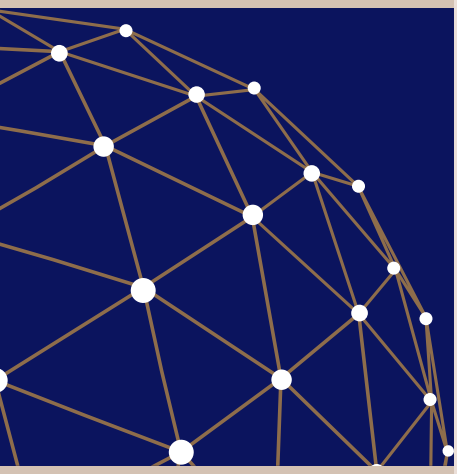

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TAMÁS TÓTH

Covered Bonds

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Contents

1 Introduction

Covered bonds are financial instruments that are popular among both issuers and investors. The product plays a crucial role in the financial system, as the market's size is close to EUR 3 trillion, around 90 per cent of which can be linked to Europe. There is relatively scant literature in Hungarian on the topic, and thus one of the aims of this Handbook is to fill this void.

The Handbook presents the key characteristics of covered bonds and provides guidance to readers on the market's jargon. The booklet focuses on the European market, since this is the largest market in terms of size and can be considered the most important.

2 Characteristics

2.1 Definition

The first covered bond was issued in 18th century Prussia to finance mortgages. After this, covered bonds started spreading in Denmark to finance the reconstruction of the buildings destroyed in the Fire of 1795. Later, this product emerged in Poland (1825) and France (1852) as well. Initially, the goal was to finance agriculture, and then the focus shifted to home construction and financing commercial property. It has become an extremely important asset class, undergoing continuous innovation. The legal environment was created by the German Mortgage Act in 1900, and then by the end of the century, today's modern covered bond market had emerged. In the more than 240 years since these securities first appeared, no default affecting a covered bond has been recorded, and therefore it is regarded as an exceptionally safe instrument.

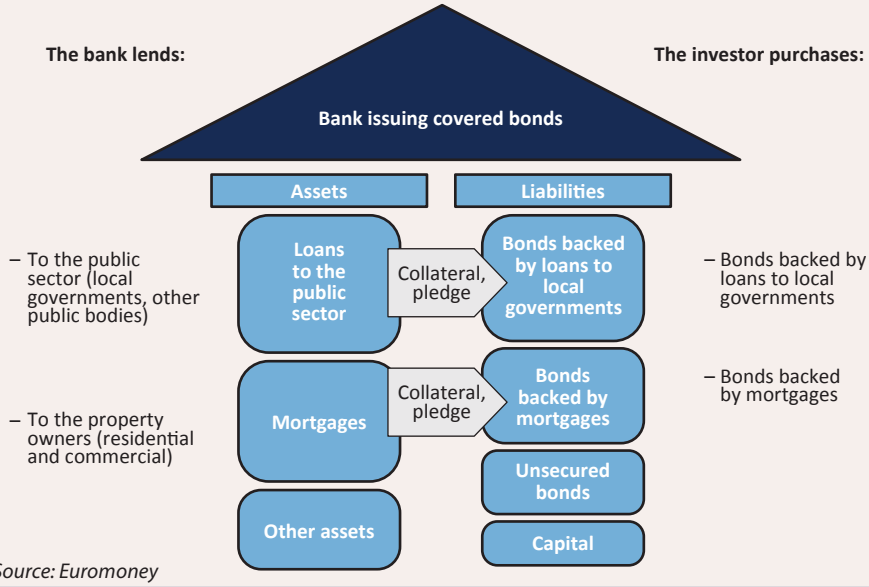
Due to continuous innovation in the industry, the concept of covered bonds is difficult to define. There is no uniform definition for the product known at the international level as a **covered bond**, which plays a pivotal role in the financial system both as a financing instrument and as an investment instrument.

Covered bonds are **debt instruments collateralised by financial instruments, typically household mortgages or public loans**. Bond holders have **dual recourse** against the issuing institution: first, they have a direct recourse against the issuer, and, in the case of the issuer's insolvency, they are also entitled to the cash flows from the instruments designated as collateral. This collateral is made up of assets set aside by the issuing credit institutions, and they can only be used for satisfying the claims of covered bond holders, who enjoy absolute priority among the bank's lenders. In the practice of the European Union, covered bonds can only be called such if they meet certain requirements.

These requirements are specified in the **UCITS[1] Directive**, i.e. Directive 2001/108/EC of the European Parliament and of the Council. For more details on the Directive, see the chapter on regulation. The Directive summarises the investment rules on undertakings for collective investment in negotiable securities. Pursuant to this, a covered bond must meet the following requirements:

- it must be issued by a credit institution,
- it must be a debt security,
- in accordance with the legislation, the issuer must be supervised by a special supervisory body, which serves to protect bond holders,
- in accordance with the legislation, the money from the bond issuances must be invested in instruments that are suitable for repaying bonds, and which are primarily used for paying the principal and the interest in the case of the issuer's default.

Chart 1
The functioning of covered bonds in a simplified form



Source: Euromoney

[1] Undertakings for collective investment in transferable securities

2.2 Types

In a broader sense, we can distinguish between two widespread types of covered bonds according to their collateral:

- **bonds backed by mortgages,**
- **bonds backed by public loans.**

A mortgage may be taken out on a residential or commercial property as collateral. Public borrowers may be sovereign entities, regional/federal public institutions, local governments or supranational institutions. The above-mentioned assets are considered general or **ordinary collateral**. In addition, a certain portion of the cover pool may contain so-called **substitute assets**, also known as additional collateral, which may include, for example government bonds, financial market deposits or asset-backed securities. These are liquid, safe instruments that need to fulfil predetermined, strict requirements. Substitute assets may be used to generate liquidity upon the maturity of the covered bonds on the one hand, and they provide greater flexibility for the issuer in managing the cover pool on the other hand. The cover pool is **dynamic**: if a loan matures, is prepaid, or no longer meets the LTV (*loan-to-value ratio*) or other requirements, or if it becomes non-performing, it is replaced with another loan.

In addition to the traditional cover pool assets, nowadays we can also see ship and aircraft loans as well as loans extended to small and medium-sized enterprises (SMEs).

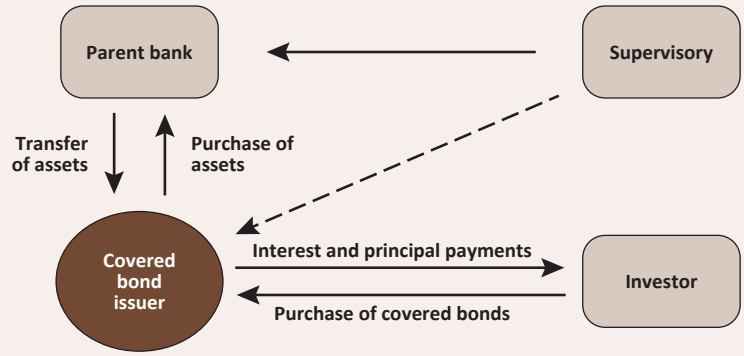
2.3 Structures

In Europe, there are several different models for issuing covered bonds. One country typically follows only one model, although in France, for example, there are several. In a broader sense, we can distinguish the following three models incorporating further different structures.

Use of a separate financing institution

The entity issuing the bond is an institution completely separate from the parent bank, and its balance sheet only contains the covered bonds and the cover pool assets. The operation of the entity is typically controlled by the parent bank, and therefore the former has a limited number of employees. The segregation of cover pool assets is straightforward in this model, and the main risk is posed by excessive dependence on the parent bank. In certain cases, the cover pool assets are also transferred to a legally separate special entity (*special-purpose vehicle, SPV*), which guarantees repayment of the principal and interest. The latter is widely used, for example, by Italian, Dutch and British issuers.

Chart 2
Separate financing institution



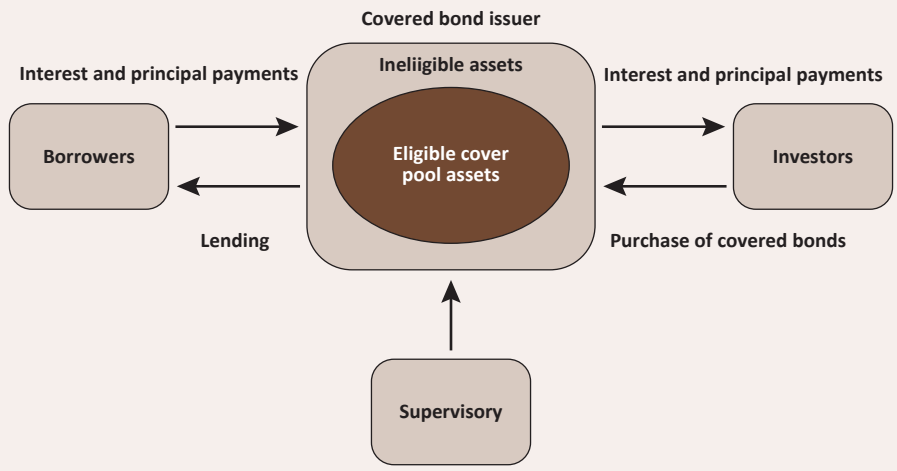
Source: ECBC

Specialised credit institution, universal credit institution

The institution issuing the covered bond is a bank specialising in this specific business segment. Within the legal framework, lending is limited to mortgages and public loans. Assets that are ineligible as collateral may represent only a limited volume on the balance sheet. Bond issuances are performed in a legally regulated framework, and the cover pool is treated separately (*ring-fencing*) in the case of the issuer's default, which is the most important issue in the given model. In this structure, the potential risk may be posed by inadequate segregation of the assets. This model is employed in Luxembourg, Hungary and partly in Denmark, and it was also widespread in Germany until 2005.

The issuing institution is a universal bank that is active in several business segments, in addition to mortgage lending. Covered bond issuance is only one of many funding channels. Here again, the most important issue is the appropriate segregation of the cover pool assets. This structure is widespread mainly in Germany, Sweden and Portugal.

Chart 3
Specialised credit institution and universal credit institution

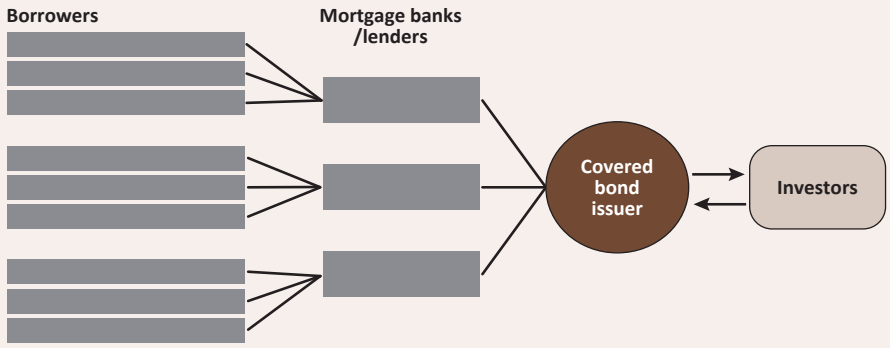


Source: ECBC

Pooled model

In this structure, the assets are "combined" and the covered bond is issued through the cooperation of several lending institutions. The banks disbursing the loan and the institution issuing the bond are legally separate entities. The main issue is the legal framework of transferring the assets, which may vary across countries. This model can be observed in several countries, such as Spain, Denmark, Hungary, Switzerland.

Chart 4
Pooled model



Source: ECBC

2.4 Covered bond versus securitisation

Although at first covered bonds may seem to be closely related to asset-backed securities (*ABS, MBS*), upon taking a closer look at the two products, we can see several profound differences between them. The first major difference is that while in the case of covered bonds the assets remain on the consolidated balance sheet of the issuer, in the case of asset-backed securities they become off-balance sheet items. The other important difference is that covered bond holders first have a claim against the issuer, and they may only lay claim to the assets offered as collateral in the case of the issuer's insolvency. This indicates that the credit risk of the assets is initially borne by the issuer. In the case of ABS and MBS, the credit risk of the assets is borne by the investors who do not have a claim against the issuing institution. While the pool acting as collateral for the covered bonds is dynamic, the cover pool behind asset-backed securities is static. Accordingly, prepayment risk is also borne by investors in the case of the latter product. The table below shows the main differences:

Table 1
Comparison of covered bonds and asset-backed securities

Covered bonds	Asset-backed securities
Assets stay on the balance sheet of the issuer	Assets become off-balance sheet items
Dynamic cover pool: the issuer is able to restore the cover pool's credit quality if it deteriorates by replacing the assets	Static cover pool
The issuer is usually the originator of the assets	The issuer is an entity specifically created for this purpose (SPV)
Double recourse: against the issuer and to the assets serving as collateral	There is (usually) no claim against the issuer, all of the credit risk of the assets is borne by the investors
Issuance does not affect the capital requirement of the issuing institution	Issuance reduces the issuer's capital requirement
The issuing entity operates in a regulated framework	The issuing entity is usually not regulated
The prepayment risk of the cover pool assets is borne by the issuer	The prepayment risk of the cover pool assets is borne by the investors
Usually fixed-rate issues	Usually variable-rate issues
No separate tranches	Senior and subordinate tranches
Priority claim to cover pool assets	Exclusive claim to cover pool assets

Source: Goldman Sachs, Citi

2.5 Transparency

In the past decade, the transparency of covered bonds has improved significantly. Aside from a few exceptions, the disclosure of information pertaining to the cover pool was voluntary before the crisis, and hence investors, regulators and other market participants often did not have access to relevant data. And there were huge differences within the disclosed information as regards the depth and the frequency of disclosures. Although more and more issuers worked to enhance disclosure standards, the milestone for the whole industry was represented by the "Covered Bond Label" created in 2013 by EMF/ECBC (*European Mortgage Federation/European Covered Bond Council*). The goal of "labelling" the covered bonds meeting the predetermined requirements was to increase transparency, harmonise the available information and further enhance product quality. In order to receive

the Label, the covered bond has to comply with the UCITS Directive and Article 129 of the CRR EU regulation as well as meeting the following requirements:

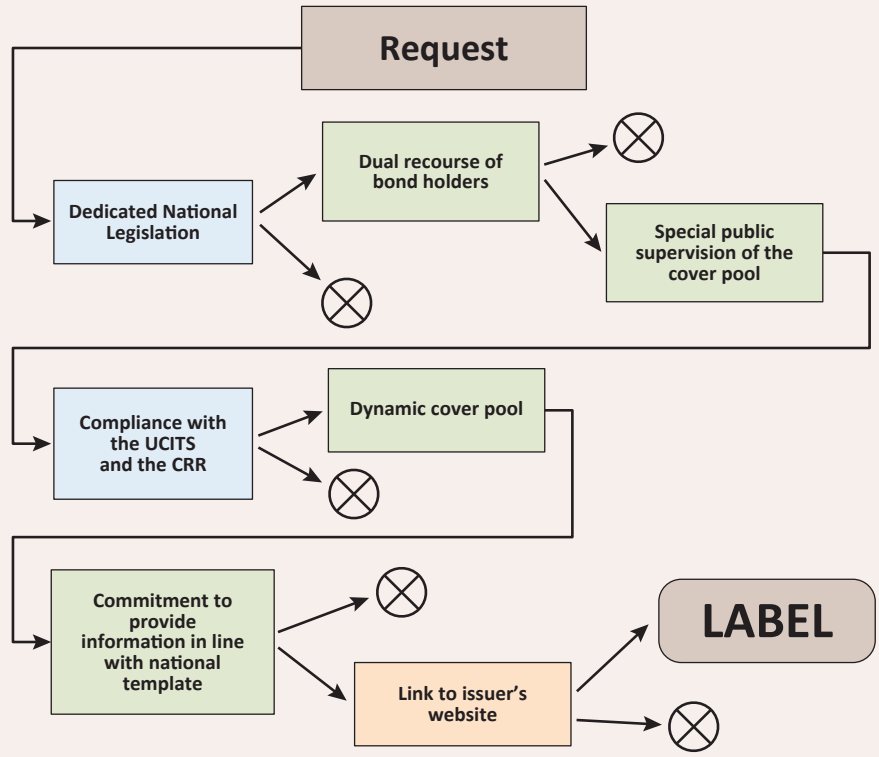
• Public supervision of the cover pool and the issuer;

• Limiting the cover pool to household mortgages, public loans and ship loans;

• Adaptation to the national transparency template.

The process of evaluating the requests is shown on the following flowchart:

Chart 5
Process of Label evaluation



Source: ECBC

3 Regulation – Relevant laws, directives

The regulatory system pertaining to European covered bonds (which plays a key role in secured financing in an increasing number of countries) evolved in accordance with national features and laws, and certain prudential elements are determined in the **UCITS Directive and the CRR[2] Regulation**.

The Directive (*UCITS*) governs the main prudential characteristics of European regulated covered bonds.

The basic features of covered bonds were already prescribed in the 1988 UCITS Directive. The Directive determined the minimum requirements that provide the basis for favourable treatment with respect to covered bonds, since if they meet the specified requirements, they are considered especially safe assets:

- the issuer of the bond must be a credit institution,
- bonds must be subject to a special legal framework,
- issuing institutions must be subject to special prudential supervision,
- eligible cover assets must be determined by law,
- the cover asset pool must continuously contain adequate collateral during the validity of the bond,
- bond holders must have a priority claim with respect to the pool in the case of the issuer's default.

Article 129 of the Regulation (CRR) specifies the conceptual elements of covered bonds and the exposures in the form of covered bonds. The Regulation sets out specific requirements that covered bonds need to fulfil in order to **receive preferential treatment** with regard to **risk weighting**. As a result, (1) the institution investing in covered bonds must be able to provide the specified information related to the portfolio to the competent authorities, and the issuer must provide certain pieces of information to the institution at

[2] Capital Requirements Regulation

least semi-annually, and (2) the bonds must be covered by any of the eligible assets specified in the Regulation.

In addition to the UCITS and the CRR, the **Basel III** European Union directive pertaining to banks should also be mentioned, as well as the European Commission's directive on insurers, i.e. **Solvency II**. Both treat covered bonds favourably, with a lower risk weight when calculating capital requirements. The European Union **Bank Recovery and Resolution Directive** (BRRD[3]) is also a key piece of regulation, as it excludes covered bond holders from the bank's bail-in process. This means that if recapitalisation occurs with the involvement of the lenders, only subordinate and senior (*unsecured*) bond holders can be taken into account.

[3] Bank Recovery and Resolution Directive, Regulation – Relevant laws, directives

4 Players on the covered bond market

4.1 Issuers

Covered bonds provide a new financing tool to issuers. Financial institutions primarily take into account economic considerations when planning their borrowing. The use of covered bonds increases their **profitability** (through the lower funding costs), **diversifies their risks** and improves their **efficiency** at the same time. Collecting household deposits, a traditional financing channel, is not the best alternative for financing household mortgages, loans to local governments and other public loans, since while the maturity of deposits is typically short (1–2 years at most), the maturity of loans is much longer (15–20 years). Furthermore, these sources may quickly dry up in times of market turbulence, when confidence in banks is impaired. Covered bonds usually enable issuers to **acquire funds rapidly even in a negative market environment**, and they can also be used for **maturity matching** of assets and liabilities. Another alternative is to issue unsecured bonds, however, their financing costs are higher, since they are much riskier, and therefore their credit rating is also lower. Thus, investors are only willing to purchase these bonds with higher yields. This means that the issuance of covered bonds not only diversifies the issuer's sources of finance, it also boosts the issuer's profitability due to the lower costs. Covered bonds may be rated several grades higher than the unsecured credit rating of the issuer, and in fact, issuers have some leeway in influencing the credit rating of their covered bonds through various credit enhancements (e.g. overcollateralisation).[4] From a credit rating perspective, covered bonds have yet another advantage: **credit rating agencies appreciate** if an issuer has a covered bond programme as well, since this improves its liquidity and financing position. Last but not least, the issuer also diversifies its investor base. The majority of investors do not really consider covered bonds as a benchmark, and rather turn towards the government securities market, the market for corporate and bank bonds or some market based on securitisation (*ABS, RMBS*). They add covered bonds

[4] Overcollateralisation means that the value of the assets in the cover pool exceeds the capital value of the covered bonds issued.

to their portfolio for various reasons (e.g. safety, yield spread, liquidity, diversification), which means that the **investor base is quite heterogeneous**. The product attracts a wide range of buyers from investment funds through central banks to insurers and pension funds, which stabilises the issuer's ability to borrow.

The regulatory environment is in constant flux, but the current regime encourages banks to finance their assets and keep them **on their balance sheet** through covered bonds, rather than through securitisation.

All in all, issuing covered bonds is beneficial for the issuers for the following reasons:

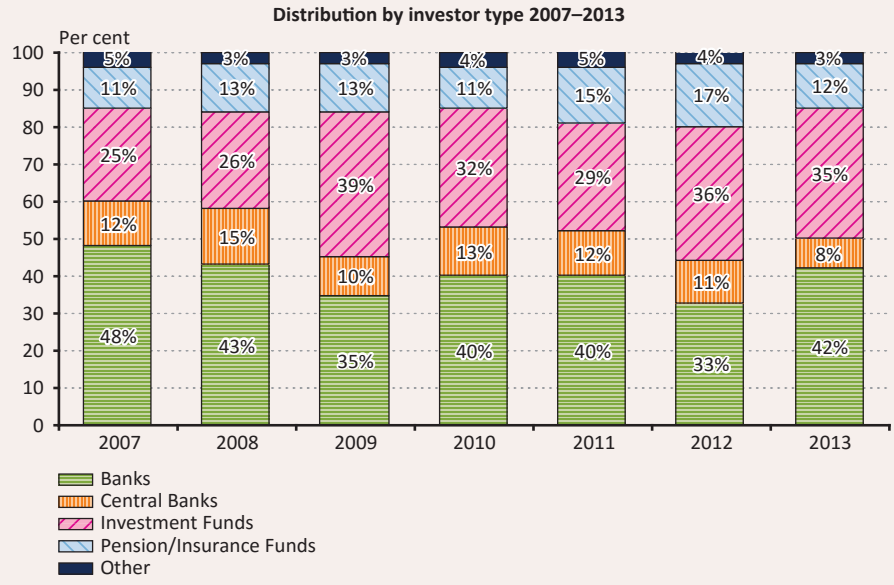
- cheaper financing alternative,
- readily available financing channel even when sentiment on the market is negative,
- diversification of the investor base,
- opportunity for longer-term borrowing.

4.2 Investors

Covered bonds boast one of the **largest investor bases**, which becomes obvious if we examine investors' types, their geographical location, motivation and strategy. The product's true attraction derives from the combination of characteristics which are favourable for investors: **double recourse, priority claim to cover pool assets or exclusion from debt settlement**. If in an imaginary triangle one vertex is occupied by government securities, the other by agency bonds, and the third by corporate, bank and securitised bonds, then covered bonds would be somewhere in the middle of the triangle. They carry some characteristics of all the above-mentioned asset classes without completely copying them. They have **higher yields** than government securities (in most cases), they are **much safer** than unsecured bonds, and their **liquidity is outstanding**.

The core of the investor base is made up of the following key players: **banks, central banks, investment funds, pension funds, insurers**. These are all so-called **real money accounts**. Hedge funds cannot be considered as large players on the market for covered bonds, and neither can retail investors. However, the purchases of the latter group are usually recorded at banks in statistics, since the desired bond is usually purchased by the bank for the client. Unfortunately, there is no public database on the investor distribution of all of the covered bonds issued, but primary market allocations may give a good approximation. The following chart shows the allocation that developed on the primary market for *jumbo* or benchmark-size covered bonds by investors.

Chart 6
Distribution of investors



Source: RBS

Although the proportion of banks has fluctuated slightly in recent years, these institutions definitely represent the largest share within the investor base of covered bonds. Banks usually hold a sizeable liquidity portfolio to comply with regulatory requirements. Covered bonds fit perfectly into these portfolios, since they have adequate liquidity, their yields are usually higher than in the case of government securities or agency bonds, and they receive favourable treatment from the regulators (low risk weighting). The other main driver behind the large proportion of banks is covered bonds' eligibility as collateral for the **repo transactions with the European Central Bank**.

4.3 Syndicate

The syndicate usually comprises **several chosen banks** that manage new issues in a harmonised manner. Their tasks include the **preparation of transactions, the organisation of investor roadshows, mapping potential demand**, and making proposals to issuers about pricing. After the announcement of the new issue, they are responsible for the process of book building and allocation.

4.4 Market makers

Although a large share of bonds are listed in some stock exchange, most of the trading (98%) is conducted **over-the-counter (OTC)**, and no off-exchange market operates efficiently without market makers. Market makers are usually large **banks**, which quote prices to **clients directly, and usually through brokers to each other**. Trading is usually conducted over some **electronic trading platform** (*Bloomberg, Tradeweb, MTS, etc.*), the **phone** (*voice*) or a **real-time electronic communication channel** (*chat system*). Banks make their quoted prices available to clients on the screens of the platforms, also indicating if they have an extremely strong desire to buy/sell. Usually, more than 20 banks quote bid and offer prices for a liquid, benchmark-size covered bond.

5 Trading bonds

5.1 Liquidity

Although the liquidity of the covered bond market does not come close to that of government securities markets (*US, Germany*), they can be **generally** considered **liquid products that trade well**. Volumes equivalent to EUR 1–5 million can be quite easily bought/sold with a fairly narrow bid–offer spread. In the case of covered bonds on the largest markets (*German, French*), the bid–offer spread is sometimes as small as 1 bp, although this changes over time of course. Blocks worth over EUR 5 million can primarily be acquired from banks' **inventories** (or axes). Market sentiment and other technical factors exert a huge influence over liquidity as well. Banks usually reduce their balance sheet total towards the end of quarters and years (*deleveraging*), and therefore they buy less for their own inventories. Consequently, bid quotes may become defensive, while one may pick from "discounted" inventories on their offer list. Liquidity is reduced if a **large player positions itself on one side of the market**, for example like the European Central Bank with its covered bond purchase programme first in 2009, then in 2011 and 2014. In such a situation, almost all market participants seek to use the opportunity by purchasing new bonds and holding their existing portfolio. In an extreme case, this may lead to **offer quotes almost disappearing from the secondary market**.

5.2 Primary market

Covered bonds are marketed on the **primary market**. Investors can participate in the subscription to bonds through the banks managing the issuance (usually 3–6 institutions). On the day of the transaction, the banks tasked with managing the issuance (*syndicate*) assess the interest (*indication of interest, IOI*) for the new issuance. In addition to the most important features (*maturity, collateral, size, etc.*), a spread relative to a swap[5] level is also indicated

[5] The fixed yield paid in an interest rate swap in exchange for the variable interest rate (e.g. 3-month EURIBOR). Swap levels may vary across maturities, just like government securities yields, and therefore a yield curve can be estimated from them as well.

to investors, providing guidance on the approximate level at which the bond will be issued and whether it will offer any extra yield. This is only an **initial level** (*initial price thoughts, IPT*), the final spread compared to the swap is not guaranteed to be like this. After collecting the initial indications of interest, the **order book** is opened, and **official guidance** is offered on the spread relative to the mid-swap (the average bid and offer quote for the swap rate identical to the maturity of the bond to be issued, abbreviated *ms*), still indicating only a range, for example: ms+4–6bp. Investors may give an **order independent of the spread** (*re-offer*), or may set a certain minimum spread as a **limit**, under which they have no interest in the given issue. This may be indicated to several or all banks in the transaction (***pot order***), or to a single bank (***X account order***). In the former case, the issuer and the syndicate will see in the order book who is behind the order, while in the latter case they will not. The received orders are coordinated by the syndicate in order to avoid duplicates. Towards the end of book building but before closing, the final spread relative to the swap is determined in light of the demand. At this stage, investors can still decide whether they stay in the book or not. The closing of the book is followed by the **allocation process**, which is especially interesting when offers substantially exceeding the originally planned amount of issuance have been received from investors, i.e. in the case of a large oversubscription. In such a scenario, the syndicate decides who receives how many bonds, taking into account the preferences of the issuer as well. Central banks sit on top of the imaginary pyramid, usually receiving 100-per cent allocation or close to that, i.e. they receive as many bonds as they issued orders for. They are followed by fund managers and bank treasuries, and hedge funds and dealers bring up the rear, sometimes receiving nothing in the case of significant oversubscription. Allocation is then followed shortly by **pricing**, after which the bond is traded on the **secondary market**. To be even more precise, trades may be conducted on the so-called grey market before pricing (with the benchmark being the future issue price, i.e. the re-offer price), but the number of such transactions is low.

5.3 Secondary market

After the bond is issued, investors, brokers and dealers trade the instrument on the secondary market, and it is usually also listed on a stock exchange. The volume of transactions on the stock exchange is usually insignificant compared to the OTC (*over-the-counter*) volume, the former being 1–2 per cent of the latter. The daily volume of trading in European covered bonds can be as high as EUR 2–3 billion, part of which is traded over the phone/chat, while the other part is traded over electronic platforms. Retail investors buy and sell batches worth a couple of hundred thousand euros, while institutional investors typically conduct transactions worth EUR 5–10 million or even more. Bonds may be **short sold**, i.e. they can be sold for a short time, but in this case an owner has to be found who is willing to lend them on the **repo market**. Dealers are often in a short position because the clients "hit" their prices over electronic platforms. Sometimes they are unable to buy back the bonds sold short for weeks or months, although they can almost always borrow them on the repo market (albeit at times only at exorbitant levels).

5.4 Tap issue

Issuers may also increase the quantity of a **bond already issued** rather than entering the market with a brand new bond. This is called a ***tap issue***. The process is similar to primary issuance (book building, allocation, pricing), but in this case there is an established secondary market. In most cases, the newly issued bonds temporarily (for 40 days) receive a **custom unique identifier** (*ISIN*), then they are incorporated into the original issue (with the same ISIN code). Sometimes this leads to market anomalies, i.e. two completely identical bonds may be traded at different prices.

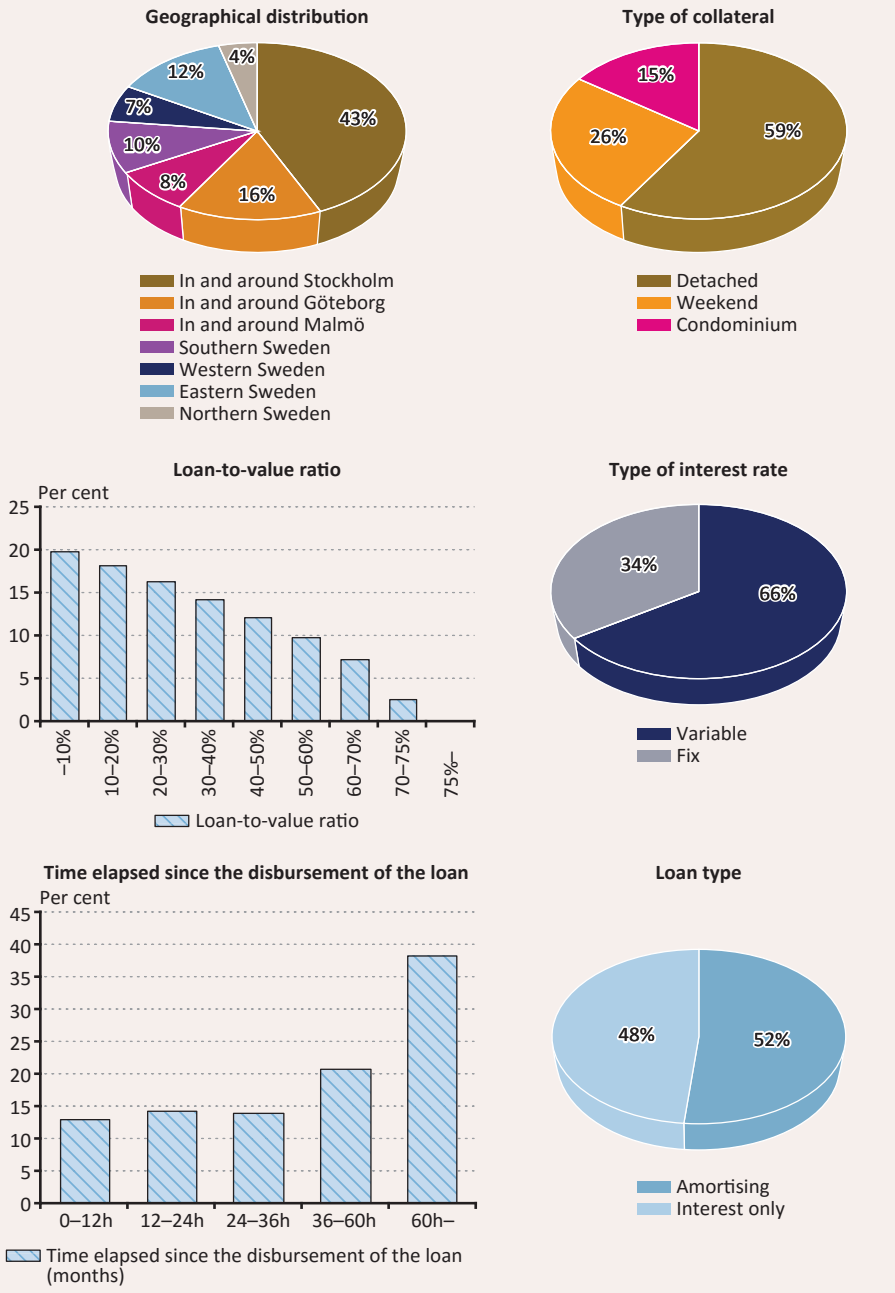
6 Pricing – What investors consider

Although credit rating agencies provide enormous help to bond investors in making their decisions, the latter cannot completely rely on the rating of covered bonds. In addition to credit rating, the assessment of a covered bond involves several other factors.

6.1 Characteristics of the cover pool

Much to the delight of market participants, the **transparency** of covered bonds is **continuously increasing**. Presently, most information on the collateral behind the bonds and their attributes is just a couple of clicks away. Perhaps the most important factor to investors is the exact collateral behind the bonds. As we have already seen, these may be household mortgages, public loans, loans extended to small and medium-sized enterprises or loans provided for ship or aircraft financing. The other important aspect is the **geographical** location associated with the assets in the cover pool as well as the assets' **concentration**. Investors usually prefer if household mortgages are not concentrated in a given region within a specific country, since that entails greater risk (one need only think of a natural disaster such as an earthquake or a flood). In the case of bonds secured with household mortgages, the **average LTV** and the **distribution of the LTVs** are also key. The relevant legislation, which may vary from country to country, usually determines a maximum LTV ratio (in the case of household mortgages and commercial property, it is 80% and 60%, respectively), above which the given loan cannot be used in the cover pool. Here, we have to once again distinguish between the LTV indexed with the current house price index and that without indexation, and between the original (at the time of borrowing) and the current LTV. The **proportion of non-performing loans** should also be taken into account, and is also disclosed by the issuers. All issuers have a liquidity portfolio (for managing cash flows) that they invest in various financial and capital market instruments to achieve returns. They typically invest in high-grade, safe government securities and agency or covered bonds, but the composition of this portfolio may also be of interest. **Overcollateralisation (*OC*)**, i.e. how much collateral is available in excess of the bonds issued, is also crucial. The

Chart 7
Example for a cover pool in the case of a Swedish covered bond



Source: MNB, SEB

special laws in the various countries prescribe different minimum levels, but issuers usually have a much higher level of overcollateralisation to achieve better credit rating. The distribution of the loans in the cover pool by the **type of compounding** (fixed-rate or variable-rate) indicates how much the performance of the loans would be expected to deteriorate in a stress scenario (e.g. a drastic rise in interest rates). Additional characteristics of the cover pool that are disclosed by issuers include **the number of loans, their average size, the type of property offered as collateral, the average time elapsed since the disbursement of the loans** (*seasoning*). As an example, Chart 7 provides a summary of the characteristics of the cover pool of a Swedish covered bond.

6.2 Trends

With respect to the cash flows from the cover pool assets and the value of the cover pool, several trends need to be taken into account, including the following:

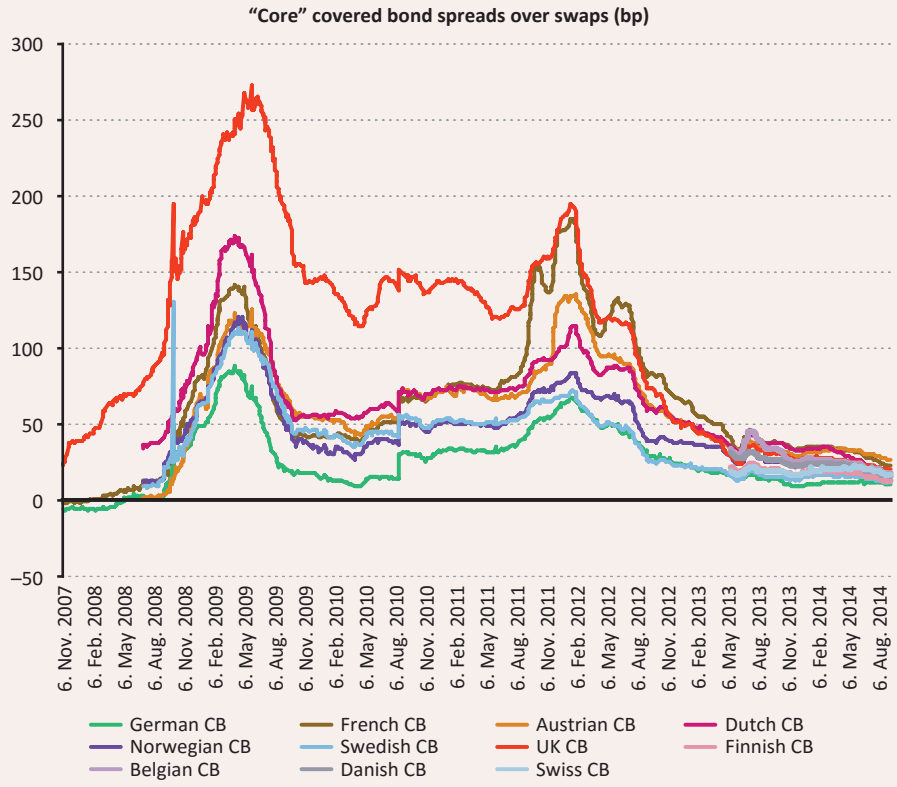
- **House prices:** perhaps one of the most important factors is the development of property prices in the country with which the cover pool assets can be associated. If prices on the housing market decline steeply, this may have a negative impact on the cover pool, since the average loan-to-value ratio will rise.
- **Number of new homes constructed:** this affects the quality of the cover pool indirectly, through house prices. If supply is low, the properties are likely to preserve their value.
- **Demographics:** Trends in the population influence house prices through demand. For example, a constant rise in the number of immigrants to a country drives up property prices and rents.
- **Unemployment:** the solvency of borrowers correlates with labour market trends, and therefore developments in the unemployment rate of the given country should also be considered.
- **Interest rate path, monetary policy:** these are relevant mainly if the ratio of variable-rate (or changeable-rate) loans within the cover pool is high. In a rising interest rate environment, the repayment instalments of the loans increase, which places a greater burden on debtors, which in turn may reduce their solvency.

6.3 Valuation levels

6.3.1 Covered bonds versus swap returns

Covered bonds, just like credit risk instruments in general, are priced to the so-called **swap rate**, which is considered the benchmark rate. On the primary market and in the case of pricing at issuance, the mid-swap level (the average of the offer and bid quotes) identical to the maturity of the given bond is taken into account when pricing the bond. The spread is fixed before pricing, therefore only the bond's price at issuance (*cash price*) needs to be

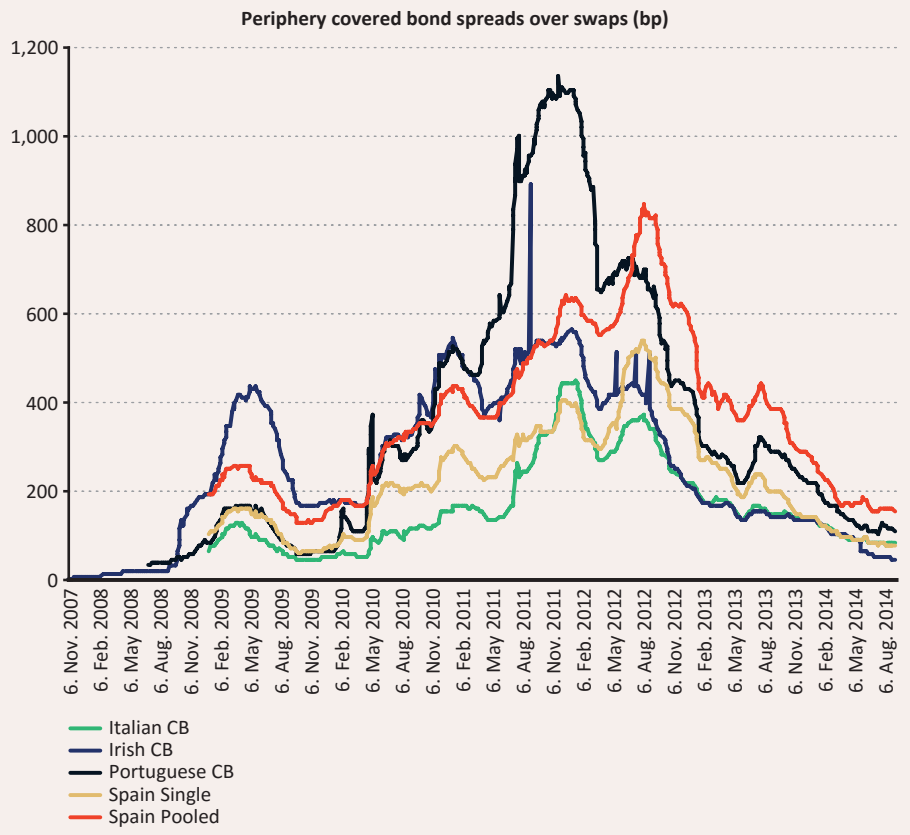
Chart 8
Historical development of core covered bonds spreads over swaps



Source: Citi, iBoxx

determined from the yield. Usually, performance on the secondary market is also compared to the swap rate: if the bond's spread the over mid-swap level has moved lower, then the bond is said to have **tightened**, while if it has risen higher, it is said to have **widened**.

Chart 9
Historical development of peripheral covered bonds spreads over swaps



Source: Citi, iBoxx

6.3.2 Covered bonds versus government bonds

The spread of a covered bond is not only compared to the swap rate, but also to the **government bonds** of the given country and the yield on the issuer's **unsecured bonds**. The **correlation** between sovereign bonds and covered bonds is usually high, the reason for which is obvious: sovereign risk affects the covered bonds of the given country through several factors.

Issuers, especially those with a large domestic market share, are directly affected by the country's economy. Their business prospects deteriorate in a faltering economic environment, and the widening of the spreads of the domestic government securities held by their treasury directly erodes their profits. The country's economy also has a direct impact on the cover pool: decelerating growth usually entails higher unemployment, which leads to a rise in the number of non-performing loans. The sovereign rating of the country plays a pivotal role in the **credit rating** of covered bonds as well. Large credit rating agencies determine a maximum positive deviation from the rating of government bonds, and incorporate the change in sovereign spreads into the cover pool's cash flow models. Although covered bonds generally offer **extra yields** compared to government bonds with a similar maturity, **the reverse may also be true**, i.e. they may be traded at lower yields. This was the case, for example, in certain peripheral countries at the end of 2011, when confidence in the government bonds of the given countries was undermined. The other rational reason behind this lies in the credit rating. Covered bonds usually receive a higher credit rating than the government bonds of the given country, and as a result, certain investors are only allowed to purchase or prefer the former.

6.3.3 Covered bonds versus unsecured bonds

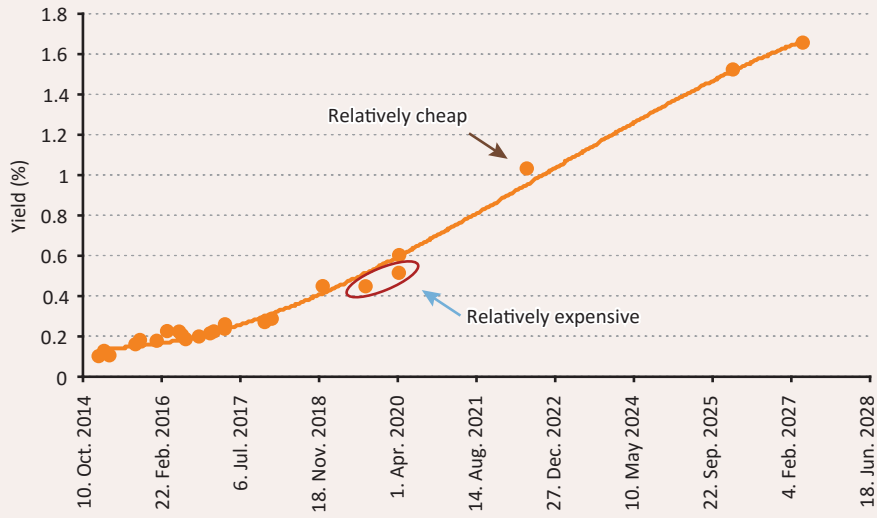
The comparison to unsecured bonds is ultimately a decision regarding where we invest our money **within the capital structure** of the bank. Both asset classes are senior (i.e. primary) liabilities, but **unsecured bonds are below covered bonds in the hierarchy**. The **probability of default** of a covered bond is **lower**, and its recovery rate is higher in the case of the issuer's insolvency. In addition, covered bond holders may not be involved in a bail-in, while unsecured bond holders may be. Under normal market conditions, the yields on covered bonds are obviously lower, although there were times in history when the reverse was true. However, these **market anomalies** tend to be **merely temporary** and disappear quite rapidly. The spread on covered bonds usually reacts slower to certain market information; such information is incorporated into the prices later than in the case of unsecured bonds. After comparing the two yields, investors must decide whether the higher yield is **enough compensation** for the extra risk. In times of market turbulence (such as the 2011–2012 euro crisis), the

difference between the covered and unsecured bond of the same issuer with similar maturities may be hundreds of basis points, yet under normal market conditions it is mostly in the 30–50 bp range.

6.3.4 Relative value

A given bond can also be examined from the perspective of **relative value** (*RV*). In this case, the yield on the bond is compared to the yield on a bond with **similar characteristics** (maturity, credit rating, country, cover pool, etc.) on the one hand, and to its own yield curve on the other hand. Issuers which frequently appear on the market have several bonds that are traded at the same time, and these are dispersed over the maturity scale, and therefore a yield curve can be fitted onto them. The yield curve can be used to identify relatively cheap and relatively expensive bonds. The bonds with a yield above the curve are cheap, while those below it are expensive. Of course, in practice there might be numerous reasons why a bond may seem cheap: for example its **liquidity may be inadequate**, and therefore a liquidity premium may be incorporated in its pricing. Furthermore, the opportunity may not be worth taking, considering the trading costs (in this case the bid–ask spread).

Chart 10
Relative value on the issuer's curve



Source: MNB

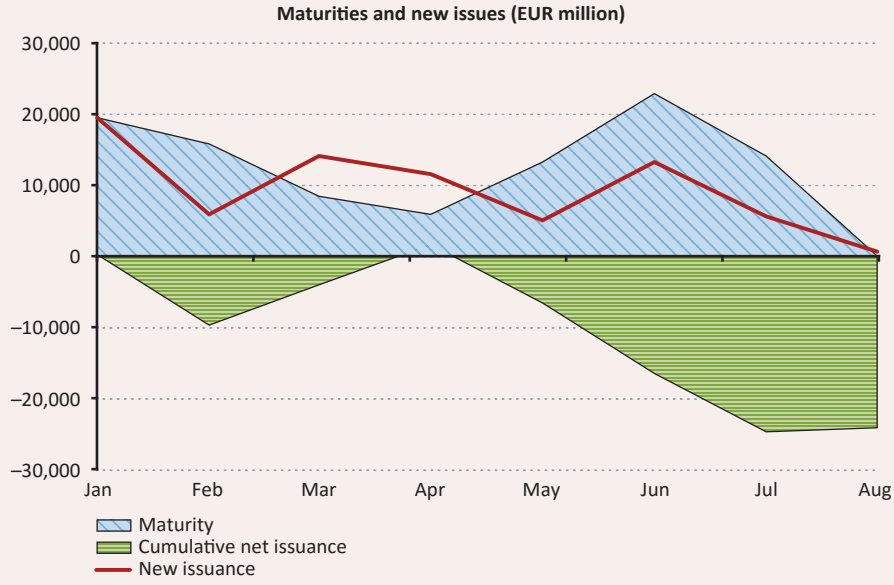
6.4 Expected issuances and maturities

The **expected volume of issues** and the amount of covered bonds **maturing in the period ahead** influence the performance of the whole asset class. The effect on prices takes hold simply through the law of supply and demand. For example, if during a given month (or year) many covered bonds mature, while there are relatively few new issues, the trend points towards the tightening of secondary market spreads. Investors presumably reinvest the money received from the maturing bonds in the same asset class, and **in absence of new issues**, they will acquire similar bonds from the secondary market, thereby driving up prices.

The two charts below are presented as examples and show the following:

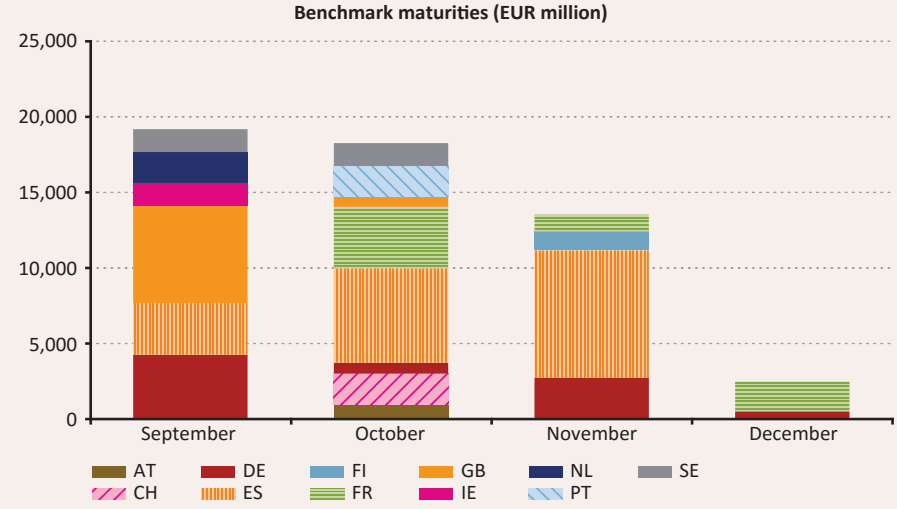
- With the exception of March and April, the number of bonds maturing have always exceeded new issues in the given year.
- The size of the market contracted by EUR 24 billion until August.
- Looking ahead, there will be large benchmark maturities (EUR 19 billion and 18 billion) in September and October.
- There will be hardly any benchmark maturities in December, therefore no substantial spread tightening is expected due to additional demand in that month.
- A large portion of the covered bonds maturing in September can be linked to the United Kingdom; therefore, the UK's secondary market may benefit from the demand generated by reinvestment.
- The benchmark maturities in October and November can be mainly linked to Spanish covered bonds; therefore, the additional demand may primarily affect their secondary market.

Chart 11
Historical development of maturities and new issues



Source: Citi, MNB

Chart 12
Development of maturities going forward



Source: Citi, MNB

6.5 Other technical factors

In addition to the above, the pricing of covered bonds may also be influenced by other, mainly **technical factors**, and in fact, these factors may **override fundamentals**. One very important factor may the abundance (or lack) of liquidity in the global financial system, which is the result of the **monetary policy** implemented by the world's major central banks (Fed, ECB, BoJ, BoE). If liquidity is abundant, investors look for financial instruments that provide a small **yield premium** (*hunt for yield*). The other important factor is the **regulatory environment**. Market participants are compelled to adhere to the strict requirements and develop their portfolio in line with these requirements (whether they are banks, investment funds or insurers). For example if a regulation changes, it may **generate additional demand (or supply)** on the market for the given product, thereby influencing its price developments.

Glossary

ABS	asset backed security; credit risk and prepayment risk are borne by bond holders
bail-in	the bank practically involves bond holders in the capital increase, i.e. it writes down its debt at the expense of bond holders
delinquency	delinquent or non-performing loans
discontinuity cap	expression used in the rating methodology of Fitch; the indicator estimates, on a 9-point scale (0–8), the risk of a disturbance in the continuity of the cash flows to covered bond holders in the case of default by the issuer
initial price thoughts	indicative yield spread relative to the swap rate in the case of a new issue, in the initial phase of book building
ISIN	unique securities identifier (12 characters)
loan-to-value	loan-to-value ratio
MBS	mortgage-backed security; (not the same as a covered bond)
new issue premium	the spread above the yield interpolated from the issuer's own yield curve
official guidance	used in the book building phase of a new issue
overcollateralisation	shows the amount by which the available collateral segregated exceeds the number of the issued bonds
public loan	loan to the public sector
rating	credit rating

recovery rate	shows how much payment bond holders can expect in the case of a potential default
reoffer	issuance yield or price
seasoning	the time elapsed since the disbursement of the loan, usually expressed in months
special purpose vehicle	entity created for a special purpose
tap	tap issue
timely payment indicator	the indicator in Moody's rating methodology shows, on a 6-point scale, the probability of providing timely payment to bond holders out of the cash flows from the cover pool after default by the issuer

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