFR is thus that banks must be able to ensure their long-term funding more independently of the current market situation and more stably. In turn, funding instruments regarded as stable are those with a reliable availability of at least one year such as



supervisory capital, other capital and liabilities or stable deposits (from retail clients and SMEs).

The NSFR is thus a dynamic variable: if banks want to be involved in certain businesses, they have to possess the corresponding funding structure, in order to even out possible mismatches.

Liquidity coverage ratio (LCR)

Another element of the new Basel III liquidity standards is the LCR. The purpose of this standard is to provide a liquidity buffer for a 30-day period, i.e. the availability of a minimum quantity of highly liquid assets. Examples of assets deemed to be liquid are cash, debt securities with little or no risk weighting and assets that are eligible for refinancing at central banks and always marketable¹⁴. The aim is to ensure an individual bank's ability to withstand an event of acute liquidity stress.

Restructuring procedures and bail-in mechanisms

Further regulatory innovations with an impact on bank funding are the planned change in bondholder liability and the restructuring procedures for financial institutions managed by supervisory authorities.

The restructuring regimes currently being introduced or planned in many countries (in Germany, for example, the Bank Restructuring Act) will change the way that banks are treated if their existence is threatened. The new measures allow, for example, the responsible supervisor to dismiss and replace senior management and to nominate an administrator to take charge of the bank and restructure it. The rights of shareholders can also be overridden temporarily, for example as regards transactions that would normally require the consent of shareholders. Also, the supervisor is given the authority to implement a bail-in, i.e. to write down the value of bonds or convert them into equity. A bail-in is designed so that losses are passed on to the bondholders without the entire bank having to be liquidated (see below).

The restructuring regimes will put unsecured bondholders in a worse position than up until now. This is particularly the case compared to investors in secured bonds, since they are usually excluded from liquidation mechanisms and their claims are also backed by high-quality assets.

Resolution regime at EU level

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In June 2012, the European Commission presented its long-delayed proposals on bank resolution and crisis management. This bill seeks to provide a harmonised approach to dealing with ailing financial institutions. The legislation is planned as a directive, with the resolution authority to rest with the member states. The Commission's proposal will now enter into the legislative process. Uncertainty exists above all with regard to the question of exactly which instruments will be required to be written down and the ranking of creditors in the case of insolvency. Additional uncertainty has been created by recent political decisions to create a "banking union", as a workable EU-wide resolution regime would obviously need to be part of such a banking union but it is unclear whether the proposal currently on the table would be sufficient.

Sources: Deutsche Bank, European Commission

The objective of the bail-in mechanisms is for bondholders to share the costs of crisis management prior to insolvency. During the financial crisis bondholders remained largely unaffected as nearly all banks were bailed out by the state because of their importance for the financial system; the payment claims of even junior bond investors were maintained, and they were only liable in the event of insolvency proceedings. In future, the risks attached to senior and junior bonds are to be reflected more appropriately in the conditions.

The possibility of implementing a bail-in, i.e. of writing down the value of bonds or converting them into equity is therefore part of the restructuring regime in most regulatory initiatives.¹⁵ Bail-ins will be accompanied by new rights of intervention for supervisory authorities, since these will decide on the right time for a waiver of claims, which then will, in all likelihood, affect all junior bondholders and could possibly even affect senior bondholders, too. Of particular concern in this regard is the prospect of "bail-in" proposals that leave the timing and the size of the haircut at the sole discretion of the supervisory authorities, as the event of a write-down for investors cannot then be gauged in advance or predicted.

¹⁴ Particularly in terms of eligibility for repo operations.

¹⁵ The UK, too, has a bail-in rule: the Banking Act of 2009.



The possibility of a bail-in will probably mean that the market for unsecured bonds will become (even) more inaccessible to banks with lower credit ratings. After all, one can assume that as soon as the possibility of an involuntary waiver of claims is introduced in a regulation then tail risks will become a problem, as the likelihood of these risks materialising will rise. This applies in particular to those banks that are perceived by the market as not being absolutely sound. The options for a bank to place unsecured bonds will in future hinge on the resistance of the bank to a potential bail-in.

Interim conclusion: Stronger demand for high-quality financial instruments

The strong risk aversion and the perception that transparency is low are resulting in increased demand for financial instruments that are regarded as safe, such as Pfandbriefe. This asset class is thus likely to continue becoming more appealing going forward. Market demand for other secured products such as securitisations, by contrast, is currently mainly only for products whose collateral has a good market rating, i.e. with a very low risk profile and from a low-risk country.

Also, the new regulatory standards could in practice encourage greater use of Pfandbriefe, since Pfandbriefe can under certain circumstances be assigned to the LCR as an element of the “liquid assets” and they are also a cost efficient means of lengthening the maturities of bank liabilities as part of the NSFR. Within the secured bonds segment the new standards could thus lead to demand shifting further away from securitisations towards Pfandbriefe.

The demand structure in recent years subsequent to the crisis has already shown that investors appear to be examining products more closely and are displaying a preference for transparent, simple and proven product structures. Other key factors for investors at present also are low-risk collateral and the reputation of the issuer.

5) Limited availability of high-quality collateral

The developments discussed up until now do indicate a shift towards secured bonds, especially Pfandbriefe. Since the supply of high-quality assets for the cover pool is limited, however, there are limits to the issuance of secured bonds. In addition, worse macroeconomic conditions, rising unemployment and lower consumption have generally dampened lending and thus reduced the availability and quality of collateral recently.

As an alternative to Pfandbriefe there could be an increase in the issuance of other secured bonds, such as ABS, since the collateral requirements are less restrictive for this type of bond. However, as part of the process of learning lessons from the crisis a revision of underwriting practices is currently in progress, which will probably limit the choice of collateral in future. To date, the market for securitisations has not yet been able to recover. The most recent issuance activities, for example in the UK, Spain or the US, do suggest a slight pick-up in the securitisation market. In the US to date, however, it has mainly been only the government-backed mortgage securities that could be placed; in Germany it has mainly been ABS backed by auto loans and in the Netherlands, for example, those backed by residential mortgages. Demand has, however, been largely limited to the senior tranches of these products. In the long term securitisations will only then “get back on their feet” when all tranches of a securitised product can be placed – including the equity tranche and the mezzanine tranches.

Besides the quality of the collateral what is also a key factor is the enforceability of collateral in the event of insolvency. If this is not the case, then the highest-quality collateral is of no use.



6) Relative volume of encumbered assets limits the volume of secured bonds

The greater use of secured bonds and in particular Pfandbriefe is limited not only by the dearth of high-quality collateral, but also by the ratio of unsecured/secured bonds in the funding mix.

A high ratio of secured bonds means that fewer and fewer high-quality assets are available to service the claims of the remaining creditors. For example, unsecured bondholders would have fewer rights to the high-quality assets in the event of insolvency.

The share of secured liabilities is thus relevant for the financial institution both with regard to the investor's valuation and also in connection with the credit rating: too many encumbered assets and a highly leveraged balance sheet influence the rating for unsecured bonds, as rating agencies take the recovery rate into account. The higher the balance sheet leverage and the bigger the relative share of secured bonds, the lower in turn the recovery rate. True, there is no universally applicable threshold above which the share of secured bonds is perceived to be "too high", as this also depends on the individual business model and the quality and structure of the assets. Bank of America Merrill Lynch has, however, calculated that with a Pfandbrief issue volume to assets ratio of 40% the senior unsecured creditors would have no claims to assert in the event of an insolvency.¹⁶

The issuance of secured bonds such as Pfandbriefe also results in the encumbrance not only of many assets, but especially of high-quality assets. This makes overall funding less flexible. The very attribute that makes Pfandbriefe such safe investments is what makes them dubious for holders of other bank bonds. This is because the increasing issuance of Pfandbriefe results in the claims of senior bondholders being "subordinated": the higher the volume of encumbered assets, the higher the credit risk for senior unsecured bondholders in the event of insolvency. Unsecured bondholders will thus not only be subject to stricter liability rules in future, they will also be treated as "more subordinated".

Issuance of different types of secured bond also result in bank liabilities being split into more tranches: what begins as a relatively simple liability structure, in which many creditors enjoy the same rank, ends up as a liability structure with many differing seniorities.

Secured funding: Limited options

To sum up, the current market environment means that secured bonds, and especially Pfandbriefe, can be placed far more successfully than unsecured bonds. The encumbrance of balance sheet assets by the issuance of secured bonds does, however, also harbour long-term risks and can jeopardise the issuance of unsecured bonds. Price advantages that accrue from issuing Pfandbriefe could thus be offset, at least partly, by the demands of unsecured bondholders for higher compensation to cover the default risk.

The questions about sufficient high-quality collateral and the banks' leverage, and the associated structural subordination of senior bondholders, result in secured bonds also continuing to make up only a meagre share of the bank funding mix. The use of secured funding also subsequently restricts the choice of lending activities, since not all assets can be used as collateral. Although Pfandbriefe are thus becoming more attractive and unsecured bonds are becoming less attractive and/or more expensive, since unsecured creditors are

¹⁶ Fitch also cites a ratio of around 50/50 as a "tolerance limit" before the unsecured liabilities are downgraded.



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worse off in the “new world” than before¹⁷, the options open to banks in determining their funding mix are limited. The option of using securitisation as a funding instrument is currently closed also because there is still a lack of investor confidence. Initiatives such as the above-mentioned PCS programme are therefore attempting to create a securitisation-based funding alternative to Pfandbriefe and unsecured bonds.

Overall, banks currently find themselves in a sticky situation as regards their funding options: the current situation would support the issuance of secured bonds, but the actual options for procuring debt capital in this way are limited.

Summary: Impact of trends on individual types of bond

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Trend / impact of trend on bond type	Unsecured	ABS	MBS	Pfandbrief	CDO
Investor risk aversion	↓	↓	↔	↑	↓
Low transparency	↔	↓	↓	↑	↓
Central bank measures	↓	↑	↑	↑	↔
Regulatory environment	↓	↔	↔	↑	↓
Lack of availability of high-quality collateral	↔	↓	↓	↓	↓
Relative volume of encumbered assets	↑	↔	↔	↔	↔
Overall impact of the trends on the appeal of the respective bond type	●	●	●	●	●

Conclusion:

In many European countries Pfandbriefe have gained popularity since the crisis and are increasingly becoming a complementary funding instrument, especially to RMBS.¹⁸ In the last two years Pfandbriefe were the main source of long-term capital market funding.

In the future, too, both the demand and supply sides will see incentives emerge that favour the issuance of secured bonds, especially Pfandbriefe, as generally high funding costs are continuing to boost the supply of relatively cheap secured funding.

Overall, the developments discussed are likely to result in unsecured senior bank bonds becoming less attractive to investors in future or at least more expensive for issuers. In future they will be perceived as more risky, for example, on account of the current debate about the resolution regime and the political objective of involving bank bondholders in meeting the costs of bank restructuring in order to avert bail-outs by the taxpayers. Capital market funding of banks and in particular the costs of unsecured funding will thus remain at a structurally higher level than prior to the crisis for a sustained period.

Several banks will thus have to carry out a fundamental rethink of their funding mix, since the market price that a bank has to pay for unsecured senior debt is a

¹⁷ This trend has steadily reduced investor demand for senior unsecured bank bonds since 2010.

¹⁸ ECB.



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pivotal factor in their business model. If banks are unable to gain access to the usual volume of funding over the long term, they will have to shrink their balance sheets in order to be able to maintain their existing capital structure. The consequence is that banks will have to reduce their assets or make greater use of other additional sources of funding or a different mix of funding instruments. Structurally higher funding costs will in any event weigh on banks' profitability in future.

Investors in bank bonds will in future either demand higher yields on unsecured bonds or increased cover in the form of collateral. Since, however, collateral is only available in limited amounts, capital market bank funding could contract over the next few years. In order to overcome funding constraints in the capital market an increase in deposit funding would be conceivable.¹⁹

Another possibility would be the development of other alternatives to more expensive unsecured senior debt funding; e.g. structured Pfandbriefe or loan funds. Should new forms of collateral also be used, they would, however, in any event have to be guaranteed as being of sufficient quality. At present, though, investors still appear to be sceptical about securitisations in general and new, unconventional forms of collateral in particular.

Up until about five years ago nearly all banks had no problems with funding. Now it is becoming increasingly clear that capital market funding for banks will be in short supply in future.

Meta Zähres*

*The author would like to thank Irina Clemens for her valuable support in producing this report.

Structured Pfandbriefe

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A structured Pfandbrief is similar to a conventional Pfandbrief, with the only difference that the former is not subject to the same regulatory framework as the latter. Structured Pfandbriefe enhance many of the positive attributes of Pfandbriefe in principle, such as overcollateralisation, rights of recourse, among other things to other additional asset classes – without the established legal structures that apply to traditional Pfandbriefe.

¹⁹ For more on deposit funding, see Ahlswede, Schildbach (2012).



Selected literature

- Ahlsweide, S. (2011). Bank funding of residential mortgages in the EU. EU Monitor. August 2011. Deutsche Bank Research. Frankfurt am Main.
- Ahlsweide, S. and J. Schildbach (2012). Poised for a comeback: Bank deposits. Why banks should bank on savings accounts after all. Current Issues. May 2012. Deutsche Bank Research. Frankfurt am Main.
- European Commission (2011). Recent Developments in Securitisation. February 2011.
- Fitch Ratings (2012). Covered Bond Investor Survey Year-End 2011 – Growing but Selective Appetite for the Asset Class. January 16, 2012
- Fitch Ratings (2011). Trends in Bank Funding Profiles – Secured Financing on the Rise, But Likely to Tail Off. 16. June 2011.
- Wolter, J. (2011). Nordic Banks: EU Bank Resolution & Bail-in proposal back on the table. November 23, 2011. Deutsche Bank, Global Markets Research.
- Zähres, M. (2011). Solvency II and Basel III: Reciprocal effects should not be ignored. Current Issues. September 22, 2011. Deutsche Bank Research. Frankfurt am Main.

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