

EBA REPORT ON EU COVERED BOND FRAMEWORKS AND CAPITAL TREATMENT

Response to the Commission's call for advice of December 2013 related to Article 503 of the Regulation (EU) No 575/2013 and to the ESRB Recommendation E on the funding of credit institutions of December 2012 (ESRB/12/2)

EBA

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Abbreviations

In several national covered bond legal/regulatory frameworks of the European Union different categories of regulated covered bond are foreseen by the law: where this is the case the different types of covered bonds are assigned specific denominations. The table below summarises, for the jurisdictions where different categories of regulated covered bonds exist, the denomination (in the original language) of each category and the corresponding abbreviation adopted throughout this report.

Table 1 Original language denominations of the different types of regulated covered bond across jurisdictions

Jurisdiction	Abbreviation	Name
Austria	PB	<i>Pfandbriefgesetz</i>
	FBS	<i>Fundierte Bankschuldenverschreibungen</i>
	HYP	<i>Hypothekenbankgesetz</i>
Denmark	RO	<i>Realkreditobligationer</i>
	SDO mb	<i>Særligt Dækkede Obligationer</i> issued by mortgage banks
	SDRO	<i>Særligt Dækkede Realkreditobligationer</i>
	SDO ub	<i>Særligt Dækkede Obligationer</i> issued by universal banks
France	FR – CRH	<i>Crédit de Refinancement de l’Habitat</i>
	FR – OH	<i>Obligation de Financement de l’Habitat</i>
	FR – OF	<i>Obligation Foncières</i>
Germany	DE – Hypfe	<i>Hypothekendarlehenbriefe (mortgage covered bonds)</i>
	DE – Öpfe	<i>Öffentliche Darlehenbriefe (public sector covered bonds)</i>
	DE – Schpfe	<i>Schiffsdarlehenbriefe (ship covered bonds)</i>
	DE – Flgpfe	<i>Flugzeugdarlehenbriefe (aircraft covered bonds)</i>
Ireland	IE – MACS	<i>Mortgage covered securities</i>
	IE – CACS	<i>Commercial mortgage covered securities</i>
	IE – PACS	<i>Public mortgage covered securities</i>
Luxembourg	LU – LGH	<i>Lettre De Gage Hypothécaire</i>
	LU – LGMo	<i>Lettre De Gage Mobilière</i>
	LU – LGMu	<i>Lettre De Gage Mutuelle</i>
	LU – LGP	<i>Lettre De Gage Publique</i>
Portugal	PT – OH	<i>Obrações Hipotecárias</i>
	PT – OSP	<i>Obrações sobre o Sector Público</i>
Slovenia	SI – MRG	<i>Mortgage Covered Bond</i>
	SI – MUN	<i>Municipal Covered Bond</i>
Spain	ES – CH	<i>Cedulas Hipotecarias</i>
	ES – BH	<i>Bonos Hipotecarios</i>
	ES – CT	<i>Cedulas Territoriales</i>
	ES – CI	<i>Cedulas de Internacionalización</i>
	ES – BI	<i>Bonos de Internacionalización</i>

Executive Summary

The European covered bond market is shaped by national legislations which have developed around a set of minimum prudential features, defined in the UCITS Directive¹ and widely accepted as the core prudential features of European regulated covered bonds (CB). In addition the CRR² has introduced a number of more specific criteria that covered bonds must fulfil in order for institutions investing in those bonds to be able to seek preferential risk weight treatment on their investment. While the national nature of covered bond markets and of covered bond legal/regulatory frameworks is grounded in solid historical and structural factors, European national covered bonds markets share several common features and mechanisms that justify analysing the common key features of safety and soundness of the covered bond instrument as well as common conditions for preferential risk weight treatment.

This report provides a first comprehensive overview, from the regulatory and supervisory perspective, of the EU (including Iceland and Norway) national covered bond frameworks. It identifies key features and practices defining a prudentially sound covered bond market and it provides advice on the overall conditions justifying preferential risk weight treatment of certain types of covered bond in the EU.

The absence of default events and historical losses borne by covered bond investors constitute a positive track record often associated with the covered bond instrument. While the positive historical performance is confirmed in this report, the report also documents (see Chapter 9) that several episodes of bail-out of covered bond issuers have occurred. As covered bond issuers can fail, it is of paramount importance that covered bond frameworks continue to be improved in accordance with the identified principles of best practice. Further convergence of the EU market towards common safeguards of robustness and credit quality may also be beneficial to the development of a more European investor base, where investors across borders can rely on common expectations with regard to the safety and quality of the covered bond instrument, irrespective of where the instrument is issued.

Based on a sample of actual outstanding covered bond programmes (see Chapter 1), the report also reveals the extent and impact of the current preferential risk weighting of certain types of covered bond. The report shows that, overall, covered bonds attract risk weights which are significantly lower than those applicable to other bonds issued by financial institutions. The extent and impact of the preferential risk weight treatment makes it particularly important that any advice on the prudential preferential treatment of certain covered bonds ensures that qualifying criteria are at all times commensurate to the resulting reduction in the capital requirement.

¹ Directive 2009/62/EC.

² Regulation (EU) No 575/2013

This report serves two purposes. Firstly, the EBA has received a call for advice from the Commission in line with the consultation of the EBA envisaged in Article 503 of the CRR. Article 503 mandates the Commission to report to the European Parliament and Council on whether the current own-funds treatment of covered bonds is appropriate, and on the appropriateness of the preferential risk weight treatment of covered bonds collateralised by residential guaranteed loans, aircraft liens and residential mortgage-backed security (RMBS) and commercial mortgage-backed security (CMBS) units, as provided for in Article 496 of the CRR. This report includes the EBA's advice to the Commission on all mentioned matters. Secondly, in its recommendation on the funding of credit institutions, the European Systemic Risk Board (ESRB) has requested that the EBA, together with the national authorities, identifies best practices in covered bond legislations. As the two requests are similar in nature they are both covered in this report.

The legal/regulatory and supervisory framework underpinning the issuance of covered bonds is crucial for an analysis of the risk profile of covered bonds and for the identification of principles of best practice. Therefore, Chapter 2 and 3 provide a thorough comparative analysis of the current legal/regulatory frameworks and of supervisory practices. The overview of legal/regulatory practices covers the legal and bankruptcy framework, features of the cover pool, valuation of mortgage assets and loan-to-value (LTV) criteria, management of asset/liability risks, monitoring, segregation and bankruptcy remoteness of covered bonds and compliance with current EU regulation. The review of supervisory practices considers aspects related to the supervision of the issuer prior to issuance, ongoing supervision, the role of the national authority in an issuer's default and/or resolution scenario and the operational aspects of supervision.

Transparency towards covered bond investors is an essential aspect of covered bond issuance and, as such, is a required area of advice in both the Commission's mandate to the EBA and the ESRB recommendation to the EBA for the identification of principles of best practice. Chapter 4 of the report is therefore exclusively devoted to transparency and includes a review of the main industry initiatives on disclosure of covered bond issuance, namely the European Covered Bond Council (ECBC) initiative of the national transparency templates and the International Capital Markets Association (ICMA) covered bonds' investor template. In addition, the Chapter summarises the disclosure requirements included in national regulatory covered bond frameworks and touches upon the disclosure requirements on covered bonds provided for in the CRR.

The features of specific classes of cover assets, i.e. aircraft liens, residential guaranteed loans and RMBSs and CMBSs in the framework of the current derogation included in Article 496 of the CRR, which are deemed relevant for assessing the appropriateness of each cover asset class falling under the scope of preferential risk weight treatment, are the object of Chapters 5, 6 and 7.

Chapter 8 includes a cash flow sensitivity model that has been developed to analyse the sensitivity of the covered bond performance, i.e. the ability of the covered bond to timely repay investors with interest and principal amounts, to shifts in some of the most relevant risk factors affecting the covered bond instrument. The model reproduces the monthly cash flow structure of a hypothetical covered bond programme, implements a series of separate shifts to individual risk

factors – such as the credit risk associated with the underlying asset, the currency risk, the interest risk, the asset liquidation risk and the liquidity risk associated with the maturity structure of the programme – and looks at the capacity of different hypothetical cover pools to generate cash flows that will be sufficient to cover the liabilities issued against them.

Chapter 9 elaborates on the increased use by institutions of secured funding and raises prudential concerns relating to excessive asset encumbrance levels of institutions. In particular, it highlights the role of covered bonds as one of the main drivers of asset encumbrance for institutions, due to the dual recourse they grant to covered bond holders and the priority claim on the assets registered in the cover pool in the event of an issuer's default, and analyses the risk related to unsecured creditors and depositors due to the covered bond issuance and the resulting asset encumbrance by an institution.

As regards the advice included in the report to address the requests of the Commission and the ESRB, two types of recommendation are embedded throughout the report and summarised in Chapter 10. The first type of recommendation, labelled *Best practice XX*, includes recommendations on what the EBA considers to constitute best practice in the area of covered bonds. Any future considerations regarding changes to national or EU-wide covered bond legislation should in the view of the EBA give consideration to these elements. The second type of recommendation, labelled and numbered *Recommendation EU COM XX*, covers the EBA recommendations to the Commission on the qualifying criteria for preferential risk weight treatment as provided in Article 129 of the CRR, and on the appropriateness of including in the scope of this treatment the specific asset classes requested for review.

The EBA has identified the most important areas in ensuring the establishment of a robust covered bond framework and, accordingly, has indicated the *principles of best practice* in each area based on the currently existing covered bond national frameworks in the EU. The identified areas are:

1. Dual recourse mechanism;
2. Asset segregation and bankruptcy remoteness of covered bonds;
3. Features of the cover pool;
4. Valuation of cover assets and LTV limits and other requirements on mortgage cover assets;
5. Assets and liability risk management: coverage principles and over-collateralisation;
6. Assets and liability risk management: stress testing, use of derivatives for hedging and liquidity risk mitigation;
7. Covered bond monitoring;
8. Role of the competent authority ;
9. Disclosure to investors.

Due to the good historical default/loss performance of covered bonds in the EU and the dual recourse principle embedded in covered bond frameworks, whereby the covered bond holder has

a claim on the issuing institution and a priority claim on the cover assets, the EBA believes that given the special public supervision for the protection of the bond holders mandated by the UCITS Directive as well as the existence of qualifying criteria in Article 129 of the CRR, the present preferential risk weight treatment granted on certain qualifying covered bonds is an adequate prudential measure. However, the EBA considers that the following additional qualifying conditions, covering crucial aspects of covered bond issuance, which are currently being dealt with in diverse ways across national covered bond legal and regulatory frameworks (see Chapter 2), should be introduced in Article 129 of the CRR:

- i) a minimum regulatory over-collateralisation level
- ii) requirement to mitigate liquidity risk by means of liquid assets available at all times
- iii) a more detailed role of the competent authority
- iv) a more detailed specification of the disclosure requirements already included in Article 129(7). Regarding in particular the criteria in Article 129(7)(a) on disclosure to investor institutions, the EBA considers that these criteria leave excessive room for interpretation and should be further harmonised via regulatory technical standards to ensure a uniform application of disclosure to covered bond investors throughout the EU.

While the proposed additional criteria would contribute to ensuring a common minimum level in the credit quality of all qualifying covered bonds, justifying the preferential risk weight treatment on those, the EBA advises that the preferential treatment related to the classes of cover assets indicated for review be reconsidered in light of the arguments presented in this report. In particular, the EBA believes that the residential loans secured by a guarantee should be kept in the scope of the preferential treatment provided that additional qualifying criteria, related to ensuring the legal possibility of placing a first lien mortgage on the properties in the event of default of the guarantor and to ensuring an appropriate capitalisation of the respective guarantor (Chapter 6), are met.

The EBA has identified a series of prudential concerns around the use of mortgage-backed securities (Chapter 7), related to the complexity of the involved structures and their lack of transparency towards the market, for which it is not deemed appropriate to prolong or extend the derogation in Article 496(1) of the CRR on mortgage backed securities (MBSs) backed by own-originated real-estate loans.

Furthermore, the EBA analysed quantitative and qualitative evidence on the covered bond programmes based on aircraft loans (Chapter 5), including the complex assets valuation, the complexity of the international mortgage security recognition framework, the lack of publicly available data on historical performance and the very limited issuance experience, based on which it does not deem appropriate to consider loans secured by aircraft liens for inclusion in the scope of preferential risk weight treatment.

In the longer term the appropriateness of granting certain covered bonds a preferential risk weight treatment would have to be monitored, due to the developments of asset encumbrance and structural subordination of unsecured creditors, as well as to the still unclear implications of

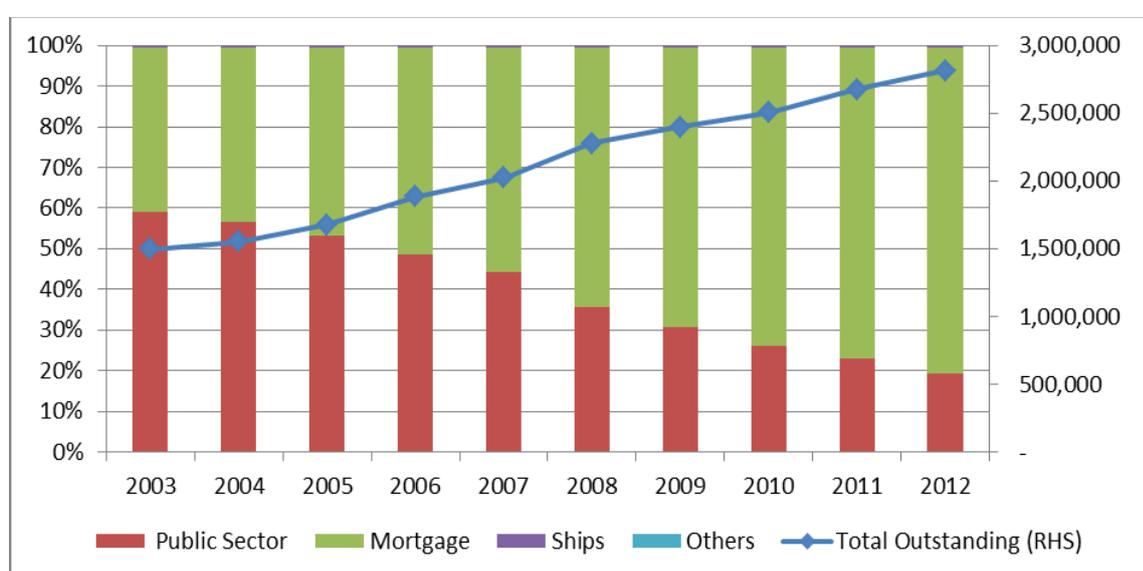
the Bank Resolution and Recovery Directive (BRRD) on the credit quality of covered bonds, in terms of, for instance, the treatment of voluntary (excess) over-collateralisation in case of resolution of the issuer and the extent to which the covered bond programme has access to liquidity, as well as the valuation of the assets.

It should be noted that this report does not provide an assessment of national covered bond systems nor does it look at the performance of individual covered bond systems. Instead, it provides a supervisory assessment of the various elements that the EBA as a minimum considers to be important for a prudentially sound covered bond system.

1. Covered bonds in the European Union

Based on statistics published by the ECBC³ the value of worldwide outstanding covered bonds constantly grew between 2003 and 2012, as illustrated in Figure 1, reaching EUR 2.813 billion at the end of 2012. As of the end of 2012 the EU countries represented 89.5% of total outstanding covered bond levels.

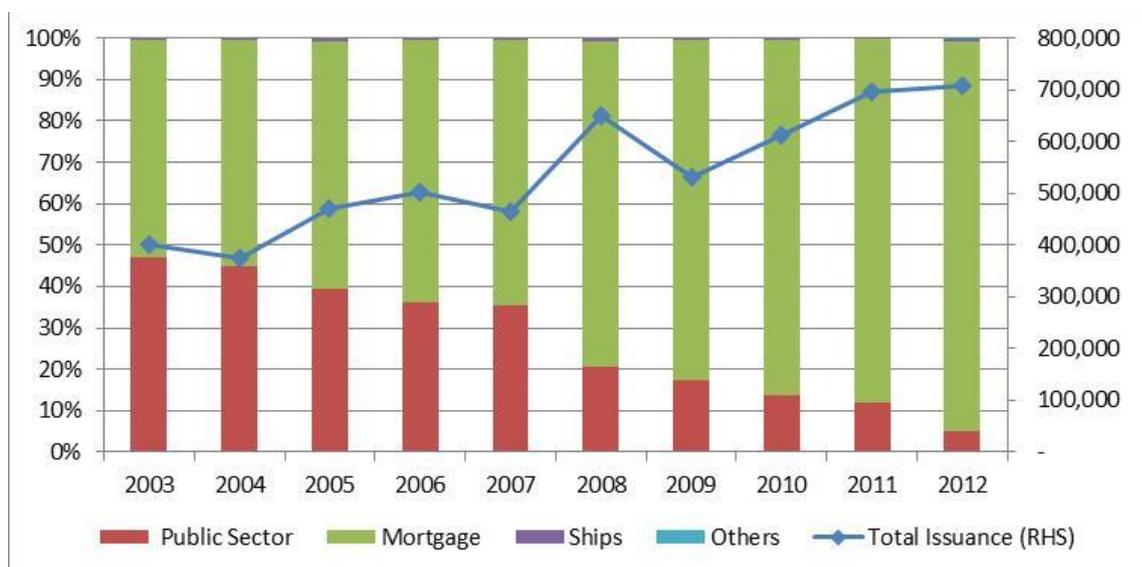
Figure 1 Total outstanding covered bonds by underlying assets, 2003 to 2012 (EUR million)



Mortgage covered bonds represent 80.2% of the market (76.5% in 2011), public sector covered bonds 19.3% (23.1% in 2011), and ship covered bonds 0.5% (stable compared to 2011). Of the 2012 new issuance, over 90% was backed by mortgage collateral (compared to 84% in 2011). Public sector backed covered bonds only made up 5% after they had still representing 12% in 2011 and over one third in 2007. The five largest issuing countries in 2012 were Germany, Spain, Denmark, France and Sweden, respectively.

³ See 2013 ECBC European Covered Bond Fact Book.

Figure 2 Total issuance of covered bonds by underlying assets, 2003 to 2012 (EUR million)



Today, there are 26 active European covered bond markets/jurisdictions in which credit institutions issue covered bonds. In addition, there are at least seven European countries which have enacted or are in the process of updating or adopting covered bond legislations.

1.1 Risk weight treatment of outstanding covered bond programmes: an overview under the standardised approach

Readily available public information can be used to compare the ratings and the corresponding standardised approach risk weights, of EU and EEA issuing institutions and their covered bond programmes.

154 programmes across 14 jurisdictions (AT, BE, DE, DK, ES, FI, FR, IE, IT, NE, NO, PT, SE, UK) can be compared⁴. Mortgage covered bonds account for 126 programmes (82%) and public sector exposures for 25 programmes (16%), while shipping, aircraft and SME asset classes each account for one programme. No distinction is made between mortgage covered bonds backed by residential loans, commercial loans or mixed pools. Similarly, no distinction is made between pools containing loans backed by guarantees (as opposed to by mortgages) or pools containing securitisations (RMBS and CMBS). Covered bonds backed by aircraft loans and covered bond programmes backed by SME

⁴ The sample of EUR benchmark issuers used for the purposes of analysis presented in this section, assembled from different public data sources including Bloomberg, is not meant to fully represent the whole EUR benchmark covered bonds market but rather to provide an illustration of the regulatory treatment of covered bonds under the standardised approach.

loans have also been included in this analysis, although they are currently not eligible for preferential risk weights under Article 129 of the CRR.

Although only 16 issuing institutions (10%) are rated as Credit Quality Step 1 (CQS1), 104 covered bond programmes (68%) are CQS1. Twenty issuing institutions (13%) are CQS4 and four issuing institutions (3%) are CQS5, with no covered bond programmes rated CQS5 and only four covered bond programmes (3%) rated CQS4. Four covered bond programmes are unrated, although in all four cases the issuing institution is rated.

Table 2 CQS comparison

	CQSS1	CQS 2	CQS 3	CQS 4	CQS 5	CQS 6	No public rating
Issuer CQS (count)	16	77	31	20	4	0	6
Covered bond programme CQS (count)	104	22	20	4	0	0	4

Table 3 shows that 104 covered bond programmes (68%) are assigned a risk weight of 10% under the standardised approach, whereas this is not the case for any of the issuers. Of the remaining programmes, 44 (28%) are assigned a 20% risk weight and just six programmes (4%) are/would be assigned a 50% risk weight, including the covered bond programme backed by aircraft loans. Whilst no covered bond programme receives a risk weight of 100% or 150%, by contrast, 31 issuers (20%) are assigned a risk weight of 100%⁵, although none are assigned a risk weight of 150%.

Table 3 Risk weight comparison

	Risk Weight				
	10%	20%	50%	100%	150%
Issuer RW (count)	0	16	108	30	0
CB programme RW (count)	104	42	4	4	0

Of the 154 covered bond programmes, 142 (92%) have public ratings for both the issuer and for the covered bond programmes with the covered bond programme benefitting from the preferential risk weight under Article 129 of the CRR. Of these 142 programmes, 102 (72%) benefit from both a lower risk weight due to the higher CQS of the covered bond programme and the additional preferential risk weight under Article 129 of the CRR granted for a particular CQS.

Table 4 Risk weight reduction

	Covered bond risk weight (CRR 129) Vs. Issuer risk weight				
	Reduction factor : $[RW_{ISSUER} - RW_{CRR129}] / RW_{ISSUER}$				
	0.8	0.6	0.5	0	N/A

⁵ Unrated issuing institutions are assumed to attract a risk weight of 100%

CB programme (count)	102	24	21	1	6
CB programme (% of sample)	66%	16%	14%	1%	4%

In total, 102 covered bond programmes benefit from a reduction in risk weight of 80% versus the risk weight of the issuer and in only one case is there no risk weight benefit, the aircraft covered bond programme. For six programmes the issuing institution is unrated.

1.2 The internal ratings based approach

The comparison presented in the previous sections relates to the treatment of covered bonds under the Standardised Approach provided for in the CRR. The latter also provides that banks may use the internal ratings based approach (IRB) for the calculation of capital requirements, provided that they are authorized to do so and that certain minimum conditions and disclosure requirements are met. Under the IRB, banks can either adopt the foundation approach or the advanced approach with regard to the exposure classes for exposures to central governments and central banks, institutions and corporates.

Under the foundation IRB approach, banks are allowed to estimate the probability of default (PD) of their exposure in the form of covered bonds while maturity is fixed at 2.5 years and the values of other risk parameters are set in the CRR. The regulatory assumption is that irrespective of the underlying class of cover assets the loss given default (LGD) parameter to be used is uniform for all covered bonds: those bonds that seek preferential treatment under the foundation IRB approach can be assigned an LGD of 11.25%. Under the advanced IRB approach, banks are expected to use their own estimates of all risk parameters and the actual maturities of the bonds can be used within the boundaries of a minimum 1 year and a maximum 5 year maturity.⁶

As the above analysis illustrates, covered bonds attract risk weights which are significantly lower than those applicable to other bonds issued by financial institutions. The extent and impact of the preferential risk weight treatment makes it particularly important that any advice on the prudential preferential treatment of certain covered bonds ensure that qualifying criteria are at all times commensurate to the resulting reduction in the capital requirement.

⁶ A comparative analysis as conducted for the Standardised Approach was not possible within this report due to the lack of comprehensive information on internal parameter estimates that are used by IRB institutions to calculate the own funds requirements for their covered bond exposures.

2. Comparative analysis of legal and regulatory national covered bond frameworks

EU prudential legislation defines the features of a ‘covered bond’ in Article 129 of the CRR, where covered bonds are expressly referred to as bonds that fulfil the conditions specified in Article 52(4) of the UCITS Directive. The conditions are as follows:

- a) The bonds are issued by a credit institution which has its registered office in a Member State;
- b) The issuing credit institutions are subject, by law, to special public supervision designed to protect bond holders;
- c) Sums deriving from the issue of those bonds shall be invested in accordance with the law in assets which, during the whole period of validity of the bonds, are capable of covering claims attaching to the bonds and which, in the event of failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.

Article 129 of the CRR establishes criteria regarding the eligibility of underlying assets as well as the disclosure of information from the issuer to the investor (credit institution or investment firm) that have to be fulfilled in order for the investor to be granted preferential risk weight treatment on the covered bond investment.

The vast majority of EU Member States have developed legislative and/or supervisory frameworks specifically dealing with covered bonds. Jurisdictions where the practice of covered bond issuance is more recent have only recently engaged in legislative/regulatory activity in this respect.

In order to carry out a comparative assessment of the legal/regulatory frameworks currently adopted in EU Member States in the area of covered bonds, and to identify best practices, the EBA collected qualitative information from national authorities. The information included in this section should be read in conjunction with the comparative analysis on Member States’ supervisory practices on covered bond issuance (Chapter 3) as well as the information on requirements and practices of disclosure to covered bond investors (Chapter 4).

The information included in this Chapter has been collected from, and validated by the national authorities of the following EU Member States: AT, BG, CY, CZ, DK, EE, FI, FR, DE, EL, HU, IE, IT, LV, LT, LU, NL, PL, PT, RO, SI, ES, SE, UK. Information collected from Iceland and Norway is also included in this report.

The information regarding the legal and regulatory covered bond framework of Belgium and Slovakia was not validated by the corresponding competent authority. Estonia does not currently have a legal/regulatory covered bond framework. Furthermore, no information was available on the

covered bond legal and regulatory frameworks of Croatia⁷ and Malta. As a consequence, Estonia, Croatia and Malta systematically do not appear in this report.

The comparative analysis presented here focuses on a set of regulatory aspects, i.e. regulatory 'Chapters', that are deemed crucial determinants of a national covered bond system in that they shape the mechanics of the covered bond issuance, the risks involved therein and the mitigation measures adopted against those risks.

The next sections provide an overview of the existing provisions within national legal/regulatory covered bond frameworks around the following aspects of covered bond issuance:

1. Structure of the issuer;
2. Legal and bankruptcy framework;
3. Segregation of cover assets and bankruptcy remoteness of covered bonds;
4. Features of the cover pool;
5. Valuation of mortgage assets and LTV criteria;
6. Management of assets and liabilities (A and L) risks;
7. Monitoring of covered bonds issuance;
8. Compliance with EU legislation currently in force.

The information included in this Chapter may refer, in the case of some jurisdictions, to legislative acts and/or regulations which have only recently been proposed and are currently being drafted and /or finalised.

In the case of the Spanish *Cédulas de Internacionalización (CI)* and *Bonos de Internacionalización (BI)* the respective law has been published; however, the regulatory development (Royal Decree) had not yet been approved when this report was being drafted. Some of the information included in the report is based on the latest public available version of the draft Royal Decree⁸.

The Netherlands is currently revising its covered bond legislation from a principle-based to a more rule-based one. Proposed changes include but are not limited to the introduction of a minimum over-collateralisation and a minimum liquidity buffer in the law. Since the new legislation will be effective from January 2015, it is this new legislation that is considered when illustrating the Dutch legal/regulatory covered bond framework in this report.

⁷ As reported by the competent authority no covered bond legal/regulatory framework is currently in place in Croatia where, so far, no covered bond issuance has taken place.

⁸ The latest publicly available version of the draft Royal Decree at the date of drafting of this report was the version subject to the opinion of the State Council.

2.1 Structure of the issuer

Due to intertwined historical and regulatory factors, the business of covered bond issuance has developed across Member States in accordance with different models, in particular with regard to the nature and number of entities involved in the issuance of the bonds.

As illustrated in Table 5 covered bonds can be issued by:

- **‘Universal’ credit institutions:** In a majority of EU Member States covered bonds are issued by credit institutions whose business and funding sources are usually diversified. In this respect, universal credit institutions do not focus on a specific business line, e.g. mortgage lending, and usually hold on the liabilities side of their balance sheet not only covered bonds and equity but also, for instance, deposits, unsecured liabilities and subordinated liabilities. The assets devoted by the issuer to a covered bond programme normally remain on the balance sheet of the issuer and are ring-fenced via inscription in a cover register. The covered bond investor has a first claim on the issuer with respect to the payment obligations associated with the bond and, upon issuer default, a privileged claim upon the assets included in the cover pool backing the bond.
- **Specialised credit institutions:** Some EU Member States have developed the business of covered bond issuance through credit institutions that specialise in a given lending activity (e.g. mortgage lending), and tend to finance themselves mostly or exclusively by issuing covered bonds (many are non-deposit-taking credit institutions although this is not a necessary condition) and have their activities restricted by law/regulation. Examples of issuers that are specialised credit institutions include, but are not limited to, Danish mortgage banks, Luxembourgian mortgage banks, Irish designated credit institutions,⁹ French *Sociétés de Crédit Foncier* (SCF) and French *Sociétés de Financement de l’Habitat* (SFH). Some of the specialised credit institutions issuing covered bonds are subsidiary credit institutions of larger parent credit institutions (e.g. in Ireland): in some cases the assets backing the covered bond issuance are legally transferred from the parent institution or other originating institution (e.g. French SCF). In other cases the specialised covered bonds issuer advances the proceeds of the issuance to an originating institution/parent credit institution and secures the advance by means of a pledge on the cover assets that remain on the balance sheet of the originating credit institution. The latter is the ultimate beneficiary of the proceeds stemming from the covered bond funding.
In the case of specialised issuers covered bond investors usually have a form of dual recourse entailing a recourse to the covered bonds issuer and a priority claim over the cover assets. Generally they do not have recourse to the originating institutions/parent credit institutions of the covered bonds issuers.
- **Credit institutions issuing via special purpose vehicles:** in some EU Member States credit institutions issue covered bonds with the support of a special purpose vehicle (SPV). The use

⁹ In the case of Ireland, specialised credit institutions issuing covered bonds may not carry on a business activity other than a permitted business activity prescribed in regulation. For example their activities are restricted to providing the respective mortgage assets, holding substitution assets, undertaking financing activities connected with the issuance of covered bonds (including taking deposits or other repayable funds from the public and issuing covered bonds) and entering into contracts to hedge risks.

of SPVs for issuing covered bonds was initially adopted as a way to enhance the extent of segregation of the cover assets from the assets and the insolvency estate of the issuer, and therefore to enhance the quality and legal reliability of the priority claim enjoyed by the investor on the cover assets. The role of the SPV in the issuance, as a bankruptcy remote company, varies across jurisdictions.

- In Italy the covered bonds are issued by the issuing credit institution and guaranteed by the SPV towards the covered bond investors. The cover assets are transferred to the SPV that purchases them by means of a subordinated loan granted by the issuer institution itself, which ensures that the loan is repaid only after all covered bonds have been paid back.
- In the Netherlands the transfer of collateral to the SPV (denominated covered bond company or CBC) is done under a guarantee support agreement. This provides the legal basis for the delivery of the collateral to the CBC. The actual delivery of collateral is done in the form of assignment to the CBC. In addition, the CBC pledges the transferred cover assets to a trustee that acquires the security rights on behalf of the covered bond holders.
- In the UK the covered bond issuer transfers the cover assets to an SPV (a limited liability partnership) via an equitable assignment. The cover assets are purchased by the SPV by means of a subordinated intercompany loan granted to the SPV by the issuer itself. As a result, the SPV is the owner of the assets even if those assets are only transferred to the SPV upon a trigger event (e.g. issuer's default). The SPV is fully consolidated on the balance sheet of the issuer. Also in the UK, a security trustee entity holds the security over the assets on behalf of the covered bonds holders.

In a minority of cases the role of the SPV can be the one of the issuer of the covered bonds, often benefiting from the guarantee of a financial institution. In cases where the issuing SPV is not a credit institution the issued bonds cannot be referred to as bonds fulfilling article 52(4) of the UCITS Directive, explicitly requiring for (covered) bonds to be issued by a credit institution. Consequently, such bonds cannot even be referred to as covered bonds, as defined in Article 129 of the CRR.

In some national legal/regulatory covered bond frameworks the following requirements for covered bond issuers apply:

1. General licensing requirement as a credit institution and/or specific '**covered bond issuer licence**' imposing requirements which supplement the requirements related to the general licensing required for credit institutions;
2. **Covered bond-specific capital requirements**, supplementing the capital requirements imposed on institutions by existing prudential regulations, i.e. CRR/CRD IV;
3. Specific restrictions on the composition of cover pools, which may include a requirement to include **only own-originated assets** in cover pools;

In several jurisdictions every prospective issuer is required to apply for a covered bond issuer-specific licence granted by the national authority. In Ireland, for instance, issuers, who are generally subsidiaries of existing credit institutions, must first be issued with a bank licence and secondly appointed as a "designated credit institution" in order to become a covered bond issuer. The

granting of and the ongoing entitlement to this licence entails compliance with requirements and conditions whose scope differs substantially across Member States, including different combinations of the provisions in points (2) and (3) above as well as risk management, governance, and internal control requirements and reporting requirements.

In other jurisdictions, where the covered bond issuers are not required to be licenced as such, the fulfillment of requirements related to covered bonds issuer-specific capital requirements and restrictions on the composition of cover pools as well as risk management, governance, internal control and reporting requirements, is the necessary condition for the national authority not to object to the covered bonds issuance.

Table 5 classifies EU jurisdictions (as well as Iceland and Norway) with respect to the legally admitted covered bonds issuance models and with respect to the provisions at points (1) to (3) above.

Table 5 Issuer model across jurisdictions

Provisions on issuer model		Jurisdictions
Issuer model	'Universal' credit Institution	AT, BE, BG, CY, CZ, DK, DE, EL, FI, IS, LV, PT, RO, SK, SI, ES, SE
	Specialised credit institution (* non-deposit-taking)	DK*, ES*, FI*, FR*, HU, IE, LU*, NO*, PL, PT*, RO, SE,
	Credit institution and SPV	IT, NL, ES, ¹⁰ UK
CB Issuer-specific licensing requirements		AT (PB, FBS), BE, CY, DK, FI, DE, EL, IE, IS, LU, NL, NO, PL, RO, SI, SE
Covered bond issuer-specific capital requirements		CY, DE, EL, IT ¹¹
Mandatory own origination of cover assets		BG, CY, EL (credit institution issuer model), NO

2.2 Legal framework and bankruptcy framework

As far as national bankruptcy law is concerned, a majority of EU jurisdictions (as well as Iceland and Norway) have introduced bankruptcy provisions that are specific to the event of default of the covered bond issuer and that supersede the general banking insolvency law. Bulgaria, Finland and the Netherlands do not have any covered bonds-specific insolvency provisions embedded in their legal frameworks.

¹⁰ The issuer model using an SPV structure is currently under legislative development in Spain.

¹¹ (i) Own funds of the bank shall be higher than EUR 500 million and total capital ratio not less than 9%; (ii) If the Total Capital Ratio (TCR) is between 9% and 10% and the Tier1 ratio is not less than 6% the cover pools shall be lower than 25% of total eligible assets; (iii) If TCR is between 10% and 11% and the Tier1 ratio is not less than 6,5%, the cover pools shall be lower than 60% of total eligible assets.

EBA recommendations on dual recourse

As mentioned in this Chapter, Article 52(4) of the UCITS Directive establishes the investor's priority claim over the cover assets as one of the main specific features of a covered bond. Together with the investor's claim on the issuer of the covered bond, the priority claim determines what market practitioners have defined as the 'dual recourse' nature of the covered bond. A common component of the covered bond legal frameworks analysed extends a *pari passu* claim of the covered bond investor on the other assets of the issuing institution in a scenario where, following the issuer's default or resolution, the recourse to the cover assets should prove insufficient for the full repayment of the covered bond investor. Due to the prudential concerns related to asset encumbrance, particularly in the case of universal bank issuers and other issuers with a component of unsecured creditors that is not minor such claim should not rank senior with respect to the unsecured creditors' claim.

Best practice 1: Dual recourse

In accordance with Article 52(4) of the UCITS Directive the (covered) bond must grant the investor: i) a claim on the covered bond issuer limited to the complete fulfilment of the payment obligations attached to the covered bond, and ii) in case of issuer's default, a priority claim on the assets included in the cover pool limited to the complete fulfilment of the payment obligations attached to the covered bond.

Should the assets included in the cover pool prove insufficient to fully meet the payment obligations towards the covered bond investor, the covered bond investor should be granted a claim on the covered bond issuer's insolvency estate which ranks *pari passu*¹² with the claim of the issuer's unsecured creditors.

2.3 Segregation of cover assets and bankruptcy remoteness of covered bonds

The segregation of the cover assets that collateralise the covered bond is a core principle of the *dual recourse* mechanism characterising the covered bond (as per Article 52(4) of the UCITS Directive). As the issuer of the covered bonds enters default ensuring that the cover assets can be identified is crucial for the realisation of the covered bond investor's preferential claim over the cover assets.

Equally relevant to the *dual recourse* mechanism is ensuring that the covered bond programme continues to be administered following the default of the issuer, i.e. it is bankruptcy remote, with a view to fulfilling the payment obligations towards covered bond investors (and other counterparties).

The national covered bond legal/regulatory frameworks feature different provisions that aim to ensure the segregation of the cover assets and the bankruptcy remoteness of the covered bonds, including:

¹² In the case of non-deposit-taking specialised covered bonds issuers, i.e. issuers whose business only or predominantly focuses on the issuance of covered bonds, the covered bond investor could instead also be granted a claim on the covered bond issuer's insolvency estate which ranks senior to the claim of the issuer's unsecured creditors.

- a) The requirement to maintain a **cover asset register**, where all the assets included in the cover pool are to be recorded, in order to separate them from any other assets on the issuer's balance sheet;
- b) The requirement that interest and principal payment obligations attached to the covered bonds **do not 'accelerate'** upon default of the issuer; i.e. they continue to be fulfilled in accordance with the contractual schedules to the extent possible.
- c) The requirement that a **special administrator** of the covered bond programme be appointed upon default of the issuer, tasked with ensuring that all obligations towards covered bond investors are duly fulfilled.

Cover asset register

Most of the jurisdictions implementing an ad hoc legal/regulatory framework for the issuance of covered bonds provide that the assets selected for inclusion in the cover pool of the covered bonds programme be registered in a so-called cover asset register. This measure of segregation is particularly relevant for issuers adopting a *universal bank* issuer model, where the cover assets are owned by the issuing institution and remain on its balance sheet. As mentioned in section 2.1, the segregation of cover assets is achieved via the transfer of assets to an SPV vehicle in NL, IT and UK. In France the specialised entities SCF and SFH issuing covered bonds have all the assets on their balance sheet as registered cover assets.

In several jurisdictions the legislation/regulation explicitly mentions that the cover register should include not only the primary cover assets, i.e. the cover assets defining the type of covered bond programme, but also the derivatives entered into by the issuer for the covered bond programme business as well as any substitution assets.

Acceleration of payment obligations

The automatic acceleration of the payment obligations attached to the covered bonds upon issuer default is not allowed in AT, BE, CY, DK, FI, FR, DE, EL, HU, IE, IS, IT, LV, LU, NO, PL, PT, RO, SK, SI, ES, SE or UK¹³. In the covered bonds frameworks of the Netherlands and the UK, the obligations attached to the covered bonds accelerate as obligations of the issuer towards the SPV that guarantees the cover bonds and segregates the cover assets. In the covered bond framework of the Czech Republic the law establishes that the obligations attached to the covered bonds accelerate upon the issuer's bankruptcy, while in Bulgaria no specific provision exists with respect to the acceleration of payments to investors.

Special administrator

Several legal/regulatory covered bond frameworks require that, upon issuer default, a special administrator of the covered bond programme is appointed and tasked with at least the fulfilment of all the scheduled payment obligations attached to the covered bond programme.

¹³ The fact that automatic acceleration is not allowed does not prevent, at least in some jurisdictions, that specific contractual conditions and/or decisions of the covered bond holders' representative or of other entities may determine acceleration of the covered bonds upon issuer's default.

The appointment of the special administrator is not foreseen by the law/regulation in CZ, IT, NL, ES and SE. In the case of Danish specialised issuers almost all the creditors of the issuer are represented by covered bond investors: for this reason the bankruptcy liquidator of the issuer also deals with managing the obligations towards the covered bond holders. As regards Danish universal bank issuers, a special public administrator may be appointed by the competent authority.

Certain national covered bond frameworks detail the tasks assigned to the special administrator (see Table 6 below for the examples of Germany and Slovenia).

Table 6: Duties/powers of the special covered bond administrator in Germany and Slovenia

Jurisdiction	Duties/powers of the special covered bond administrator
DE	<p>Duties:</p> <ul style="list-style-type: none"> • The cover pool administrator is under the supervision of the insolvency court appointing him, and is obligated to respond to court's requests for information (Sec. 31 (1) of the Pfandbrief Act (PfandBG)) • The cover pool administrator in relation to the national authority shall assume the duties which the Pfandbrief issuer must carry out in accordance with the Pfandbrief Act and the Banking Act in connection with the management of the cover assets(Sec. 31 (1) PfandBG) • The cover pool administrator shall monitor the recoverability of the individual cover pools at regular intervals, (Sec. 31 (5) PfandBG). • The cover pool administrator shall manage the assets with the due care of an orderly and conscientious manager. If he violates his duties he shall be liable to pay damages to the Pfandbrief bank (Sec. 31 (6) of the PfandBG) • The cover pool administrator and the insolvency administrator shall notify each other of any information which might be of importance for the insolvency proceedings of the Pfandbrief bank or the management of the cover assets (Sec. 31 (7) PfandBG). <p>Powers:</p> <ul style="list-style-type: none"> • With the appointment of the cover pool administrator the right to manage and dispose of all the recorded assets shall be transferred to the cover pool administrator (Sec. 30 (2) sentence 2 PfandBG), also insofar as they are not designated as cover for the Pfandbrief bank's Pfandbriefe. In particular, the cover pool administrator shall collect claims according to their maturity and liquidate mortgages that are ripe for liquidating (Sec. 30 (3) PfandBG) • The cover pool administrator may carry out legal transactions in respect of the Pfandbrief bank with limited business activity insofar as this is necessary for the proper administration of the cover pools in the interest of the complete and punctual fulfilment of Pfandbrief liabilities; in particular he/she may procure liquid funds to repay the outstanding Pfandbriefe on time(Sec. 30 (2) sentence 5 PfandBG) • The cover pool administrator represents the Pfandbrief bank in and out of court in respect of the sphere of business of the Pfandbriefbank with limited business activity(Sec. 30 (2) sentence 6 PfandBG) • To the extent necessary for the proper administration of the cover pools in the interest of the complete and punctual fulfillment of the Pfandbrief liabilities, the cover pool administrator shall also be entitled to perform other activities with regard to the administration of the cover pools, in particular to create a new funding register within the meaning of Sec. 22a to 22o of the Banking Act and to use an existing funding register of the Pfandbrief bank(Sec. 30 (2) sentence 7 PfandBG) • The cover pool administrator shall be entitled to make use of staff and material of the Pfandbrief bank in the performance of his tasks(Sec. 31 (8) PfandBG) • The cover pool administrator may transfer all or a part of the assets recorded in the cover register and the

	liabilities from Pfandbriefe as an entirety to another Pfandbrief bank(Sec. 32 (1) PfandBG)
SI	<p>The responsibilities of the covered pool administrator are the following (Article 47):</p> <ul style="list-style-type: none"> • Managing and maintaining the cover assets to the extent necessary for further and continued settlement of liabilities to holders of covered bonds and creditors under the derivative financial instruments,; • With the permission of the court he/she can realise the cover assets and make an early repayment of the liabilities to holders of covered bonds and creditors under the derivative financial instruments; • He/she has the right to hold that part of the receivables from mortgage loans that are not considered to be cover assets, i.e. the portion of the loan exceeding the LTV limit (for example: above 80% LTV for residential mortgages); • He/she shall transfer the portion of the cover assets remaining after meeting of all liabilities from covered bonds and the derivative financial instruments to the issuer's insolvency estate; the issuer's official receiver (liquidator) may also request that the cover pool administrator allocate a portion of the assets that will, beyond any doubt, not to be required for the settlement of liabilities, to the issuers insolvency estate; • He/she shall prepare an opening balance sheet, including cover assets and liabilities, within 30 days of his appointment and prepare an annual report on cover assets and liabilities within 30 days of the end of each calendar year; he shall prepare a closing balance sheet and a final report after the due date of the last payment of liabilities; • He/she shall report to the bankruptcy court or the Bank of Slovenia on their request; • He/she may transfer the total cover asset and liabilities for issued covered bonds to another issuer by contract;

EBA recommendations on segregation of cover assets and bankruptcy remoteness

The segregation of the cover assets is a necessary component of the dual recourse mechanism, in that only by an effective segregation of the cover assets the priority claim of the covered bond investor on the cover pool can be ensured in the event of issuer default or resolution. While the report identifies different models of covered bond issuer, across jurisdictions, the EBA identifies as an underlying principle of best practice the legally binding and enforceable arrangements establishing the existence and maintenance of a cover register and/or the transfer of the cover assets to a legally remote vehicle (an SPV). The segregation arrangement adopted, depending on the issuer's model and other factors, should include not only the primary assets against which the covered bond is collateralised but also, if applicable, substitution assets and derivative contracts entered into to hedge the risks arising within the programme. Both substitution assets and derivative contracts are equally relevant assets used in the programme with the primary aim of ensuring complete and timely fulfilment of the payment obligations towards the investor. As such, their segregation is deemed equally relevant.

Best practice 2 - A: Segregation of the cover assets

The identification and effective segregation of all the assets over which the investor has a priority claim should be ensured, depending on the issuer model adopted at the national level, either by registration of the cover assets into a cover register or by transfer of the cover assets to a special entity (SPV or specialised institution). The covered bond legal/regulatory framework should ensure that the establishment of the cover register and/or the transfer of the (cover) assets to a special

entity result in legally binding and enforceable arrangements, including in the event of default or resolution of the issuer.

The segregation arrangement should include all primary assets covering the covered bonds as well as the substitution assets and derivatives entered into to hedge the risks arising in the covered bond programme.

The remoteness (i.e. insulation) of the covered bonds from the bankruptcy of the issuing entity is instrumental to ensure the full and timely repayment of the covered bond investor. The EBA identifies four principles of best practice for ensuring an appropriate level of bankruptcy remoteness: the bankruptcy law treatment of the covered bonds, the lack of automatic acceleration of payments, the existence of pre-established procedures for the management of the issuer's default phase and the implementation of an independent management policy of the covered bond to ensure the preferential treatment of the bond holder.

Irrespective of whether a given jurisdiction has developed a bespoke bankruptcy framework for the issuance of covered bonds or treats covered bonds within the standard bankruptcy legal framework, the bankruptcy framework should ensure that all claims on the assets of the cover pool other than the covered bond investors' claims and the claims of other entities involved in the covered bond issuance be treated on a subordinate basis.

The lack of automatic acceleration of the payment obligations upon issuer's default, which is a widespread regulatory practice across the jurisdictions analysed in this report, ensures that the options available to the administration of the covered bond programme and to the contractual parties for the complete and timely fulfilment of the investor's claim do not face any constraint. The decision to rely on the resources available in the cover pool, up until their liquidation, for the accelerated repayment of the covered bonds is in fact only one of the scenarios to be considered after the issuer's insolvency.

An independent administration of the covered bond programme, with a view to satisfying with priority the covered bond investor's claims, is deemed fundamental for the realisation of dual recourse. In this respect, *ex ante* legal clarity over the powers and duties of the post-issuer's insolvency administration adds to the transparency of the programme vis-à-vis the investor and enhances the confidence of the investor in the functioning of the dual recourse mechanism. As assessed within this report, depending on the jurisdiction, the post-issuer's insolvency administration of the covered bond is often delegated to a separate independent entity (often called the special business administrator) but may also be assigned to the same insolvency court dealing with the issuer's procedures. The principle of independent administration of the covered bond programme, identified as a best practice in this report, is deemed to be compatible with both existing approaches, i.e. it does not necessarily imply that two different entities should be tasked with, respectively, the administration of the issuer's insolvency and the covered bond programme. However, procedures should be in place to ensure independence of the management.

From an operational perspective, the establishment of procedures to be followed upon issuer's insolvency also materially contributes to the bankruptcy remoteness of the covered bond programme.

Best practice 2 - B: Bankruptcy remoteness of the covered bond

The legal/regulatory covered bond framework should not require the payment obligations attached to the covered bond to automatically accelerate upon the issuer's default or resolution, in order to ensure that the options available to the covered bond administration to achieve full and timely repayment of the bonds are not constrained.

The legal/regulatory covered bond framework should ensure that the assets registered in the cover pool and/or transferred to a special entity are treated within the insolvency proceedings related to the issuer's default, giving priority to the covered bond investor and any other parties whose claim ranks at least *pari passu* with the claim of the covered bond investor, and do not permit a claim by the issuer's insolvency estate on the cover pool assets other than on a subordinate basis.

The covered bond legal/regulatory framework should ensure that the issuer has a plan in place at all times specifying the operational procedures aimed at ensuring an orderly functioning of the covered bond programme upon default or resolution of the issuer.

Best practice 2 - C: Administration of the covered bond programme post issuer's default or resolution

The legal/regulatory covered bond framework should provide that upon issuer's default or resolution the covered bond programme is managed in an independent way and in the preferential interest of the covered bond investor.

The legal/regulatory covered bond framework should provide for clear and sufficiently detailed provisions over the duties and powers of the administrative function so as to ensure that the latter can take all action which may be necessary for the full realisation of the interests of the covered bonds investor, while maintaining a high level of legal clarity and transparency vis-à-vis the investor over the covered bond management in scenarios of potential distress such as the issuer's default or resolution.

2.4 Features of the cover pool

Cover pools tend to be dynamic as issuers tend to adjust their quality and composition on an ongoing basis to ensure that coverage requirements are fulfilled at any time, regulatory criteria and tests are met and, as covered bonds are usually rated by at least one External Credit Assessment Institution (ECAI), to keep a targeted ECAI rating assessment. The quality of the cover pools affects the performance of covered bond programmes and, ultimately, the risk that both interest and principal payment obligations may not be fulfilled as they become due, through at least the following channels:

- the credit risk associated with the underlying obligors;
- the recovery capacity associated with the loans;
- the build-up of concentration risks at geographical, asset-class, individual underlying obligor or financial sector-specific levels;

- the interest rate risk, currency risk and liquidity risk, particularly in an issuer's default scenario;
- the market price volatility of the underlying assets and liquidity of those assets, particularly in the event of issuer default;
- the type of security over the underlying assets and their collateralisation mechanism, including the enforceability of the security over the underlying assets;
- the risks associated with the quality and quantity of substitution assets that are included in the cover pool.

To address, among others, the issues mentioned above EU national authorities regulate the nature and characteristics of cover pools by establishing provisions in the following areas:

- the definition of eligible asset classes to be included in cover pools;
- the definition of eligible geographical areas where underlying assets can be located or registered;
- the treatment of mixed (i.e. multi-asset class) cover pools;
- the limit of the exposure to other credit and financial institutions at the issuer's level;
- the mitigation of concentration risks within the cover pool;
- the valuation of mortgage assets, mortgage LTV criteria and other regulatory limits on mortgage pools (see Section 2.5);
- other regulatory limits on public sector pools;
- provisions on the use of derivative instruments for the hedging of foreign exchange and interest rate risks (see Section 2.6.2);
- provisions on the management of liquidity risk (see Section 2.6.3);
- the definition of criteria on the quality and quantity of substitution assets to be eligible for inclusion in the cover pool (see Section 2.6.3).

Most of the jurisdictions that implement a covered bonds-specific legislation/regulation explicitly define the asset classes which issuers are allowed to use as cover assets in regulated covered bonds programmes. In the Netherlands only securitisations and covered bonds are explicitly not allowed as standard cover assets. The admission of all other underlying assets is a case-by-case choice of the national authority upon registration of the individual covered bond programme.

As illustrated in Table 7:

- All of the jurisdictions with a covered bonds-specific legislation/regulation allow for residential and/or commercial mortgages to qualify as cover assets for at least one of their regulated covered bond types;
- France is the only jurisdiction where (residential) real estate loans secured by a financial guarantee, and not by a mortgage security, are admitted as underlying assets (for all French regulated covered bonds);
- Exposures to public sector entities, as main cover assets, are allowed in every jurisdiction with the exception of Bulgaria, Hungary and Romania;
- A minority of jurisdictions allows for securitisation notes as underlying cover assets, including senior MBSs in France (OH bonds), senior MBSs and public sector asset-backed securities (ABSs) in France (OF bonds), senior RMBSs and CMBSs in Ireland (MACS and CACS bonds respectively), senior MBSs in Italy and MBSs in Luxembourg (LGH bonds). Belgium appears to

be the only covered bond legal/regulatory framework where only own-issued MBSs and public sector asset-backed securities (ABSs) are eligible for inclusion in the cover pools;

- A specific regulated type of covered bonds in the framework of Luxembourg (*Lettre de Gage Mutuelle*) admits exposures to other credit and financial institutions as underlying cover assets. The legislation in the Netherlands, in principle, does also allow for the inclusion of such exposures as standard cover assets. In other jurisdictions exposures to credit and financial institutions are mostly allowed in covered bond programmes as complementary/substitution assets and not as primary (standard) cover assets;
- Ship loans are eligible underlying cover assets in Cyprus, Denmark (SDOs bonds issued by universal banks), Germany (Schpfe bonds), Greece, Luxembourg (LGMO bonds) and, in principle, the Netherlands;
- Aircraft loans are eligible underlying cover assets in Germany (Flgzpfe bonds), Luxembourg (LGMO bonds) and the Netherlands;
- In accordance with the covered bond legal/regulatory framework of Luxembourg (LGMO bonds) other movable assets are eligible as primary cover assets subject to the authorisation of the national authority;
- CI bonds in Spain allow for loans to finance the export of goods and services or the internationalisation of firms, granted to the EU non-Spanish public sector or the non-EU public sector, or to a borrower different from the public sector but guaranteed by the public sector or by export credit agencies;
- BI bonds in Spain allow for the same loans as in the case of CI, with the addition of loans to finance the export of goods and services or the internationalisation of firms granted directly to corporates under certain conditions.

Table 7 Eligible asset classes within regulated covered bonds (primary cover assets, i.e. excluding substitution assets)¹⁴

	Residential mortgages	Commercial mortgages	Third party guaranteed real estate loans	Exposures to public entities	MBSs	Public sector ABSs	Exposures to credit institutions	Ship loans	Aircraft loans	Other movable assets	Loans to finance exports of goods and services and/or the internationalization of firms
AT – PB	x	x		x (including guarantee)							
AT – FBS	x	x		x (including guarantee)							
AT – HYP	x	x		x (including guarantee)							
BE	x	x		x	x (own)	x (own)					
BG	x	x									
CY	x	x						x			
CZ	x	x		x							
DK – RO	x	x		x							
DK – SDO mb	x	x		x							
DK – SDRO	x	x		x							

¹⁴ The category of underlying assets ‘Exposures to credit institutions in this table reflects the regulatory approach to allowing such exposures as ‘standard’ cover assets. For the allowance of exposures to Credit Institutions as complementary/substitution assets see Table 40 in Annex II.

	Residential mortgages	Commercial mortgages	Third party guaranteed real estate loans	Exposures to public entities	MBSs	Public sector ABSs	Exposures to credit institutions	Ship loans	Aircraft loans	Other movable assets	Loans to finance exports of goods and services and/or the internationalization of firms
DK – SDO ub	x	x		x				¹⁵ x			
FI	x	x		x							
FR – CRH	x		x (residential)								
FR – OH	x		x (residential)		x (senior)						
FR – OF	x	x	x (residential)	x	x (senior)	x					
DE – Hypfe	x	x									
DE – Öpfe				x							
DE – Schpfe								x			
DE – Flgzpfe									x		
EL	x	x		x				x			
HU	x	x									
IE – MACS	x	¹⁶ x			RMBS (senior)						

¹⁵ Danish universal banks may issue covered bonds based on ship loans, although the loans have to be placed in special cover registers.

¹⁶ At most 10% of the cover pool.

	Residential mortgages	Commercial mortgages	Third party guaranteed real estate loans	Exposures to public entities	MBSs	Public sector ABSs	Exposures to credit institutions	Ship loans	Aircraft loans	Other movable assets	Loans to finance exports of goods and services and/or the internationalization of firms
IE – CACS		x			CMBS (senior)						
IE – PACS				Sovereigns, public sector entities, multilateral development banks, international organisations							
IS	x	x		Sovereigns, sovereign guaranteed and municipals.							
IT	x	x		x	x (senior)						
LV	x	x		x							
LU – LGH	x	x			x						
LU – LGMo								x	x	x	
LU – LGMu							x				
LU – LGP				x							
NO	x	x		x						x	

	Residential mortgages	Commercial mortgages	Third party guaranteed real estate loans	Exposures to public entities	MBSs	Public sector ABSs	Exposures to credit institutions	Ship loans	Aircraft loans	Other movable assets	Loans to finance exports of goods and services and/or the internationalization of firms
PL	x	x		x							
PT – OH	x	x									
PT – OSP				x							
RO	x	x									
SK	x	x		x							
SI – MRG	x	x									
SI – MUN				x							
ES – CH	x	x									
ES – BH	x	x									
ES – CT				x							
ES – CI											¹⁷ x
ES – BI											¹⁸ x

¹⁷ Loans of high quality (as defined in the text of the corresponding law) to finance exports of goods and services or the internationalisation of firms, granted to EU non-Spanish public sector or to non-EU public sector, or to a borrower different from the public sector but guaranteed by the public sector or by export credit agencies.

	Residential mortgages	Commercial mortgages	Third party guaranteed real estate loans	Exposures to public entities	MBSs	Public sector ABSs	Exposures to credit institutions	Ship loans	Aircraft loans	Other movable assets	Loans to finance exports of goods and services and/or the internationalization of firms
SE	x	x		x							
UK		x		x							

¹⁸ Same loans as in the case of CI plus loans to finance exports of goods and services or the internationalisation of firms granted to corporates which would receive a risk weight of 50% or lower according to the solvency regulation.

Regulatory limits on the geographical location of cover assets differ across jurisdictions. Even though it is not always clarified in the national legislation/regulation on covered bonds, the geographical location in terms of these limits refers to the legal location of the underlying asset in the case of mortgage cover assets and residential loans secured by a guarantee, and to the legal location of the underlying obligor in the case of cover assets other than mortgage cover assets.

As illustrated in Table 8 below:

- In France (CRH bonds), Greece, Poland and Slovakia mortgage cover pools can only consist of domestic mortgages. Mortgage location is not regulated in Bulgaria, Lithuania and Norway. In Germany mortgages can generally have a worldwide location in the case of German bonds backed by aircraft loans or ship loans provided that the legal framework of the state where the ship mortgage or the aircraft mortgage is registered is comparable to the German legal framework and the judicial system does not effectively discriminate foreign creditors. Most of the jurisdictions allow for an EEA, EFTA or OECD location of the underlying mortgages, and some restrict OECD locations to Switzerland, United States, Canada, Japan, Australia and New Zealand as eligible locations.
- Public sector exposures are restricted to the domestic market in Slovakia, while they cover EEA, EFTA, OECD, multi-lateral development bank locations and international organisations in other jurisdictions.
- According to the Spanish framework for CI and BI bonds, the underlying debtors can be located worldwide.¹⁹

Table 8 Limits on geographical location of underlying assets²⁰

Jurisdiction	Mortgage pools	Public sector exposures	Loans to finance exports of goods and services and/or the internationalisation of firms
AT – PB	Mortgages: EEA, CH	EEA, CH	/
AT – FBS	EEA, CH	EEA, CH	/
AT – HYP	EEA, CH	EEA, CH	/
BE	EEA	OECD, MDBs	/
BG	No rule	EEA, MDBs	/
CY	EEA	EEA, CH, USA, CA, JP, other countries CQS1	/
CZ	EEA	EEA	/
DK – RO	EEA, OECD	EEA, OECD	/
DK – SDO mb	EEA, OECD	EEA, OECD	/

¹⁹ See footnotes 17 and 18.

²⁰ In this table, “MDBs” stands for multi-lateral development banks, “IO” stands for international organisation, “/” stands for not applicable and “N/A” stands for non-available information.

Jurisdiction	Mortgage pools	Public sector exposures	Loans to finance exports of goods and services and/or the internationalisation of firms
DK – SDRO	EEA, OECD	EEA, OECD	/
DK - SDO ub	EEA, OECD	EEA, OECD	/
FI	EEA	EEA, MDBs	/
FR - CRH	Domestic	/	/
FR - OH	Mortgages: EEA + other countries CQS1	/	/
FR - OF	Mortgages: EEA + other countries CQS1	EEA + MDBs + CH, USA, CA, JP + other countries CQS1	/
DE - Hypfe	EU, EEA, CH, USA, Canada, Japan	/	/
DE - Öpfe	/	EU, EEA, MDBs, (CH, USA, CA, JP, if CQS1)	/
DE - Schpfe	worldwide ²¹	/	/
DE - Flgzpfe	worldwide ²²	/	/
EL	Domestic	EEA, OECD, MDBs, other	/
HU	EEA	/	/
IE	EEA, US, CA, JP, CH, NZ, AU.	EEA, US, CA, JP, CH, NZ, AU, MDBs, IO MDBs	/
IS	EU and EFTA	EU and EFTA	/
IT	EEA, CH	EEA, CH	/
LT	EEA	/	/
LV	EU	EU	/
LU - LGH	EU, EEA, OECD, Other countries with high credit rating, subject to concentration limits	/	/
LU - LGMo	EU, EEA, OECD, Other countries with high credit rating, subject to concentration limits	/	/
LU - LGMu	/ ²³	/	/

²¹ Provided legal framework for registering a mortgage is comparable to German legal framework and the judicial system does not effectively discriminate foreign creditors.

²² See footnote 21.

²³ When issuing LGMu, issuers may only grant loans (i) to credit institutions established in the EU/EEA/OECD, which are participants in a special institutional guarantee scheme or (ii) guaranteed by bonds issued, or other commitments taken, by the credit institutions referred to in sub-paragraph (i) above.

Jurisdiction	Mortgage pools	Public sector exposures	Loans to finance exports of goods and services and/or the internationalisation of firms
LU – LGP	/	EU, EEA, OECD, other countries with high credit rating subject to concentration limits	/
NL	EEA	OECD	/
NO	EEA, OECD	EEA, OECD	/
PL	Domestic	EEA, OECD	/
PT – OH	EU	/	/
PT – OSP	EU	/	/
RO	EEA	N/A	/
SK	Domestic	Domestic	/
SI – MRG	EEA, CH	/	/
SI – MUN	/	EEA, CH	/
ES – CH ²⁴	EU	/	/
ES – BH	EU	/	/
ES – CT	/	EEA	/
ES – CI	/	/	worldwide ²⁵
ES – BI	/	/	worldwide ²⁶
SE	EEA	EU	/
UK	EEA, CH, CA, US, JP, NZ, AU, Channel Islands, Isle of Man	EEA, CH, CA, US, JP, NZ, AU, Channel Islands, Isle of Man	/

²⁴ In the case of CH, it is important to bear in mind that there is a distinction between “cover assets” and “eligible assets for the purposes of determining the amount of CH that can be issued”. “Cover assets” consist of the entire mortgage loan book registered in favour of the issuer. “Eligible assets for the purposes of determining the amount of CH that can be issued” are a subset of the “cover assets” (i.e mortgage loans that comply with particular conditions). For “cover assets”, there are no geographical restrictions. Table 8 shows the restrictions regarding “eligible assets for the purposes of determining the amount of CH that can be issued.

²⁵ Subject to credit quality requirements.

²⁶ See footnote 25.

The behaviour of different underlying asset classes, including but not limited to their credit risk performance, market value volatility and liquidation potential, may be substantially different, particularly in an issuer's default scenario where the covered bond programme is more likely to have to rely on the pool to achieve the timely repayment of principal and interest amounts to covered bonds holders. For these reasons among others, the creation of mixed pools may expose the pool to substantially different risks, if compared to pools characterised by similar underlying assets.

As illustrated in Table 9 and Table 10:

- In a limited number of jurisdictions **multi-asset class cover pools** are not allowed while in other jurisdictions composition limits apply to mixed pools, mostly on the proportion of the pool represented by: commercial mortgages, guaranteed loans (in France), securitisation notes or, more generally, assets other than mortgages and public sector exposures;
- None of the jurisdictions explicitly forbid the creation of cover pools where assets are located in **multiple geographical areas**; however, in a limited number of jurisdictions limits apply to cover assets located in certain jurisdictions.

Article 129(1)(c) of the CRR provides that the amount of cover assets that constitute **exposures to other institutions** be limited to 15% of the nominal amount of outstanding covered bonds of the issuing institution (i.e. limit at issuer level). The same Article of the CRR adds a minimum credit quality condition by imposing that the underlying exposures to institutions be CQS1. Only those exposures to credit institutions having maturity equal to or shorter than 100 days can be of CQS2.²⁷

Public sector pools are in some jurisdictions subject to regulatory limits mostly addressing the borrower's credit quality as well as the specific nature of the public borrower (see Table 11 Other requirements on public sector pools).

Mortgage pools are subject to several requirements illustrated in more depth in the following section of this Chapter.

Germany and Slovenia impose concentration limits at the level of the individual obligor's name on underlying mortgage exposures and exposures to credit institutions, respectively (see Table 12 Concentration limits).

Table 9 Mixed pools

Provision	Jurisdictions	
	YES (* indicates limitations – summarised in next table)	NO
More than one asset type allowed in one cover pool (mixed pools) ²⁸	AT (all bonds), BG, CY*, CZ*, DK (all bonds) ²⁹ , FI*, FR*, DE (Hypfe), EL, IE, IT, IS, LT, LV, LU	DE (Öpfe, Schpfe, Flgzpfe), LU (LGP, LGMu),

²⁷ The last subparagraph of article 129(1) of the CRR allows National Authorities the possibility of partly waiving the 15% limit and allowing CQS 2 for up to 10% of the total exposure of the nominal amount of outstanding CB of the issuer.

²⁸ Information on this provision is not available for: BE, HU and SK.

²⁹ When a Danish universal bank issues SDOs covered by ship loans, the ship loans must be registered in a separate register.

	(LGMo, LGH*), NL ³⁰ , NO*, PL, PT, ES ³¹ , SE*, SI*	RO, UK
Assets from different geographical locations allowed in one cover pool³²	AT (all bonds), BG, CY, CZ, DK, DE, FI, EL*, IE, ES ³³ , IT, IS, LU, LT, LV, NL ³⁴ , NO, PT, RO, SI, SE, UK	

Table 10 Limitations on mixed pools

Jurisdiction	Provision
CY	- The only mix of assets permitted is residential loans and commercial loans.
CZ	- Assets other than mortgage loans represent maximum 10 % of the nominal value of the cover pool.
FI	- Assets other than mortgage loans and public sector loans represent maximum 10 % of the nominal value of the cover pool unless otherwise stated in the terms and conditions of the covered bond programme.
FR	- OF: RMBS/CMBS represent maximum 10% of cover pool. - OF: guaranteed loans represent maximum 35% of cover pool. - OF: securitisation notes represent maximum 10% of cover pool.
IE	- For mortgage covered bond issuers, commercial mortgage assets may represent maximum 10% of the value of the cover pool; - RMBS and CMBS are limited to seniors issues of CQS1 and 10% of the nominal value of covered bonds issued by the respective mortgage and commercial mortgage covered bond issuer.
LU	- The cover assets constitute as many separate estates as there are different types of covered bonds issued by a covered bond bank; - In the case of LGH bonds it is possible to have a mix of residential mortgages and commercial mortgages.
NO	- Assets in the form of public sector loans which qualify for CQS2 may constitute maximum 20% of the nominal value of outstanding covered bonds; - Exposures to financial institutions and investment firms which qualify for CQS1 shall, in aggregate, not exceed 15% of the nominal value of outstanding covered bonds.

³⁰ Mixed pools are only allowed when they are specifically labeled and registered as mixed pools.

³¹ For example, CH and BH could include in the cover pool both residential and commercial mortgages. In no case cover pools can mix assets that can be collateral for CH and BH (mortgage assets) with assets that can be collateral for CT (public sector) with assets that can be collateral for CI and BI (loans to finance exports of goods and services or the internationalization of firms).

³² Information on this provision is not available for the following jurisdictions: BE, HU, PL, SK.

³³ Within the limitations shown in Table 8.

³⁴ Assets located in different geographical areas are admitted into one cover pool only when the covered programme is specifically labeled and registered as a CB programme with multiple geographical locations of underlying assets.

SI	- Commercial mortgage assets represent maximum 20% of the cover assets.
SE	- Commercial mortgage assets represent maximum 10% of the value of the cover pool.

Table 11 Other requirements on public sector pools

Jurisdiction	Provision
AT (all bonds)	- Risk weight lower than 20%.
CY	- Public claims on or guaranteed by central governments, central banks, regional governments, local authorities and public sector entities of Australia, Canada, Japan, Switzerland and USA), multilateral development banks and international organisations shall not exceed 20% of the outstanding balance of the covered bonds collateralised by public claims.
DK	- Requirements as per Article 129(1)(b) of the CRR.
FR	- Assets to be completely guaranteed and debtor eligible according to a predefined list of eligible public debtors.
DE	- Non-EEA debtor eligible upon sovereign of country of incorporation being CQS1 – if non-EEA debtor is downgraded to CQS2 after inclusion in a cover pool such debtor remains eligible up to 20% of outstanding covered bonds.
EL	- As per Article 129(1)(b) of the CRR.
IE	- Requirements as per Article 129(1)(b) of the CRR; - Non-EEA represents maximum 20% of the nominal value of covered bonds issued.
IS	- Bonds issued by the Icelandic state or other Member States, municipality in Iceland or in another member state or guaranteed by this member state; - Municipal issuers are required to have positive capital and the loan has to be performing.
IT	- As per Article 129(1)(b) of the CRR; - Risk weight lower than 20%.
LV	- Debt/guarantor: Latvian state or municipalities.
NO	- Assets in the form of public sector loans must be granted to or guaranteed by central authorities (states), central banks, regional and local authorities or state-owned enterprises within the EEA or OECD area; - Public sector loans to counterparties within the OECD area, but outside the EEA, shall be granted to or guaranteed by

	<p>central governments, central banks, regional or local governments, local authorities, public entities, multilateral development banks or international organisations within the EEA or OECD area which qualify for CQS1 or above;</p> <ul style="list-style-type: none"> - Assets which qualify for CQS2 may constitute at most 20% of the nominal value of outstanding covered bonds.
PL	<ul style="list-style-type: none"> - Non-eligible obligors: states whose external debt has undergone restructuring in the course of the last 5 years.
SI	<ul style="list-style-type: none"> - Minimum credit quality corresponding to Eurosystem's credit quality threshold established for collateralised monetary policy operations.
SE	<ul style="list-style-type: none"> - Debt/guarantor: Swedish state or Swedish municipalities; - Debt owed or guaranteed by a foreign state or central bank if denominated in foreign state's currency and are refinanced in the same currency; - Debt owed or guaranteed by the European communities or foreign states or central banks specified by the Swedish government; - Debt owed or guaranteed by foreign municipalities or public bodies that have the authority to collect taxes as specified by the Swedish government.
UK	<ul style="list-style-type: none"> - As per Article 129(1)(b) of the CRR.

Table 12 Concentration limits

Jurisdiction	Provision
DE	<ul style="list-style-type: none"> - 2% limit on a single name basis for claims on eligible credit institutions.
SI	<ul style="list-style-type: none"> - Mortgage loans to individuals or legal entities which are considered as a group of connected clients (maximum 20% of the cover assets).

EBA recommendations on features of the cover pool

The nature of each different class of primary cover assets used as collateral of covered bonds determines the overall credit risk characteristics of a covered bond. The EBA identifies the separation of different cover asset classes in different cover pools as a general principle of best practice. In this regard, the risk profile of mortgage loans differs materially from the risk profile of exposures to public sector entities, which in turn is different from the risk profile of loans financing the purchase of aircraft, ships or the export business of private firms. Given the differences in risk of the underlying exposures, which can only be partly mitigated by different LTV limits and haircuts, it appears appropriate to recommend as best practices some of the safeguards already in place in some jurisdictions in relation to the composition of the cover pool. To limit the complexity of assessing a cover pool's risk profile and enable covered bond investors to get a thorough understanding of such risk profile the EBA is of the opinion that cover pools should be composed of one unique primary asset class (i.e. not taking into account the multiple asset class defining potential buffers of substitution/liquid assets) which should maintain a consistent composition throughout the

life of the covered bond. This will ensure that the risk profile of the underlying collateral is well known to investors and is assessed to be the best way forward in creating sufficient transparency.

As regards cover pools composed of real estate mortgages, the market practice of mixing residential mortgage loans with commercial mortgage loans is acknowledged. The EBA is aware of the fact that this practice may be particularly useful as a means for institutions with limited availability of eligible collateral to reach critical masses of covered bonds issuance and therefore access to the covered bond funding tool. It should, however, also be noted that the risk profiles of residential and commercial mortgage loans differ, as also acknowledged in the CRR provisions on the capital requirements on these exposures. Therefore, to ensure some degree of certainty and consistency around the overall risk profile of mixed mortgage pools, throughout the life of the covered bond programme, appropriate safeguards should be put in place.

It is observed that some jurisdictions have regulatory limits in place on the composition of mixed pools (e.g. a percentage limit on the amount of commercial mortgages within the residential mortgage cover pool), which by construction impose consistency of the cover pool's composition. While it is acknowledged that in some instances regulatory limits may imply unduly restrictive outcomes, for example when they are exceeded as a mere consequence of amortising collateral, the EBA is of the opinion that they should be considered as an available best practice in this space. It is acknowledged, however, that alternative tools may be available, which do not fully leave the consistency of the cover pool risk profile to the discretion of the issuer, such as supervision from national authorities on the cover pool composition based on clear supervisory guidelines.

In relation to the geographical location of the cover assets, intended for the report as the location of the property securing the loan in the case of mortgage loans and the location of the obligor in the case of other loan exposures, the EBA identifies prudential concerns related to the exposures outside the EEA whose respective jurisdiction's overall regulatory and supervisory framework has not been assessed as equivalent to that of the EU and that the loans under consideration have been underwritten according to similar standards and feature similar risk characteristics if compared to comparable loans granted in EEA jurisdictions.

The EBA acknowledges that exposures to or guaranteed by third country central governments, third-country central banks, multilateral development banks, international organisations, third-country public sector entities, third country regional governments or third-country local authorities are, under certain conditions, eligible for preferential risk weight treatment in accordance with Article 129(1)(b) of the CRR. The EBA considers that in relation to non-EEA exposures of this type it should be ensured that underwriting standards and risk characteristics apply which are comparable to the ones of EEA exposures, particularly when the non-EEA jurisdiction under consideration isn't fully assessed to be equivalent to EU jurisdictions in its regulatory and supervisory framework.

Best practice 3 - A: Composition of the cover pools

Cover pools comprising both residential mortgage (or guaranteed) loans and commercial mortgage loans should be structured and managed so as to ensure that the composition by mortgage type (residential vs. commercial) which characterises the pool at issuance does not materially change throughout the life of the covered bond, for reasons other than the amortisation profile of the cover

assets. The EBA considers that regulatory limits on the composition of such mortgage pools could represent a best practice to ensure that a certain degree of consistency is maintained in the risk profile of the cover pool throughout the life of the covered bond. The EBA however also acknowledges that other tools may equally ensure consistency and stability in the composition of mixed cover pools, including contractual arrangements on the composition of the mixed cover pools and the supervision on the composition of mixed pools based on supervisory guidelines.

Cover pools which comprise primary asset classes other than residential or commercial mortgages (not taking into account asset classes included in the pool as substitution assets) should consist exclusively of one primary asset class.

Best practice 3 - B: Cover pools with underlying assets located in different jurisdictions

The legal/regulatory covered bond framework should provide that cover pools are generally limited to comprise of assets located in the EEA, as this ensures that liquidation of collateral in the case of issuer default is legally enforceable.

In the case of cover assets that are loans secured by mortgages on residential or commercial property located in a non-EEA jurisdiction, it should be assessed that the requirements provided for in Article 208(2) of the CRR are met and that the priority claim of the covered bond investor is legally enforceable in an issuer's insolvency scenario in the jurisdiction under consideration. For cover assets other than mortgages, it should similarly be ensured that access to the cover assets is legally enforceable. Underwriting standards should be similar to the ones applied on comparable loans granted in EEA jurisdictions and the loans should have similar risk characteristics.

In addition non-EEA jurisdictions should apply prudential supervisory and regulatory requirements at least equivalent to those applied in the Union, as per Article 107(4) of the CRR.

2.5 Valuation of mortgage cover assets, loan-to-value (LTV) criteria and other eligibility criteria for mortgages

Mortgage cover pools consist of different assets across jurisdictions, including residential real estate loans, commercial real estate loans, aircraft loans, ship loans and loans secured on other movable assets.

LTV ratios impact directly on the loss recovery associated with the loan and indirectly on the credit risk (PD) associated with the underlying obligor. Once the issuer enters default, and covered bond investors can only rely on their priority claim over the mortgages in the cover pool, both the PD and the loss recovery potential related to the mortgages affect the probability that the covered bonds investors' claims be entirely fulfilled.

The legal/regulatory provisions developed across jurisdictions to regulate the features of mortgage cover pools include the following (see Table 13 LTV criteria and valuation):

- Maximum LTV ratios determining the eligibility of the loan for inclusion in the cover pool or the portion of the loan to be included in the valuation of the cover pool;
- Maximum average LTV ratios determining the eligibility of the whole cover pool, i.e. portfolio-level LTV ratios;

- Maximum LTV ratios for establishing the level of regulatory coverage guaranteed by the cover pool;
- Criteria for the measurement and periodic review of the LTV ratios mentioned above;
- Criteria on the eligibility and tasks of the valuation agent.

In addition, as illustrated in Table 15, some jurisdictions impose requirements on mortgages which are not related to LTV, valuation criteria or restrictions on their geographical location.

Several jurisdictions define LTV ratio limits to determine the eligibility of mortgage loans for inclusion in the cover pool (see column 1 in Table 13 LTV criteria and valuation criteria).

A crucial regulatory aspect related to LTV limits for mortgage loan eligibility is whether a provision exists requiring a loan to meet LTV thresholds at issuance of the covered bond programme; i.e. at the time when the loan is included in the cover pool, but also throughout the lifetime of such loan included in the pool. In those cases where the requirement is to be met throughout the lifetime of the loan, if the property value declines such that the LTV threshold is breached, the loan becomes ineligible for inclusion in the cover pool and consequently it can no longer be considered to provide coverage to the covered bond liabilities³⁵, usually triggering the need for the loan to be replaced with an eligible one or for supplemental/substitution assets to be included in the pool. According to available information in Austria (HYP bonds), Denmark (RO bonds), Iceland and Spain (BH bonds)³⁶ the LTV eligibility limits only apply at issuance, rather than during the whole lifetime of the loan.

As evidenced in Table 13 LTV criteria and valuation most of the jurisdictions impose maximum LTV ratios determining the contribution of the individual loan to the overall coverage required on the cover pool (see section 2.6 of this chapter). An LTV limit of 80% on a residential loan, for coverage calculation purposes, means that only the value of the loan corresponding to 80% of the property value is considered when establishing this loan's contribution to overall coverage of the covered bonds under consideration.

The jurisdiction where LTV criteria for coverage calculations are not adopted is Austria (for PB and FBS bonds). In a limited number of jurisdictions the regulatory LTV ratios do not differ among residential and commercial mortgages, while the most common regulatory approach imposes a lower (more conservative) LTV ratio on commercial mortgages, aimed at tackling the higher risk of commercial mortgage loans. In a few cases the residential LTV limit is increased (i.e. is less conservative) if certain conditions apply related to the over-collateralisation of the programme or insurance of the mortgage loans by public entities.

³⁵ As a loan becomes ineligible to be included in the cover pool, and hence to provide coverage to the liabilities of the covered bonds, the loan may have to be removed from the cover pool or be kept in the cover pool and excluded from the calculation of coverage.

³⁶ In the case of Spanish BH, this characteristic is intrinsic of this type of covered bond. In CH, the cover pool is dynamic (new loans enter in the cover pool as they are granted), while in BH it is not: loans that will be used as collateral are selected and assigned to the issuance of BH from the beginning, and changes in the LTV do not lead to the removal of the loans from the cover pool.

In some jurisdictions the portion of the loan exceeding the value given by the coverage LTV ratio is included in the priority claim of the covered bond investor that characterises covered bonds (privilege beyond the LTV cap in Table 13 LTV criteria and valuation).

Furthermore, some jurisdictions, namely Cyprus, Hungary, Ireland and Poland, apply average LTV eligibility limits at the cover portfolio level in addition to those that apply to the individual loan (see Table 14).

The coverage requirements, and in particular the LTV limits used for computing the regulatory coverage levels, strongly depend on the methodology used to compute the value of the property secured by the mortgage, together with the frequency with which these valuations are revised. The regulatory approach in this space differs across jurisdictions, with a majority of jurisdictions adopting the 'market value', and some jurisdictions adopting the 'mortgage lending value'. In Ireland³⁷ and Norway the concept of 'prudent market value' is used, while in the Netherlands the foreclosure value is used.

³⁷ See section 2.6.1 for a definition of prudent market value in the Irish covered bond legal/regulatory framework.

Table 13 LTV criteria and valuation criteria³⁸

Jurisdiction	LTV limit making the entire loan ineligible for the cover pool	LTV applies at issuance or Lifetime ³⁹	LTV limit for calculating collateralisation rates (coverage)	Privilege beyond the LTV cap ⁴⁰	Valuation criterion ⁴¹
AT - PB	No rule	/	No rule	No	/
AT - FBS	No rule	/	No rule	No	/
AT - HYP	60%	issuance	60%	Yes	MLV
BE	No ruleNo	NA	Res: 80%; Com: 60%	Yes	MV
BG	As coverage	Lifetime	Res: 80%; Com: 60%	No	MAV
CY	Res: 100%;Com: 80%; Ship: 70% 60%	Lifetime	Res: 75%; Com: 60%; Ship: 60%	Yes	MV
CZ	200%	Lifetime	70%	Yes	MLV
DK - RO	As coverage	issuance	Res: 80%; Com: 60%; Agriculture: 70%	Yes	MV
DK - SDO mb	As coverage	Lifetime	Res: 75% or 80%; Com and Agriculture: 60% or 70%	Yes	MV
DK - SDRO	As coverage	Lifetime	Res: 75% or 80%; Com and Agriculture: 60% or 70%	Yes	MV
DK - SDO ub	As coverage	Lifetime	Res: 75% or 80%; Com: 60% or 70%; Ships 60%	Yes	MV
EE	No rule	No rule	No rule	No rule	No rule
FI	100%	Lifetime	Res: 70%; Com: 60%	No	MV
FR - CRH	No rule	Lifetime	Res: 80% (90% if over-collateralisation >=25%, 100% if state guarantee)	Yes	MLV and updated MV
FR - OFH	No rule	Lifetime	Res: 80% (100% if state-guaranteed)	Yes	MLV and updated MV
FR - OF	No rule	Lifetime	Res: 80%; Com: 60%; 100% if state-guaranteed	Yes	MLV and updated MV
DE	No rule	Lifetime	All: 60%	No	MLV
EL	Ship: 60%	Lifetime	Res: 80%; Com: 60%; Ship: 60%	Yes	MV
HU	No rule	NA	Res: 70%; Com: 60%; Agriculture: 60%	Yes	MLV
IE	No rule	Lifetime	RACS: 75%; CACS: 60%	Yes	PMV
IS	NA	issuance	Res: 80%; Com: 60; Farms and agri property 70% ⁴²	Yes	MV
IT	As coverage	Lifetime	Res: 80%; Com: 60%	Yes	MV

³⁸ In this table '/' stands for not applicable, 'NA' stands for not available.

³⁹ No information is available for this specific provision in: BG, HU, PL, PT, RO and SK.

⁴⁰ This field answers the question: 'does the law provide that bond holders receive the benefit of the portion of the loan which exceeds the LTV cap?'

⁴¹ In this column MLV stands for mortgage lending value, MV stands for market value, PMV stands for prudent market value and MAV stands for mortgage appraisal value.

⁴² Production quotas allocated to registered farms may not be included in calculations of market value.

LV	As coverage	Lifetime	Res: 75% - Com: 60%	no	MV
LT	As coverage	Lifetime	Res: 70% - Other real estate: 50%	yes	Adjusted MV
LU - LGH	no rule	no rule	Res: 80% - Com: 60%	No	no rule ⁴³
LU - LGMo	no rule	no rule	ships, aircrafts, movable: 60%	No	no rule
NL	Res: 125% of foreclosure value	no rule	Res and Com: 80% (100% if state guarantee)	Yes	MV and Foreclosure
NO	no	Lifetime	Res: 75% - Com: 60%	Yes	PMV
PL	100%	no rule	100%	Yes	MLV
PT - OH	As coverage	NA	Res: 80% - Com: 60%	no	MV
RO - OSP	As coverage	NA	Res: 80% - Com: 70%	no	MV
SK	no	NA	Res: 70%	no	MLV
SI - MRG	no rule	Lifetime	Res: 80% - Com: 60%	yes	MV and MLV
ES - CH ⁴⁴	Res: 80% (95%) ⁴⁵ ; Com: 60%	Lifetime	Res: 80%; Com: 60%	Yes	MLV
ES - BH	Res: 80% (95%) ⁴⁶ ; Com: 60%	issuance	Res: 80%; Com: 60%	Yes	MLV
SE	no rule	Lifetime	Res: 75% - Com: 60% - Agriculture: 70%	no	MV
UK	no rule	Lifetime	80%	Yes	MV

Table 14 Additional LTV limits on a portfolio basis

Jurisdiction	Additional LTV limits on a portfolio basis
CY	Res: 80%; Com: 65%; Ships: 65%
HU	70%
IE	RACS: 100%; CACS: 80%
PL	86%

Table 15, below, summarises other requirements imposed in a limited number of jurisdictions on mortgage pools, including requirements on written-off and impaired loans and requirements on the nature of the lien and the insurance of the mortgages.

⁴³ It should be noted that even though the valuation criterion is not specifically set forth in the law, the latter provides that the national authority must approve the valuation rules applied by the covered bond issuer.

⁴⁴ In CH, it is important to bear in mind that there is a distinction between “cover assets” and “eligible assets for the purposes of determining the amount of CH that can be issued”. “Cover assets” consist of the entire mortgage loan book registered in favour of the issuer. CH holders have privilege over them. “Eligible assets for the purposes of determining the amount of CH that can be issued” are a subset of the “cover assets” (i.e. mortgage loans that comply with particular conditions). The responses in this table refer to “eligible assets for the purposes of determining the amount of CH that can be issued”. For “cover assets”, there are no restrictions or LTV limits.

⁴⁵ The 80% limit could be exceeded, without exceeding 95%, if the mortgage loan is guaranteed by another credit institution or has credit insurance provided by an insurance company, and certain additional conditions are met. If this is the case, only the amount of the loan up to 80% of the value of the property would be taken into account for determining the amount of CH that can be issued. But the CH holder would have privilege over the whole loan.

⁴⁶ The 80% limit could be exceeded, without exceeding 95%, if the mortgage loan is guaranteed by another credit institution or has credit insurance provided by an insurance company, and certain additional conditions are met. If this is the case, only the amount of the loan up to 80% of the value of the property would be taken into account for determining the amount of BH that can be issued. But the BH holder would have privilege over the whole loan.

Table 15 Other requirements on mortgage pools

Jurisdiction	Provision
CY	<ul style="list-style-type: none"> - Excluded loans with over 30 days in arrears; - Residential and commercial loans shall be collateralised by a mortgage or equivalent on property; - Mortgage shall be legally valid; - Mortgaged properties located out of Cyprus shall be up to 10% of the value of the cover pool; - Property insurance against all relevant risks.
FI	<ul style="list-style-type: none"> - Excluded non-performing loans (over 90 days). Loan-to-income calculation, valuation rules and registration and insurance rules.
DE	<ul style="list-style-type: none"> - Impaired or written off assets excluded for the amount of impairment or write-off from coverage calculation; - Requirements on the cash flow profile of the mortgaged loan: e.g. loans secured by ship mortgages or aircraft liens in general have to be amortising in equal or reducing instalments and the amortisation period must not exceed the 20th year of the useful life of the ship or aircraft; - Requirement of insurance of the value of buildings amounting to at least 110% of the value of the loan claims including senior ranking liens secured on ships and aircraft; - Requirement, in general, of first lien position in case of ship and aircraft mortgaged cover assets (dispensable with by national authority).
EL	<ul style="list-style-type: none"> - Loans in arrears for 90 days or more excluded from coverage calculation.
IE	<ul style="list-style-type: none"> - Only performing assets may be included in the cover pool; - Valuation rules.
PL	<ul style="list-style-type: none"> - Impaired or written off assets excluded from coverage calculation; - Mortgage recorded in mortgage register; - Mortgaged asset must be insured.
IS	<ul style="list-style-type: none"> - Bonds may not be listed in a cover pool if payment is in arrears of 90 days or more; - Residential housing must have fire insurance to ensure that the collateral loan on the residential housing is fully ensured.
SI	<ul style="list-style-type: none"> - First rank mortgage; - Insurance of the property against damages; - Mortgage recorded in land register; - Mortgages on residential property under construction (maximum 5% of cover assets); - Mortgages on commercial property (maximum 20% of the cover assets); - Loans in arrears for 90 days or more are removed from the cover pool.

ES ⁴⁷	<ul style="list-style-type: none"> - ES (CH,BH): mortgage must be first- rank; - ES (CH,BH): mortgaged asset must be insured against damages; - ES (CH,BH): the property must be valued by an appraisal company approved by Banco de España in accordance with the procedure and requirements established in national regulation, Banco de España supervises appraisal companies; - ES (CH,BH): exclusion or restriction of certain rights or loans from the eligible assets (e.g. loans guaranteed by buildings in construction cannot exceed 20% of the total amount of loans assigned to the issuance of BH or of the total amount of loans eligible to determine the amount of CH that can be issued);
SE	<ul style="list-style-type: none"> - Non-performing loans (60 days or more) are excluded from coverage calculation.

EBA recommendations on valuation of mortgage cover assets and LTV criteria

As assessed in the report the vast majority of the jurisdictions apply LTV limits on the mortgage loans included in cover pools and, in most of the cases, differentiate those LTV limits across different asset classes, acknowledging the different loss given the default risk associated with different underlying assets. The report also assesses the different regulatory practice of the ‘hard’ (eligibility) LTV limit and the ‘soft’ (coverage purposes) LTV limit. While the hard LTV limit can certainly be considered as a best practice when the loan is first included in the cover pool, an ongoing application of soft LTV limits throughout the life of the programme is deemed to strike a better balance between the ongoing coverage objective and the management of the cover pool, particularly in scenarios such as severe house price downturns where the LTV limits of the whole pool may be breached.

The coverage guaranteed by the cover pool, which Article 52(4) of the UCITS Directive explicitly refers to as being for the whole period of validity of the bonds, is strictly connected to the LTV performance of the cover assets and therefore to the application of the LTV requirement not only at origination of the loan but throughout the life of the covered bond, as assessed in the practice of most of the jurisdictions considered. The EBA identifies as a best practice the regular monitoring and updating of the values of the properties securing the mortgage loans, in particular on a yearly basis for both residential and commercial properties at least on a statistical basis, so as to guarantee a yearly monitoring and update of the LTV values over which the ongoing coverage is determined. For the monitoring and update of the valuations to be objective to meet certain quality standards, the EBA acknowledges the regulatory practice of imposing the independence of the valuation agent from the credit-granting process as a principle of best practice.

Best practice 4 - A: LTV limits

The legal/regulatory covered bond framework should establish maximum LTV parameters to determine the percentage portion of the loan that contributes to the requirement of coverage of the liabilities of the covered bond programme (so-called ‘soft LTV limits’).

⁴⁷ In CH, it is important to bear in mind that there is a distinction between “cover assets” and “eligible assets for the purposes of determining the amount of CH that can be issued”. “Cover assets” consist of the entire mortgage loan book registered in favor of the issuer. “Eligible assets for the purposes of determining the amount of CH that can be issued” are a subset of the “cover assets” (i.e mortgage loans that comply with particular conditions). The responses in this table refer to “eligible assets for the purposes of determining the amount of CH that can be issued”. For “cover assets”, there are no restrictions.

While the EBA sees merits in the LTV limits being not only coverage limits (soft LTV limits) but also eligibility limits (i.e. limits whose breach determines the full non-eligibility of the loan for inclusion in the cover pool, also referred to as ‘hard LTV limits’) when a given loan is included in the cover pool for the first time, the EBA is concerned about the ongoing application of eligibility LTV limits to loans already included in the cover pool. A severe downturn of real estate prices, in the presence of hard LTV limits, may determine coverage disruptions in covered bond programmes.

Best practice 4 - B: LTV measurement and frequency of re-valuation

The legal/regulatory covered bond framework should establish that the value of the property securing a particular loan, and the corresponding regulatory LTV limit determining the contribution of that loan to the coverage requirement, be monitored and updated (e.g. at least via an indexation or other statistical method) at least on a yearly basis for both residential and commercial properties, and more frequently where either the management of the covered bond programme or the cover pool monitor or the competent authority deem appropriate. The framework should specify that the valuation of the properties securing the loans should be based on transparent valuation rules and be carried out by an agent who is independent from the credit granting process. As a minimum the valuation process should be compatible with the conditions laid down in the first and second subparagraph of Article 229(1) of the CRR.

2.6 Assets and liabilities (A and L) risks

The risks arising from mismatches in the assets and liabilities structure of a covered bond programme represent one of the most important components of risk in a covered bond structure. This section focuses on a set of provisions that are typically considered crucial determinants of the A and L risk profile of covered bonds programmes, in particular:

1. Requirements on the coverage and level of over-collateralisation;
2. Requirements on the mitigation of market risk (i.e. currency risk and interest rate risk);
3. Requirements on the mitigation of liquidity risk.

Some European covered bond markets have addressed A and L risks by developing different structural solutions and models. It is not the purpose of this report to put forward new restrictions on any specific existing funding structures nor is the report meant to object to the risk mitigation approaches already adopted across markets and jurisdictions, if these approaches are prudentially sound. The EBA considers the provision of a review of the main structural A and L models adopted in specific jurisdictions to be very relevant for this report. For this reason this section summarises which jurisdictions allow for covered bond programmes featuring either **soft bullets**, i.e. structural extension of the bonds’ maturities, or some form of **pass-through structure** of payments, and elaborates in a separate section on the main characteristics of soft bullet and pass-through structures.

2.6.1 Coverage principle and over-collateralisation

In accordance with one of the provisions in Article 52(4) of the UCITS Directive, covered bonds ‘shall be invested in accordance with the law in assets which, during the whole period of validity of the

bonds, are capable of covering claims attaching to the bonds and which, in the event of failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest’.

The coverage principle referred to in the UCITS Directive takes different forms across different jurisdictions, where at least three main coverage principles can be identified (see Table 16):

1. **Nominal coverage:** the total nominal amount of all assets in the cover pool shall always be at least as high as the total nominal amount of outstanding covered bonds.
2. **Net-present value coverage:** the net present value of all assets in the cover pool shall always be at least as high as the net present value of all outstanding covered bonds. This criterion implies the use of a yield curve for discounting future cash flows.
3. **Net-present value coverage under stress:** the net present value of all assets in the cover pool shall always be at least as high as the net present value of all outstanding covered bonds and the condition should hold even following the implementation of yield curve stress tests, currency stress tests and other forms of stress tests mandated by the law/regulations. Among those jurisdictions where coverage stress test requirements are in place, some impose a non-detailed stress test requirement while some others describe in more detail the features of the required stress test exercises, which usually involve static (e.g. yield curve shifts) or dynamic (based on historical volatility) simulations (see Table 17).

Table 16 Coverage principle in the law/regulation across jurisdictions

Coverage principle in the law/regulation	Jurisdictions
Nominal Coverage	AT (all bonds), BE, DE (all bonds), CZ, CY, FI, FR ⁴⁸ (all bonds), EL, HU, IT, IS, LU, LV ⁴⁹ , LT, NL, PL, PT, RO, SK, ES (CH, CT, CI), SI (MRG, MUN), SE
Net-Present Value Coverage	CY, DE (all bonds), FI, EL, IT, LU, ES (BH, BI), SI (MRG, MUN)
Net-Present Value under Mandatory Stress	CY, DE (all bonds), DK ⁵⁰ , EL, IE, PT, SI (MRG, MUN), SE, UK
Prudent Market Value Coverage	IE ⁵¹

⁴⁸ The value of assets to be used is the risk weighted value according to the provisions on CRR minimum capital requirements of article 9 of Regulation 99-10 relating to regulated FR CB issuers.

⁴⁹ The value of assets to be used is the risk weighted value according to the provisions on CRR minimum capital requirements.

⁵⁰ Minimum regulatory over-collateralisation for the mortgage banks in Denmark is established at 8% of the risk weighted value of cover assets (both at individual capital center level and at the level of the institution).

⁵¹ **Ireland implements a coverage requirement expressed in terms of ‘prudent market value’ (see section principle). The prudent market value of the pool is greater than the total of the principal amounts of those case of credit and public issuers this amounts to 103%, while for commercial issuers it amounts to requirements regarding interest rate risk (see**

Table 23 within the section on liquidity risk).

No rule on coverage	BG, NO
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Table 17 Coverage stress tests details

Jurisdiction	Detailed requirements on stress tests
CY	<p>IR: (i) parallel yield curve shift by +/- 1% and (ii) changes in the yield curve on the basis of 99% CI and holding period of 6 months.</p> <p>FX: (i) Static change: (1) Euro and other Member State currencies: 10%, (2) USA, Canada, Japan and (3) Switzerland: 15% and (iii) Other: 15%.</p> <p>(ii) Changes in exchange rates on the basis of 99% CI and holding period of 6 months.</p>
DE	IR static: +/- 250bps, FX static: +/- 10% (EEA plus Switzerland), 20% (USA, Canada, Japan), minimum 25% (other), alternatively (issuer's choice) dynamic IR and/or FX stress (specific requirements).
DK	<p>Examples of required stress tests:</p> <p>IR: parallel yield curve shift by +/- 1% and +/- 2.5% and in addition to this a twist of the yield curve.</p> <p>FX: +/- 10% (EEA and Switzerland) and +/- 50% for other currencies.</p> <p>Option risk stress tests</p> <p>ICAAP covered bond specific sensitivity analysis:</p> <p>Mortgage banks: e.g. impact on cumulated impairments of 200-400-500 bps increase in variable IR and 10-20-30% decreases in house prices.</p> <p>SDOs and SDROs: by property category quantify need for supplementary collateral when house prices fall by 5-10-20%</p>
EL	Yield curve shift by +/- 200 bps
IE	Net present value changes on the balance sheet of an issuer arising from (i) 100 bps upward shift, (ii) 100 bps downward shift and (iii) 100 bps twist in the yield curve, must not exceed 10% of the ACS issuer's total own funds at any time.
IS	Net present value of the cover pool shall be greater than one even if interest rates rise or fall by 1%, a shift in the yield curve by 1% and certain changes in foreign exchange rates, should that apply.
SI	<p>1. IR static or dynamic (issuers choice):</p> <p>IR static: yield curve shift by +/-250bps</p> <p>IR dynamic: yield curve shift by at minimum +/- 100 bps, the exact number of bps for shifting is calculated by the following process: a number and distribution of maturities shall be selected on the respective yield curve, using at least the following maturities: 1month, 1years, 5years, 7years, 10years and 15years. The standard deviation of the daily differences for 250 previous working days shall be multiplied by 2.33 and a square root of 125, and multiplying this with the current interest rate of the respective maturity and by factor 100.</p> <p>2. FX static or dynamic (issuers choice):</p> <p>FX static: +/- 10% (EAA and Switzerland) and at least 20% for other currencies.</p> <p>FX dynamic: mark-down or mark-up to the current exchange rate is calculated by multiplying the standard deviation of the daily differences for 250 previous working days by 2,33 and square root of 125, and multiplying by the current exchange rate of the respective foreign currency.</p>
SE	Parallel yield curve shift by 100 bps unfavourable, 10% change in the relationship between bond currencies and asset

	<p>currencies unfavourable</p> <p>Sensitivity analysis: impact of a fall in prices of at least 5, 10, 15, 20, 25 and 30 % on the LTV ratios, value of the cover pool and matching criteria requirements</p>
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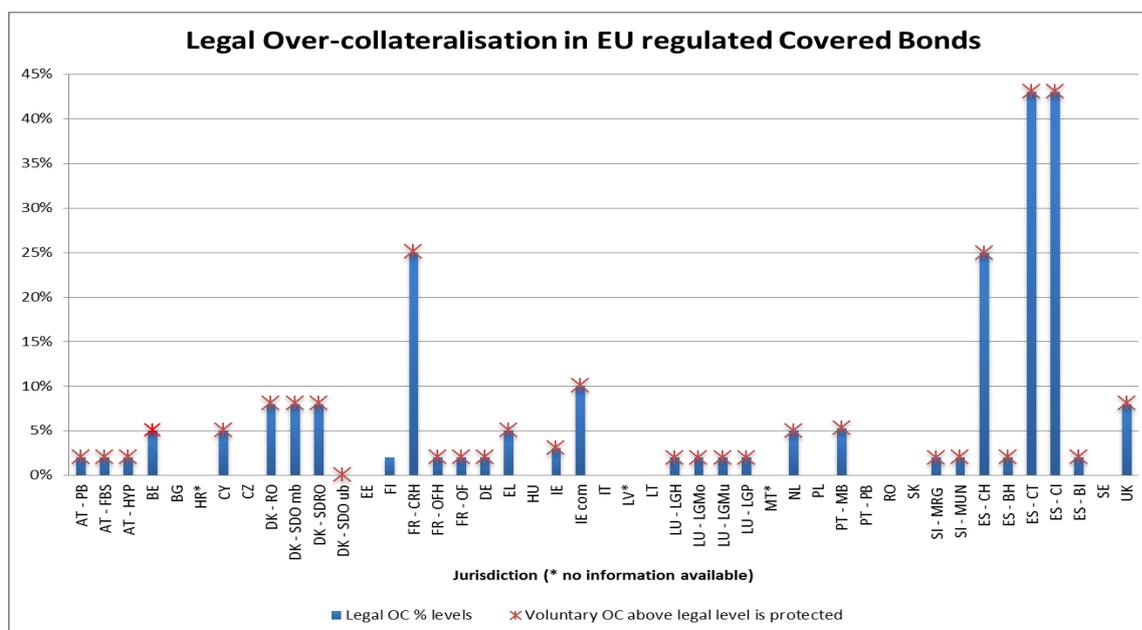
Besides the broad coverage principles described above, requirements referring to **other more specific forms of coverage** are in force in a minority of jurisdictions as tools to address A and L risks and in particular potential mismatches between assets and liabilities. Such forms include: interest matching (interests paid on covered bonds shall never exceed interest payments received on cover assets, or similar requirement during a given time period, for example 12 months), maturity matching (maturity of the outstanding covered bonds shall not exceed the maturity of the assets in the cover pool), duration matching (the average, or weighted average, duration of the covered bonds outstanding shall not exceed that of the assets in the cover pool), currency matching (the currency in which outstanding covered bonds are denominated should be the same currency in which all cover assets are denominated).

A specific form of coverage is implemented in the covered bond legal/regulatory framework of Ireland. Both coverage and over-collateralisation requirements (see below for the concept of over-collateralisation) are defined in the Irish regulation by reference to the prudent market value (PMV) of the mortgage assets. PMV for a residential Irish property asset firstly uses a reference index valuation (RIV), in essence an indexed market value. Where the origination market value (OMV) of an Irish residential property asset is at any time equal to or greater than the RIV of the property at that time, the PMV is the RIV. Where the OMV of an Irish residential property asset is at any-time less than the RIV of the property at that time, the RIV is adjusted to reflect a prudent market discount (PMD). For commercial properties, the PMV is the lesser of: the RIV and the latest market value or, if the latest market value is not available, the OMV.

As evidenced in Table 18 **regulatory minimum over-collateralisation (OC)** is a risk mitigation tool widely adopted across jurisdictions. Minimum regulatory over-collateralisation comprises assets that are not financed by the issuance of covered bonds and on which, just as on the cover assets financed by covered bonds, covered bond investors have a preferential claim. By imposing a level of coverage higher than 100% (i.e. a total cover assets over total outstanding covered bonds ratio higher than one) regulatory minimum over-collateralisation contributes to mitigating the most relevant risks arising in the event of issuer's default. These risks include, but are not limited to, the re-financing risk and in particular the risk that the programme administrator has to liquidate collateral in the pool below par to fulfil interest and/or principal payments towards investors as they fall due, or as one or more bonds are accelerated, where the natural amortisation of the assets cannot be relied on to repay the bonds. over-collateralisation also mitigates, among other risks, market risk (i.e. interest and currency risk – see also section 2.6.2), set-off risks and commingling risk,⁵² and may cover some of the risks falling under what is often referred to as operational risk of the covered bond programme (see Box 1 below).

⁵² See Section 2.6.3 on liquidity risk for a definition of commingling risk.

Table 18 Legal / regulatory over-collateralisation



Notes on over-collateralisation levels

- In Denmark universal banks issuing covered bonds (DK – SDO ub in the chart above) do not have a mandatory minimum over-collateralisation requirement. However, they cannot take any market risks within the covered bond programme if they do not over-collateralise (e.g. the risk stemming from interest rate stress tests must not exceed 10% of available over-collateralisation). In the absence of a precise ‘match funding model’, which is not usually adopted by universal banks, they incur some level of market risk and hence are required to maintain some level of over-collateralisation.
- In the case of Spanish CH bonds 25% is the minimum over-collateralisation that results from the fact that outstanding CH cannot exceed 80% of the sum of the non-amortised principals of all “eligible assets”. Adding to the guarantee that these “eligible assets” provide, the whole mortgage loan book registered in favour of the issuer collateralises the CH, leading to higher figures of over-collateralisation.
- In Poland the imposition of a mandatory level of over-collateralisation equal to 10% is currently being discussed within the revision of the legal framework for covered bonds.
- In Iceland, Norway and Sweden the covered bond legal/regulatory framework requires issuers to maintain a positive, though not quantified, over-collateralisation minimum level.

Box 1 Operational risk in covered bonds

Operational risks arise in covered bond programmes where systems and controls fail or become unavailable in the administration of the programme. Fundamentally the risk can manifest itself in the form of a failure to process cash inflows from cover pools or, more critically, payments to meet interest and principal obligations due, as well as the possibility of misevaluation of **the cover pool due to operational error. Whereas many other risks crystallise in the form of reduced availability of assets, the impact of operational risk can be as severe as interruption of payment, leading to an event of default.**

Covered bonds are designed to survive the default of its issuing entity and notwithstanding such default continue to meet liabilities due as scheduled. As part of the design, arrangements are envisaged to provide continued administration, processing of cash flows, and asset servicing etc. Different legal and structural arrangements exist, including:

- Appointment of programme administration parties at programme inauguration;
- Appointment of back-up parties; and
- Undertakings to externalise parties upon an event, e.g. credit deterioration, material changes.;

The text above approaches operational risk from a theoretical basis. However, this alone does not fully mitigate all operational risk. Practically, there are many considerations at an operational level that are not considered or are not within the scope of a bilateral agreement between parties.

Significant areas of focus regarding practicalities of operational risk include, but are of course not limited to:

- Adequacy of systems for the administration of cover assets, liabilities, derivatives, e.g. do systems fully and accurately record assets and activity on those assets;
- The compatibility of such systems with those of external administrators, e.g. for administrative continuity upon failure of the issuer;
- Transfer of cash collections and derivative positions to appropriate bank accounts of the programme;
- Availability of staff when required;
- Controls around the operation of programmes, e.g. risk management frameworks, operational buffers, limits on programme management activity;
- Processes for programme management and establishing protocols ahead of time upon certain events occurring;
- Programme governance procedures, i.e. how to ensure that the decisions and actions taken on programmes are appropriate;
- Coverage of compliance and internal audit activity over programmes;
- Adequacy of disaster recovery arrangements.

Jurisdictions may set regulatory requirements for issuers to ensure and demonstrate that systems and controls are appropriate, both at the current time and at a time when a risk of issuer failure can be foreseen. In a deteriorating scenario issuers are very likely to be preoccupied with matters other than operational aspects which are time-consuming and therefore critical aspects may be overlooked. It is therefore appropriate for such considerations to be made *ex ante*.

While covered bond programmes are generally structured so as to maintain some level of over-collateralisation, the chosen level of over-collateralisation is not always the result of a legal/regulatory requirement. Voluntary over-collateralisation tends to be chosen above legal/regulatory minimum levels, when these requirements exist, as a result of market choices or conditions attached to the targeting of a given credit rating grade. Over-collateralisation is one of the factors rating agencies' methodologies take into account when assessing the overall credit quality of

a covered bond and assigning to the covered bond certain rating grade uplifts relative to the issuer's rating.

The majority of the regulated covered bond types for which information is available are subject to a regulatory minimum over-collateralisation. Existing over-collateralisation regulatory minimum requirements differ according to a combination of at least three main features:

1. **The magnitude of the OC requirement:** the regulatory OC levels range from a minimum positive not quantified level⁵³ to values above 40% (see Table 18);⁵⁴
2. **The calculation method:** reflecting the regulatory choice of the coverage principle, over-collateralisation levels are imposed in some jurisdictions with reference to nominal values of assets and liabilities, with reference to the assets and liabilities in net-present value (NPV) in some other jurisdictions, while they are expressed in terms of stress tested assets and liabilities values in a third group of jurisdictions (as discussed above, in the case of Ireland the value of the assets is expressed in terms of prudent market value).
3. **The treatment of the over-collateralisation above the regulatory minimum (broadly referred to as voluntary over-collateralisation):** while in most jurisdictions levels of over-collateralisation above the regulatory minimum are still to be used with priority to satisfy the claims of covered bond investors and other qualifying parties, in some national legal systems such voluntary levels are not subject to the privilege of the covered bond (see Table 18).

While the over-collateralisation is in place to protect covered bond investors, the over-collateralisation resulting from either a regulatory minimum, or a contractual provision/condition linked to the targeting of a given external credit rating for the covered bond, constitutes a form of asset encumbrance in the case of those issuers that do not adopt a specialised credit institution model in which the lending activity is entirely or almost entirely financed via the issuance of covered bonds (e.g. specialised mortgage lenders in Denmark and Ireland). Higher asset encumbrance levels translate, for those non-specialist issuers, into higher levels of subordination of unsecured creditors.

None of the jurisdictions for which information is available have established a **regulatory maximum level of permitted over-collateralisation**.

A relevant aspect related to the regulation of coverage and over-collateralisation is the designation of the agent(s) responsible for monitoring compliance with coverage requirements: as summarised in Table 19 in most of the jurisdictions for which information was made available the supervision of coverage tests entails a direct role of the national authority beyond the monitoring role assigned to an independent covered bond monitor, where the latter exists, and to the covered bond issuer. In a minority of jurisdictions coverage tests are supervised by the cover pool monitor while in some jurisdictions no legal provisions on the monitoring of coverage tests exist.

⁵³ It is the case of the covered bond framework in Iceland, where issuers are required to maintain a positive, though not quantified, over-collateralisation minimum level.

Table 19 Legal provisions on the monitoring of coverage tests⁵⁵

Monitoring of coverage tests	Jurisdictions
No rule	BG, CZ, ES (CT)
Cover pool monitor	AT, CY, DE, IS, SI, EL
Competent authority and cover pool monitor and/or issuer	BE, DK, ES (CH, BH, CI, BI), FI, FR (CRH, SCF* SFH*) IE, IT, LV, LT, LU, NL, NO, PT, SE, UK
* In France the coverage tests of OF and OFH are monitored by a specific controller (<i>Controlleur Spécifique</i>) that may not be either an employee of the issuer or the employee of any company that directly or indirectly controls the issuer.	

EBA recommendations on coverage principle and over-collateralisation

As highlighted in the previous sections, the coverage requirement implied by the text of Article 52(4) of the UCITS Directive is integrated in all covered bond frameworks currently existing across jurisdictions. The principles behind the coverage requirement, and in particular the metrics and calculation methods used to define the coverage, differ substantially across jurisdictions, ranging from the nominal value metric to the net present value metric, the net present value metric subject to stressed inputs, or the coverage expressed in terms of PMV. Within each of the metric principles adopted by different legal/regulatory frameworks the provisions on how to carry out the actual coverage computation also differ across jurisdictions. The appropriateness of identifying a single coverage principle as well as a single coverage calculation method as best practice would have to be assessed by further analysis.

Irrespective of the principles or metric embedded in the coverage requirement, the EBA identifies as a safeguard of the overall credit quality of the covered bond the legal/regulatory practice of defining the scope of the coverage requirement so as to include not only the liabilities of the programme towards the covered bond holders but also those liabilities, ranking *pari passu* or senior with respect to the liabilities towards the bond holders, which may arise towards the counterparties of risk hedging contracts as well as other operational counterparties, depending on the structuring of the covered bond programme. *Ex ante* legal certainty over the coverage of all liabilities and the actual ongoing requirement of coverage ensure that the covered bond is designed to survive the default of the issuer and provides incentives to all involved counterparties to enter or remain in the transaction should the issuer default/enter resolution.

⁵⁵ No information on this provision is available about the following jurisdictions: BE, HU, LV, PL, RO, SK.

Over-collateralisation is, as mentioned in the previous sections, the main mitigating factor addressing the most relevant risks arising in the issuance of covered bonds, particularly in a scenario of issuer's default or resolution, from liquidity risk to market risk, asset deterioration risk or risks related to the operational infrastructure of the covered bond programme.

Over-collateralisation can be maintained on a voluntary basis, as the result of some form of contractual commitment, as a condition to target specific credit ratings and/or due to a legal/regulatory requirement. The different nature of the commitment to maintain over-collateralisation impacts on the likelihood that the assets constituting the over-collateralisation are kept in the cover pool as scenarios of distress arise, such as the issuer's default or resolution, approach. Those are the circumstances in which the over-collateralisation commitment for the interest of the covered bond investors is more likely to be reduced in favour of interests of a different nature.

Given the importance of over-collateralisation for the overall risk profile of the covered bond, the EBA identifies the legal/regulatory practice of imposing a minimum level of over-collateralisation as a safeguard of the credit quality of the covered bond. The legal/regulatory requirement ensures a commitment to maintain the over-collateralisation in the programme of the strongest possible nature. The calibration of an over-collateralisation requirement would require, however, further analysis which takes into account, among other factors, the different risk profile of different classes of cover assets as well as the specific coverage principle and computation method according to which the requirement is formulated.

Best practice 5: Coverage principles and legal/regulatory over-collateralisation

The legal/regulatory covered bond framework should ensure that all the liabilities of the covered bond programme, including liabilities towards counterparties in derivative contracts and, as applicable, liabilities towards managers/administrators, servicers, trustees, cover pool monitors and similar entities involved in the process of the covered bond issuance, are covered by the cover assets.

The EBA considers that a legal/regulatory minimum over-collateralisation level constitutes a regulatory best practice. The recommendation of a quantitative legal/regulatory minimum over-collateralisation level would require further analysis as it depends on several factors including, but not limited to, the class of cover assets as well as, crucially, the chosen coverage principle among the several different coverage principles currently adopted across jurisdictions (nominal, net present value, prudent market value, net-present value under stress, etc.).

Recommendation EU COM 1 - A: Legal/regulatory over-collateralisation

The EBA considers that a legal/regulatory minimum over-collateralisation level should be considered for inclusion among the qualifying criteria determining preferential risk weight treatment. The formulation of a quantitative legal/regulatory minimum over-collateralisation requirement would require further analysis as it depends on several factors, including, but not limited to, the class of cover assets as well as, crucially, the chosen coverage principle among the several different coverage principles currently adopted across jurisdictions (nominal, net present value, net present value under stress, etc.).

2.6.2 Market risk

Interest rate risk arises in a covered bond programme whenever maturity and type of interest rate across assets and liabilities do not exactly match in the contractual conditions (i.e. in the absence of the so-called natural matching principle). The larger the duration gaps characterising the A and L structure of the programme, and the more material the difference in interest rate structures across assets and liabilities, the more material is the exposure of the covered bond to shifts/twists of the yield curve in a refinancing scenario, leading to an increased likelihood that payment obligations towards covered bond investors are not fulfilled.

Currency risk arises whenever the currency in which issued covered bonds are denominated is different from the currency in which the value of the cover assets may be collected.

Different regulatory mitigation tools address interest rate and currency risks in different jurisdictions, including:

- Over-collateralisation: as mentioned in the section on coverage and over-collateralisation, the latter is the main mitigation tool of most risks arising in covered bonds programmes including interest rate risk. While a basic nominal over-collateralisation requirement mitigates the consequences of interest rate risk, stress tested over-collateralisation requirements, and the related coverage principle of net present value under stress, address in particular interest rate developments. Table 16 and Table 17 illustrate respectively which jurisdictions include, within their regulatory frameworks on covered bonds, provisions on net present value coverage under stress and examples of detailed requirements on the interest rate stresses to be performed.
- Specific coverage principles: interest rate risk and currency risks are tackled by the above mentioned specific forms of coverage requirements, namely interest matching, maturity matching, duration matching and currency matching.

- Table 23 illustrates which forms of alternative coverage are adopted as a requirement in some EU national covered bond legislative frameworks.
- Liquidity requirements: indirectly, by ensuring that the likelihood of liquidity shortages do not arise, liquidity requirements, such as for instance liquidity reserves, liquidity tests and requirements on substitution/complementary assets (see section 2.6.3) mitigate the adverse consequences of existing interest rate and currency mismatches.

The mitigation of interest and currency risks within covered bond programmes is an explicit regulatory requirement in several jurisdictions, while it is fully left to contractual arrangements in other jurisdictions. Widespread use is made, in market practices, of **derivative contracts for hedging currency and interest rate risks** arising in covered bond programmes, e.g. interest rate swaps and currency swaps.

Some jurisdictions explicitly require that interest and/or currency risks arising in the covered bonds programmes be addressed via hedging contracts and some jurisdictions only allow covered bonds issuers to enter into derivative contracts exclusively for hedging of risks. Table 20 illustrates relevant regulatory aspects related to hedging of covered bond risks by means of derivative contracts across jurisdictions. Besides the provision on the use of derivative contracts, the following regulatory aspects are taken into account:

- Regulatory limits on the use of derivative contracts;
- Regulatory limits on the eligibility of derivatives' counterparties: these limits (e.g. minimum rating of the counterparty, minimum number of counterparties, etc.) constitute ways of addressing counterparty credit risk arising on derivative exposures entered into by the covered bonds issuer with a view to ensuring covered bond investors an effective protection against market risk;
- The regulatory treatment of intra-group hedging transactions: while hedging entered into with external counterparties⁵⁶ provides covered bond investors with a dual recourse type of protection against the risks to be hedged (i.e. for the protection to be fully lost both the issuer and the counterparty in the derivative contract have to default), in the case of intra-group hedging transactions this dual recourse type of protection may not exist;
- The provisions on the continuation of derivatives: given the specific structure of the covered bond instrument, only derivative contracts that do not terminate with the default of the covered bond issuer keep granting covered bond investors protection against the market risk related to the assets and liabilities of the covered bond programme.
- The provisions on the priority of payments granted to derivatives' counterparties within the covered bond structure: higher priority to derivatives' counterparties may represent, other things being equal, an increasing liquidity risk from the point of view of the payment obligations towards covered bond investors.

None of the jurisdictions on which data is available prohibits the use of derivatives within covered bond programmes. In a very limited number of jurisdictions there are limits to the maximum

⁵⁶ A counterparty is generally considered external when it is not part of the issuer's group and is otherwise unrelated to the issuer.

exposure to derivative contracts in terms of the percentage portion of outstanding covered bonds volumes.

An indirect limit to derivative exposures results, at the issuer level, in the legal/regulatory covered bond framework of Denmark and Greece from the application of the 15% limit to the exposures to institutions imposed by Article 129(1)(c) of the CRR. The Danish and Greek frameworks establish explicitly that the value (net present value in the case of Greece) of all derivatives in the cover pools of a given issuer should be taken into account when assessing compliance with the 15% limit to the exposures to institutions imposed by Article 129(1)(c) of the CRR, when such derivatives are entered into with counterparties that are institutions as referred to in the CRR.

In a limited number of jurisdictions requirements on the eligibility of counterparties are imposed within the covered bond legislative framework: while Denmark, Iceland, Sweden and Spain adopt a counterparty minimum rating requirement, Germany, Greece and Slovenia establish a regulatory list of eligible counterparties.

Table 20 Provisions on use of derivatives within covered bond programmes⁵⁷

Q1: Are derivatives permitted in the cover pool for hedging purposes?

Q2: Are there any limits on the use of derivatives in the cover pool?

Q3: Are there any requirements on the derivatives' counterparties?

Q4: Is intra-group hedging of the covered bond risks allowed?

Q5: Is it allowed to pledge specific cover assets towards derivatives' claims?

Q6: Are there provisions that require derivatives to continue in case of insolvency of the issuer?

Q7: What is the ranking of counterparties' claims vis-à-vis covered bond holders?

NOTE: “/” stands for ‘no available information’

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
AT – PB	Yes	No	No	Yes	No	Yes	<i>Pari passu</i>
AT – FBS	Yes	No	No	Yes	No	Yes	<i>Pari passu</i>
AT – HYP	Yes	No	No	Yes	No	Yes	<i>Pari passu</i>
BE	Yes	N/A	N/A	N/A	N/A	Yes	<i>Pari passu</i>
BG	Yes	No	No	No	No	No	No rule
CY	Yes	Yes	Yes	No	No	No	<i>Pari passu</i>
CZ	Yes	No	No	Yes	No	No	No rule
DK – RO	Yes	No	Yes; e.g. on rating. Not on	Yes	No	Yes	<i>Pari passu</i>

⁵⁷ In this Table: “/” stands for Not Applicable – “N/A” stands for non-available information.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
			minimum number				
DK – SDO mb	Yes	15% limit for exposures to credit institutions	Yes; e.g. on rating. Not on minimum number	Yes	No	Yes	<i>Pari passu</i>
DK – SDRO	Yes	15% limit for exposures to credit institutions	Yes; e.g. on rating. Not on minimum number	Yes	No	Yes	<i>Pari passu</i>
DK – SDO ub	Yes	15% limit for exposures to credit institutions	Yes; e.g. on rating. Not on minimum number	Yes	No	Yes	<i>Pari passu</i>
EE	No rule	No rule	No rule	Yes	No rule	No rule	No rule
FI	Yes	No	No rule	Yes	No	Yes	<i>Pari passu</i>
FR – CRH	No	/	/	/	/	/	/
FR – OH	Yes	No	No rule	Yes	No rule	Yes	N/A
FR – OF	Yes	No	No	Yes	No	Yes	<i>Pari passu</i>
DE all bonds	Yes	Yes, except for FX derivatives: 12 % of CB in circulation	Yes; List of eligible counterparties	Yes	No	Yes	<i>Pari passu</i>
EL	Yes - exclusively for hedging	15% limit for exposures to institutions ⁵⁸	Yes; List of eligible counterparties	Yes	No	No	<i>Pari passu</i>
HU	Yes	N/A	N/A	N/A	N/A	Yes	<i>Pari passu</i>
IE	Yes; exclusively for hedging	No	No	Yes	No	Yes	<i>Pari passu</i>
IS	Yes	No	Yes; minimum rating for counterparty eligibility	Yes	No	Yes	<i>Pari passu</i>

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
IT	No rule	No	No	Yes	No	Yes	<i>Pari passu</i>
LV	No	No	No	No rule	No rule	No	No rule
LT	No	/	/	/	/	/	No rule
LU – LGH	Yes	No	No	Yes	No rule	No rule	<i>Pari passu</i>
LU – LGMo	Yes	No	No	Yes	No rule	No rule	<i>Pari passu</i>
LU – LGMu	Yes	No	No	Yes	No rule	No rule	<i>Pari passu</i>
LU – LGP	Yes	No	No	Yes	No rule	No rule	<i>Pari passu</i>
NL	Yes	No	No rule	No rule	No rule	No rule	No rule
NO	Yes	No rule	Clearing houses/ central governments/ credit institutions established in the EEA or the OECD area	Yes	No	Yes	<i>Pari passu</i>
PL	Yes	No	No	Yes	No rule	No	<i>Pari passu</i>
PT – OH	Yes	Yes	Yes	N/A	N/A	Yes	<i>Pari passu</i>
PT – OSP	Yes	Yes	Yes	N/A	N/A	Yes	<i>Pari passu</i>
RO	Yes	N/A	N/A	N/A	N/A	No	No rule
SK	No	N/A	N/A	N/A	N/A	No	No rule
SI - MRG	Yes ; exclusively for hedging market risk	12% of total outstanding covered bonds	Yes; List of eligible counterparties	Yes	No	Yes	<i>Pari passu</i>

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
SI – MUN	Yes ; exclusively for hedging market risk	12% of total outstanding covered bonds	Yes; List of eligible counterparties	Yes	No	Yes	<i>Pari passu</i>
ES – CH	Yes	No	Yes	No rule	No	Yes	Subordinated
ES – BH	Yes	No	Yes	No rule	No	Yes	Subordinated
ES – CT	No rule	No rule	No rule	No rule	No	No rule	No rule
ES – CI	Yes	No	Yes	No	No	Yes	Subordinated
ES – BI	Yes	No	Yes	No	No	Yes	Subordinated
SE	Yes	No	Rating Requirements	Yes	No	Yes	<i>Pari passu</i>
UK	Yes	No	No	Yes	No	Yes	<i>Pari passu</i>

Table 21: Existing provisions on eligible counterparties

Jurisdiction	List of eligible counterparties
CY	<p>The counterparty shall meet the following criteria:</p> <ul style="list-style-type: none"> • Credit institution or investment firm or an insurance firm/reinsurance undertaking or central counterparty in a stock exchange; • Credit rating of CQS1; • Not a member of the same group as the issuer.
DE	<p>To be eligible for the cover pool, derivatives have to be entered into with either of the following counterparties:</p> <ul style="list-style-type: none"> • Suitable credit institutions (i.e. credit institutions incorporated within EEA, risk weighted according to CQS1 in accordance with Article 119(1) and Article 496(2) of the CRR; • Investment management companies (holding a licence or deemed to hold a licence in accordance with the German Investment Code); • Financial services institutions; • Insurance companies; • A central counterparty at a stock exchange; • The German Federal Government or; • One of Germany's Federal States.
EL	<p>The counterparty shall belong to one of the following categories:</p> <ul style="list-style-type: none"> • Central governments or central banks of EU Member States, being assigned a 0% risk weight; • Regional governments or local authorities of EU Member States; • International institutions, exposures against are assigned a 0% risk weight; • Public sector undertakings or entities of EU Member States, claims against which are treated by the competent authorities as exposures against the government; • Credit institutions or investment firms exposures vis-à-vis which have a credit rating considered by the Bank of Greece as equivalent to the highest credit quality step and are neither guarantors nor issuers of covered bonds, in the meaning of paragraphs 10 and 13 of Article 91 of Law 3601/2007, as applicable, respectively. The net present value of such financial derivative instruments shall be taken into account in the application of the 15% limit on the nominal amount outstanding of covered bonds in accordance with the limit provided in paragraph 8.b.(iv) of Section B of the Bank of Greece Governor's Act no. 2588/20.8.2007; or • Central counterparties in regulated markets.
SI	<p>To be eligible for the cover pool, derivatives have to be entered into with either of the following eligible counterparties:</p> <ul style="list-style-type: none"> • The central government of Slovenia and other public sector entities of EU Member States, responsible for management of public debt and entitled to keep accounts for their parties; • Central banks of EU Member States, ECB, IMF, EIB, BIS and multilateral development banks; • Credit institutions; • Investment firms;

- Financial institutions;
- Insurance companies;
- CIUs;
- Investment management companies; or
- Clearing houses, central counterparties and settlement agents.

In a limited number of jurisdictions hedging the covered bond risks by entering into derivative contracts with entities that belong to the same group is not permitted (BG, CY). A substantial number of jurisdictions have adopted provisions within their national covered bond legal frameworks to ensure that derivative contracts embedded in covered bond programmes do not terminate upon the issuer's default.

Almost all jurisdictions established that the counterparties of the issuer in derivative contracts embedded in covered bond programmes have claims on the cover assets that rank *pari passu* with the claims of the covered bond investors. None of the jurisdictions allow specific assets in the cover pool to be individually identified as backing the claims of the counterparties in the derivative contracts.

EBA recommendations on use of derivatives within covered bond programmes

Derivative instruments represent risk mitigation tools within covered bond programmes when entered into by the covered bonds issuer in order to hedge the interest rate and currency risks arising in the covered bond programme due to structural interest rate and currency mismatches. Although they represent protection in favour of the covered bond investor, derivative instruments also add complexity and counterparty credit risk to the structure of the covered bond programme, i.e. they give rise to claims (liabilities of the programme) which usually rank *pari passu* with the claims of the covered bond investor. Due to this, the EBA identifies as a principle of best practice the provision, in force in a limited number of jurisdictions, allowing derivative instruments in covered bond programmes exclusively for risk hedging purposes.

Derivative contracts entered into by the covered bond issuer must, in most of the jurisdictions, dis-apply the standard derivative termination conditions to ensure that, upon issuer default, they are not terminated and, therefore, keep providing protection to the covered bond programme in the interest of the covered bond investor.

Best practice 6 - A: Use of derivatives

The legal/regulatory covered bond framework should specify that derivative instruments are allowed in covered bond programmes exclusively for risk hedging purposes.

The legal/regulatory covered bond framework should provide that derivative contracts entered into by the covered bond issuer with a derivative counterparty, and registered in the cover pool, cannot be terminated upon issuer insolvency.

2.6.3 Liquidity risk

Liquidity risk arises in covered bond programmes due to several factors, including but not limited to:

- The mismatches that characterise the assets and liabilities structure of a covered bond programme, whereby the natural amortisation of the cover assets does not ensure the timely repayment of the covered bond programme's obligations;
- Particularly upon issuer's default or resolution, and in the time frame following these events, the risks of interruption of payments and commingling of funds. Commingling risk is the risk that any cash the issuer collects from the cover assets may be, particularly upon issuer default, temporarily or permanently restricted from servicing the interests of the covered bond holders. Commingling risk may also materialise upon default or resolution of the covered bond programme's servicer bank and/or the third-party account bank, although when in such circumstances the covered bond issuer itself has not defaulted/entered resolution, the ultimate fulfilment of payment obligations to covered bond investor should be ensured by the issuer;
- The risk of constrained access to liquidity and cover asset liquidation risk when, unlike in a scenario where the issuer is a going concern, the cover pool becomes 'static' due to the insolvency of the issuer. Close to or at issuer's default several payment obligations arising or coming due may constitute a liquidity shock for the covered bond programme, including but not limited to: i) interest or principal payments becoming due; ii) the default of a derivative counterparty and the potential related termination payments; iii) other operational costs, expenses and servicing fees, arising at issuer's default/resolution or falling due following those events, as they also constitute liabilities of the covered bond programme and may, in some cases depending on legal frameworks and market practice, even rank senior with respect to the claim of covered bond holders.

Liquidity risk is a key factor that most rating agencies' rating methodologies take into account when assessing the credit risk of a covered bond programme and when assigning to the programme a rating uplift with respect to the rating of the issuing institution. In this respect, liquidity risk certainly impacts on the levels of voluntary over-collateralisation that covered bond managers commit to maintaining in order to target a given credit rating, in many cases substantially higher than legal/regulatory required over-collateralisation levels (where applicable). The agencies' methodologies and assumptions explicitly take into account structural factors that mitigate liquidity risk, namely the soft bullet and pass-through structures described in Box 2 below, but also the existence of legal/regulatory requirements specifically targeting liquidity risk (such as the ones described below in this section) as well as contractual mitigating factors, such as liquidity or pre-maturity tests/triggers⁵⁹ and other issuer's policies aiming at ensuring that the covered bond manager, following issuer's default, has sufficient time to liquidate the cover assets should their liquidation be needed for timely repayment to covered bond investors.

⁵⁹ These tests check whether the issuer's rating is compliant with a given threshold at any time starting from a specified date prior to the maturity of a covered bond (usually 6 or 12 months ahead of the scheduled maturity). If the test is not passed, the issuer must post cash in an amount sufficient to redeem bonds becoming due over the specified period, otherwise assets will be liquidated.

All of the regulatory aspects mentioned in the section on A and L risks, including the type of coverage principle, the over-collateralisation requirement and requirements on other specific forms of coverage such as interest matching currency matching and duration matching, clearly affect the liquidity risk profile of a covered bond programme.

This section and Box 2 look at further specific regulatory aspects that directly relate to the liquidity risk profile of a covered bond programme, namely:

- a) The existence of liquidity-specific requirements;
- b) The requirements on the eligibility of substitution assets within the cover pool;
- c) The requirements on the extension of the covered bonds' maturities, i.e. soft bullet structures and pass-through structures.

Table 23 illustrates liquidity requirements adopted in different national covered bond legal/regulatory frameworks. The most commonly adopted requirement for the mitigation of liquidity risk provides that liquid assets be always available to cover a specific measure of the programme's outflows related to a time window of six months. Both the type of outflows in the scope of the requirement and the type of liquid assets eligible to fulfill the requirement vary across jurisdictions, including the following specificities:

- Liquid assets should consist of cash only in the framework of the Netherlands in order to only ensure the payment of interests;
- Liquid assets should cover the maximum cumulated net cash flows over the time window in the cases of Germany and Slovenia; principal payments, interest payments and other costs in the case of Belgium; and all cash flow payments in the case of France (OF and OH bonds).

Some jurisdictions impose different forms of interest matching, currency matching and duration matching to mitigate interest and currency risk (e.g. IE). Others impose liquidity buffers (reserve fund in the UK, liquidity buffer in DK) or requirements on future deficits (DK). Norway imposes a general requirement for the issuer not to assume greater liquidity risk on each cover pool than is prudent at any time and provides that limits shall be established on divergence between future receipts and future payments.

In relation to the liquid assets and/or substitution assets commonly used in covered bonds programmes to, among other reasons, manage the liquidity risk, most jurisdictions regulate two main aspects:

- Eligibility criteria of asset classes that covered bonds issuers are allowed to use as liquid/substitution assets. A comprehensive illustration of admitted substitution assets is presented in Annex II of this report.
- Quantitative limits on the amount of substitution assets, either expressed as a percentage of outstanding covered bonds or as a percentage of the total value of the cover pool. Table 22, below, summarises the use across jurisdictions of such quantitative limits.

Table 22 Regulatory limits on use of complementary/substitution assets

Jurisdiction	Regulatory limit
AT – PB	15% of issued covered bond
AT – FBS	15% of issued covered bond
AT – HYP	15% of issued covered bond
BE	15% of issued covered bond
BG	30% of issued covered bond
CY	15% of issued covered bond for basic collateralisation

	5% of issued covered bond for supervisory collateralisation
CZ	10% of issued covered bond
DK – SDO mb	Maximum 15% of issued covered bond for exposures to CI
DK – SDRO	Maximum 15% of issued covered bond for exposures to CI
DK – SDO ub	Maximum 15% of issued covered bond for exposures to CI
EE	No rule
FI	Maximum 20% of cover assets Maximum 15% of issued covered bond for exposures to CI
FR – All bonds	Maximum 15% of issued covered bond
DE	Öpfe ; 10% of issued covered bond Flgzpfe , Hypfe , Schpfe : 20% of issued covered bond
EL	Only allowed as over-collateralisation
HU	Maximum 20% of issued covered bond
IE	Maximum 15% of issued covered bond
IS	Maximum 20% of the cover pool
IT	Maximum 15% of Cover assets
LV	Maximum 20% of issued covered bond
LT	Maximum 30 % of nominal value of relevant covered bond emission
LU – LGH	Maximum 20% of the issued covered bond
LU – LGMo	Maximum 20% of the issued covered bond
LU – LGMu	Maximum 20% of the issued covered bond
LU – LGP	Maximum 20% of the issued covered bond
NL	Maximum 15% of cover assets
NO	Maximum 20% of cover assets
PL	Maximum 10% of cover assets
PT	Maximum 20% of cover assets
SI – MRG	Maximum 20% of cover assets
SI – MUN	Maximum 20% of cover assets
ES – CH	Maximum 5% of issued CH
ES – BH	Maximum 10% of issued BH
ES – CT	Not Applicable

ES – CI	Maximum 5% of issued CI
ES – BI	Maximum 10% of issued BI
SE	Maximum 20% of cover assets
UK	No rule

Box 2 Structural mitigants of market risk and liquidity risk

Soft bullet and pass-through structures

While the traditional payment structure of a covered bond is the so-called *hard bullet* structure, alternative structures have been developed by the market which can be broadly referred to as *soft bullet* structures and (conditional) *pass-through* structures.

In most national legal/regulatory frameworks, covered bonds do not accelerate following the default of the issuer, i.e. the covered bonds keep paying investors interest and principal amounts in accordance with the contractual schedule of payments and legal final maturities associated with the covered bonds. As a series of covered bonds characterised by a hard bullet structure comes to legal final maturity the series of bonds has to be fully redeemed by the administration of the programme through the funds available to the programme, including those stemming from the liquidation of the cover assets. Should those funds not be sufficient the covered bond programme would typically default and accelerate the payments to all bonds. When instead bonds featuring a soft bullet structure come to legal final maturity, the bonds can be repaid, and the cover collateral liquidated for that purpose, within an extension period of the initial maturity of (typically) 12 months or longer.

In a form of pass-through structure, more precisely called the conditional pass-through structure, and so far seen exclusively in the Dutch market, the special administrator of the covered bond programme can, following the contractual legal maturity of a series of bonds in the programme and where such series cannot be redeemed at par at the maturity, extend the maturity of the series and attempt to sell the cover collateral more than once until the sale proceeds are sufficient to repay the bonds of the series at par. The extension can be as long as the longest maturity of the cover assets. This means that, in contrast to a hard or soft bullet, the administrator doesn't necessarily have to sell the assets; he/she can wait until the underlying assets mature and pay back the covered bond. During the period of maturity extension, investors holding the series of bonds that have been extended and switched to pass-through receive their coupon payments from principal, prepayment and interest payments on the underlying assets in the cover pool. The investors holding the series of bonds that have not yet reached maturity, within the same programme, keep being paid in accordance with the contractual schedules (i.e. do not switch to a pass-through structure) and are protected against time subordination by amortisation tests. When the repayment of pass-through bonds implies a breach of the amortisation tests all series of bonds belonging to the programme switch to a pass-through structure, irrespective of their legal final maturity.

In Denmark most of the covered bonds issued by the specialised issuers adopt the so-called match funding model. In this model the structure of the covered bond is very similar to a pass-through already when the covered bond programme is originated, in that the (covered) bonds issued to finance the loans in the cover pool have maturity and interest rate characteristics that reflect those of the financed loans. For loans funded with covered bonds with a shorter maturity than the underlying loans and when the covered bonds on a regular basis are refinanced the match between

the loans and the covered bonds is for each sequential period. In addition the scheduled payments and the prepayments received on loans in the cover pool are fully passed through to the investors.

Soft bullet structures contribute to alleviating, although not necessarily removing, the refinancing (liquidity) risk of a covered bond programme in the scenario of issuer default. Pass-through (conditional pass-through) structures contribute to alleviating refinancing risk as well as market risk. In a conditional pass-through structure the effect operates in a scenario of both issuer default and reached maturity when the bonds switch to this structure.

Some of the covered bond legal/regulatory frameworks (BG, CZ, FR, DE, IE, IT, LU and NO) do provide or allow for the issuance of covered bonds with a pass-through structure. In the Netherlands, which is the jurisdiction where the conditional pass-through programme has been issued, the particular structure is allowed provided that the corresponding covered bonds programme constitutes a separate programme by the issuer. In many jurisdictions the law/regulation does not explicitly exclude the possibility for issuers to adopt pass-through structures: the competent authority would usually have to analyse the specific conditions of the programme to establish whether or not it can be approved.

Soft bullet structures are not explicitly prohibited in national covered bonds legal/regulatory frameworks, with the exception of the Czech Republic. The laws/regulations, typically, do not fix a maximum time frame during which covered bond programmes are allowed to extend the legal maturities.

EBA recommendations on liquidity risk

Liquidity risk is a key risk to be taken into account when assessing the capability of the covered bond to ensure the timely repayment of principal and interest amounts to covered bond investors. It arises due to the maturity and interest rate mismatches that characterise the structure of assets and liabilities of a programme. It may arise from payment interruption and commingling risks and from derivative and other operational liabilities falling due, particularly in an issuer's insolvency/resolution scenario where the covered bond programme can only rely on the cover assets and where the liquidation of these assets may take a long time and face substantial price discounts in the market. Liquidity risk is also a key element rating agencies take into account when determining the credit rating of a covered bond programme: the way and the extent to which liquidity risk is addressed, either through structural (e.g. soft bullets, pass-through mechanisms), regulatory or contractual factors impact on the level of over-collateralisation that issuers aim to maintain to target a given credit rating.

Several national legal/regulatory covered bond frameworks implement measures addressing liquidity risk in a direct or indirect fashion, ranging from provisions on the matching of duration, interest or currency, to liquidity tests required within a given time frame ahead of principal or interest payment maturity, to more systematic provisions requiring the covered bond programme to hold liquid assets covering specific types or measures of outflows over a rolling time interval.

While it is acknowledged that the extent to which a covered bond programme is exposed to liquidity risk fundamentally depends on whether the payment structure is a hard bullet rather than a soft

bullet or pass-through structure, and more generally on the extent of structural matching of the programme, a legal/regulatory provision mitigating liquidity risk is advised as a necessary safeguard of the overall credit quality of the covered bond.

In particular an ongoing and structural requirement of holding a buffer of liquid assets, as described in the recommendations below, may address in a comprehensive way the different factors behind the occurrence of a liquidity shortage (as described in the previous sections), as opposed to addressing an individual factor, such as for instance the matching of interest rate expenses. In addition, given its structural and ongoing scope, it would not rely on rating tests or triggers nor would it refer to specific pre-maturity time frames whereby the liquidity shortage becomes either more likely to materialise and/or potentially more problematic to deal with.

The recommended provision around the availability of liquid assets in the covered bond programme should not be related to the already existing prudential regulation on liquidity, and in particular to the liquidity coverage ratio provisions applying to covered bond issuers. While the latter are requirements calibrated to address a one-month interval of liquidity stress hitting the covered bond issuer, the provision recommended in this report targets the needs of the covered bond programme, particularly in a scenario of an issuer's insolvency where the liquidity safeguards of the issuer are no longer available.

Best practice 6 - B: Liquidity buffer

The EBA considers that a requirement to mitigate liquidity risk in the covered bond programme, by means of liquid assets available at all times to cover the cumulative net out-flows of the covered bond programme over a certain time frame, constitutes a regulatory best practice. Determining the calibration and scope of a best practice requirement would require further analysis since, as the report acknowledges, different structures of the covered bond programme - e.g. hard bullet, soft bullet and conditional pass-through structures - expose to different extents the covered bond programme to liquidity risk.

Recommendation EU COM 1 - B: Liquidity buffer

The EBA considers that a requirement to mitigate liquidity risk in the covered bond programme, by means of liquid assets available at all times to cover the total net out-flows of the covered bond programme over a certain time frame, should be considered for inclusion among the qualifying criteria determining preferential risk weight treatment. Determining the calibration and scope of such a requirement would require further analysis since, as the report acknowledges, different structures of the covered bond programme - e.g. hard bullet, soft bullet and conditional pass-through structures - expose to different extents the covered bond investor to liquidity risk.

EBA recommendations on stress testing

The overall credit quality and safety of the covered bond depends on several risk factors which include, but are not limited to: interest and currency risks, the credit risk performance of the underlying assets, the pre-payment risk associated with the cash flows generated by the underlying

assets, the market risk at the liquidation of the cover assets, but also payment interruption risk, due to for instance commingling⁶⁰, and set-off risk.

As assessed in the report, while some jurisdictions impose the stress test of a selected list of risk factors by adopting in the law/regulation the coverage and over-collateralisation principle of the net present value under stress, in the majority of the jurisdictions where coverage is based on the nominal principle stress tests are not carried out.

Irrespective of the coverage principle adopted in the law/regulation, the EBA identifies as a best practice the periodic implementation of stress test exercises on the main risk factors, and the assessment of their implications on the coverage and on the capability of the covered bond programme to achieve full and timely payment of its obligations.

Best practice 6 - C: Stress testing

The legal/regulatory covered bond framework should require covered bonds issuers to carry out stress test exercises on the calculation of the coverage requirement taking into account, at least, the following factors:

- Shifts of relevant interest rate curves based on historical performance, where data is available;
- Shifts of the currency pairs relevant to the covered bond programme based on historical performance, where data is available;
- Stresses on the credit quality of the underlying assets based on historical performance, where data is available;
- Stresses on the re-payment behaviour of the underlying assets based on historical performance, where data is available;
- Stresses on the liquidation price of the underlying assets based on historical performance, where data is available.

The stress tests should also take into account other risks, including but not limited to, set-off risks and commingling risks.

⁶⁰ See section 2.6.3 on liquidity risk for a definition of commingling risk.

Table 23 Other Coverage requirements and liquidity requirements⁶¹

Jurisdiction	Other coverage requirements and liquidity requirements
BE	Liquid Assets to be available at any time to cover for the next 180 days all principal and interest payments and other costs.
CY	180 days before maturity: 50% of principal to be liquid. 30 days before maturity: total principal in liquid.
DE (all bonds)	Maximum of cumulated net cash outflows over next 180 days has to be covered by highly liquid cover assets.
DK	Requirements to a secure liquidity: e.g. Buffer: 10% of institutions' undrawn credit lines granted on call loans in overdraft terms and not financed by bonds e.g. List of eligible liquidity instruments Requirements on future liquidity deficits: future liquidity deficits arising from disbursements exceeding payments shall not exceed, as a percentage of institution capital base: i) 25% in years 1-3; 50% in years 4-10; 100% from year 11.
FI	The interest income and cash flows from derivative contracts shall exceed the interest payments and cash outflows to derivative counterparties during any 12 month period. The average maturity of the issued covered bonds shall not exceed the average remaining maturity of cover assets.
FR (OF, OH)	All cash flow payments, including interest principal and cash flow pertaining to terms instruments, to be covered for a period of 180 days.
EL	Interest payable to covered bond investors over the next 12 months must not exceed the interest receivables from the cover pool assets taking into account derivative hedging instruments.
IE	The average duration of the covered bonds outstanding shall not exceed that of the assets in the cover pool (duration matching). Total amount of interest payable in a given period of 12 months is not less than the total amount of interest payable in respect of that period on the securities (interest matching). The currency in which each credit asset and each substitution asset comprised in the pool is denominated is the same as the currency in which those securities are denominated (currency matching).
IS	Issuer shall hold interest collections on a special account and be in a position to withstand all liabilities at all times.
IT	Interest and other gains on the assets in the cover pool are requested to be sufficient to pay all interest and other payments due to the bond holders, after having paid operational costs of the SPE and having taken into account payables on derivatives (interest matching).
NL	Liquid assets to be available at any time to cover the next 180 days of interest payments.
NO	Issuers shall not assume greater liquidity risk on each cover pool than is prudent at any and all times; limits to be imposed on divergence between future receipts and future payments.
PL	Interest paid on covered bonds should be less than interest paid on loans and other means permitted as components of underlying cover pool.
SI (MRG, MUN)	Maximum liquidity gap (i.e. cumulated net cash outflows) for the next 180 days is required to be covered by the liquid assets eligible for the substitute cover assets.

⁶¹ In addition to over-collateralisation requirements and requirements related to the use of substitution assets.

ES (CH, BH, CI, BI)	<p>Issuers must adopt the necessary measures to avoid inappropriate imbalances between the cash flows coming from the cover pool and the cash flows to attend the payments required by the issued products.</p> <p>CH and BH: mandate by law to the insolvency administrator of selling substitution assets or sourcing additional financing to mitigate potential temporary shortfalls and to ensure timely payment on CH (or BH) obligations.</p>
ES (BH, BI)	Average maturity of bonds to be smaller than Average Maturity of Loans.
SE	The issuer shall ensure that the cash flows relating to the assets in the cover pool, derivatives contracts and covered bonds are such that the institution can meet its payment obligations at any time.
UK	Reserve fund, equal to one month's interest payments on the covered bonds plus one month's cover pool administration expenses plus GBP 600,000, if the issuer's ratings fall below A-1+ / P-1 / F1+.

2.7 Covered bond monitoring

The monitoring of the covered bond programme and its compliance with the legal/regulatory requirements existing in each jurisdiction involves, to a different extent in different jurisdictions, the following three elements:

1. The supervisory activity of the national authority;
2. Covered bond-specific reporting requirements (to the competent authority), supplementing the requirements applicable to all credit institutions;
3. The activity of a cover pool monitor⁶².

Chapter 3 elaborates on the overall supervisory activity of the national authority across jurisdictions, throughout the life of the covered bond programme, e.g. from the licensing of the issuer to the insolvency of the issuer and the potential liquidation of the cover pool.

As summarised in Table 24 most of the jurisdictions require covered bond issuers to periodically report to the national authority information related to outstanding covered bond programmes.

The frequency of reporting is quarterly in the majority of the jurisdictions where the requirement is implemented.

The scope of reporting varies across these jurisdictions; however, it includes in most cases information on the cover pool characteristics, on the exposure to different risks within the covered bond programme and on compliance with all covered bond-specific requirements and tests in a given jurisdiction.

In some jurisdictions different type of information are to be submitted to the national authority with different frequencies. For instance:

- In France, issuers of OF and OH bonds report to the national authority on a yearly basis an *Assets Quality Report* which also fulfils its obligations of disclosure to investors.
- In Luxembourg, all covered bonds are supervised by a special auditor (*reviseur special*) who reports on a yearly basis to the national authority. In addition, the management of the covered bond programme has to report on a monthly basis to the national authority on

⁶² In some jurisdictions the tasks and responsibilities that are typical of the cover pool monitor are assigned to entities with different title, e.g. special controller (*controlleur specifique*) in France, special reviewer (*reviseur special*) in Luxembourg and independent auditor (*auditor independente*) in Portugal.

compliance with over-collateralisation requirements and other A and L management requirements.

- In the Netherlands, the issuer has to demonstrate on a quarterly basis that it continues to fulfil the registration requirements (registration for the covered bond programme with the Dutch Central Bank), and has to submit the SPV's financial accounts on a yearly basis.
- In Slovenia, the quarterly reporting of an extract of the cover register is mandatory as well as the yearly reporting of more detailed information around the loans included in the pool as well as enforcement statistics.
- In Spain, detailed information on the loans that are eligible assets and/or cover assets for CH and BH bonds is submitted to the national authority on a semi-annual basis.
- In Ireland, the cover asset monitor and the issuer submit a quarterly report to the national authority, which provides information on the cover pool, securities issued, sensitivity to interest rates, substitution assets, pool hedge collateral and compliance with the requirements specified in the legislation.
- In Norway, regular reporting and disclosure requirements are in place, enabling both the competent authority and covered bond investors to have access to information.

Table 24 Reporting requirements⁶³

Reporting regime	Jurisdiction:
Mandatory periodic reporting to the national authority	BE, CY, CZ, DK (all covered bonds), FI, FR, EL, IE, IS, LU (all CB), NL, PL, PT, RO, SK, SI (all covered bonds), ES ⁶⁴ (CH, BH, CT), SE
Reporting on request of the national authority	AT (PB, HYP), DE, IT, LV, NO, UK.
No rule	AT(FBS), BG, LT,

As summarised in Table 25 Cover pool monitor, in most of the national legal/regulatory covered bond frameworks the covered bond programme, as a going concern, has to be monitored by a specific entity or person, often defined as cover pool monitor, whose tasks include:

- Verifying coverage tests (AT, IS, NL, DE, LU);
- Verifying coverage tests, reporting to the national authority (see above in this section), and performing audits on the cover pool itself (BE, EL, IE, IS, IT, LU, NO, PL, PT, RO, SK, SI, SE, UK);
- Signing off inclusion and removal of cover assets in/from the cover pool (IE, SI, DE, LU).

⁶³ No information on this provision is available regarding the legal/regulatory covered bond framework of Hungary.

⁶⁴ CI and BI, issued in Spain, do not appear in this classification since the regulatory framework for these types of covered bonds has not been completed yet.

Table 25 Cover pool monitor⁶⁵

Cover pool monitor regime	Jurisdiction
Framework with cover pool monitor	AT (all bonds), BE, CY, FR, EL, DE, IE, IS, IT, LU, LV, NL, NO, PL, PT, SK, SI, SE, UK.
Framework without cover pool monitor	BG, CZ, DK, FI, LT, ES,

EBA recommendation on the cover pool monitor

Best practice 7 - A: Appointment of the cover pool monitor

The legal/regulatory covered bond framework should provide that, at the establishment of a given covered bond programme, a cover pool monitor is appointed. The framework should: i) ensure that the cover pool monitor is an internal or external entity other than the ordinary auditor of the covered bonds issuer; ii) provide for the eligibility criteria for the appointment and the Cover Pool Monitor's main duties and powers including, but not limited to, the monitoring of all coverage requirements and eligibility tests and the random auditing of the cover pool.

Where similar tasks are directly carried out by the competent authority, the appointment of a cover pool monitor may not be necessary. The cover pool monitor and/or the issuer, based on the findings of the cover pool monitor, should regularly report to the competent authority.

2.8 Compliance with EU regulations

In accordance with the third sub-paragraph of Article 52(4) the compliance of specific covered bonds with the provisions in Article 52(4) of the UCITS Directive should be assessed by Member States. The Article provides that:

'Member States shall send to the Commission a list of the categories of bonds referred to in the first subparagraph together with the categories of issuers authorised, in accordance with the laws and supervisory arrangements mentioned in that subparagraph, to issue bonds complying with the criteria set out in this Article. A notice specifying the status of the guarantees offered shall be attached to those lists. The Commission shall immediately forward that information to the other Member States together with any comments which it considers appropriate and shall make the information available to the public. Such communications may be the subject of exchanges of views within the European Securities Committee referred to in Article 112(1).'

Compliance of specific covered bonds with the provisions in Article 129 of the CRR (which implies compliance with Article 52(4) of the UCITS Directive) is the necessary condition for the preferential risk weight treatment to be granted by the competent authority to the institution investing in those bonds. The acknowledgement of compliance with Article 129 of the CRR, for capital requirements purposes, is the responsibility of the institution seeking preferential treatment on its investments in

⁶⁵ No information on this provision is available regarding the legal/regulatory covered bond framework of Hungary and Romania.

covered bonds and is supervised by the competent authority responsible for the oversight of the same institution.

3. Supervision of covered bonds in Member States

Public supervision, and in particular a legal requirement of ‘special public supervision for the protection of the bond investor’ constitutes one of the requirements associated, in accordance with Article 52(4) of the UCITS Directive, with the special category of bonds defined in Article 129 of the CRR, ‘Covered bonds’.

To assess the main features of the different national frameworks of ‘special public supervision for the protection of the bond investor’, a questionnaire on supervisory practices has been circulated among national authorities⁶⁶.

The following aspects of supervisory practices related to the issuance of covered bonds in national jurisdictions were taken into account:

- 1) Supervision of issuers prior to the issuance;
- 2) Ongoing supervision of covered bonds issuance;
- 3) Supervision post-default of the issuer;
- 4) Operational aspects of covered bond supervision.

3.1 Supervision of issuers prior to issuance

Supervision of issuers prior to the issuance of covered bonds entails different practices across jurisdictions, as summarised in Table 26. In some jurisdictions the national authority has to grant institutions a (one-off) licence of ‘covered bond issuer’, while in other jurisdictions only individual covered bond programmes are subject to the authorisation of the national authority. In the case of Greece and the Netherlands both supervisory practices are implemented, while in a limited number of jurisdictions neither a one-off licensing of the issuer nor the authorisation of the individual covered bond programme are required by the national authority. In Italy⁶⁷ and Spain covered bond issuers do not have to be granted a covered bond-specific licence; however, they can only issue covered bonds if they comply with all the requirements and restrictions that apply in accordance with to the respective national legal/regulatory frameworks. Some national authorities require an *ex ante* or *ex post* notification around the establishment of the programme.

⁶⁶ The information summarised in this section is based on evidence collected from the national authorities of: CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LV, LT, LU, NL, PL, PT, SE, SI, SK, UK.

⁶⁷ See Table 5 in Section 2.1 for the covered bond-specific capital requirements applied in the Italian covered bond legal/regulatory framework. Furthermore in the Italian framework, the issuer is required to assess the objectives and all the relevant risks of the covered bond issue and to establish an adequate internal control system and procedures.

Table 26: CB licensing / supervision of each covered bond programme

Supervisory practice	Jurisdictions
'Credit institution' licensing	FR, ES, IE, IT ⁶⁸
One-off covered bond-specific licensing	AT, CY, CZ, DE, DK, FI, IE, IS, LU, NL, NO, SE, PL, SI
Authorisation prior to each covered bond programme	CY, CZ, DE, EL, ⁶⁹ HU, ⁷⁰ NL, UK
Notification of each covered bond programme	CY, FI (<i>ex ante</i>), FR (<i>ex ante</i>), LV, PT (<i>ex ante</i>)
Notification of each covered bond issue (within a programme)	EL, ⁷¹ PT (<i>ex ante</i>), UK (<i>ex ante</i>), NL (<i>ex post</i>)

In most EU jurisdictions individual issuances, within a given covered bond programme, do not have to be authorised by or notified to the national authority.

In Portugal and the UK each individual issuance has to be *ex ante* notified to the national authority, while in the Netherlands it is to be ex post notified unless it is characterised by significant changes in conditions compared to the previous issuances belonging to the same registered covered bond programme.

The one-off licensing requirement, in the jurisdictions where it applies, mostly comprises an off-site assessment carried out by the competent authority based on information provided by the applicant issuer. In most jurisdictions national authorities can, if they deem appropriate, carry out on-site inspections during or at the conclusion of the licensing process. In Poland and Slovenia both the off-site assessment and the on-site inspection are regular phases of the licensing process.

3.2 Ongoing supervision of covered bond issuance

As far as the ongoing supervision of a covered bond programme is concerned, the assessment of supervisory practices covers the following areas:

1. Implementation of regular on-site inspections;
2. Reporting requirements;
3. Implementation of supervisory guidelines specific to covered bond issuance business;
4. Supervision of changes in the features of existing covered bond programmes;
5. Role of the supervisor in the appointment of the various figures involved in the monitoring/management of the CB programme;

⁶⁸ See Table 5 in Section 2.1 for the covered bond-specific capital requirements applied in the Italian covered bond legal/regulatory framework. Furthermore in the Italian framework, the issuer is required to assess the objectives and all the relevant risks of the covered bond issue and to establish an adequate internal control system and procedures.

⁶⁹ Covered bonds programme approval by Bank of Greece is granted on the basis of specific requirements being satisfied.

⁷⁰ The Central Bank of Hungary authorises all bond issuance programmes, not just covered bonds.

⁷¹ Credit institutions intending to issue covered bonds shall submit a written request to the Bank of Greece one month before the planned date of issue or the start of the covered bond programme (where applicable), accompanied by particular documentation. If the issuance of covered bonds comes under a covered bond programme, the terms of which have already been approved by the Bank of Greece, the credit institution shall submit relevant documentation to the Bank of Greece one week before the date of issue.

6. Supervision of asset eligibility and asset valuation criteria;
7. Supervision of coverage calculations;
8. Supervisory prompt corrective action practices.

The practice of carrying out regular on-site inspections of covered bond issuers takes different forms and frequencies across jurisdictions. It is an implemented practice in Germany, Denmark, Finland, France, Italy, the Netherlands, Portugal, Slovenia, Spain, Sweden and the UK. In some of these jurisdictions the regular supervisory inspections are due to the institution status as a (licenced) covered bond issuer, in others they are a specific regime applied to mortgage lenders, while in other they are part of the regular inspection regime to which all credit institutions under the supervision of the national authority are subject (e.g. Cyprus, Ireland, Italy, Spain and Luxembourg).

In France the regular inspections are carried out by the special controller who then reports to the national authority. The existence and appointment of the special controller is provided for in the French legal/regulatory covered bond framework; however, the Special Controller is staff member of a private company and his/her services are paid by the covered bond issuer.

It is worth noting that in jurisdictions where on-site inspections are not carried out at a regular frequency, the national authorities usually carry out case-by-case inspections whenever they deem it appropriate.

The practice of establishing supervisory guidelines on the specifics of risk management, governance, management quality and other aspects related to the issuance of covered bonds is not widespread among the national authorities for which information was made available. The French national authority reports adopting covered bond issuance-specific guidelines against issuers being supervised. Certain national authorities regularly check compliance by issuers with risk management, governance and management requirements which are part of the conditions to be fulfilled in order to be licenced as covered bond issuer (CY, SI) or for the covered bond programme to be registered with the national authority (CY, NL). In the Greek covered bond legal/regulatory framework the competent authority checks compliance with the relevant requirements at the time when covered bonds are issued as well as on an ongoing basis during the life of the covered bond programme. Other national authorities supervise covered bond issuers which are mortgage lenders in accordance with mortgage lending-specific guidelines while other authorities supervise covered bond issuers against the requirements detailed in the national legal/regulatory covered bond framework. As a general practice, covered bond issuers are subject to risk management, governance and proper management guidelines which more generally apply to other credit institutions supervised by the national authority.

As far as the supervision of changes implemented within a covered bond programme is concerned, practices vary substantially across the jurisdictions analysed. National authorities across jurisdictions are required to *ex ante* approve the prospectus of each covered bond issuance, where prospectus requirements apply, and are usually immediately notified by the issuer and/or the covered bond auditor/special controller of any breach of existing requirements. As regards the treatment of changes to existing covered bond programmes which do not imply infringement of covered bond regulations/laws, the following explicit supervisory stances have been identified:

Table 27 Supervision of changes within outstanding covered bond programmes

Supervisory practice	Jurisdictions
All changes in a covered bond programme to be <i>ex ante</i> notified to the national authority.	CY,CZ, FI, PT
All material events to be notified to the national authority.	IT
All significant events to be notified to the national authority. 'Significant' refers to all changes that materially affect the position of the issuer or investor.	NL
Changes to risk management practices or issuer' staff to be authorised by the national authority. All changes to future operations are to be discussed with the special controller and the national authority.	FR
Issuer to notify whether covered bond issuance business is undertaken abroad (issuer must make satisfactory compensating precautionary measures if direct mortgage deeds are not used abroad to ensure that the mortgage deeds at any time cover outstanding debt).	DK
If changes do not imply breach of existing requirements no notification/authorisation on ongoing issuance activity is needed. However, material changes are often discussed with the national authority, e.g. regarding buybacks on a larger scale, withdrawal of external ratings or notable reduction of (voluntary) over-collateralisation.	AT, DE, IE, IT.
Notification of the national authority is required for: Assets are added/removed which represent 5% of the over-collateralisation or more (5 business days ahead); Transfer of cover assets' ownership (3 months ahead); Material change to contractual conditions (3 months ahead).	UK

A key aspect of the supervision of covered bond issuance is the role of the national authority in the appointment and/or definition of eligibility criteria and tasks of different key officers (entities) involved in either management and/or monitoring of the covered bond business.

As illustrated in the Chapter on legal/regulatory frameworks (Chapter 2) numerous jurisdictions provide for the existence of a cover pool monitor (AT, BE, CY, FR, DE, EL, IE, IT, LU, NL, PL, PT, SK, SI, SE, UK)⁷². In some of these jurisdictions the national authority plays a role in either appointing (DE, SE) or approving the appointment (FR, IE, LU) of the cover pool monitor by the issuer. In some jurisdictions the eligibility criteria (FR, EL, IE, PT, SE and UK) or the tasks (FR, IE, IT, SE, UK) of the cover pool monitor are established by the national authority. In the Netherlands the independence of the cover pool monitor, as well as that of other third parties involved in the covered bond issuance, is *ex post* assessed by the national authority.

In Luxembourg a role of the national authority exists also as regards the approval of the issuer's board of directors and management. In Ireland, covered bond issuers are subject to the Fitness and Probity Regime which requires the prior approval of the Central Bank of Ireland before an individual

⁷² In some jurisdictions the cover pool monitor may have a different title.

can be appointed to a pre-approval controlled function. Pre-approval controlled functions include, among other things, board members and senior management appointments.

Table 28 summarises the different roles played by national authorities in the appointment of key persons in the covered bond programme.

Table 28 Appointment by the national authority of key persons in the covered bond programme

Jurisdiction	Role of the national authority
CY	- Appoints cover pool monitor
DE	- Appoints cover pool monitor and deputy
	- Regulates eligibility of auditor
ES	- Supervises appraisal companies (asset valuation agents)
FR	- Approves appointment of special controller
	- Regulates eligibility and tasks of special controller (cover pool monitor)
IE	- Approves appointment of cover pool monitor (called cover assets monitori)
	- Approves the appointment of pre-approval controlled functions
IS	- Approves the inspector
LU	- Approves the cover pool monitor (reviseur special)
	- Approves management and board
NL	- Checks independence of persons <i>ex post</i>
NO	- Appoints the independent cover pool monitor
PL	- Approves appointment of cover pool monitor and deputy
	- Approves management board
PT	- Regulates eligibility of special auditor (monitor)
	- Regulates the eligibility of investors' representative
SE	- Appoints the cover pool monitor Regulates eligibility and tasks of the Cover Pool Monitor
SI	- Licences cover pool monitor and deputy
UK	- Regulates the eligibility and tasks of cover pool monitor

The eligibility requirements for the assets to be admitted in the cover pool, as well as the requirements on the valuation of these assets, are crucial determinants of the credit risk profile of a covered bond programme (Chapter 2). The supervision by the national authority of these two aspects is carried out mostly through:

- The activity of the cover pool monitor, where such an officer/entity is required by law, and the regular communication between the national authority and the cover pool monitor;
- The on-site inspections carried out by national authorities (see above). In this respect two jurisdictions (DE, DK) report carrying out regular audits which specifically aim to supervise eligibility of cover assets and valuation practices/outcomes;
- The regular reporting of issuers/monitors/auditors to the national authority, where a reporting requirement applies;
- The regulation and supervision of valuation agents/appraisal companies;

A similar diversity of approaches applies to the supervision of the coverage calculations and asset coverage tests, depending on whether in each specific jurisdiction (as assessed in previous sections) the cover pool monitor exists, whether reporting requirements are imposed on the cover pool monitor/issuer towards the national authority and on the practice of regular inspection/review by the national authority.

The assessment of supervisory practices highlighted that, in scenarios of deteriorating covered bonds market conditions or deteriorating performance of the covered bonds programme, national authorities do not implement any covered bonds-specific systematic plan for prompt corrective actions nor make the national authorities use of any particular triggers for implementation of such actions. Based on the outcomes of the overall regular supervisory activity, which goes through the communication with the cover pool monitor, the monitoring of reporting returns and the regular and ad hoc inspection activities, depending on the jurisdictions, the national authorities can intervene at different levels and with different tools, such as:

- Increased monitoring activity and/or ad hoc inspections;
- Imposition of time periods within which remedial action should be taken by the issuer;
- Imposition of specific actions to be taken by the issuer;
- Imposition of fines;
- Appointment of imposed special administration;
- Programme freeze and, if needed and where applicable, withdrawal of the licence.

3.3 Supervision post-issuer's default

Given the peculiar features of the covered bond tool, and in particular the investor's privileged recourse to the assets in the cover pool in a scenario of default of the issuer, the need for a system of special public supervision for the protection of the bondholder becomes particularly relevant in the event of issuer's default. With a view to the protection of the covered bond investors, the special public supervision required in Article 52(4) of the Directive 2009/65/EC supplements the market discipline that transparency and disclosure requirements impose on covered bond issuers, whereby investors receive sufficient information to take informed investment decisions based on sound due diligence.

In a scenario of issuer's default the necessity arises to appoint an administrator of the covered bond. As summarised in Table 29 while in some jurisdictions the role of the national authority is a direct role in the appointment of the (special) administrator, in other jurisdictions the national authority

proposes to the insolvency court an appropriate name. In some jurisdictions the national authority is not involved at all in the appointment of the covered bond administrator.

Table 29 Powers of the national authority in the event of issuer default

Jurisdiction	Role of the competent authority
CY	- Appoints a covered bond business administrator.
DE	- Proposes to court special administrator upon issuer default; - Can propose removal of special administrator; - Can undertake ad hoc audits of cover pool which operates as a stand-alone limited activity bank; - Supervises the covered bond programme as limited activity bank against covered bond legislation/regulation.
DK	- Proposes to court administrator upon issuer default (mortgage banks).
	- May appoint special administrator upon issuer default (universal banks).
FI	- Appoints special administrator upon issuer default - Supervises the covered bond programme under special administration against the covered bond legislation/regulation.
EL	- Appoints a covered bond servicer if the trustee fails to do so upon issuer's default.
ES	- The judge will appoint the insolvency administrator amongst those suggested by the deposit guarantee fund (the management committee of the deposit guarantee fund is currently composed of 12 members, six of them designated by the Bank of Spain).
FR	- Appoints the special administrator to run the issuer and the (independent) covered bond vehicle; - Can impose extra data collection – random audits.
IE	- May request the national treasury management agency ⁷³ ("NTMA") to identify a suitably qualified person to manage the asset covered securities business or appoint the NTMA if such a suitably qualified person cannot be identified upon issuer default (and other special circumstances); - May confer special powers to this administrator.
IT	- Supervises in accordance with the powers conferred to the supervisory authority in banking crisis by primary law.
LV	- Supervises in accordance with the powers conferred to the supervisory authority in banking primary law; - Provides an application to court regarding an appointment of an administrator of the mortgage bond cover register.
LU	- Supervises over the mandate of the special administrator and over the covered bond which remains an entity with limited activity; - Can request the court to remove the special administrator; - Approves any service agreement the special administrator intends to enter into, with other institutions, for the administration of the covered bond programme; - Approves any transfer of the cover assets to any other institutions or covered bond issuers; - Can request the court to order a suspension of payments on the covered bonds, under certain conditions; - Can request the court to order the dissolution of the covered bond programme and the liquidation

⁷³ The National Treasury Management Agency provides a range of asset and liability management services to the Irish government. These services include borrowing on behalf of the Government and management of the national debt, the State Claims Agency, the New Economy and Recovery Authority, the National Pensions Reserve Fund, the National Development Finance Agency and the National Asset Management Agency.

Jurisdiction	Role of the competent authority
	of the underlying collateral, under some conditions;
NL	- Supervises the special administrator in accordance with the same principles of the ongoing supervision.
PL	- Implements recovery programme
PT	- Appoints, in certain cases, the credit institution that will manage the covered bond programme upon issuer's default; - It has to be notified by the issuer, in other cases, on the identity of the credit institution chosen by the issuer as manager of the CB programme upon default of the issuer; - Determines the fees paid to the appointed managing institution to be paid out of the cover pool resources; - In case of default of the covered bond programme issuer it initiates with the representative of the CB investors the procedure to grant the investors access to the cover pool;
SE	- If the licence is revoked, FI may determine the resolution process of the business.
SI	- Proposes to court special administrator upon issuer default; - Approves any transfer of the cover assets to any other institutions or covered bond issuers; - Can initiate a procedure of insolvency of the covered bond if the assets in the cover pool prove to be inadequate to fulfil the payment obligations towards covered bond investors.
UK	- Supervises the special administrator in accordance with the same principles of the ongoing supervision.

3.4 Operational aspects of covered bond supervision

In assessing the operational aspects of covered bond supervision the present analysis took into account the following aspects:

- The organisation of the supervisor in relation to CB supervision, in particular whether the supervision of CB is carried out by CB-specific units and whether the supervision is organised in issuer-specific teams;
- The practice of developing independent cash flow sensitivity/stress test models for the supervision of covered bond programmes; and
- The practice of providing supervision staff members covered bond business-specific training.

In accordance with the information that was made available by national authorities, the supervision of covered bond issuance is in most of the jurisdictions the responsibility of supervisory units allocated to general banking prudential supervision. In some national authorities, also due to the specialisation of the issuer model, supervision is carried out by specific teams (DK, FR, NL, UK). Some national authorities organise the supervision of CB issuance in issuer-specific teams (DK, FR). Some (e.g. IE) supervise covered bond issuers as part of the supervisory engagement model and plan agreed for the wider banking group to which they belong, which is in turn dependent on their significance in terms of impact on the economy and the consumer.

In Germany a unit of supervisors is specifically devoted to bi-annual inspections of CB programmes. The supervision of CB issuance may of course involve the expertise of supervisory teams specialised in monitoring certain risks, such as market and liquidity risks (e.g. in Denmark and Spain).

The Spanish national authority also directly supervises ‘appraisal companies’ which are the entities authorised to provide valuation services of the assets included in the cover pools.

In Hungary supervision is carried out by the supervisory unit unless an issuer does not have a specific team assigned to it, in which case the supervision will be carried out by a specialist licensing unit.

Some jurisdictions organise ad hoc training courses for their staff members working in the supervision of covered bonds – at least covering all regulatory topics that impact the business of covered bonds issuance.

The UK national authority carries out its own independent stress test analysis on CB programmes at least on a quarterly basis, and upon issuance of a new CB programme. The macro stress test analysis in Denmark is performed for both mortgage banks and universal banks. In addition to this there are stress test requirements in the balance principle that concern ROs, SDOs and SDROs. Ad hoc stress tests are occasionally carried out on CB issuers by the French national authority. The Swedish national authority has recently been developing a sensitivity analysis to be tested by covered bond issuers. In Denmark the sensitivity analysis tests specific to covered bond issuers are carried out within the ICAAP framework.

EBA recommendations on the role of the competent authority

The review of the supervisory practices carried out within this Chapter has highlighted that in a majority of the jurisdictions national authorities carry out supervisory practices which go beyond the ordinary supervision of credit institutions, both prior to the issuance of covered bonds and under the ongoing supervision of outstanding covered bond programmes.

The operational framework necessary for the set-up and management of covered bonds issuance may be complex, i.e. involve several different parties, and may expose the issuer and the covered bonds to several risks (see Box 1 Operational risk in covered bonds on operational risk). In addition, the legal structure’s compatibility with the regulations as well as the applicable issuer-specific restrictions should be assessed. As the covered bond programme is established and turns into an ongoing activity, the issuer’s continuing ability to meet the standards specified in the applicable regulations (e.g. eligibility and credit quality of the underlying assets, A and L risk management, use of substitution assets and derivative contracts etc.), the overall quality of the dynamic cover pool and the potential implementation of material changes to existing programmes are to be monitored.

As regards the supervision of issuers prior to the issuance of covered bonds, the EBA identifies a role of the competent authority in the *ex ante* approval of the establishment of covered bond programmes as a safeguard of the overall safety and credit quality of the covered bond. The EBA also acknowledges that an equivalent supervisory safeguard may be in place in those frameworks where specialised covered bond issuers, which only carry out the covered bonds issuance activity and

related ancillary activities, are subject to a licensing process, provided that all the applicable requirements attached to the granting of the licence are regularly monitored by the authority and the establishment of new covered bond programmes is, as a minimum, subject to ex-ante notification to the national authority

The principle of best practice identified in relation to the appointment of a cover pool monitor (see Section 2.7), as identified in numerous national legal/regulatory frameworks, together with the existing requirements of regular reporting (to the national authority) and disclosure (to the investors) should ensure a comprehensive ongoing monitoring and supervision of the covered bonds business.

In addition, to enhance legal clarity and transparency towards covered bonds' investors, the EBA identifies as a best practice the establishment in legal/regulatory frameworks of clear and sufficiently detailed indications on the tasks and powers of the ongoing supervisor.

Best practice 7 - B: Supervision of the covered bond issuer

The legal/regulatory covered bond framework should provide that the competent authority approves the establishment, by a given issuer, of a covered bond programme. A covered bond programme shall be considered to have been established when a cover pool is established for the inaugural covered bond issue. Within the same covered bond programme additional collateral may be subsequently added to the cover pool and further covered bonds may be issued granting investors claims which rank *pari passu* with the claims attached to the existing bonds collateralised by the same cover pool, in the event of issuer's insolvency.

At the establishment stage the competent authority should be satisfied, at least on the basis of information received from the issuer, that: i) adequate operational policies, procedures and controls are put in place by the issuer for the management of the covered bond programme, including in an issuer's insolvency or resolution scenario; ii) where provided by the national framework, the restrictions applicable to the issuer are met; iii) the features of the cover pool meet the applicable requirements.

The EBA acknowledges that the supervisory practice of licensing specialised covered bond issuers, which only carry out the covered bonds issuance activity and related ancillary activities, may ensure a level of supervision of the issuer which is comparable to the one achieved by the authorisation of the establishment of a new covered bond programmes. In any case all the applicable requirements attached to the granting of the licence should be regularly monitored and the establishment of new covered bond programmes should as a minimum be subject to ex-ante notification to the national authority.

The legal/regulatory covered bond framework should provide a clear and sufficiently detailed illustration of the duties and powers of the competent authority regarding the ongoing supervision of the applicable activities/regulatory requirements of covered bond issuers.

Best practice 7 - C: Duties and powers of the national authority in a scenario of issuer's insolvency

The legal/regulatory covered bond framework should provide sufficiently detailed description of what the duties and powers of the competent authority are on the covered bond programme, as well as its administration, in a scenario of issuer's default.

The EBA assessed that while Article 129 of the CRR sufficiently elaborates on the eligibility of asset classes with regard to preferential risk weight treatment, it is less specific on equally relevant aspects of safety of the covered bond: among those, the role of the special public supervision of the protection of the bond holder may be taken into consideration.

Recommendation EU COM 1 - C: Role of the competent authority

The EBA considers that requirements relating to the role of the special public supervision of the covered bonds should be considered for inclusion among the qualifying criteria determining preferential risk weight treatment. The requirements considered for inclusion may cover: i) supervision prior to the issuance of covered bonds, ii) ongoing supervision and iii) supervision post-default/resolution of the issuer.

4. Transparency towards investors: disclosure requirements and disclosure market practices

Transparency towards investors in the market of covered bonds relates to the information that investors receive from issuers to carry out the risk analysis related to their covered bond investment. Given the highly fragmented nature of covered bonds frameworks across jurisdictions and the existence within a given jurisdiction of different issuer models, disclosure to investors takes a different form, i.e. makes use of different templates, depending at least on: i) the specific issuer model; ii) the type of cover pool and covered bond; and iii) the regulatory framework characterising the jurisdiction where the issuance is registered.

4.1 Disclosure to covered bond investors in EU regulation

EU regulation includes provisions on the disclosure to covered bonds investors in the section of the CRR describing the standardised approach to credit risk and, in particular, the risk weight treatment of exposures in the form of covered bonds. In this respect Article 129 of the CRR provides that:

Exposures in the form of covered bonds are eligible for preferential treatment, provided that:

- a) the institution investing in the covered bonds can demonstrate to the competent authorities that it receives portfolio information at least on:
 - i) The value of the cover pool and outstanding covered bonds;*
 - ii) The geographical distribution and type of cover assets,*
 - iii) Loan size, interest rate and currency risks;*
 - iv) The maturity structure of cover assets and covered bonds; and*
 - v) The percentage of loans more than 90 days past due.**
- b) the issuer makes the information referred to in point (a) available to the institution at least semi-annually.*

The requirements above only apply to those institutions, in the scope of the CRR, that seek preferential risk weight treatment when investing in covered bonds.

4.2 Disclosure to covered bond investors in national law/regulations

According to available information regulatory requirements in the area of disclosure to covered bond investors are particularly diverse within the European Union.

Not taking into account the provisions of either the Prospectus Directive (as implemented at the national level) and the IFRS 7 that apply to covered bonds, in 11 out of 25 jurisdictions for which reliable data is available at least one of the covered bond instruments regulated at the national level is not subject to any specific requirements of disclosure towards investors (in AT, BE, CZ, DK, EE, FI, IS, IT, PT, SE and SI).

In the remaining jurisdictions national requirements on disclosure differ substantially including the following different national frameworks:

- a) Ongoing obligation to disclose an updated version of the 'cover register' and/or an extract of information from the 'cover register';
- b) Periodic disclosure of nominal and/or market and/or net present value of outstanding covered bonds, corresponding eligible cover assets and substitution assets;
- c) Periodic disclosure of stratification tables covering part of the detailed information included in disclosure templates adopted by market practice, such as the ICMA Covered Bonds Investors Council (CBIC) template and some European Covered Bond Council (ECBC) national transparency templates;
- d) Detailed provisions on the timing and content of disclosures to investors which closely mimic the content of some ECBC issuers' templates, including stratified data on credit distributions by volume, currency, maturities, country of the borrower, type of public borrower, assets in arrears in type of arrears, derivatives in the cover pool, etc.;
- e) The provision (in the UK only) of disclosing quarterly on a secure subscription-only website loan-level information on the asset pool.

4.3 Disclosure to covered bond investors in market practices

Within a fragmented panorama two market initiatives were considered in this report in order to provide a comprehensive overview, at the European level, of the scope and depth of disclosure standards that issuers and investors respectively adopt and request according to current practices.

The **European Transparency Standards** initiative is maintained by the Covered Bonds Investors Council (CBIC) of the International Capital Markets Association.⁷⁴

The ICMA disclosure template comprises information which cover the following different levels of detail within a covered bond programme:

- Information related to the overall covered bonds programme;
- Information which is specific to the type of cover pool under consideration, with different items of disclosure depending on whether the pool includes mortgages and/or public exposures;
- Information which is specific to residential mortgage exposures vs. commercial mortgage exposures, within a mortgage cover pool;

⁷⁴ The first European transparency standards template was published by the CBIC in 2012.

Table 30, below, illustrates in more detail the items of disclosure reported in the CBIC template and their scope; i.e. the layer of assets and liabilities to which they apply.

Among others, the following disclosure items apply:

- The values of assets and liabilities are disclosed according to both the nominal and the net present value principles, allowing the investor to assess the coverage performance against some form of market stress;
- The level of over-collateralisation disclosed is not only the one established by the national legal requirement (where applicable) but also the level of over-collateralisation on which the parties agree at the contractual level as well as the over-collateralisation that the issuer commits to maintain, most commonly, in order to maintain/achieve a targeted rating grade for the covered bond. Each different type of disclosed over-collateralisation allows the investor to assess the different degrees of commitment that he/she can expect from the issuer with regard to the over-collateralisation of the programme. In relation to the over-collateralisation an element of market stress is disclosed through the indication of the impact on the over-collateralisation level of a percentage drop (15%) in property prices;
- The structural mitigation of liquidity risk through soft bullet structures has to be disclosed;
- The geographical distribution (i.e. location of the property securing the mortgage loan or location of the obligor of a public sector loan) by country is disclosed at the level of the overall mortgage pool and cover pool of exposures to the public sector. The latter has to be characterised, in addition, by a breakdown of exposures to regions, cities and municipalities, and not only at country level of the country;
- The LTV values are reported separately for residential and commercial mortgages and reflect both origination values and current market values through the disclosure of indexed property values;
- The characteristics of the mortgage pool, in terms of the quality of the mortgage security over the property, are disclosed via the breakdown detail of non-first-lien mortgages as well as insured or guaranteed mortgages;
- The risk profiles which are specific to residential loans include the loan purpose (buy to let/non-owner/second home), the income verification processes and the repayment type. The only commercial-specific risk driver is the commercial sector whose distribution is delegated to the issuer templates. In the case of public sector pools, the type of public borrower towards which the exposure arises is an element of required disclosure.
- For both mortgage pools and public sector exposure pools the concentration risk profile is captured by the disclosure of the sum and percentage value of the exposures towards the five and ten largest borrowers in the pool.

Table 30 ICMA disclosure template

Scope	Disclosure Item
Covered bond programme level	- Nominal and net present value of assets
	- Nominal and net present value value of outstanding covered bond
	- Current over-collateralisation/legal over-collateralisation/contractual over-collateralisation/ECAI committed over-collateralisation
	- Percentage ABS in the pool (RMBS /CMBS breakdown)
	- Percentage substitution assets
	- Weighted average life of assets and liabilities
	- Weighted average LTV: indexed and unindexed
	- Assets and liabilities: legal maturity buckets (6)
	- Assets and liabilities: expected maturity buckets (6)
	- Construction loans (yes/no)
	- Soft bullet structure (yes/no and extension period)
	- Early redemption (yes/no)
	Mortgage pool
- Geographical distribution by country	
- insured/guaranteed/non-first-lien (%)	
- Percentage ECB eligible	
- Sum and percentage of 5 and 10 largest loans	
- Impact on over-collateralisation of 15% drop in house prices	
- Are bonds hard or soft bullet structure?	
Residential mortgages	- Unindexed LTV buckets (12)
	- Indexed LTV buckets (12)
	- Interest rate type
Commercial mortgages	- Seasoning buckets (5)
	- Performing/delinquent/non-performing loans
	- Remaining legal maturity buckets (3)
Residential mortgages	- Loan purpose: buy to let/non-owner/second home
	- Income verification: self-certified/limited certification
	- Repayment type: interest only/amortized
Commercial mortgages	- Distribution by sector (according to issuer template)
Public sector pool	- Percentage and sum of 5 and 10 largest loans
	- Distribution per country
	- Distribution within country per region
	- Distribution per type of public borrower
	- Bonds / loans breakdown
	- Are derivatives included in the cover pool?
	- Percentage of ECB eligible assets
	- Are bonds hard or soft bullet structure?
Rating information on the issuer	- Current ratings and recent rating history (for the past three years)
	- Senior unsecured ratings

- Senior secured (covered bond) ratings
 - Financial strength ratings
 - Sovereign ratings
-

The **national transparency template** initiative has been promoted by the European Covered Bond Council (ECBC) as one of the conditions covered bond issuers have to fulfil in order to apply for the ECBC Covered Bond label⁷⁵. Around the ECBC guidelines on transparency to covered bond investors issuers from 14 different jurisdictions have developed country-specific transparency templates of stratified data. The national transparency templates adopted by all issuers currently holding the ECBC label differ substantially across jurisdictions, partly due to the following factors: i) the issuer model adopted at the national level; ii) the type of cover pools and covered bonds historically developed at the national level; and iii) the regulatory framework in force in the respective jurisdiction.

While a detailed comparison of the 14 national transparency templates is not within the purposes of this report, the EBA acknowledges that they constitute a valuable starting point for the harmonisation of covered bond disclosure standards. However, it is also noted that the national templates differ and are not always aligned in terms of the type and amount of information disclosed, with the disclosure template elaborated by the investors' association as well as with the disclosure requirements imposed on covered bonds for the purposes of preferential risk weight treatment (on the latter see section 4.1).

The information included in the investors' template and not disclosed by many of the national templates includes, but is not limited to, the net present value of assets and liabilities in the covered bond programme, the types of over-collateralisation other than the current over-collateralisation, the stratification of LTV values, interest rate type and seasoning per class of mortgage loan (residential vs. commercial), the mortgage loan type, the type of income verification at underwriting, the breakdown of non-first-lien and insured mortgages, the largest 5 and 10 exposures, the weighted average life of the assets and the bonds, the indication of soft bullet payments and the various types of ratings related to the issuer of the covered bonds.

Not all the national transparency templates seem to align with the disclosure requirements provided for in Article 129 of the CRR. While all templates include information on the value of assets and liabilities, on the distribution of the cover assets by country of location and on some measure of interest rate risk, not all of the templates analysed for the purposes of this report seem to report information on the loan size, currency risk, maturity structure of both assets and liabilities, and on the measure of the loans in the pool which are more than 90 days in arrears. Loan size is either not reported at all or reported in average terms (cover pool level) or broken down according to different categories. The exposure of the covered bond programme to assets and liabilities per currency bucket is only reported in a very limited number of templates and does not always exactly cover the

⁷⁵ The label is based on the Covered Bond Label Convention, which defines the core characteristics required for a covered bond programme to qualify for the label. This definition of the required characteristics is complemented by a transparency tool developed at national level based on the "Guidelines for National Transparency Templates". The covered bond label was created by the EMF/European Covered Bond Council (ECBC) in 2012.

covered bond programme level. The maturity structure of the covered bond liabilities does not appear in all templates, hence impairing a comprehensive assessment of the maturity structure of the covered bond programme. The same applies for the maturity structure of the cover assets in relation to some of the templates analysed.

Very few transparency templates are particularly developed in certain areas of information disclosure. In this regard, for instance, one template provides substantial detailed information on the securitisation units included in the cover pool, and another template provides detail on the counterparties involved in the covered bond programme, on the various coverage/liquidity tests and cushions foreseen in the contract and on the dynamics of the payments, as represented by mortgage collections figures and payment and pre-payment rates. A different template, for instance, provides many of the variables related to mortgage loans, such as geographical distribution of LTVs and seasoning buckets, interest rate type and repayment type, systematically broken down by property type.

Table 31 below represents a collection of disclosure items, where each item is extracted from one or more of the existing national transparency templates.

Table 31 Additional disclosure items in ECBC issuers' national transparency templates

Information on issuer's group		
<ul style="list-style-type: none"> Group and parent company identity data 	<ul style="list-style-type: none"> Consolidated financial data and / or regulatory ratios 	<ul style="list-style-type: none"> Group ratings information
Issuer's balance sheet data		
<ul style="list-style-type: none"> Regulatory ratios (e.g. solvency, tier 1) Assets and liabilities breakdown (e.g. by currency, by maturity) 	<ul style="list-style-type: none"> Loans and deposits breakdown (e.g. by currency, by maturity) Loan losses/non-performing loans / net loss provisions 	<ul style="list-style-type: none"> Outstanding public guarantees Secured vs. unsecured debt
Other counterparty data		
<ul style="list-style-type: none"> Identity and rating data on: seller (originating institution), cash manager, account bank, stand-by account bank, servicer(s), stand-by servicer(s), swap provider, stand-by swap provider 		
Cover pool information		
<ul style="list-style-type: none"> Credit distribution by original volume buckets Credit distribution by value outstanding buckets Geographical distribution by property type 	<ul style="list-style-type: none"> Repayment type: by property type Seasoning buckets: by asset class and by property type Year of origination buckets 	<ul style="list-style-type: none"> Loans 90 days past due: by property type/by arrears duration/by geographical location
LTVs and other affordability indicators		

- LTV buckets by property type
- LTV buckets covering: original loan to original foreclosure value / current loan to original foreclosure value / current loan to indexed foreclosure value / original loan to original market value / current loan to original market value / current loan to original market value
- Loan-to-income ratio buckets
- Debt service-to-income ratio buckets

Assets and Liabilities risk profile		
<ul style="list-style-type: none"> • Assets remaining life buckets: by asset class / by property type • Outstanding bonds remaining life buckets • Weighted average life of outstanding bonds and assets by asset class • Assets: remaining interest rate fixed period buckets • Weighted average remaining time to interest reset • Weighted average interest rate and spread on loans • Covered bond outstanding: coupon type (fixed/floating etc.) breakdown • Covered bond outstanding: amortisation profile (callable/non-callable) • CB Legal maturity date • Maturity date of soft bullets/extension period 	<ul style="list-style-type: none"> • Assets and bonds currency distribution post currency swap • Assets and bonds' interest rate type distribution post IR swap • Swap notional denomination/amount / maturity: IR and currency breakdown • Swap counterparty: internal Vs external breakdown • Collateral posted/collected on swaps 	<ul style="list-style-type: none"> • Current pre-payment rate • Principal payment rate • Mortgage collections: scheduled vs. unscheduled interest and principal payments • Loan redemptions since previous disclosure date • Loans sold in cover pool / loans bought back by seller • Substitution (liquid) assets Breakdown: percentage ECB eligible / percentage cash and deposits with other FIIs/percentage deposits with central bank/etc. • Substitution assets' rating distribution
Programme Requirements – Tests and Triggers – ECAIs indicators		
<ul style="list-style-type: none"> • Liquidity buffer requirements (e.g. 3 months interest payments) • Coverage test details 	<ul style="list-style-type: none"> • Interest coverage tests • Weighted coverage tests • ECAIs' indicators 	<ul style="list-style-type: none"> • Open list of other triggers
Other Data on Covered Bonds Liabilities		
<ul style="list-style-type: none"> • Covered bond outstanding: public placement/ private Placement breakdown • Covered bond long-term rating • Covered bond ISIN number • Covered bond issuance date 	<ul style="list-style-type: none"> • Coupon payment frequency • Coupon payment date 	<ul style="list-style-type: none"> • Margin payable under extended maturity period (percentage) • Receive rate/margin • Pay rate/margin

4.4 General approach to the use of covered bond data by the major credit rating agencies (CRAs)

The general principles of credit rating agencies (CRAs) related to their data requirements on covered bond issuers, for rating purposes, are made public in documentation on methodologies and rating criteria.

In this respect the Standard & Poor's covered bonds input template, for instance, reports that ' [...] the firm prefers to conduct a loan-by-loan analysis of the mortgage pool'', while Fitch's covered bond master criteria stipulate that the firm ' [...] expects to receive individual asset data on a quarterly basis, as well as cohort-based arrears and default data and performance data related to recoveries'. Furthermore, Fitch reserves the right to penalise firms providing insufficient information, by limiting the uplift granted to the bond rating above the issuer rating. Indeed, this approach applies " "...in a number of circumstances, for example: for programmes for which data is incomplete but sufficient to allow the agency to perform a broad asset analysis and estimate recovery prospects."

As regards the actual fields of information collected by the three major CRAs, their covered bond performance review templates are broadly similar. All three major CRAs expect to receive detailed information regarding:

- The issuer and group (such as financial ratios and rating information);
- The identities of other entities relevant to the structure (including account bank, servicer, swap providers)
- All outstanding covered bonds (coupons, coupon frequency, payment structure etc.)
- Over-collateralisation levels (contractual, committed and legal requirements)
- Asset and liability profile data (covered bond maturities, currencies, swap information etc.)
- Liquidity and substitution asset information (composition, percentage limits, etc.)
- Key ratios (constant pre-payment rate, constant default rate, asset coverage tests, asset percentages, etc.)

As regards in particular the cover pool of a covered bond programme, each CRA expects to receive detailed information that would be specific to the asset class and sufficient to calculate the probability of default and the recovery rates for the total pool. This detailed information includes distributions on LTV ratios, geographical distributions, the presence of guarantees, seasoning of the cover pool assets, the presence of foreign currency loans, breakdown of loans by repayment type (such as interest-only or French amortisation), performance statistics, and so forth. Details are also required for any ABS that is included in the cover pool, to a sufficient degree of detail that would allow them to be stressed as well.

Of course, within all of the above categories, there is some variance in the information requested by each CRA and also dependent upon whether loan-level or stratification level detail of the main cover pool assets is available. For example, although the nominal and minimum over-collateralisation in the cover pool is requested, not all agencies will request over-collateralisation in net present value and risk-adjusted terms.

Although more information is always considered better, the absence of any particular piece of data is unlikely to result in the CRAs deciding that they had 'insufficient information' to rate a covered bond. Indeed, in practice it does not appear that CRAs' ideal standard of information disclosure is a necessary condition for providing a rating. CRAs instead appear to be more pragmatic, and will only rate a transaction if " "sufficient information" " is provided. Part of this pragmatism appears to arise for the following reasons:

- The different asset characteristics that may be found in different jurisdictions. For example, depending on the specialisation of mortgage products, a higher level of detail may be required to adequately analyse the collateral;

- The type of issuer, such as whether the issuer is also an originator, seller or sponsor of ABS bonds. Those issuers who are also involved in ABSs are more likely to have the processes and systems in place necessary to extract more detailed information;
- Different supervisory data requirements, which mean that issuers in certain jurisdictions must already provide more or less detailed data on a periodic basis to competent authorities responsible for their supervision.

EBA recommendations on disclosure to investors

Best practice 8 –A: Scope of disclosure

The legal/regulatory covered bond framework should require covered bonds issuers to disclose aggregate data on the credit risk, market risk and liquidity risk characteristics of the cover assets and the covered bonds of a given programme as well as other relevant information, including information concerning the counterparties involved in the programme and the levels of contractual and voluntary over-collateralisation. The information should be disclosed to a level of detail enabling investors to carry out a comprehensive risk analysis.

Best practice 8 - B: Frequency of disclosure

The legal/regulatory covered bond framework should provide that the disclosure of the information mentioned under recommendation 8 - A should occur at least on a quarterly basis.

The EBA furthermore believes that the disclosure criteria included in Article 129(7)(a) may leave excessive room for interpretation to both issuers and competent authorities. For the purposes of this report the EBA has reviewed one of the major industry disclosure initiatives, i.e. the issuers' ECBC national transparency templates, and assessed that disclosure items such as, for instance, disclosure templates for interest and currency risks show differences that go significantly beyond differences in the covered bond structures. Informal industry consultation has also highlighted, to the EBA, investors' uncertainty about the compliance of certain covered bond programmes with the Article 129 of the CRR.

Recommendation EU COM 1 - D: Disclosure to covered bonds investors

Article 129(7)(a) includes provisions on the information that covered bond investors must receive from the issuer to seek the risk weight preferential treatment on their covered bond investment. The EBA recommends that the disclosure criteria included in Article 129(7)(a) be further clarified by means of binding technical standards. In addition, the scope of those standards should allow for the possibility of extending the disclosure criteria included in Article 129(7)(a) to include additional variables, depending on further analysis to be developed when drafting the standards.

5. Aircraft loans as cover assets

In accordance with Article 503(3) of the CRR the Commission services' technical advice request also requires the EBA to analyse whether loans secured by aircraft (aircraft liens) should under certain conditions be considered an eligible asset of covered bonds in accordance with Article 129 of the CRR. The following sections of this Chapter provide an analysis of the aviation sector, available aircraft finance options, the use of aircraft as collateral, existing legal frameworks for issuing covered bonds secured by aircraft loans within the EU, and the current market for covered bonds in the EU.

5.1 Aviation sector

The market for commercial aircraft comprises civil passenger aircraft and freighter aircraft. With regard to passenger aircraft the major market segments are single-aisle (or narrow-body) aircraft including the sub-segment regional jets and twin-aisle (or wide-body) aircraft, including the sub-segments small wide-body (200 to 300 seats with three classes), medium wide-body (300 to 400 seats with three classes) and large wide-body (more than 400 seats with three classes). The freighter aircraft market is usually divided into the sub-segments standard-body aircraft (freight capacity less than 45 tonnes), medium wide-body aircraft (freight capacity between 40 and 80 tonnes) and large aircraft (freight capacity more than 80 tonnes).

On the supply-side of the aircraft market, there is a duopoly of Airbus and Boeing with regard to the sub-segments medium wide-body and large wide-body aircraft. In other market segments⁷⁶ other manufacturers act as competitors, to different extents, vis-à-vis Airbus and Boeing. Table 41 in Annex III provides a picture of the high level of concentration in the sector of aircraft manufacturing.

The aircraft manufacturer industry has rather high barriers for entry due to economies of scale, required technical expertise, the use of proprietary technologies, and the strong reputation of existing suppliers.

On the demand side, according to the Boeing Current Market Outlook 2013-2032 (Boeing Outlook) more than 900 airlines are active in the commercial airline industry. Many of these airlines are, however, only operating in regional or domestic markets. Among the ten largest airlines, competing for international flight connections, there were, as of 2012, 4 US airlines, 3 European airlines and 3

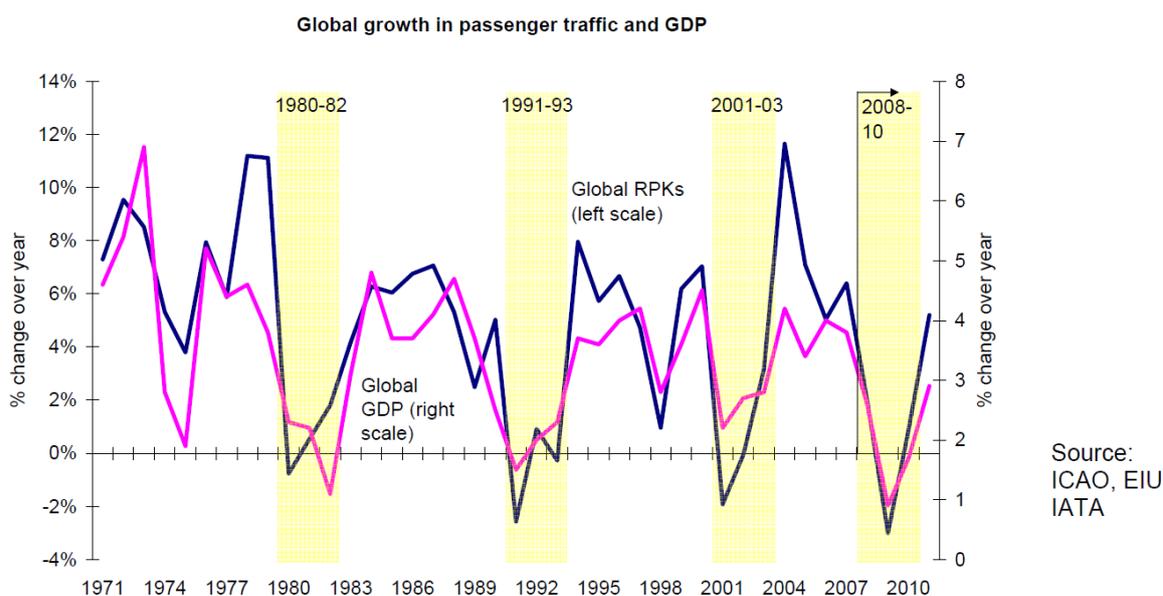
⁷⁶ Russian manufacturer UAC is a minor competitor in small wide-body and single-aisle aircraft with more than 175 seats. In the market for single-aisle aircraft with 90 to 175 seats the Chinese AVIC and COMAC, the Brazilian Embraer and the Canadian Bombardier act as competitors. The market for regional jets is served by the manufacturers Antonov (Russia), AVIC, Bombardier, Embraer, Mitsubishi (Japan) and UAC (Russia).

Asian airlines among the 10 largest airlines by capacity, which accounted for 30% of the total worldwide capacity in terms of available seat kilometers (ASKs⁷⁷) per week (see Table 42 in Annex III).

The major factors affecting passenger and cargo demand for airline services are fuel prices, economic growth and one-off unpredictable events such as volcanic eruptions, pandemics, or terrorist attacks. According to the Boeing Outlook, fuel costs currently account for almost 34% of total airline operating cost and have replaced labour costs as the largest component of airline operating cost leading to high demand for new fuel-efficient aircraft.

As illustrated by the comparison of the growth of revenue passenger kilometres (RPKs)⁷⁸ and GDP growth, in Figure 3 below, the growth of commercial air traffic (blue solid line) is closely correlated to economic growth (pink solid line) but the former is generally contracting and expanding at a higher rate than the latter. The growth of air freight transportation is closely related to the growth world trade volumes of manufactured goods and thereby, as commercial air traffic, to GDP growth. But as Figure 1 illustrates neither recessions, nor one-off events such as terrorist attacks or pandemics have so far had an impact on the long-term growth rate of global RPKs of around 4% a year.

Figure 3 Close correlation of global RPK growth and global GDP growth (Source: IATA economic briefing on the impact of recession on air traffic volumes)



Due to the high number of competing airlines the air transport market is competitive, as also indicated by the decline of the airlines' real yields by almost 50% since the beginning of the

⁷⁷ Available seat kilometres (ASKs) is used to measure an airline's passenger capacity and is calculated by multiplying the total number of seats available to regular passengers and the total number of average kilometers those seats were flown in a given period.

⁷⁸ RPKs are calculated by multiplying the number of revenue-paying passengers by the total distance travelled by these passengers.

liberalisation of the air transport market in the late 1970s and the high correlation⁷⁹ between the unit costs and the yields of global airlines. The tendency in the air transport market to restructure insolvent airlines, which prevents insolvent airlines from leaving the market or being merged with other airlines, contributes to the continuation of this high intensity of competition over time.

The limited aircraft production capacities, the strong positions of Airbus and Boeing in the aircraft manufacture industry, and the high barriers for entry in this industry on the supply side as well as the comparably low market share of individual airlines on the demand-side generally support the negotiating position of the suppliers of aircraft. However, to be more flexible with regard to adjusting the supply of passenger and freight transport to changes in the demand, airlines increasingly rely on aircraft leasing to finance an enlargement of their fleet or the replacement of older aircraft⁸⁰. As a result, large lessors and airlines ordering a high number of aircraft at once may also have some bargaining power in aircraft purchase negotiations.

5.2 Financing of aviation sector

As commercial aircraft are very expensive assets, with 2014 list prices for an Airbus aircraft ranging from about USD 72 million to about USD 414 million, and as profit margins in the airline industry are rather low due to the competition in the air transport market, airlines and lessors heavily rely on debt financing to finance their investments in new or old aircraft. As Airbus is expecting a total of 29 226 new worldwide aircraft deliveries with a current list price of USD 4.4 trillion and Boeing is expecting a total of 35 280 new worldwide aircraft deliveries worth USD 4.8 trillion within the 20-year period from 2013 to 2032, the demand for debt financing will likely increase within this period. The major funding sources used to finance the total 2013 deliveries of new aircraft with a value of around USD 104 billion were commercial bank loans (28%), airlines' cash (25%), export credit agency (ECA) guaranteed funding (23%), funding in the capital markets (14%), and self-funded leases (5%)⁸¹.

German (21% in 2013/ 17% expected in 2014)⁸² and French (16%/ 16%) banks provided about one third of the global financial bank debt used to finance new aircraft deliveries in 2013.

Capital market funding for aircraft deliveries is usually obtained through the issuance of unsecured and secured corporate bonds (including convertible bonds), enhanced equipment trust certificates (EETCs) or ABS by airlines or leasing companies. EETCs entitle the certificate holders to receive payments from an SPV (trust) that owns several aircraft and leases these aircraft back to an airline. The SPV then uses the airline's leasing payments to pay EETC holders, which usually benefit from

⁷⁹ The correlation coefficient between the unit costs and the yields of global airlines is 0.99 (based on time series data from 1974 – 2008) according to the IATA Economic Briefing “The Impact of Recession on Air Traffic Volumes”.

⁸⁰ According to Flight global Insight's Aircraft Finance Special Report 2013 in 2012 the aircraft lessors' shares accounted for 32% of the global commercial fleet and for 42% of the Airbus and Boeing single-aisle market. The largest lessors were GECAS and ILFC with a fleet of 1,742 aircraft and 1,033 aircraft respectively. In 2012, the lessors' share of unfilled orders amounted to 20% of single-aisle and 12% of wide-body orders.

⁸¹ See Boeing Current Aircraft Finance Market Outlook 2014 – 2018

⁸² According to the Annual Report of the vdp, the German association of covered bond (*Pfandbrief*) issuers, the total aircraft finance activities of all vdp member banks amounted to 31.1 billion Euro by end of 2012.

certain structural features like tranching or the provision of liquidity facilities. In the past, EETCs have predominantly been used by US airlines to finance their aircraft deliveries since only lessors and creditors of US airlines benefit from the protection provided under Section 1110 of the US bankruptcy law that allows creditors to repossess aircraft collateral within 60 days of filing of bankruptcy under certain conditions.

Bank loan agreements observed so far in the market practice of aircraft financing usually include:

- A maturity of 6 to 12 years;
- A redemption rate that is significantly higher than the depreciation rate of the aircraft assets financed by the loan (the initial LTV of between 60% and 80% usually decreases to 35% at the end of a 10-year maturity);
- Loans that are almost completely denominated in US\$;
- Monthly or quarterly redemption;
- An enforceable security interest in the aircraft being financed;
- Fixed or floating interest rate agreements (which have an equal share of all loan agreements);

Banks usually require borrowers to provide cash for the remaining part of the aircraft value at delivery that is not being financed by the loan (up to 30% of the aircraft value). Most borrowers, especially those with lower ratings, use part of this cash for pre-delivery payments which aircraft manufacturers generally require over a period of two to three years before the aircraft's delivery and which usually make up between 20% and 25% of the aircraft value at delivery.

Three basic structures are usually applied when aircraft are financed by means of a bank loan:

- **Direct loan:** a bank grants a loan to the airline to purchase the aircraft and an aircraft mortgage is established for the benefit of the lending bank to secure the loan;
- **Finance lease:** a bank provides a loan to an SPV, which is the owner of the aircraft (i.e. the lessor) to be financed. Shareholder of the SPV is usually the airline that is using the aircraft for its operations and is making lease payments to the SPV;
- **Operating leases:** an SPV owns the aircraft but the shares in the owner SPV are not held by the airline using the aircraft in its operations but by a leasing company instead. As in the second structure, the airline operating the aircraft is acting as lessee and is making lease payments to the SPV.

From the point of view of lenders, operating leases provide the benefit that in case of an airline's default the burden of repossessing and remarketing the aircraft is on the leasing company. The leasing company's expertise and comprehensive insight into current market conditions usually facilitate the remarketing of the aircraft being financed.

The finance and operating lease structure, however, constitute an additional layer of complexity in the financing bank's recourse as these structures do not provide for a direct recourse to the airline (finance lease) or the leasing company (operating lease) holding the shares in the owner SPV. For this reason, loan contracts for finance leases or operating leases generally provide for additional collateral for the benefit of the lending bank, like the pledge of the liquidity reserves to ensure for the maintenance of the aircraft and to ensure debt service for a certain period after the lessee's

default and the pledge of shares in the owner SPV to mitigate the risks arising from the lack of direct recourse to the airline or leasing company.

5.3 Aircraft as collateral

The following sub-sections illustrate the methods used for determining the value of aircraft, the key factors to be considered in aircraft valuation, and the use of aircraft liens as collateral.

5.3.1 Aircraft valuation

Valuing an aircraft is complex in that many different factors have to be considered when an aircraft valuation is conducted. These factors, which impact on the risk inherent to financing an aircraft, include the following:

- Trades of new and old aircraft are usually conducted as private deals; as a consequence, public information on actually agreed prices is rarely available, which adds to the complexity of aircraft valuation and requires the aircraft valuation to be mainly based on the methodology and the expertise of the valuation agent;
- The expected depreciation caused by the ageing of the aircraft's components resulting in an increase in maintenance costs and by the development of more cost-efficient aircraft types over time leading to an increase in relative operating costs of older aircraft types compared to new aircraft types; in the development of market values over time so far huge differences can be observed with regard to different aircraft segments, aircraft types, and vintages of a particular aircraft type⁸³;
- The number of deliveries and outstanding orders for the aircraft type, the number of airlines using the aircraft type and their geographical diversification, the market share of the aircraft type in the corresponding sub-segment of the aircraft market, compliance with regulatory requirements (e.g. noise, emissions), the aircraft's configuration (e.g. engine type, operating weight, cabin configuration), and available options for marketing the aircraft in the secondary market (e.g. the possibility to convert a passenger aircraft to a freighter aircraft and to sell single components of the aircraft, such as the engines).

In addition, the low margins earned in the air transport industry require airlines and carriers to quickly adjust their capacities to changes in the air transport demand resulting in a significant volatility of aircraft market values over time. The volatility is, however, lower than the observed volatility of market values of other asset classes such as ships as there are also factors that contribute to the stability of aircraft market values, such as the mobility of aircraft which facilitates worldwide remarketing, the strict confidentiality regarding agreed purchase prices for new aircraft in connection with the strong position of aircraft manufacturers, the stable long-term growth trend of air transport demand and the low number of different aircraft types (i.e. compared to ships) which adds to the number of potential buyers of an aircraft and thus also facilitates its remarketing.

⁸³ See research of the Aircraft Monitor: Basics of Aircraft Market Analysis.

Most appraisers apply the value definitions provided by the International Society of Transport Aircraft Trading (ISTAT) when valuing an aircraft. According to ISTAT:

- The **base value** is the “Appraiser's opinion of the underlying economic value of an aircraft in an open, unrestricted, stable market environment with a reasonable balance of supply and demand, and assumes full consideration of its “highest and best use””.
- The **market value** is “the Appraiser's opinion of the most likely trading price that may be generated for an aircraft under the market circumstances that are perceived to exist at the time in question”; as this most likely trading price is affected by one-off events and imbalances between aircraft supply and demand, the market value fluctuates around the base value.

5.3.2 Aircraft liens as collateral

Due to the mobility of aircraft the international recognition of registered liens on aircraft and aircraft mortgages is of utmost importance. International recognition is generally based on the international private law of the state where the secured party is seeking enforcement of its security interest in the aircraft.

Aside from the national rules on establishing a lien on aircraft and on enforcing this lien there are several international agreements on mutual recognition of the establishment of a lien on aircraft and their equipment. Among the most important agreements are:

- The 1944 Convention on International Civil Aviation (Chicago Convention), which has been signed by 190 states so far and which established important principles for the recognition of registered liens on aircraft such as the determination of an aircraft's nationality based on the state of registration, the exclusion of a valid aircraft registration in more than one state and the requirement that every aircraft engaged in international air navigation has to bear its nationality and registration marks to facilitate its identification;
- The 1948 Convention on the International Recognition of Rights in Aircraft (Geneva Convention), which has been signed by 89 states since then and established, among other things, the principles that contracting states recognise mortgages and similar rights in aircraft used as collateral for liabilities in accordance with the law of other contracting states and that these rights are regularly recorded in a public register of a contracting state while leaving the decision on the concrete arrangements in terms of the registration of a security interest in aircraft and its enforcement to the discretion of the state of registration;
- The Cape Town Convention on International Interests in Mobile Equipment (Cape Town Convention), which has been signed by 59 states and regional organisations so far (including the EU), six of which have not signed the Aircraft Protocol. The Cape Town Convention and the Aircraft Protocol create an international legal framework for creating, registering, enforcing and determining the priority of security and other interests in aircraft and equipment. Essential to this legal framework is the establishment of the International Registry of Mobile Assets for recording and determining priority of interests in aircraft.

To ensure the covered bond investors access to the aircraft collateral in case of an obligor's default it is, however, of utmost importance that credit institutions ensure to only include those aircraft loans in the cover pool of covered bonds for which a right in rem has been created on the aircraft and has

been registered in a public register of the registration state and that the right in rem grants the creditor a comparable legal position, as for example under German law, in accordance with which the right in rem takes the form of a non-possessory lien on the aircraft that requires registration in a public register to become effective and is executed by means of foreclosure. The legal position of a holder of an aircraft lien is thus comparable to the position of the holder of a ship mortgage. In particular, it has also to be ensured that the right to seek enforcement or other legal action is not more difficult for creditors not belonging to the registration state of the aircraft than it is for nationals of this registration state.

5.4 Current EU regulatory frameworks for covered bonds secured by aircraft loans

Within the EU, only the Luxembourg Law of 5 April 1993 on the financial sector (Luxembourg Law) and the German Pfandbrief Act currently provide an explicit legal framework for issuing covered bonds collateralised by loans secured by aircraft.⁸⁴ Despite the fact that in Luxembourg a specific type of regulated covered bond named *lettres de gage mobilières* may include aircraft loans as well as ship loans, and loans to finance other moveable assets, there has been no issuance of covered bonds backed by aircraft loans so far. In Germany, two credit institutions (NORD/LB and DVB Bank SE) have been granted a licence to issue covered bonds backed by aircraft loans (*Flugzeugpfandbriefe*): one of them (NORD/LB) has already issued *Flugzeugpfandbriefe*. For these reasons, the remainder of this section focuses on the legal framework of Germany.

The legal/regulatory covered bond framework in force in Germany, as described in Chapter 2 of this report, also applies to the issuance of covered bonds backed by aircraft loans in that jurisdiction, and includes, among others, provisions on a special licence for issuing covered bonds, the separation of cover assets in the event of the issuer's insolvency, the role of the cover pool administrator, the risk management requirements, over-collateralisation and stress testing requirements, liquidity requirements, and the supervision by the national authority, which apply to all types of covered bonds (*Pfandbriefe*) issued in accordance with the German Pfandbrief Act. Furthermore, following a 2009 amendment of the German legal/regulatory covered bond framework, additional provisions were introduced that specifically address the issuance of covered bonds backed by aircraft loans⁸⁵, including provisions on:

- The eligibility of cover assets to a separate cover pool to be used for covered bonds backed by aircraft loans;
- The determination of the aircraft lending value;
- Specific LTV limits;
- Required insurance on the financed aircraft (at least 110% of the loan claims outstanding, including prior third party liens, at any time during the entire lending period);

⁸⁴ As in the Netherlands only securitisation notes are explicitly not allowed as cover assets of covered bonds aircraft loans may in general also be included in the cover pool subject to the national authority's admission at registration of the individual covered bond programme. There is, however, no special legal framework for covered bonds secured by aircraft loans in the Netherlands like in the other two jurisdictions.

⁸⁵ These provisions closely follow the corresponding specific provisions on covered bonds backed by ship loans (*Schiffspfandbriefe*).

- Specific requirements on the recognition of registered liens in accordance with the German Law on Rights in Aircraft and the recognition of foreign aircraft mortgages as eligible collateral of aircraft loans to be used as cover assets for *Flugzeugpfandbriefe*;
- Transparency to investors;

The aircraft lending value is the value of the aircraft which, based on experience, may be expected to be generated in the event of sale, irrespective of any temporary, e.g. economically-induced, fluctuations in value on the relevant market and excluding any speculative elements. The aircraft lending value may not exceed the value resulting from a prudent valuation of the future saleability of the aircraft taking into consideration the long-term, permanent features of the aircraft, the market situation and the present and possible alternative uses and has to be determined as the lower of the current market value⁸⁶ of the aircraft, the average market value of the last ten years and the value determined under the assumption of balanced market conditions and an average state of repair (base value⁸⁷). Where market values are available only for a time period of less than ten years, the average market value has to be determined for this shorter time period. In this case, the aircraft lending value has to be determined as the lower of the current market value of the aircraft, the average market value of the shorter time period and 90% of the base value. Where a current market value cannot be determined, an alternative appropriate method has to be applied. In these cases, the aircraft lending value is capped at 75% of the base value. The valuation serving as the basis for the establishment of the aircraft lending value has to be conducted by a valuation agent who is not involved in the loan decision and who has the required professional experience and the knowledge required to make aircraft lending value assessments.

In accordance with the German legal covered bond framework, a loan may not be used as a cover asset for more than the first 60% of the aircraft lending value. Only redeemable loans may be used as cover assets, which should usually provide for equal instalments or alternatively for diminishing instalments. If the loan agreement provides for a bullet payment at the end of the loan's maturity this bullet payment may not exceed the amount which, on the basis of the payment of equal instalments agreed on for the loan, could be repaid by the end of the twentieth year of the useful life of the aircraft. The lending period may not extend beyond the end of the twentieth year of the useful life of the aircraft or the end of a shorter useful life to be expected for an aircraft. The redemption by means of equal or diminishing instalments may not start later than two years after the disbursement of the loan.

⁸⁶ Current market value is defined as the estimated amount for which an aircraft could be sold on the date of valuation under given market conditions between a willing buyer and a willing seller in an arm's length transaction after an appropriate marketing period, assuming that both parties are acting knowledgeably, prudently and without compulsion. The current market value has to be determined based on the premise of an aircraft that is not subject to a lease agreement. If a basic price has been derived from the sale of aircraft of the same type, this basic price must be adjusted to account for the special features of the aircraft to be valued.

⁸⁷ Base value is defined as the estimated amount for which an aircraft could be sold on the date of valuation assuming an average maintenance status and an average overall state of repair under balanced market conditions between a willing buyer and a willing seller in an arm's length transaction after an appropriate marketing period, wherein both parties are acting knowledgeably, prudently and without compulsion.

Only claims secured by registered liens in accordance with the German Law on Rights in Aircraft or by foreign aircraft mortgages may be used as regular cover assets for *Flugzeugpfandbriefe* provided they meet the provisions laid down in the German legal framework on covered bonds.

Loans secured by aircraft which are registered abroad may only be used as cover assets for *Flugzeugpfandbriefe* if a right in rem can be created on the aircraft which is recorded in a public register and which grants the creditor a security comparable to a registered lien under German law, and if taking legal action is not significantly more difficult for creditors belonging to another state compared to nationals of the registration state. In addition, credit institutions have to ensure that the registered lien or the foreign aircraft mortgage also encompasses the aircraft engines. The German association of covered bond (*Pfandbrief*) issuers (the vdp) established a working group on aircraft finance that works on the required country equivalence assessments: this group has currently confirmed compliance with the German requirements for 15 foreign jurisdictions.⁸⁸

The German legal/regulatory covered bond framework requires issuers of *Flugzeugpfandbriefe* to disclose comprehensive information on the cover pool and the outstanding covered bonds on a quarterly basis. Most of these disclosure requirements apply to all types of covered bonds but there are also special disclosure requirements, which only apply to covered bonds backed by aircraft loans. The information shall refer to end-of-quarter values and shall be published on an issuer's website for the duration of two years and within one month (first to third quarter) or two months (fourth quarter) of the end of the respective quarter. This information as well as further information solely to be disclosed in the notes to the annual accounts, shall be included in the issuer's notes to the annual accounts. The disclosure requirements are summarised in Table 43 of Annex III.

5.5 Overview of outstanding covered bond programmes backed by aircraft loans

As illustrated in the previous section within the EU only the legal covered bond frameworks of Luxembourg (*lettres de gage mobilières*) and Germany (*Flugzeugpfandbriefe*) currently provide a special legal framework for the issuance of covered bonds using aircraft loans as cover assets. Whereas there has been no issuance of *lettres de gage mobilières* so far, NORD/LB has issued four *Flugzeugpfandbriefe* since 2012, three of them in 2012 and a more recent one in 2014, with a total outstanding amount of EUR 1.06 billion, a fixed interest rate coupon, and terms between 5 and around 7.5 years.

The main issuances in 2012 and 2014 have been granted by the external CRA a one notch uplift rating with respect to the issuer's rating (from A3 to A2).

The rating agency takes explicit account of the role of the German legal/regulatory covered bond framework in mitigating some of the risks of an aircraft loan-based covered bond programme, including special public supervision, over-collateralisation requirements on a stressed net present value basis, liquidity requirements, asset segregation and bankruptcy remoteness, strict cover pool

⁸⁸ These jurisdictions are CAN, DEN, FIN, FRA, GBR, IRL, KOR, MYS, LUX, NED, NOR, NZL, SGP, SUI, and the USA.

eligibility criteria and conservative aircraft valuation criteria. The higher volatility of the aircraft market values in an issuer's insolvency scenario compared to the volatility of market values of more traditional cover assets for German covered bonds together with the limited number of lenders in the aircraft finance sector, acting as potential substitute buyers for the aircraft loans pool in an insolvency scenario, are explicitly taken into account by the rating agency among the weaknesses of the programme.

Also, the object of specific analysis by the rating agency is the amount of loans in the cover pool which can be considered in the scope of international conventions/international law regulating and facilitating the enforceability of foreign mortgage security rights, given the relevance of this a factor related to the moveable nature of the aircraft.

EBA recommendation on the preferential risk weight treatment of covered bonds collateralised by aircraft liens

The prudential concerns around the inclusion in the scope of the preferential risk weight treatment are related to some of the specific features of the covered bond financing of aircraft loans illustrated in this chapter, including:

- The lack of sufficiently long and reliable public historical evidence over the default and loss behaviour of aircraft loans;
- The volatility and pro-cyclicality of the aircraft value;
- The complexity of the aircraft valuation process, including the lack of transparency on the primary sale price mechanism and the multiplicity of technical factors to be taken into account in the process of re-evaluation of the aircraft, such as depreciation, product standardisation, vintage, state of repair etc.;
- The necessary reliance, given the movable nature of the asset (i.e. the aircraft), on the mutual recognition of national aircraft lien security legal systems within international conventions and/or bilateral equivalence assessment processes. Both the international conventions and the bilateral equivalence assessment processes (the latter undertaken by the only jurisdiction in which aircraft financing covered bond programmes have been issued) appear, at present, to have a limited coverage in terms of, respectively, adhering and equivalent-assessed countries;
- the currently limited number of lenders in the aircraft finance sector, and extremely limited number of active issuers of covered bonds backed by aircraft loans, as potential substitute buyers of the cover pool in the event of issuer insolvency; The lack of legal/regulatory requirements, in the vast majority of the EU national covered bond frameworks, of appropriate provisions aimed at tackling the specific complexities of covered bond programmes backed by aircraft liens.

Recommendation EU COM 2 - A: Loans secured by aircraft liens

Based on the qualitative and quantitative evidence included within this report the EBA considers that it would not be appropriate to include loans secured by aircraft liens among the underlying asset classes eligible for the risk weight preferential treatment provided for in Article 129 of the CRR.

6. Residential loans secured by a guarantee as cover assets

6.1 Introduction

In accordance with Article 129(1)(e) of the CRR, residential loans fully guaranteed by an eligible protection provider are eligible assets for covered bonds subject to preferential risk weight treatment, provided that the conditions reported in Box 3 CRR Article 129(1)(e).

Box 3 CRR Article 129(1)(e)

Article 129(1)(e) of the CRR: Residential loans fully guaranteed by an eligible protection provider referred to in Article 201 qualifying for the CQS2 or above as set out in this chapter, where the portion of each of the loans that is used to meet the requirement specified in this paragraph for collateralisation of the covered bond does not represent more than 80 % of the value of the corresponding residential property located in France, and where a loan-to-income ratio respects at most 33 % when the loan has been granted. There shall be no mortgage liens on the residential property when the loan is granted, and for loans granted from 1 January 2014 the borrower shall be contractually committed not to grant such liens without the consent of the credit institution that granted the loan. The loan-to-income ratio represents the share of the gross income of the borrower that covers the reimbursement of the loan, including the interests. The protection provider shall be either a financial institution authorised and supervised by the competent authorities and subject to prudential requirements comparable to those applied to institutions in terms of robustness or an institution or an insurance undertaking. It shall establish a mutual guarantee fund or equivalent protection for insurance undertakings to absorb credit risk losses, whose calibration shall be periodically reviewed by the competent authorities. Both the credit institution and the protection provider shall carry out a creditworthiness assessment of the borrower;

The Commission shall, by 31 December 2014 and after consulting the EBA, report to the European Parliament and the Council on whether residential loans secured by a guarantee, but not secured by a registered mortgage, should under certain conditions be considered as an eligible asset in accordance with Article 129 of the CRR.

The analysis carried out in this Chapter focuses only on the residential guaranteed loans market in France as, according to information available to the EBA, France is currently the only residential real estate market where the loan secured by a financial guarantee, and not by a mortgage, is a market practice.

Residential guaranteed loans (*Prêts cautionnés*) are residential housing loans that are underwritten by the retail arms of French banks and are insured by a residential property loan guarantor. The latter is either a regulated and supervised credit institution or a regulated and supervised insurance company.

Residential property loan guarantors are specialised financial entities, licenced and regulated by the French national authority for the supervision of credit institutions and insurance companies (*Autorité de Contrôle Prudentiel et de Résolution; ACPR*). They operate either under a bank or an insurance licence and can be in-house guarantors, i.e. owned by the institution that originates the

loans or by the group to which the originating institution belongs, or external guarantors. In-house guarantors are usually found within the French mutual banking groups. Among external guarantors Crédit Logement holds the largest market share.

The borrower who is granted a residential guaranteed loan must pay either a deposit or a premium to the residential property loan guarantor, which mutualises the collected funds in order to build up reserves⁸⁹ for non-performing loans. In the event of default of a borrower, the corresponding loan is transferred from the originating institution to the loan guarantor, which then takes over the loan recovery process. In exchange, the guarantor reimburses on demand the funds claimed by the originating institution in relation to the defaulted loan.

Banks use guarantors for several reasons, including:

- To externalise the recovery process (for efficiency as well as commercial reasons);
- To speed up and secure the recovery of residual claims; and
- To benefit from a second underwriting check on the borrower (see below).

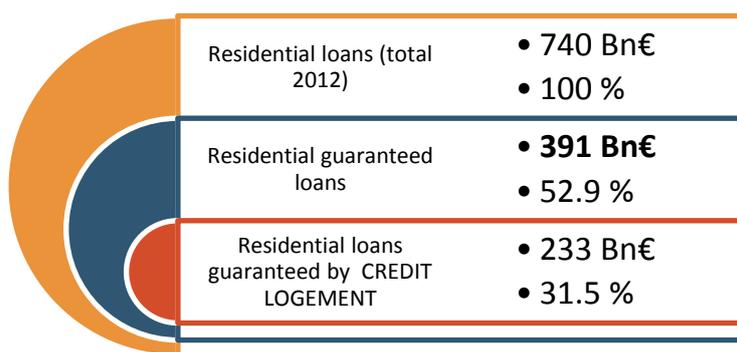
Residential guaranteed loans represent a large part of the housing loans industry in France and are generally refinanced via covered bonds (see next sections).

6.2 Market shares and contribution to overall real estate finance sector

The French residential loans market represents an outstanding total of EUR 740 billion, as of the end of 2012. As of the same date, guaranteed loans accounted for 53% of the housing loans market.

In the market of residential guaranteed loans the credit institution Crédit Logement is the main player, with a 59.5% market share or a 31.5% market share when considering the overall residential market (see Figure 4 below).

Figure 4 Residential loans outstanding (global, guaranteed and Crédit Logement shares) 2012



Crédit Logement is jointly owned by all major French banks⁹⁰ and acts as a service provider for the bulk of the French market.

The French market for residential loans comprises:

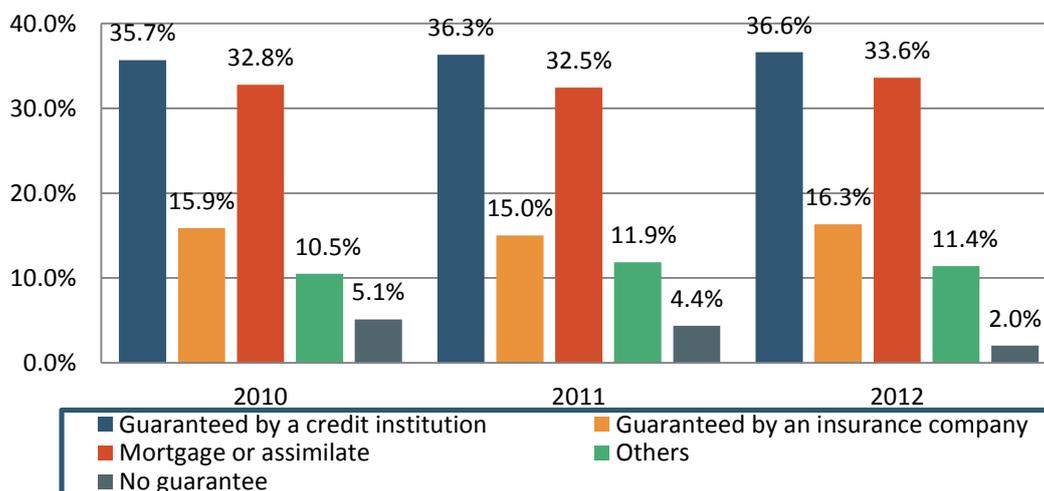
⁸⁹ Mutual guarantee funds (in the case of banks, considered as own-funds under certain criteria) or accounting reserves (in the case of insurance companies).

⁹⁰ BNP Paribas, Société Générale, Crédit Agricole, Crédit Mutuel, Banques Populaires – Caisse d'Épargne and others.

- i) Bank or insurance guaranteed loans (52.9% of the stock of loans altogether)⁹¹; and
- ii) Loans secured by residential real estate (mortgage) (33.6% of the stock of loans).

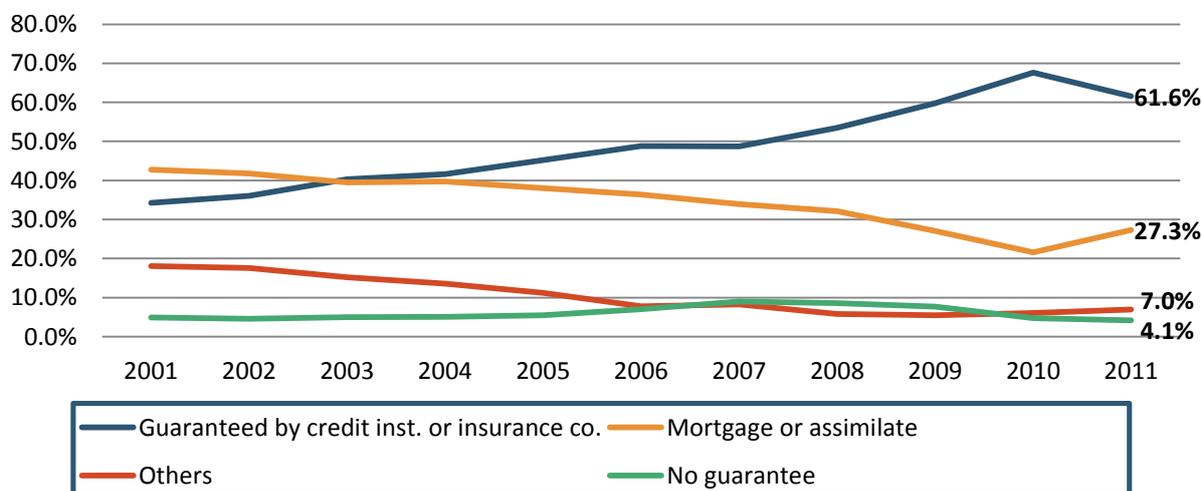
The complete segmentation is shown in Figure 5 below:

Figure 5 Breakdown of types of collateral used for housing loans (Source: Credit housing 2012 survey performed by SGACPR)



As shown in Figure 6 below, the production of residential guaranteed loans has increased continuously over the past 10 years⁹².

Figure 6 Breakdown of types of collateral by year of production (source: ibid)



6.3 Refinancing of residential guaranteed loans

⁹¹ 2012 figures

⁹² The 2011 increase in use of mortgage may be partially explained by the increase in “first-time buyers” who rely more on mortgages than other home buyers.

At present, more than EUR 92 billion of residential guaranteed loans in France is refinanced via covered bonds. All currently outstanding French covered bonds are rated AAA.

As elaborated upon in Chapter 2 of this report, French covered bonds are mainly issued by three kinds of structures - special refinancing vehicles - owned by the groups that control the credit institutions originating the loans backing the covered bonds. The three types of vehicles, *Société de Crédit Foncier* (“SCF”)⁹³, *Société de Financement de l’Habitat* (“SFH”) and *Caisse de Refinancement de l’Habitat* (“CRH”) are specialised regulated credit institutions supervised by the French competent authority (ACPR).

Residential guaranteed loans can be refinanced by SCFs, SFHs, or the CRH. One of the main differences between OF and OH is the composition of the cover pool: in both cases the collateral may include either housing loans for which a first ranking mortgage is in place, or housing loans guaranteed by credit institutions or insurance companies. However, SCF cover pools can also include loans to public entities and the amount of housing loans secured by a guarantee is limited to 35% of the amount of the cover pool. This cap does not exist for SFHs⁹⁴, which on the other hand may not include loans to public entities. Indeed through their covered bonds (OH), SFHs are “housing loan only” refinancing entities.

6.4 Credit quality of residential guaranteed loans

Residential guaranteed loans in recent years have experienced lower delinquency rates than the total French housing loan market (see Figure 7 below), which is believed to be partially due to them being subject to a “double underwriting check” performed by both the issuing bank and the guarantor⁹⁵.

The following sections focus on Crédit Logement, the major provider of guarantees for residential guaranteed loans in France.

6.4.1 Typical underwriting criteria

In general, French real estate loans are granted against the repayment capacity of the borrower, more than against the value of a pledged property (mortgage). Accordingly, the loan-to-income (LTI) criterion is central to the credit-granting decision and is generally lower in France (61%) than in the rest of the European Union (70%)⁹⁶.

As far as guaranteed loans are concerned, the LTV statistics are lower for Crédit Logement than for the overall French market. The same holds for Crédit Logement’s average credit length. The portion of fixed-rate credits granted is higher for Crédit Logement than for the overall market (details on the underwriting statistics for Crédit Logement are provided in Annex IV).

⁹³ *Sociétés de crédit foncier* (“SCFs”) are the French special-law based covered bonds issuers. They are governed by Article L.515-13 and seq. of the French Monetary and Financial Code (the “Code”) relating to SCFs and, as credit institutions, subject to the general banking regulation including Regulation 97-02 of 21.02.1997 relating to internal control in credit institutions and investment companies

⁹⁴ It is worth mentioning that covered bonds issued by the CRH are also subject to this cap

⁹⁵ As an additional factor playing a role in determining the credit quality performance of guaranteed loans lenders’ associations highlight that, as a result of a general lending practice, only the relatively wealthier (and thus generally less risky) borrowers can access the guarantee financing mechanism for their residential loans, while the more problematic borrowers tend to be offered loans secured by a standard mortgage lien.

⁹⁶ Source: ECB, Eurostat, CFF, Altares.

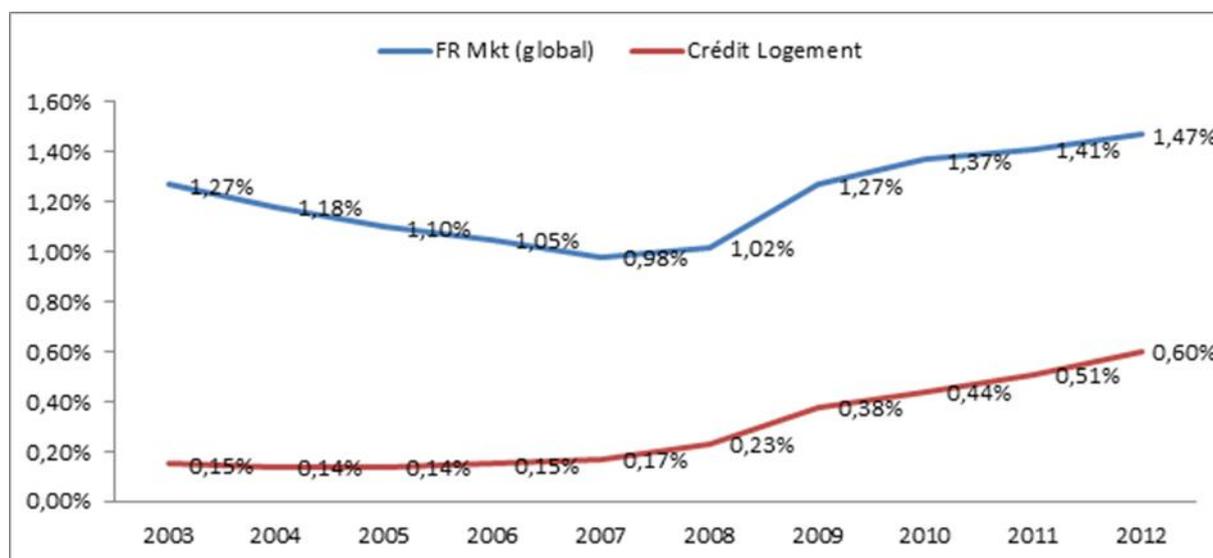
6.4.2 Historical performance of guaranteed loans vs. mortgage loans

As seen above, a significant part of the French housing financing market is accounted for by residential guaranteed loans. Due to strict borrowing standards and to a system based on **risk mutualisation**, French guaranteed residential loans have in recent years also experienced significantly lower default rates and higher recovery rates than loans secured by traditional mortgages⁹⁷.

Delinquency rates

Figure 7 shows the rate of doubtful loans⁹⁸ for guaranteed loans compared to rates for the rest of the French market.

Figure 7 Evolution of doubtful residential loans rate in France



Crédit Logement's annual default rates have experienced an increase in the aftermath of the financial crisis; however, they remain at lower levels compared to rates for the rest of the French residential loans market. Preliminary figures available for 2013 tend to point to a sharp decrease of default rates for the end of the year, where in particular they amount to only 0.09% for the first three quarters of 2013.

Comparison: recovery rate and LGD

⁹⁷ The International Monetary Fund, in its 2011 Article IV Report, underlines that French "bank lending practices are sound" because they "are based on the borrower's capacity to service the loan until maturity, and therefore on the stability of the borrower's income. This method of lending criteria is thus independent of changes in home prices and the resulting wealth effect, unlike the U.S. (...) Against this background, residential mortgage loss rates incurred by lending institutions have been structurally low in France."

⁹⁸ Loans categorised with a significant risk of default and then aggregated in a specific portfolio

In the portfolio of a major French credit institution⁹⁹ (see Table 32 below), the **recovery rate and the LGD rate are better for guaranteed loans than for the other loans in the portfolio** (where the LGD takes interests into account).

Table 32: Crédit Logement guarantee vs. other residential loans recovery rate and LGD - 2011¹⁰⁰

	3 years recovery rate	Loss given default
Non-guaranteed residential loans	74%	13,80%
Guaranteed residential loans	91%	7% ¹⁰¹

Furthermore, historical performance shows that the cost of risk (as a percentage of the total outstanding) has proven to be lower for guaranteed loans than for the overall residential loans market (see Annex IV for statistics on this aspect).

6.5 Quality of security: the guarantee and the guarantor

6.5.1 The guarantee¹⁰²

Underwriting a guarantee for a loan

When a bank considers underwriting a loan and assesses that the solvency of the potential borrower is satisfactory (sufficient to grant a loan and more), it may, in agreement with the borrower, want to pass a request for a guarantee to a guarantor. If the credit quality check processed by the guarantor shows that the borrower also meets the eligibility criteria of the guarantor, the guarantor will then propose to guarantee the loan. This double-check allows a very low risk of default on borrowers.

To benefit from the guarantee, the borrower will then pay to the guarantor either a premium (in the case of an insurance company) or an initial 'deposit' (in the case of a credit institution). The collected monies, which fund either a mutual guarantee fund or insurance reserves, allow for the mutualisation of the credit risk amongst all the beneficiaries of the guarantees granted by the guarantor.

How does it work when a default occurs on a loan?

⁹⁹ This institution is an internationally active French credit institution, holding a diversified mortgage and guaranteed loans portfolio, operating in all retail segments. This institution accounts for 20% of Crédit Logement portfolio and the data can be regarded as representative for the French market as a whole according to the ACPR.

¹⁰⁰ Recovery rate after 3 years - Final LGD rate after 7 years.

¹⁰¹ At year 7.

¹⁰² See also Annex "1.b - Guarantee scheme"

When a borrower defaults, the bank holding the affected loan will first follow its normal internal administrative and commercial procedure for such cases. At some point, the bank will then decide to transfer the loan to the guarantor.

The guarantor will accept the loan on its books (i.e. put the guarantee it has granted into force) only if a set of basic contractual criteria are met including that the loan is defaulted on (the definition varies, but this usually means missed payments have occurred) and that the information concerning the borrower and the loan received by the guarantor match with what the guarantor was presented with at the underwriting stage.

This basic set of information includes for instance:

- The amount and number of arrears, and reasons for the default ;
- The relevant information concerning the financial status of the borrower ;
- Additional information concerning the loan itself ;
- All commercial ties existing between the borrower and the bank (other accounts, other loans, etc.)

Upon transfer of the loan to the guarantor, the guaranteed bank will in a short timeframe receive from the guarantor an amount corresponding to the payments due by the borrower (the guarantor is highly liquid since the premiums / deposits are invested in liquid financial assets).

Refusals to take on defaulted loans have so far been rare, and can arise only from pre-defined situations.

The first payments are made to the guaranteed bank by the guarantor on average around 2 months after the declaration of the default.

Lending banks have historically recovered circa 100% of the home loans outstanding including all costs and expenses.

How does the guarantor deal with the defaulted borrower and recover the funds?

When it receives a defaulted loan, the guarantor follows a precise process whereby it can take one of the following actions:

- Borrower's situation examination: this is an information collection phase on the patrimonial, financial, familial and professional situation of the borrower, to determine the recovery procedures and strategy to implement ;
- **Amicable recovery:** guarantors are generally eager to look for an amicable solution to default events, which is faster and less costly than any other procedures.

Possible actions include:

- o clearance plan. to find the best solutions to repay all arrears ;
 - o amicable private sale of the property, in cooperation with the borrower ;
 - o restructuring of the loan ;
 - o re-acquisition of the loan by another bank.
- **Judicial recovery:** when no amicable solution is found, judicial procedures are implemented, at least on a precautionary basis.

The registration of a **conservatory mortgage** ordered by court is one of the main procedures at this stage, and it allows the seizure of the property.

It is important to emphasise that guaranteed residential loans should be mortgage-free, and that this requirement is made contractual by banks in their documentation. This is consistent with the requirement of Article 129(e) of the CRR.¹⁰³

In practice, the procedure for a conservatory mortgage is usually launched at the same time as amicable recovery is launched, for precautionary reasons.

- Furthermore, if the value of the real estate owned by the creditor is insufficient, one of the three judicial procedures below can still be implemented, the guarantor using the rule of ‘common pledge’ (see below):
 - seizure of remunerations ;
 - seizure of any securities ;
 - seizure and sale of movable property.

Box 4 Rule of common pledge

The rule of “common pledge”

The guarantee in France offers a strong safety net, due to the rule of common pledge on all funds and possessions owned by the creditors, provided for by civil law (Article 2284 of the French Civil Code).

Guarantors’ back-office services have long developed special skills in debt recovery. They benefit from the support of networks of judicial actors (lawyers and bailiffs) or extra-judicial partners (such as investigators or real estate experts) specialised in the implementation of procedures for judicial recovery on properties.

Guarantors have developed expertise in managing the recovery process and tend to invest the premiums/loan deposits they collect from borrowers in relatively liquid financial assets, therefore time constraints are eased and the recovery process is efficient.

Because the loans are passed onto the guarantor early in the default process (after a few missed payments), a high proportion of them tend to become sound again (payments are resumed on a regular basis), and they are sent back to the lending bank (see Table 33).

The recovery length is different depending on whether the loan is reverting to performing loan status and returns into the bank portfolio (5 months on average) or whether a recovery process must be started (30 months). The average recovery length is 14 months.

In practice, only a small proportion of the loans passed to the guarantor end with a partial or complete loss (see Table 33). These losses are absorbed by the guarantor’s buffer (mutual guarantee fund, insurance reserves, or if insufficient, own funds). However, the loss given loss (LGL, i.e. the loss incurred on the 4% in Table 8) ratio is high at circa 55%.

¹⁰³ “(...) There shall be no mortgage liens on the residential property when the loan is granted, and for the loans granted from 1 January 2014 the borrower shall be contractually committed not to grant such liens without the consent of the credit institution that granted the loan.(...)”

Table 33 Crédit Logement “exit of default” status by year of exit

Year	Back in portfolio	Out with no loss	Partial or complete loss
2008	70%	26%	4%
2009	73%	23%	4%
2010	72%	26%	2%
2011	69%	27%	4%
2012	69%	30%	1%
2013 h1	69%	29%	2%

Economic value of guarantee

Guarantors provide an early and full recovery service to lenders. They offer a complete financial hedging of the lender, disconnected from the value of the financed real estate property.

This service is ultimately paid by the borrowers via the constitution of a mutual fund managed by the guarantors.

6.5.2 Public supervision of guarantors

Residential property loan guarantors are credit institutions and insurance companies, licenced, regulated and fully supervised by the French banking and insurance supervisor (ACPR).

In particular, they must comply with all mandatory applicable regulations (banking or insurance), including requirements on liquidity, solvency, assets quality, etc. They are subject to regular on-site inspections and to all mandatory surveillance and reporting requirements.

In addition, their financial resilience is put under stress tests. For instance, the most severe stress test scenario implemented on Crédit Logement, simulating a global crisis affecting the residential housing market in France, has to be passed by the institution.

The assumptions of the scenario are:

- Multiplication by 3 of the observed default rate, the rate starting to diminish slowly over the course of 20 years before reaching its origin level of 31 December 2012;
- Increase of 50% of the loss rate during 3 years ;

- To take into account the impact of this crisis on the market, the new production would be reduced by 66%, and integrally concentrated on the lower PD segment of borrowers.

As far as financial soundness is concerned, as of the end of 2012, Crédit Logement's solvency ratios are over 14% CET1 and 28% total own-funds.

Table 34: Own funds of Crédit Logement in 2012

Crédit Logement (EUR million)	2012
Guarantees outstanding	232,870
Global own funds	9,395
Doubtful	588
Yearly use of mutual guarantee fund to cover unrecoverable losses	6

Internal guarantors, which in most cases are insurance companies, supervised on a solo basis and within the scope of the application of Article 49 of the CRR would be, in case of the default of their parent company, carved-out and the loans would still benefit from their guarantee. The insurance reserves also benefit from a special privilege under French insurance law.

Comparison of economic nature of the risk

First of all, the risk borne by a lending bank on the guarantor of a loan it has underwritten arises only if the loan defaults.

Then, the economic risk borne by the bank on the guarantor is one of insolvency. Liquidity is, at first order, only an issue as far as solvency is an issue, as the funds collected by the guarantor are invested in mostly liquid financial assets (covering a mutual guaranty fund or insurance reserves on the liabilities side of the balance sheet).

The solvency risk of a guarantor can be compared with the (aggregated) 'mortgage risk' borne by a bank on defaulted mortgage loans in two ways:

- First, as far as recovery is concerned, the guarantor benefits on the one hand from a 'relaxed time factor' and an 'expertise factor' (see above) that increase the efficiency of the recovery. On the other hand, it does not benefit from a direct and unconditional asset (real estate) pledge
- Second, the **losses** incurred through the recovery process, are absorbed by the mutual guarantee fund, or the insurance reserves, and if need be by the guarantor's own funds.

The fact that borrowers, via guarantors, pool funds to absorb defaults occurring at housing loans of any of such borrowers is central to the economy of the system.

6.5.3 Guarantor default scenario

The most likely drivers of a guarantor's default are:

- a spike in the default rate of loans;
- a drastic decrease in the recovery rate associated with the loans.

Given the very high correlation in case (i)¹⁰⁴ and highly positive correlation in case (ii) between the two parameters for mortgage loans and guaranteed loans, a guarantor default would be equivalent to large losses incurred by a lending bank on its mortgage loan portfolio.

If a guarantor defaults, the guarantee attached to a guaranteed loan becomes void; however, the borrower can still put a mortgage on the loans (even if the loan is still guaranteed).

Default of the guarantor would breach the eligibility standards for the guaranteed loans that are used as collateral for covered bond issuance under Article 129 of the CRR. To remain compliant with Article 129 of the CRR, the lending bank would have to draw the loans out of the cover pool and replace them immediately by other loans (with a mortgage, or guaranteed by another eligible guarantor). If the lending bank is unable to replace the loans, they would still remain on the balance sheet of the covered bond issuer (SCF/SFH) - but outside of the cover pool -, and could be sold for cash that could be used to pay out covered bond claims.

6.5.4 Simultaneous default of the guarantor and lending bank

In case of an extreme event that would cause a default of both the bank originating the loans and the guarantor, which would not be able to face its commitment of guarantee (meaning that the reserves and own funds of the guarantor suffered such extensive losses due to the defaults on the residential loans that they reached a level of zero), the concerned loans in the cover pool are maintained to satisfy all covered bond holders' claims. In effect, all rights owned by the originating bank or the guarantor on these loans are subrogated to the covered bond issuer.

In particular, the servicing of the loans would be transferred to the covered bond issuer, which may contract a third party to service the pool.

The alternate "servicer" in charge of the management of the loans and of the recovery of the non-performing loans, would enter into an active contact with the borrowers, at the demand of the covered bond issuer, to put into place a new way to secure the loan (mortgage or guarantee, since, in accordance with Article 129(1)(e) of the CRR the loans are free of any other mortgage, and therefore available for a new security).

6.6 Transparency to investors

6.6.1 Current transparency practices in existing business.

French covered bonds issuers publish every quarter in their asset quality report ("*rapport relatif à la qualité des actifs*") - a regulatory document controlled by the "*contrôleur spécifique*") and assessed by the French supervisory authority (ACPR) and known to be the main information reference on

¹⁰⁴ Modulo selection bias

French covered bonds) elements on the quality of the cover pool, including the proportion of residential guaranteed loans within the cover pool.

EBA recommendation on the preferential risk weight treatment of covered bonds collateralised by guaranteed residential loans

There are no specific reasons to conclude that the credit risk of a loan secured by a guarantee, as regards the quality of the underlying obligor and the underwriting standards, differs from the credit risk of a loan secured by a mortgage lien. The underwriting qualifying criteria already included in Article 129(1)(e) of the CRR, i.e. the LTI ratio limit and LTV limit, as well as the creditworthiness assessment carried out by both the loan originator and the loan guarantor, mitigate the credit risk of guaranteed loans as cover assets.

The key difference between loans secured by a guarantee and loans secured by a mortgage lien relates to the nature of the security over the asset in the case of insolvency of the covered bonds issuer or consolidated group of the covered bond issuer and in the case of insolvency of the guarantor.

As long as the guarantor is a going concern, in the case of default of the covered bond issuer the covered bond programme can rely upon the guarantee in case the assets in the cover pool are to be used to repay covered bonds investors. In the event of default of the guarantor, the covered bond issuer, or the administrator of the covered bond programme where the issuer has also defaulted, can rely on loans over which no previous mortgage lien has been placed. The latter condition is one of the qualifying criteria for preferential risk weight treatment already included in Article 129(1)(e) of the CRR. It is considered necessary that no legal impediments exist for the administrator of the covered bond programme to place, at all times, a mortgage lien over the guaranteed loan, so as to ensure that the cover pool becomes secured by the properties should the guarantee no longer be available.

Recommendation EU COM 2 - B: Residential loans secured by a guarantee

Based on the qualitative and quantitative evidence included within this report the EBA considers it appropriate to maintain residential loans secured by a guarantee within the scope of preferential risk weight treatment. However the EBA deems appropriate that, in addition to the qualifying criteria currently included in Article 129(1)(e) of the CRR, the following additional criteria be considered for inclusion:

- i. The national legal/regulatory covered bond framework should not allow borrowers to place mortgage liens on loans included in the cover pool ;
- ii. The national legal/regulatory covered bond framework should be such that no legal impediments exist for the administrator of the covered bond programme to place mortgage liens on loans included in the cover pool, in a scenario where the covered bond issuer has entered default or resolution and where the guarantee, for any reasons, ceases to exist.

7. RMBSs and CMBSs as cover assets

7.1 Introduction

Under the Article 129(1)(d)(ii) and Article 129(1)(f)(ii) of the CRR, securitisation units with residential property (RMBSs) or commercial immovable property (CMBSs) underlying exposures issued by securitisation entities are eligible as collateral for covered bonds subject to the risk weight treatment specified in Article 129 of the CRR, provided that all of the following conditions are met:

- The units are senior in the waterfall of the securitisation;
- The units qualify for Credit Quality Step 1 (CQS 1);
- The value of those units amounts to a maximum of 10% of the nominal value of the outstanding issue;
- The assets underlying the units shall consist of, at least for 90% of their total value, loans which comply with the same LTV requirements applying to non-securitised loans included in the cover pools eligible for preferential treatment, as per Articles 129(1)(d)(i) and Article 129(1)(f)(i) of the CRR .

However, until 31 December 2017, competent authorities may waive this 10% limit in full or in part, in accordance with Article 496 of the CRR, if the following conditions are met:

- The securitised residential or commercial immovable property exposures were originated by a member of the same consolidated group of which the issuer of the covered bonds is a member, or by an entity affiliated with the same central body with which the issuer of the covered bonds is affiliated, where that common group membership or affiliation shall be determined at the time the senior units are made collateral for covered bonds;
- A member of the same consolidated group of which the issuer of the covered bonds is a member, or an entity affiliated to the same central body to which the issuer of the covered bonds is affiliated, retains the whole first loss tranche supporting the senior units.

The Commission is required to review the appropriateness of this derogation, by 31 December 2016, and requested technical advice from the EBA around the appropriateness of the derogation and of the potential extension of similar treatment to any other form of covered bonds.

7.2 Rationale behind inclusion of RMBS/CMBS units within cover pools

As illustrated in Chapter 2 of this report, the covered bond frameworks allowing for the inclusion of RMBSs and/or CMBSs in cover pools, under different conditions, are: BE, FR (OH and OF), IE and LU¹⁰⁵.

Inclusion as liquid/substitution assets

Covered bond issuers may decide to use securitisation units backed by residential or commercial loan exposures as one form of available substitution assets for risk management purposes.

Enhanced transferability of assets and greater scope for inclusion in cover pools (particularly at group level)

Securitisation units backed by residential or commercial loan exposures provide credit institutions a technique to transfer eligible loans in a cost-efficient manner across entities towards an ultimate issuer of covered bonds. Whether the transfer occurs between unrelated entities or instead involves exposures originated within a group and transferred among the entities of that same group (in the latter case eligible, under given conditions, for quantitative derogation as per Article 496 of the CRR) the transfer via securitisation may allow institutions to minimise costly legal and practical procedures attached to the transfer of loans, including but not limited to the institutions' information obligations towards the original obligors and the provisions related to the obligors' consent.

A higher degree of transferability allows, for instance, multiple relatively small entities belonging to one group to pool eligible assets within a unique covered bond programme, which reaches a critical mass and is issued and managed by an individual institution within the group. By doing so, transferability enhances the extent to which institutions can fund increasing portions of their balance sheet through the covered bond funding tool, potentially lowering the overall funding costs and widening access to the investor base.

Where the institutions among which the transfer occurs are located in different jurisdictions, the transfer may also help the involved institutions to place the issuance within what is considered the most favourable legal/regulatory covered bond framework.

Credit quality of senior securitisation units

Where the structuring of securitisation units is managed by the covered bond issuer or a related/same group entity, the securitisation units may enhance the flexibility with which the cover pool quality is managed. The inclusion of the most senior securitisation units allows the issuer to exclude from the cover pool all those exposures that absorb losses as they materialise. Whereas in the absence of active cover pool management cover pools may accumulate delinquencies, when

¹⁰⁵ Consultation of currently available market data shows that very few outstanding covered bond programmes, concentrated in a very small number of jurisdictions, include RMBS/CMBS units in the cover pools.

senior securitisation units are included in the cover pool the non-performing underlying assets are absorbed by non-senior securitisation units held outside of the cover pool. This attribute can become potentially useful should the programme no longer have the capability to manage its cover pool, i.e. following the event of issuer default.

The quality of the securitised underlying assets is furthermore explicitly signalled by the seniority of the units within the securitisation waterfall and, normally, the rating assigned to those units by a CRA.

7.3 Prudential concerns related to inclusion of RMBS/CMBS units within cover pools under current derogation (Article 496 of the CRR)

Double-layer structure of covered bond programmes backed by securitisation units

The inclusion of securitisation units in the cover pool of a covered bond programme introduces a second legal and operational layer of complexity between the covered bond investor and the residential or commercial loans backing the securitisation units and, ultimately, the covered bond liabilities. Greater complexity is implied by the fact that the structures of the securitisation and the covered bond are, each, characterised by contractual agreements with the corresponding counterparties, i.e. hedging contracts and servicing contracts, counterparty covenants, rating triggers and legal opinions accompanying several aspects of the transaction. The revision of any of these contracts and conditions may be more problematic than in a single layer structure.

As far as coverage is concerned, credit enhancement will exist at the two levels of the transaction, namely the covered bond programme (cover pool) level and the level of the securitisation units. Co-ordination of appropriate collateralisation coverage is necessary and may be troublesome to manage. For example some securitisation units attribute a portion of their collateralisation to cover for set-off risk. If the sizing of the over-collateralisation is no longer deemed to be sufficient, the power to remedy the insufficiency resides at the securitisation programme level rather than at the covered bond programme level.

Furthermore where the programme is reliant on a level of credit enhancement, or obligation to attain a certain level of creditworthiness, if the securitisation units are no longer able to provide this, i.e. non-performance of underlying assets is worse than expected and perhaps exemplified by a downgrade of the units, it may not be clear as to how this can be replenished and whether the programme has sufficient control to mandate such replenishment. This can lead to insufficient collateral coverage.

The derogation currently foreseen in Article 496 of the CRR provides that in order for the 10% limit to be waived, among other conditions, a member of the group to which the covered bond issuer belongs retains the whole first loss tranche supporting the senior units included in the pool. While this provision, on the one hand, ensures that retention correctly aligns the interest of the securitisation originator and the investor, on the other hand it may imply that, in a scenario of default of the covered bond issuer, the issuer itself holding the first loss tranches of the securitisation

and the covered bond administrator holding the senior tranches of the same securitisations, could have conflicting views on any relevant decisions concerning the securitisation scheme.

Transparency of cover assets

The securitisation transactions included in the cover pool may be of a bespoke nature and accompanied by transaction documentation which, in the case of own-issued securitised exposures transferred at intra-group level, is not disclosed to the ultimate covered bond investor. With no other investor in the securitisation unit, given that the owner of the units is the covered bond programme itself, the units end up being insulated from market demands for additional disclosure on the transaction.

The information on the securitisation scheme is an additional layer of information that stakeholders need to synthesise, and it is by no means certain that the covered bond type of investor may be in a position to do so to the same extent as a securitisation investor.

Ultimate credit quality of the cover pool

While under Article 129 of the CRR, the maximum value of the securitisation units admitted in an issue amounts to 10% of the nominal value of the outstanding issue, under the derogation currently foreseen in Article 496 of the CRR, the maximum value can potentially reach 100%, meaning that the covered bond is fully backed by securitisation units. As mentioned above, Article 129 of the CRR provides that assets underlying the securitisation units shall consist of loans that, at least for 90% of their total value, comply with the same LTV requirements applying to non-securitised loans included in the cover pools eligible for preferential treatment. The latter implies that, where a 100% was the chosen composition of the pool in terms of admitted securitisation units, the whole cover pool may be backed by securitised loans that do not fully comply with the LTV requirements.

EBA recommendation on the derogation provided in Article 496 of the CRR

In relation to the use, as cover assets, of senior securitisation units backed by residential or commercial mortgage loans, the EBA identifies a series of prudential concerns. In particular:

- Prudential concerns refer, inter alia, to the double-layer structure resulting from the inclusion of RMBSs or CMBSs (first layer) as cover assets into a covered bond programme (second layer), where each layer may feature hedging contracts and servicing contracts, counterparty covenants, rating triggers and legal opinion. The management and revision of any of these contracts/conditions may be more problematic than in a single-layer structure. The coordination of appropriate collateralisation coverage, over the two layers of the structure, may prove equally problematic to manage.
- The provision in the derogation according to which a member of the group to which the covered bond issuer belongs retains the whole first loss tranche supporting the senior units included in the pool may generate conflicting interests in the event of default of the covered bond issuer, where the covered bond programme would be left with the senior tranches of those units.

- While securitisation units publicly placed (with securitisation investors) are subject to transparency and due diligence requirements, there is that own-issued securitisation units for the purposes of inclusion into cover pools may not present similar transparency features towards the covered bond investor.

Given the requirement that at least 90% of the securitised loans fulfil the LTV requirements that would apply to non-securitised loans in the cover pool, under the derogation the whole cover pool may potentially be composed of securitisation units whose underlying is not fully compliant with the LTV requirements that would apply to non-securitised loans under the Article 129 of the CRR.

Recommendation EU COM 2 - C: Derogation on RMBS/CMBS in cover pools¹⁰⁶

The EBA considers it appropriate that the derogation to the 10% limit for senior securitisation units currently foreseen in Article 496 of the CRR, be removed after 31 December 2017.

¹⁰⁶ Recommendation EU COM 2 – C relates to the derogation on RMBS/CMBS in cover pools. The EBA notes that in at least one Member State, intra-group transfers of collateral, i.e. covered bonds issued by an entity in the group and transferred into the cover pool of the covered bond program of another entity within the same group, have so far been based on Article 496 (1) a) and b) CRR. The assessment of the use of Article 496(1) CRR for such purposes is outside the scope of this report, but the EBA nonetheless recommends that the Commission should further consider whether a specific provision could be introduced in Article 129 CRR making it possible to allow specific intra-group transfers of CRR-compliant covered bonds as eligible collateral. From a prudential perspective, no additional risk appears to be introduced by such a provision, provided that the entity is sufficiently integrated into the group..

8. Cash flow sensitivity model

8.1 Introduction

In order to supplement the analysis in the previous sections, a cash flow sensitivity model has been developed to analyse the sensitivity of the covered bond performance, i.e. the ability of the covered bond to repay investors on a timely basis. The intention of the model is to provide quantitative input, which comes in addition to the analysis in the previous sections.

The model is not designed to define the levels of over-collateralisation that should be required by different circumstances or scenarios, but rather to demonstrate relative sensitivity to the parameters being assessed. Consequently, the 'base' scenario referred to in this Chapter is effectively a low stress scenario and the sensitivity model outputs should be considered relative to the medium and severe scenario outputs and should not be considered on an absolute basis. For this reason, the cash flow sensitivity model has been developed to analyse the sensitivity of the covered bond performance, i.e. the ability of the covered bond to timely repay investors with interest and principal amounts, to shifts in some of the most relevant risk factors affecting the covered bond instrument.

The model behind the output presented in this section is not to be read as a stress test model. The model reproduces the monthly cash flow structure of a hypothetical covered bond programme, it implements a series of separate shifts to individual risk factors (such as the credit risk associated with the underlying asset, the currency risk, the interest risk, the asset liquidation risk, and the liquidity risk associated with the maturity structure of the programme) and looks at the capacity of the cover pool to generate cash flows that will be sufficient to cover the liabilities issued against them. Each given risk factor shift is evaluated on different hypothetical covered bond programmes, each characterised by a different underlying (cover) asset class and by specific assumptions on the structural features of the programme.

It should also be noted that, for simplicity, certain assumptions are made with regard to the assets and their liquidation. Assets are set to balance the liabilities plus initial over-collateralisation, and are not modelled as variables with their own maturities, for example, which would lead to less smooth amortisation profiles and discounted cash flows (no discounting is performed). In addition, asset sales are assumed to be feasible regardless of the desired liquidation amount, and for simplicity the usual fixed costs associated with asset sales were not taken into account.

The main underlying assumption behind the use of the model is the default of the covered bond issuer, and therefore the focus of the analysis on the performance of a segregated and bankruptcy remote cover pool vis-à-vis the payment obligations of the programme.

The metric used to compare the impact of the different types of risk factor on the various programme structures has been defined 'breakeven over-collateralisation', which is the starting level

of over-collateralisation that would be required for the asset pool to exactly cover the liabilities attached to the bond.

8.2 Model setup

The model reproduces the monthly cash flow structure of a hypothetical covered bond programme whose structure is defined by taking assumptions on the following model inputs:

- Underlying asset classes making up the cover pool;
- Amount of cash included in the cover pool (as a proxy of substitution assets);
- Interest coupon (expressed in months) and interest type (floating/fixed) of the cover assets;
- The notional, interest coupon (expressed in months) and interest type (floating/fixed) of the covered bonds (liabilities);
- Currencies in which the assets and the liabilities are denominated, among eighteen available currencies;
- The structure of any swaps that the covered bond programme uses for hedging;
- The initial over-collateralisation¹⁰⁷ of the pool is defined.

Swaps have independently defined payment and receipt legs with the notional, currency, interest rate type (fixed or floating) and the coupon of each leg being user defined. This means that simple interest rate swaps, currency swaps and cross currency swaps can all be defined. Swaps have a set maturity, but these can also be linked to a liability such that they only exist for as long as the liability. Swaps can also be linked to a certain asset pool so that the notional on the swap amortises at the same rate as that asset pool.

There can be any combination of asset classes in the cover pool including a unique asset class in the pool but with different coupons or/and currencies. Each asset in the cover pool can belong to one of the following nine asset classes:

- a) Residential mortgages
- b) Commercial mortgages
- c) Public Sector loans - sovereign
- d) Public Sector loans – regional
- e) Public Sector loans – other
- f) Shipping loans
- g) Aircraft loans
- h) Securitisations

For each asset class the following “asset properties” are defined:

- **Portfolio loss rate (PLR):** this is the rate of loss seen on the portfolio due to defaults.
- **Portfolio payment rate (PPR):** this is the rate at which the asset pool amortises incorporating both scheduled and unscheduled (pre-payment) payments.
- **Asset sale:** this is the value that can be realised when selling the assets.

¹⁰⁷ Over-collateralisation is defined such that $OC = [(assets+cash) / (liabilities)] - 1$. Knowing the amount of liabilities and cash as well as the starting over-collateralisation ratio determines the starting notional of assets.

For each asset type three scenarios - “weak” “medium” and “severe” - have been calibrated for each of these asset properties. The calibration of the scenarios has been carried out using historical data where possible and is described within Annex V. In addition to scenarios associated with the asset properties above, interest rate and currency scenarios are also analysed.

There are three interest rate scenarios (“Low”, “Medium” and “High”) with each currency having a separate interest rate scenario definition. The FX scenario is set by choosing the rate at which the Euro will appreciate or depreciate against all other currencies. It is possible for the cover pool to begin with some cash in addition to the defined assets and this amount of cash can be set.

The starting assumption for the model is that the issuing bank has defaulted and that the covered bonds are purely reliant on the cover pool for repayment. The cash flows of assets, liabilities and swaps are then calculated monthly to establish whether the cover pool will cover the liabilities issued. The final outputs are the cash shortfall that results from paying off the liabilities expressed as a breakeven level of over-collateralisation that would have been required to ensure that the cover pool exactly covered the liabilities. The model illustrates the sensitivity to various inputs and scenarios relative to a base case.

The calibration of the model is essential for the model results and the underlying assumptions can be therefore be found in Annex V. The calibration has been done on relatively small datasets for some asset classes, where only limited data has been available, which can give rise to conservative estimates. The results should therefore be seen in this light and EBA refrains from drawing clear policy recommendations based on this exercise. Nonetheless, the quantitative analysis fully supports the conclusions drawn in previous sections of this report and therefore provides some insights in the dynamics of cover pools over time – in particular when comparing the relative importance of various scenarios.

8.3 Model output

The model is run over a series of simple idealised scenarios to demonstrate the sensitivity to the various parameters in the model. The output of the model is the breakeven over-collateralisation. This is the starting level of over-collateralisation that would be required for the asset pool to exactly cover the liabilities.

Model output by asset type

Different asset types have been analysed using the calibrated data. The outputs are provided in the table below in terms of ‘breakeven over-collateralisation’.

The following inputs (variables) were defined before the three Asset Properties were analysed:

- Over-collateralisation = 0%
- Starting cash balance = 0
- Interest rate scenario = Low
- FX scenario = flat

- Asset notional constant across asset types
- One liability with a hard bullet maturity of 118 months
- Asset and liability currencies = EUR
- Asset and liability coupons = all fixed at 5%

In the ‘Base’ column all asset properties (PLR, PPR, and ASS) are set to weak and the impact of changing asset type is measured.

In each column thereafter, one asset property was set to “severe” whilst the remaining two asset properties are set to “weak”.

The outputs are displayed below:

Table 35 Model output by asset type: break-even over-collateralisation

Breakeven Over-Collateralisation	Base	PLR stressed ($\Delta\%$)	PPR stressed ($\Delta\%$)	ASS stressed ($\Delta\%$)
Residential mortgage loans	21%	4%	-8%	8%
Commercial mortgage loans	25%	45%	-5%	10%
Public sector loans - sovereign	26%	11%	-10%	4%
Public sector loans - regional	27%	20%	-4%	12%
Public sector loans – other	28%	29%	3%	14%
Shipping loans	33%	69%	11%	49%
Aircraft loans	31%	67%	9%	30%
Securitisations	27%	15%	-9%	6%

Key findings

The outputs show that under the calibration used here, based on a small sample of data, aircraft and shipping loans have the highest breakeven over-collateralisation requirement and showed consistently higher breakeven over-collateralisation in all four scenarios.

The least sensitive asset property is shown to be PPR. For ‘PPR stressed’ there was little variance between the “base” and “severe” scenarios, including results where the breakeven over-collateralisation was lower in the severe than in the base scenario. It should be noted that in the severe PPR scenario, the net coupon gain between assets and liabilities is extended over time (as the liabilities do not change maturity schedule).

The ‘PLR stressed’ and ‘ASS stressed’ scenarios both show the large negative impacts from these factors as breakeven over-collateralisation increases. The asset types which appear least sensitive to these scenarios are ‘residential mortgage loans’ and ‘public sector loans – sovereign’.

8.3.1 Model output by currency risk

Further analysis was then conducted on the impact of other variables. Firstly, the impact of currency risk was assessed. This analysis looked at the effectiveness of currency hedging via derivatives using the FX scenarios built into the model. The outputs were again measured through breakeven over-collateralisation.

The following inputs (variables) were used:

- Over-collateralisation = 0%
- Starting cash balance = 0
- Interest rate scenario = low
- Asset type = residential mortgage loans (observations were made for other asset types and similar results were found)
- One liability with a hard bullet maturity of 118 months
- Asset and liability coupons = all fixed at 5%
- Asset properties (PLR, PPR, and ASS) = “weak”

In this exercise all assets are denominated in EUR and liabilities are denominated in GBP.

The FX scenarios consist of:

- A flat scenario which has no basis between EUR and GBP;
- A ‘-5.1%’ scenario, in which EUR depreciates 5% per annum against GBP;
- A ‘5.1%’ scenario, in which EUR appreciates 5% per annum against GBP.

The scenarios have been calibrated to the worst 10 year shifts observed in the EUR exchange rate since 1999.

The outputs are reported as hedged (‘with swap’) and unhedged (‘without swap’).

Table 36 Model output by currency risk

FX Scenario	Breakeven over-collateralisation	
	Without Swap	With Swap
-5.1%	93%	70%
0.0%	30%	21%
5.1%	-9%	-8%

Key findings

The model outputs show that currency mismatch between assets and liabilities substantially increases or decreases the breakeven over-collateralisation depending on the direction of the exchange rate move. Including a swap partially mitigates this, as it removes the FX risk in the coupon payments. However, assets have to be sold to redeem the principal of the liability; the swap does not help with this risk as it introduces a notional imbalance. The most effective hedging mechanism is where the performing notionals and the hedged notionals are balanced at all times.

8.3.2 Model output by interest rate risk

Next the impact of interest rate risk was analysed by assuming there is a basis between fixed and floating rates in the covered bond programme. The aim was to assess the effectiveness of interest rate hedging via derivatives using the interest rate scenarios built into the model. The outputs from this analysis were again measured as breakeven over-collateralisation.

The following inputs (variables) were used:

- Over-collateralisation = 0%
- Starting cash balance = 0
- FX scenario = flat
- Asset type = residential mortgage loans (observations were made for other asset types and similar results were found)
- One liability with a hard bullet maturity of 118 months
- Asset and liability currencies = EUR
- Asset properties (PLR, PPR, and ASS) = “weak”

In this analysis all assets have a fixed coupon (which equals the initial floating rate) and the liability pays the floating rate. This means that interest payments will initially match perfectly and then diverge as the scenario progresses. The Interest Rate scenario has three levels of stress: “low”, “medium”, and ‘high’. The ‘high’ scenario has been calibrated to the same severity as the FX scenario namely the largest observed 10 year shift in EUR interest rates since 1999.

The outputs are reported as hedged (‘with swap’ – so cash flows are swapped) and unhedged (‘without swap’).

Table 37 Model output by interest rate risk

Breakeven over-collateralisation		
IR Scenario	Without Swap	With Swap
Low	23%	21%
Medium	30%	21%
High	38%	21%

Key findings

The model outputs show that mismatched interest rates between assets and liabilities impact the breakeven over-collateralisation, although not to the same degree as mismatched currencies. In this analysis the swap can perfectly hedge the fixed/floating interest rate mismatch as it assumes a balance guaranteed swap profile.

8.3.3 Model output by maturity mechanism

Finally, the sensitivity of a generic cover pool and liability structure to hard or soft bullet issuance, i.e. to different maturity profiles, was analysed. Given that the sensitive “asset property” parameter in this analysis is PPR, it was decided to run each covered bond structure with a hard and soft bullet mechanism using the “weak” and “severe” PPR.

The following inputs (variables) were used:

- Over-collateralisation = 100%
- Starting cash balance = 0
- Interest rate scenario = Low
- FX scenario = Flat
- Asset type = residential mortgage loans (observations were made for other asset types and similar results were found)
- Amended liability schedule (see below)
- Coupons = assets pay 6% fixed, liabilities pay 5% fixed
- Asset and liability currencies = EUR
- Asset properties: PLR and ASS = “weak”

The hard bullet structure in this model requires available funds on the date of maturity. The soft bullet structure will extend 12 months should available funds not be sufficient.

The liability schedule has been amended to better represent the sensitivity analysis. Twenty bonds were created, each with 5% of the liability balance as notional. Each bond matured every quarter from month 60. The outputs are reported by maturity mechanism and by PPR.

Table 38 Model output by maturity mechanism

PPR Scenario	Breakeven over-collateralisation	
	Hard Bullet	Soft Bullet
Weak	8%	8%
Severe	3%	2%

Key findings

The outputs show that a soft bullet structure provides improved performance to a covered bond programme. The ability to not sell at discount, but instead to extend and allow additional time to make additional collections is vital for the liquidity and credit profile of a stand-alone cover pool.

8.4 Overall conclusion

Through controlling key variables in the sensitivity model, the most sensitive variable appears to be the asset type comprising a cover pool, because of the large variance shown in the model outputs (breakeven over-collateralisation) by asset type, indicating divergence in the credit quality of different types of cover pool. This suggests that mandatory over-collateralisation could take into consideration the type of asset in the underlying cover pool.

This analysis should not be deemed as conclusive, given that a true cover pool has not been modelled insofar as asset sales are assumed to be smooth (i.e. ignoring fixed costs), and no asset maturity structure and discounted cash flow analysis is performed.

9. Covered bonds and asset encumbrance

9.1 Asset encumbrance and structural subordination of unsecured creditors and depositors

In the most general terms, a covered bond is an on-balance-sheet, asset-backed financing instrument which includes a preferential claim of the covered bond investors against a dedicated pool of collateral including over-collateralisation (cover pool) or the proceeds arising from the collateral. Backed by a pool of on-balance sheet assets, the use of covered bonds implies an encumbrance of those assets for the benefit of covered bond holders, resulting in structural subordination of unsecured creditors and deposit holders.

The process of asset encumbrance is the process by an institution of using its own assets or other items received as collateral with re-hypothecation rights, in order to secure, credit-enhance or collateralise specific claims; in other words to make sure that creditors holding those claims can benefit from the economic value of the assets should the institution fail to meet its obligations. Its main purpose is to secure an institution's access to additional funding sources, to renew its maturing funding transactions or to decrease an institution's funding costs. Asset encumbrance is the result of an institution creating a legally binding preferential claim on its assets or financial items it received as collateral under other transactions in favour of a selected group of its creditors (including holders of claims on the reporting bank's general estate not recognised on the balance sheet); for this institution, asset encumbrance is thus characterised by the loss of a previously enjoyed level of control over assets or collateral received and from an unsecured creditor perspective by a decrease of asset value available to meet its claim.

Box 5 Definition of asset encumbrance

Definition of asset encumbrance

An asset shall be treated as encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn.

It is important to note that assets pledged that are subject to any restrictions in withdrawal, such as for instance assets that require prior approval before withdrawal or replacement by other assets, should be considered encumbered. The definition is not based on an explicit legal definition, such as title transfer, but rather on economic principles, as the legal frameworks may differ in this respect across countries. The definition is, however, closely linked to contractual conditions. The EBA sees the following types of contracts being well covered by the definition (this is a non-exhaustive list):

- Secured financing transactions, including repurchase contracts and agreements, securities lending and other forms of secured lending
- Various collateral agreements, for instance collateral placed for the market value of derivatives transactions
- The collateral related financial guarantees that are collateralised; if there is no impediment to withdrawal of collateral, such as prior approval, for the unused part of a guarantee, then only the used amount should be

allocated (on a pro-rata basis)

- Collateral placed at clearing systems, central counterparties and other infrastructure institutions as a condition for access to service; this includes default funds and initial margins
- Central bank facilities; pre-positioned assets should not be considered encumbered, unless the central bank does not allow withdrawal of any assets placed without prior approval; as for unused financial guarantees, the unused part, i.e. the part above the minimum amount required by the central bank, should be allocated on a pro-rata basis among the assets placed at the central bank
- Underlying assets from securitisation structures, where the financial assets have not been de-recognised from the institution's financial assets; the assets that are underlying retained securities do not count as encumbered, unless these securities are pledged or collateralised in any way to secure a transaction. (in other words the retained tranches kept by in institutions);
- Assets in cover pools used for covered bond issuance; the assets that are underlying covered bonds count as encumbered, except in certain situations where the institution holds the corresponding covered bonds ('own-issued bonds')

The above definition was adopted by the EBA for the purpose of reporting and disclosure on asset encumbrance by institutions.

The ESRB collected data on asset encumbrance for a sample of large European institutions and compared asset encumbrance levels in 2007 and 2011. The comparison highlights a substantial increase in the levels of asset encumbrance, with the median ratio of encumbered assets over total assets increasing from 7 % in 2007 to 27 % in 2011. The average asset encumbrance ratio, weighted by total assets, increased from 11 % in 2007 to 31 % in 2011 ⁽¹⁰⁸⁾.

The increasing level of encumbrance of assets by large European institutions increases the risk profile for the unsecured creditors and depositors measured via PD and LGD. With regard to already existing covered bond holders, an increasing level of asset encumbrance also adversely affects their risk profile since they are subject to the same issuer PD as the unsecured creditors and depositors, and since their specific LGD will also increase with an increase in the level of non-covered bond induced asset encumbrance.

However, in the short term, the ability of EU banks to raise secured funding has helped to alleviate the refinancing risk and to limit the extent of bank failures and rating downgrades. The lower funding cost and more diversified access to liquidity helps reduce the PD of the issuing institution and mitigates the negative impact of a progressive level of encumbrance of assets on the PD and LGD of senior unsecured bond holders and depositors.

However, over-reliance on secured funding and increasing levels of asset encumbrance may pose the following risks to individual institutions and to the whole financial system:

⁽¹⁰⁸⁾ The ESRB was only able to collect data covering both 2007 and 2011 for 28 large European institutions. As a result of the uncertainty of the composition of collected data variables, the ESRB computed the encumbrance ratio under different assumptions. A 'conservative' version of the asset encumbrance ratio, for certain institutions, is computed by deducting from the encumbered assets the amount of retained securities, given that the latter could also be reported under covered bonds and other collateralised securities. A less conservative version of the ratio includes matched repos in the encumbered assets value (numerator) as well as in the total assets value (denominator). The median and mean figures described here refer to the encumbrance ratio that includes matched repos.

- a. Increasing structural subordination of unsecured creditors and depositors: the shift towards funding secured by underlying asset encumbrance may imply decreased recovery rates for unsecured creditors and, consequently, increased costs of unsecured wholesale funding, potentially leading to crowding-out of unsecured wholesale funding. The impact of increasing asset encumbrance on unsecured investors' expectation of further encumbrance can potentially give rise to a phenomenon of self-fulfilling expectations. Bank funding excessively skewed towards secured funding and increasing encumbrance of high-quality assets can negatively impact the rating received by institutions and, consequently, generate a need for further increases in encumbrance. Banking theory suggests that decreasing proportions of unsecured funding implies decreasing the intensity of market discipline, since unsecured investors are notably the ones that have the greatest incentive to carry on monitoring and to correctly price risks in.
- b. Increasing funding and liquidity risks: institutions with more encumbered balance sheets have fewer assets eligible for encumbrance, i.e assets that act as an unused liquidity buffer and that can be used for unexpected future liquidity needs, such as undrawn committed facilities and margin calls on derivative positions.
- c. Increasing sensitivity of the liquidity profile of the institution to market values of collateral: whenever the value of collateral decreases, the institution usually has to provide additional collateral (leading to additional encumbrance) to offset the initial fall in value (contingent encumbrance).
- d. Risk that asset encumbrance worsens during phases of financial stress, amplifying the latter, and giving rise to non-linearity in the evolution of risks mentioned in points (a), (b) and (c) above: the perverse effects of debt subordination, funding and liquidity risks, increase with higher levels of encumbrance of an institution's balance sheet.

Ultimately, the potentially negative implications of asset encumbrance can constitute a threat to the regulatory objectives of financial stability, depositor protection, resolution and bail-in framework and reduction of systemic risk.

Box 6 List of large covered bond issuers subject to a bail-out to safeguard the financial stability and well-functioning of the covered bond market

List of large covered bonds issuers that were subject to a bail-out to safeguard the financial stability and well-functioning of the covered bonds market

- Düsseldorf Hypothekenbank (April 2008)
- Hypo Real Estate / Depfa ACS bank (October 2008)
- Dexia (October 2008/October 2011)
- Kommunalkredit Austria (November 2008)
- Crédit Immobilier de France (September 2012)
- SNS Reaal (February 2013)

9.2 Covered bond issuance and structural subordination

The increased reliance on secured funding by institutions and the related growth of covered bond issuances by EU institutions (measured by share of covered bonds over total liabilities) in most Euro area countries since 2006 have brought attention to the problem of asset encumbrance relating to covered bonds. The main reasons are:

- 1) Covered bond programmes constitute one of the main drivers of assets encumbrance, due to the dual recourse they grant to covered bond holders, and in particular due to the priority claim on the assets registered in the cover pool in the event of issuer's default, resulting in the issuer's unsecured creditors and depositors becoming structurally subordinated to the covered bond holders in relation to those assets.
- 2) Asset encumbrance stemming from covered bonds programmes is mainly a long-term encumbrance, as opposed to encumbrance generated by repo financing and securities lending, and mainly involves loans.
- 3) Asset encumbrance profiles, due to covered bond programmes, are particularly diverse, and consequently difficult to compare, across institutions and Member States, because the extent of over-collateralisation varies not only as a function of the varying national regulatory minimum requirements but also as a function of rating agencies' requirements and the issuer's strategies in terms of voluntary over-collateralisation buffers that have to be met dynamically.
- 4) Cover asset eligibility requirements may result in better-quality assets being pooled to back covered bonds, thereby eroding the average quality of assets backing claims on unsecured creditors ("cherry-picking").
- 5) Lack of specific monitoring related to covered bond issuance and of an effective and harmonised supervision of asset encumbrance across EU supervisory authorities at present. This will, however, be partially addressed through the reporting on asset encumbrance starting from 2014/2015.
- 6) Lack of market transparency on asset encumbrance (especially on covered bond issuances) could result in investors mispricing the risk premiums of unsecured debt.

- 7) More covered bond issuance and potentially weaker recovery rates on senior bank debt may further widen the spread differential between covered bonds and senior unsecured bank debt, increasing the attractiveness of the former and further magnifying asset encumbrance on banks' balance sheet.
- 8) Introduction of a "safe haven" for covered bonds in the newly established framework for bank restructuring and resolution, further increasing attractiveness of covered bonds vs. unsecured funding. At the same time, the possibility for national authorities to bail-in portions of covered bonds not adequately covered by the value of the cover pool might prompt issuers to increase over-collateralisation.

In principle¹⁰⁹, the structural subordination risk related to unsecured creditors and depositors due to the covered bond issuance and asset encumbrance by an institution should be analysed case-by-case given the different business models and considering the variety of structural and cyclical factors having an impact on an institution's funding mix. For example, an institution can both have a high covered bond issuance level and asset encumbrance level because of the nature of its business (non-deposit taking specialist mortgage lender) or because of material deterioration of its creditworthiness and may therefore have had to enhance the quality of its covered bonds with over-collateralisation and due to its lack of access to the unsecured funding market.

However, it is clear that the risk of structurally subordinating unsecured creditors and depositors increases with higher levels of covered bond issuances and asset encumbrance and that an excessive level of asset encumbrance of an institution is generally not desired.

In assessing the relevance of encumbrance levels and structural subordination of unsecured creditors and depositors it is important to remember that the relative level of security afforded to other creditors by way of pledged assets is only relevant to an unsecured creditor and depositor in the event of an institution actually defaulting. Conversely, from a going concern perspective, both secured and unsecured creditors, by definition, receive full principal on maturity.

9.2.1 Asset encumbrance supervisory reporting

On 30 October 2013, the EBA published its final implementing technical standards (ITS) on reporting for asset encumbrance. These ITS, which will be part of the EU single rulebook in banking, provide reporting templates and instructions with the ultimate aim of ensuring harmonised reporting of asset encumbrance across institutions. In particular, the objective of these standards is to provide supervisory authorities with a standardised and harmonised framework for reporting purposes on the level of asset encumbrance in institutions. These ITS on asset encumbrance complement the existing reporting framework (COREP and FINREP) submitted for endorsement to the Commission on 26 July 2013.

¹⁰⁹ This is not applicable in some banking and covered bonds systems, for example for specialised mortgage banks that do not take deposits.

The development of these ITS has taken into account the proportionality principle in order to ease the reporting burden on smaller institutions which have no material levels of asset encumbrance in light of the lower complexity of their business models.

The ITS include a reporting template for covered bonds programmes that gives additional information on cover pools. Specific monitoring related to covered bonds is deemed necessary to ensure an effective and harmonised supervision of asset encumbrance and covered bond issuance as mentioned in the previous sections.

9.2.2 Asset encumbrance disclosure

On 20 December 2013, the EBA launched a public consultation on draft guidelines on disclosure of encumbered and unencumbered assets aimed at providing transparent and harmonised information on the subject across EU Member States. The consultation ended on 20 March 2014. EBA is expected to issue these Guidelines by the end of June 2014.

These guidelines provide three disclosure templates that institutions will have to fill in (the encumbered and unencumbered assets in carrying amounts by product type, collateral received by an institution, by product type and sources of asset encumbrance) together with additional information about the importance of encumbrance in their individual funding model.

The EBA believes that disclosure by institutions about encumbrance is of vital importance for market participants to better understand and analyse the liquidity and solvency profiles of institutions. The guidelines have been developed so that the level and evolution of assets encumbered to central banks and the amount of liquidity assistance given by central banks cannot be detected, as recommended by the ESRB.

Disclosure on asset encumbrance increases market discipline and allows market participants to better understand and analyse the liquidity and solvency profiles of institutions. These guidelines are the first step towards a harmonised disclosure framework of asset encumbrance in the EU. They have been drafted in accordance with Recommendation D of the (ESRB).

9.2.3 Asset encumbrance monitoring and recommendations related to asset encumbrance

Among the ESRB recommendations on the funding of credit institutions of 20 December 2012 (ESRB/2012/2), Recommendation C(4) requests the EBA to '*closely monitor the level, evolution and types of asset encumbrance, as well as unencumbered but encumberable assets at Union level*'. As a follow-up of the recommendation, the EBA was initially asked to submit an interim report on the monitoring of asset encumbrance by September 2014, based on institutions' submissions related to the supervisory reporting requirements on asset encumbrance. Given the postponement of the first supervisory reporting date, to alleviate the current reporting burden on institutions, the EBA has agreed with the ESRB on September 2015 as the new deadline for the interim report on the monitoring of asset encumbrance.

The work that the EBA plans to carry out on the monitoring of asset encumbrance, mostly based on the returns of supervisory reporting, will allow, among other objectives, an assessment of which

instruments constitute the main source of asset encumbrance as well as an assessment of the potential merit for recommendations in the area of asset encumbrance.

10. EBA recommendations

10.1 EBA response to the ESRB mandate

The absence of default events and historical losses borne by covered bond investors constitute a positive track record often associated to the covered bond instrument. While the positive historical performance is confirmed in this report, the report also documents (see Chapter 9) that several episodes of bail-out of covered bonds issuers have occurred. As covered bonds issuers can fail, it is of paramount importance that covered bonds frameworks keep being improved according to the identified principles of best practice. Further convergence of the EU market towards common safeguards of robustness and credit quality may also be beneficial to the development of a more European investor base, where investors across borders can rely on common expectations around the safety and quality of the covered bond instrument irrespective of where the instrument is issued.

Any future considerations about changes to national or EU-wide covered bonds legislation should in the view of the EBA give consideration to these elements.

Among the different issuer models currently admitted in national covered bond legal/regulatory frameworks none can be identified as the best practice. While each issuer model features strengths and weaknesses with respect to different aspects of the covered bond issuance business, all of the existing models should operate so as to follow the principles of best practice recommended in this report.

Dual recourse

Best practice 1: Dual recourse

In accordance with Article 52(4) of the UCITS Directive the (covered) bond must grant the investor: i) a claim on the covered bond issuer limited to the complete fulfilment of the payment obligations attached to the covered bond, and ii) in case of issuer's default, a priority claim on the assets included in the cover pool limited to the complete fulfilment of the payment obligations attached to the covered bond.

Should the assets included in the cover pool prove insufficient to fully meet the payment obligations towards the covered bond investor, the covered bond investor should be granted a claim on the covered bond issuer's insolvency estate which ranks *pari passu*¹¹⁰ with the claim of the issuer's unsecured creditors.

Segregation of cover assets and bankruptcy remoteness of covered bonds;

Best practice 2 - A: Segregation of cover assets

The identification and effective segregation of all the assets over which the investor has a priority claim should be ensured, depending on the issuer model adopted at the national level, either by the registration of the cover assets into a cover register and / or by the transfer of the cover assets to a

¹¹⁰ In the case of non-deposit-taking specialised covered bonds issuers, i.e. issuers whose business only or mostly focuses on the issuance of covered bonds, the covered bond investor could be granted a claim on the covered bond issuer's insolvency estate which ranks senior to the claim of the issuer's unsecured creditors.

special entity (SPV or specialised institution). The covered bond legal/regulatory framework should ensure that the establishment of the cover register and/or the transfer of the (cover) assets to a special entity result in legally binding and enforceable arrangements, including in the event of default or resolution of the issuer.

The segregation arrangement should include all primary assets covering the covered bonds as well as substitution assets and derivatives entered into to hedge the risks arising in the covered bond programme and registered in the cover pool.

Best practice 2 - B: Bankruptcy remoteness of the covered bond

The legal/regulatory covered bond framework should not require the payment obligations attached to the covered bond to automatically accelerate upon issuer's default or resolution, to ensure that the options available to the covered bond administration to achieve full and timely repayment of the bonds are not constrained.

The legal/regulatory covered bond framework should ensure that the assets registered in the cover pool and / or transferred to a special entity are treated within the insolvency proceedings related to the issuer's default giving priority to the covered bond investor and any other parties whose claim ranks at least *pari passu* with the claim of the covered bond investor, and do not permit a claim by the issuer's insolvency estate on the cover pool assets other than on a subordinate basis.

The covered bond legal/regulatory framework should ensure that the issuer has at all times a plan in place specifying the operational procedures aimed at ensuring an orderly functioning of the covered bond programme upon default or resolution of the issuer.

Best practice 2 - C: Administration of the covered bond programme post issuer's default or resolution

The legal/regulatory covered bond framework should provide that upon issuer's default or resolution the covered bond programme is managed in an independent way and in the preferential interest of the covered bond investor.

The legal/regulatory covered bond framework should provide for clear and sufficiently detailed provisions over the duties and powers of the administrative function so as to ensure that the latter can take all action which may be necessary for the full realisation of the interests of the covered bonds investor, while maintaining a high level of legal clarity and transparency vis-à-vis the investor over the covered bond management in scenarios of potential distress such as the issuer's default or resolution.

Characteristics of the cover pool

Best practice 3 - A: Composition of the cover pools

Cover pools comprising both residential mortgage (or guaranteed) loans and commercial mortgage loans should be structured and managed so as to ensure that the composition by mortgage type (residential vs. commercial) which characterises the pool at issuance does not materially change throughout the life of the covered bond, for reasons other than the amortisation profile of the cover assets. The EBA considers that regulatory limits on the composition of these mortgage pools could represent a best practice to ensure that a certain degree of consistency is maintained in the risk profile of the cover pool throughout the life of the covered bond. The EBA also acknowledges that other tools may equally ensure consistency and stability in the composition of mixed cover pools, including contractual arrangements on the composition of the mixed cover pools and the

supervision on the composition of mixed pools based on supervisory guidelines.

Cover pools which comprise primary asset classes other than residential or commercial mortgages (not taking into account asset classes included in the pool as substitution assets), should consist exclusively of one primary asset class.

Best practice 3 - B: Cover pools with underlying assets located in different jurisdictions

The legal/regulatory covered bond framework should provide that cover pools are generally limited to comprise of assets located in the EEA, as this ensures that liquidation of collateral in the case of issuer default is legally enforceable.

In the case of cover assets that are loans secured by mortgages on residential or commercial property located in a non-EEA jurisdiction, it should be assessed that the requirements provided for in Article 208(2) of the CRR are met and that the priority claim of the covered bond investor is legally enforceable in an issuer's insolvency scenario in the jurisdiction under consideration. For cover assets other than mortgages, it should similarly be ensured that access to the cover assets is legally enforceable. Underwriting standards should be similar to the ones applied on comparable loans granted in EEA jurisdictions and the loans should have similar risk characteristics.

In addition non-EEA jurisdictions should apply prudential supervisory and regulatory requirements at least equivalent to those applied in the Union, as per Article 107(4) of the CRR.

Valuation of mortgage cover assets and LTV criteria

Best practice 4 - A: LTV limits

The legal/regulatory covered bond framework should establish maximum LTV parameters to determine the percentage portion of the loan that contributes to the requirement of coverage of the liabilities of the covered bond programme (so-called 'soft LTV limits').

While the EBA sees merits in the LTV limits being not only coverage limits (soft LTV limits) but also eligibility limits (i.e. limits whose breach determines the full non-eligibility of the loan for inclusion in the cover pool; also referred to as 'hard LTV limits') when a given loan is included in the cover pool for the first time, the EBA is concerned about the ongoing application of eligibility LTV limits to loans already included in the cover pool. A severe downturn of real-estate prices, in the presence of 'hard LTV limits', may determine coverage disruptions in covered bond programmes.

Best practice 4 - B: LTV measurement and frequency of re-valuation

The legal/regulatory covered bond framework should establish that the value of the property securing a particular loan, and the corresponding regulatory LTV limit determining the contribution of that loan to the coverage requirement, be monitored and updated (e.g. at least via an indexation or other statistical method) at least on a yearly basis for both residential and commercial properties, and more frequently where either the management of the covered bond programme or the cover pool monitor or the competent authority deem appropriate. The framework should specify that the re-valuation of the properties securing the loans should be based on transparent valuation rules and be carried out by an agent who is independent from the credit granting process. As a minimum the valuation process should be compatible with the conditions laid down in the first and second subparagraph of Article 229(1) of the CRR.

Coverage principle and over-collateralisation

Best practice 5: Coverage principles and legal/regulatory over-collateralisation

The legal/regulatory covered bond framework should ensure that all the liabilities of the covered bond programme, including liabilities towards counterparties in derivative contracts and, as applicable, liabilities towards managers/administrators, servicers, trustees, cover pool monitors and similar entities involved in the process of the covered bond issuance, are covered by the cover assets.

The EBA considers that a legal/regulatory minimum over-collateralisation level constitutes a regulatory best practice. The recommendation of a quantitative legal/regulatory minimum over-collateralisation level would require further analysis as it depends on several factors including, but not limited to, the class of cover assets as well as, crucially, the chosen coverage principle among the several different coverage principles currently adopted across jurisdictions (nominal, net present value, prudent market value, net-present value under stress, etc.).

Assets and liabilities risks

Best practice 6 - A: Use of derivatives

The legal/regulatory covered bond framework should specify that derivative instruments are allowed in covered bond programmes exclusively for risk hedging purposes.

The legal/regulatory covered bond framework should provide that derivative contracts entered into by the covered bond issuer with a derivative counterparty, and registered in the cover pool, cannot be terminated upon issuer insolvency.

Best practice 6 - B: Liquidity buffer

The EBA considers that a requirement to mitigate liquidity risk in the covered bond programme, by means of liquid assets available at all times to cover the cumulative net out-flows of the covered bond programme over a certain time frame, constitutes a regulatory best practice. Determining the calibration and scope of a best practice requirement would require further analysis since, as the report acknowledges, different structures of the covered bond programme - e.g. hard bullet, soft bullet and conditional pass-through structures - expose to different extents the covered bond programme to liquidity risk.

Best practice 6 - C: Stress testing

The legal/regulatory covered bond framework should require covered bonds issuers to carry out stress test exercises on the calculation of the coverage requirement taking into account, at least, the following factors:

- Shifts of relevant interest rate curves based on historical performance, where data is available;
- Shifts of the currency pairs relevant to the covered bond programme based on historical performance, where data is available;
- Stresses on the credit quality of the underlying assets based on historical performance, where data is available;
- Stresses on the re-payment behaviour of the underlying assets based on historical performance, where data is available;
- Stresses on the liquidation price of the underlying assets based on historical performance, where data is available.

The stress test should also take into account other risks, including but not limited to, set-off risks and commingling risks.

Role of the competent authority and monitoring of the cover pool

Best practice 7 - A: Appointment of the Cover Pool Monitor

The legal/regulatory covered bond framework should provide that, at establishment of a given covered bond programme, a cover pool monitor is appointed. The framework should: i) ensure that the cover pool monitor is an internal or external entity other than the ordinary auditor of the covered bonds issuer; ii) provide for the eligibility criteria for the appointment and the cover pool monitor's main duties and powers including, but not limited to, the monitoring of all coverage requirements and eligibility tests and the random auditing of the cover pool.

Where similar tasks are directly carried out by the competent authority the appointment of a cover pool monitor may not be necessary. The cover pool monitor and/or the issuer, based on the findings of the cover pool monitor, should regularly report to the competent authority.

Best practice 7 - B: Supervision of covered bond issuer

The legal/regulatory covered bond framework should provide that the competent authority approves the establishment, by a given issuer, of a covered bond programme. A covered bond programme shall be considered to have been established when a cover pool is established for the inaugural covered bond issue. Within the same covered bond programme additional collateral may be subsequently added to the cover pool and further covered bonds may be issued granting investors claims which rank *pari passu* with the claims attached to the existing bonds collateralised by the same cover pool, in the event of issuer's insolvency.

At the establishment stage the competent authority should be satisfied, at least on the basis of information received from the issuer, that: i) adequate operational policies, procedures and controls are put in place by the issuer for the management of the covered bond programme, including in the event of issuer insolvency or resolution; ii) where provided by the national framework, the restrictions applicable to the issuer are met; iii) the features of the cover pool meet the applicable requirements.

The EBA acknowledges that the supervisory practice of licensing specialised covered bond issuers, which only carry out the covered bonds issuance activity and related ancillary activities, may ensure a level of supervision of the issuer which is comparable to the one achieved by the authorisation of the establishment of a new covered bond programmes. In any case all the applicable requirements attached to the granting of the licence should be regularly monitored and the establishment of new covered bond programmes should as a minimum be subject to ex-ante notification to the national authority.

The legal/regulatory covered bond framework should provide a clear and sufficiently detailed illustration of the duties and powers of the competent authority regarding the ongoing supervision of the applicable activities/regulatory requirements of covered bond issuers.

Best practice 7 - C: Duties and powers of the national authority in the event of issuer insolvency

The legal/regulatory covered bond framework should provide a sufficiently detailed description of the duties and powers of the competent authority on the covered bond programme, as well as its administration, in the event of issuer's default.

Disclosure to investors

Best practice 8 – A: Scope of disclosure

The legal/regulatory covered bond framework should require covered bonds issuers to disclose aggregate data on the credit risk, market risk and liquidity risk characteristics of the cover assets and the covered bonds of a given programme as well as other relevant information, including information concerning the counterparties involved in the programme and the levels of contractual and voluntary over-collateralisation. The information should be disclosed to a level of detail which enables investors to carry out a comprehensive risk analysis.

Best practice 8 - B: Frequency of disclosure

The legal/regulatory covered bond framework should provide that the disclosure of the information mentioned under recommendation 8 –A should occur at least on a quarterly basis.

10.2 EBA response to call for advice from Commission on covered bond capital requirements

Risk weight preferential treatment of covered bonds

Recommendation: EU COM 1 – Risk weight preferential treatment of covered bonds

Due to the good historical default/loss performance of covered bonds in the EU, the dual recourse principle embedded in covered bond frameworks whereby the covered bond holder has a claim on the issuing institution and a priority claim on the cover assets, the special public supervision for the protection of the bondholders mandated by the UCITS Directive and the existence of qualifying criteria in Article 129 of the CRR, the EBA considers the preferential risk weight treatment laid down in Article 129 of the CRR to be, in principle, an appropriate prudential treatment.

In relation to the criteria mandated by Article 129 of the CRR which determine which asset classes currently qualify for preferential treatment, the EBA only expresses prudential concerns over the derogation foreseen for own originated securitisation units, as elaborated upon in Recommendation EU COM 2 – C.

While Article 129 of the CRR sufficiently elaborates on the eligibility of asset classes, it is less specific on equally relevant aspects of safety of the covered bond. The EBA considers that further consideration should be given to the opportunity of complementing the qualifying criteria mandated by Article 129 of the CRR to cover, at a minimum, the areas of liquidity risk mitigation, over-collateralisation and the role of the competent authority, and the further elaboration of existing requirements on disclosure to investors, as outlined in the Recommendations EU COM 1-A to 1-D.

In addition, the EBA considers that in the longer term:

- Further convergence of national legal/regulatory and supervisory covered bond frameworks should be achieved, so as to further support the existence of a single preferential risk weight treatment to covered bonds in the EU.
- The appropriateness of preferential risk weight treatment should be monitored due to

developments in asset encumbrance levels as well as the evolution of the overall credit quality and dual recourse properties of covered bonds after the entry into force of the Bank Recover and Resolution Directive.

Additional areas for qualifying criteria determining preferential risk weight treatment

Recommendation EU COM 1 - A: Legal/regulatory over-collateralisation

The EBA considers that a legal/regulatory minimum over-collateralisation level should be considered for inclusion among the qualifying criteria determining preferential risk weight treatment. The formulation of a quantitative legal/regulatory minimum over-collateralisation requirement would require further analysis as it depends on several factors, including but not limited to, the class of cover assets as well as, crucially, the chosen coverage principle among the several different coverage principles currently adopted across jurisdictions (nominal, net present value, net-present value under stress, etc.).

Recommendation EU COM 1 - B: Liquidity buffer

The EBA considers that a requirement to mitigate liquidity risk in the covered bond programme, by means of liquid assets available at all times to cover the total net out-flows of the covered bond programme over a certain time frame, should be considered for inclusion among the qualifying criteria determining preferential risk weight treatment. Determining the calibration and scope of such a requirement would require further analysis since, as the report acknowledges, different structures of the covered bond programme - e.g. hard bullet, soft bullet and conditional pass-through structures - expose to different extents the covered bond investor to liquidity risk.

Recommendation EU COM 1 - C: Role of the competent authority

The EBA considers that requirements relating to the role of the special public supervision of the covered bonds should be considered for inclusion among the qualifying criteria determining preferential risk weight treatment. The requirements considered for inclusion may cover: i) supervision prior to the issuance of covered bonds, ii) ongoing supervision and iii) supervision post-default/resolution of the issuer.

Recommendation EU COM 1 - D: Disclosure to covered bond investors

Article 129(7)(a) includes provisions on the information that covered bond investors must receive from the issuer to seek the risk weight preferential treatment on their covered bond investment. The EBA recommends that the disclosure criteria included in Article 129(7)(a) be further clarified by means of binding technical standards. In addition, the scope of those standards should allow for the possibility of extending the disclosure criteria included in Article 129(7)(a) to include additional variables, depending on further analysis to be developed when drafting the standards

Eligibility for risk weight preferential treatment of certain cover assets

Recommendation EU COM 2 - A: Loans secured by aircraft liens

Based on the qualitative and quantitative evidence included within this report the EBA considers that it would not be appropriate to include loans secured by aircraft liens among the underlying asset classes eligible for the risk weight preferential treatment provided for in Article 129 of the CRR.

Recommendation EU COM 2 - B: Residential loans secured by a guarantee

Based on the qualitative and quantitative evidence included within this report the EBA considers it appropriate to maintain residential loans secured by a guarantee within the scope of preferential risk weight treatment. However the EBA deems appropriate that, in addition to the qualifying criteria currently included in Article 129(1)(e) of the CRR, the following additional criteria be considered for inclusion:

- i. The national legal/regulatory covered bond framework should not allow borrowers to place mortgage liens on the loans included in the cover pool ;
- ii. The national legal/regulatory covered bond framework should be such that no legal impediments exist for the administrator of the covered bond programme to place mortgage liens on the loans included in the cover pool, in a scenario where the covered bond issuer has entered default or resolution and where the guarantee, for any reasons, ceases to exist;

Recommendation EU COM 2 - C: Derogation on RMBS/CMBS in cover pools¹¹¹

The EBA considers it appropriate that the derogation to the 10% limit for senior securitisation units currently foreseen in Article 496 of the CRR, be removed after 31 December 2017.

¹¹¹ Recommendation EU COM 2 – C relates to the derogation on RMBS/CMBS in cover pools. The EBA notes that in at least one Member State, intra-group transfers of collateral, i.e. covered bonds issued by an entity in the group and transferred into the cover pool of the covered bond program of another entity within the same group, have so far been based on Article 496 (1) a) and b) CRR. The assessment of the use of Article 496(1) CRR for such purposes is outside the scope of this report, but the EBA nonetheless recommends that the Commission should further consider whether a specific provision could be introduced in Article 129 CRR making it possible to allow specific intra-group transfers of CRR-compliant covered bonds as eligible collateral. From a prudential perspective, no additional risk appears to be introduced by such a provision, provided that the entity is sufficiently integrated into the group.

Annex I: Cover assets eligibility conditions as per Article 129 of the CRR.

Table 39: Eligible classes of cover assets and related conditions as per Article 129 of the CRR

A	Exposures To or guaranteed by		EU central governments	
			ESCB central banks	
			EU public sector entities	
			EU regional governments	
			EU local authorities	
B	Exposures to or guaranteed by		Third country central government	CQS1
			Third country central bank	CQS1
			Multilateral development bank	CQS1
			International organisations	CQS1
	Exposures to or guaranteed by		Third country public sector entity	CQS1 and risk weighted as exposures to institutions or central governments and central banks as per Article 115(1) or 115(2)
			Third country regional government	CQS1 and risk weighted as exposures to institutions or central governments and central banks as per Article 116(1)
			Third country local authority	CQS1 and risk weighted as exposures to institutions or central governments and central banks as per Article 116(2) or 116(4)
			All exposures in this section B	CQS2 - at most for 20% of outstanding CB
C	Exposures to		institutions	CQS1 (CQS1+CQS2 max 15% of CB)
			institutions: maturity < 100 days	CQS2 (CQS1+CQS2 max 15% of CB)
D	Loans secured by		residential mortgages	LTV 80%
			RMBS	90% backed by mortgages on residential with LTV 80%
				CQS1
				at most 10% of cover pool (waived)
E	Residential Guaranteed Loans			Guarantor as per CRR art 201 [list of eligible guarantors]
				Guarantor is CQS2
				LTV 80%
				LTI 33% - based on gross income
				No mortgage lien when the loan is granted

				From 1 Jan 2014 - no mortgage lien can be granted without consent of credit institution that granted the loan
				Guarantor is: prudentially supervised FI or institution or insurance company
				There is a mutual fund for sharing credit risk
				Calibration of mutual fund periodically reviewed by national authority
				Originating institution and guarantor shall both carry out creditworthiness assessment
F	Loans Secured by		Commercial mortgages	LTV 60%
				LTV 70% if OC is at least 10%
			CMBS	90% backed by mortgages on commercial with LTV 60%
G	Ship Loans			Limited to difference between: 60% of ship value and prior lien on ship (i.e. LTV 60%)
Institutions shall for immovable property collateralising covered bonds meet the requirements set out in Article 208 and the valuation rules set out in Article 229(1).				

Box 7 Valuation criteria of mortgage pools necessary for CB risk weight treatment

Valuation criteria of mortgage pools necessary for CB risk weight treatment

Article 129(3)

Institutions shall for immovable property collateralising covered bonds meet the requirements specified in Article 208 and the valuation rules specified in Article 229(1).

Article 208

Requirements for immovable property collateral

1. Immovable property shall qualify as eligible collateral only where all the requirements specified in paragraphs 2 to 5 are met.
2. The following requirements on legal certainty shall be met:
 - a) A mortgage or charge is enforceable in all jurisdictions which are relevant at the time of the conclusion of the credit agreement and shall be properly filed on a timely basis;
 - b) All legal requirements for establishing the pledge have been fulfilled;
 - c) The protection agreement and the legal process underpinning it enable the institution to realise the value of the protection within a reasonable timeframe.
3. The following requirements on the monitoring of property values and on property valuation shall be met:
 - a) Institutions monitor the value of the property on a frequent basis and **at a minimum once every year for commercial immovable property and once every three years for residential real estate**. Institutions carry out **more frequent monitoring where the market is subject to significant changes** in conditions;
 - b) The property valuation is reviewed when information available to institutions indicates that the value of the property may have declined materially relative to general market prices and that review is carried out **by a valuer who possesses the necessary qualifications, ability and experience to execute a valuation and who is independent from the credit decision process**. For loans exceeding EUR 3 million or 5 % of the own funds of an institution, the property valuation shall be reviewed by the valuer at least every three years.

Institutions may use statistical methods to monitor the value of the property and to identify property that needs revaluation.

4. Institutions shall clearly document the types of residential and commercial immovable property they accept and their lending policies in this regard.

5. Institutions shall have in place procedures to monitor that the property taken as credit protection is adequately insured against the risk of damage.

Article 229(1)

For immovable property collateral, the collateral shall be valued by an independent valuer at or at less than the market value. An institution shall require the independent valuer to document the market value in a transparent and clear manner.

In those Member States that have laid down rigorous criteria for the assessment of the mortgage lending value in statutory or regulatory provisions the immovable property may instead be valued by an independent valuer at or at less than the mortgage lending value. Institutions shall require the independent valuer not to take into account speculative elements in the assessment of the mortgage lending value and to document that value in a transparent and clear manner.

The value of the collateral shall be the market value or mortgage lending value reduced as appropriate to reflect the results of the monitoring required under Article 208(3) and to take account of any prior claims on the immovable property.

Annex II: Admitted asset classes as substitution assets.

Table 40: Admitted asset classes as substitution assets

	Public sector securities	Central bank deposits	Claims on International organisations	Public sector guaranteed assets	Cash	Exposures to other CIs	Eligible assets cover	Other
AT - PB	x	x			x	x		
AT - FBS		x			x	x		
AT - HYP	x	x			x	x		
BG	x	x	Including guarantees	x		Deposits and guaranteed by deposits		Claims backed by gold
CY	x	x	x	x	x	Deposits and securities		
CZ	Including EEA	Including EEA and ECB	x		x			
DK - RO								
DK - SDO mb							x	
DK - SDRO							x	
DK -							x	

	Public sector securities	Central bank deposits	Claims on International organisations	Public sector guaranteed assets	Cash	Exposures to other CIs	Eligible cover assets	Other
SDO								
EE	no rule							
FI	x	x		x		Non-own deposits, guarantees, securities		Insurance guarantees
FR - CRH	Securities and cash deposited in CQS1 counterparty (CQS2 if shorter than 100days)							
FR - OFH	Securities and cash deposited in CQS1 counterparty (CQS2 if shorter than 100days)							
FR - OF	Securities and cash deposited in CQS1 counterparty (CQS2 if shorter than 100days)							
DE - Hypfe	Including EEA, CH, JP, USA, CAN with CQS1	Including EU and ECB	Including Guarantee (if security)	Including EEA, CH, JP, USA, CAN when CQS1, excl. PSEs		qualified credit institutions (domiciled in EEA, CH, JP, USA, CAN and with CQS1)		Derivatives
DE - Öpfe	(part of ordinary cover assets; including EEA, CH, JP, USA, CAN with CQS1)	(part of ordinary cover assets; including EEA and ECB)	(part of ordinary cover assets; including Guarantee (if security))	(part of ordinary cover assets; including EEA, CH, JP, USA, CAN with CQS1, excl. PSEs)		qualified credit institutions (domiciled in EEA, CH, JP, USA, CAN and with CQS1)		Derivatives
DE - Schpfe	Including EEA, CH, JP, USA, CAN with CQS1	Including EU and ECB	Including Guarantee (if security)	Including EEA, CH, JP, USA, CAN with CQS1, excl. PSEs		qualified credit institutions (domiciled in EEA, CH, JP, USA, CAN and with CQS1)	payment claims secured on registered right in ship	Derivatives
DE -	Including EEA, CH, JP, USA,	Including EU and ECB	Including Guarantee (if security)	Including EEA, CH, JP, USA, CAN with CQS1,		qualified credit institutions	payment claims secured on registered right in	Derivatives

	Public sector securities	Central bank deposits	Claims on International organisations	Public sector guaranteed assets	Cash	Exposures to other CIs	Eligible cover assets	Other
Flgzzpfe	CAN with CQS1			excl. PSEs		(domiciled in EEA, CH, JP, USA, CAN and with CQS1)	aircraft	
EL	Including EU	Including ESCB	Including 3 rd country CQS1 (CQS2 max 20% of CBs)		x	All Exposures if CQS1 (CQS2 if shorter than 100 days)	Including ship loans	
IE						Deposits CQS1 (CQS2 if shorter than 100 days for exposures within EEA)		
IT					x	Deposits and securities (shorter than 3 months)		
LV	EU Central Governments	EU			x	Qualified credit institutions		
LT	No rule							
LU - LGH		Including non-EU/EEA/OECD issuers : rated ECAI 1 (max 50% of pool) ; rated ECAI 2 (max 10% of pool)			x	Deposits		Securities complying with the conditions set forth in the Luxembourg act of 17 December 2010 on undertakings for collective investments. These securities refer to the bonds, set forth in Article 52(4) of the Directive 2009/65/EC
LU - LGMo		Including non-EU/EEA/OECD issuers : rated ECAI 1 (max 50% of pool) ; rated ECAI 2 (max 10% of pool)			x	Deposits		As for LGH

	Public sector securities	Central bank deposits	Claims on International organisations	Public sector guaranteed assets	Cash	Exposures to other CIs	Eligible cover assets	Other
LU - LGMu		Including non-EU/EEA/OECD issuers : rated ECAI 1 (max 50% of pool) ; rated ECAI 2 (max 10% of pool)			x	Deposits		As for LGH
LU - LGP		Including non-EU/EEA/OECD issuers : rated ECAI 1 (max 50% of pool) ; rated ECAI 2 (max 10% of pool)			x	Deposits		As for LGH
NL	No rule							
NO						CQS 1		
PL	X	X	X	X	x	If guaranteed		
PT		x				deposits		Other assets to be defined by the national authority
SI - MRG	EEA and CH Central Gov. and Central Bank ECB		x Debt Securities	EEA and CH Central Gov. and Central Bank ECB	X account at the Bank of Slovenia	debt securities (eligible for ECB repo)		
SI - MUN	EEA and CH Central Gov. and Central Bank ECB		x Debt Securities	EEA and CH Central Gov. and Central Bank ECB	X account at the Bank of Slovenia	debt securities (eligible for ECB repo)		
ES - CH	Fixed income securities issued by EU Member States or by Instituto de Credito Oficial (ICO)					Fixed income securities with credit quality equivalent to Spanish Sovereign		non-own CH or non-own BH (credit quality of the BH equivalent to Spanish Sovereign); securitisation bonds (credit quality of the bonds equivalent to Spanish Sovereign; underlying assets that are not loans granted by the issuer of CH); other fixed income securities, not issued by the issuer of CH (traded in official secondary market; credit quality of the securities equivalent to Spanish Sovereign)

	Public sector securities	Central bank deposits	Claims on International organisations	Public sector guaranteed assets	Cash	Exposures to other CIs	Eligible cover assets	Other
						traded on officially secondary market		
ES - BH	Fixed income securities issued by EU Member States or by Instituto de Credito Oficial (ICO)					Fixed income securities with credit quality equivalent to Spanish Sovereign traded on officially secondary market		non-own CH or non-own BH (credit quality of the BH equivalent to Spanish Sovereign); securitisation bonds (credit quality equivalent to Spanish Sovereign; underlying assets that are not loans granted by the issuer of BH); other fixed income securities, not issued by the issuer of BH (traded in official secondary market; credit quality equivalent to Spanish Sovereign)
ES - CT	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
ES - CI	fixed income securities issued by EU Member States			fixed income securities guaranteed by EU Public Sector and traded on regulated market				Non-own CH or high quality (RW ≤ 50%) non-own BH; non-own CT; non-own CI or high quality (RW ≤ 50%) non-own BI; other high quality (RW ≤ 50%) fixed income securities, not issued by the issuer of CI and excluding securitisation bonds.
ES - BI	fixed income securities issued by EU Member States			fixed income securities guaranteed by EU Public Sector and traded on regulated market				Non-own CH or high quality (RW ≤ 50%) non-own BH; non-own CT; non-own CI or high quality (RW ≤ 50%) non-own BI; other high quality (RW ≤ 50%) fixed income securities, not issued by the issuer of BI and excluding securitisation bonds..
SE	x	x	x	x	x	x	x	Non-own issued Covered Bonds
UK	x						x	

Annex III: Additional output on aircraft loans as cover assets.

Table 41 Aircraft in service by manufacturer¹¹²

Name of manufacturer	Market share
Boeing (including McDonnell-Douglas aircraft)	43.6%
Airbus	28.7%
Bombardier (including Canadair and de Havilland aircraft)	9.6%
Embraer	6.6%
ATR	3.2%
Cessna	1.4%
Other	7.0%

Table 42 Ten largest airlines by ASKs per week¹¹³

Name of airline	Market share based on ASKs per week
United Airlines	4.7%
Delta Air Lines	4.4%
Emirates	3.9%
American Airlines	3.7%
Southwest Airlines	2.5%
Lufthansa	2.4%
British Airways	2.4%
Air France	2.2%
China Southern	2.0%
Singapore Airlines	1.8%

Table 43 Disclosure requirements for covered bonds backed by aircraft loans in German legal/regulatory covered bond framework

Disclosure requirement	Frequency
The nominal value, the net present value and the risk-adjusted net present value of the total outstanding Flugzeugpfandbriefe and the total cover pool for the Flugzeugpfandbriefe	Quarterly
The maturity structure of Flugzeugpfandbriefe as well as a breakdown by the period of interest rate fixation for the corresponding cover assets for maturity bands up to 6 months, > 6 and ≤ 12 months, > 12 and ≤ 18 months, > 18 months and ≤ 2 years, > 2 and ≤ 3 years, > 3 and ≤ 4 years, > 4 and ≤ 5 years, > 5 and ≤ 10 years, and more than 10 years	Quarterly
The share of derivatives in the total assets of the cover pool or in case of a negative total value of the derivatives in the liabilities to be covered	Quarterly
The total amount of supplementary cover assets included in the cover pool in accordance with Section 26f paragraph 1 number 2 of the Pfandbrief Act (securities representing claims against the equalisation fund for currency conversion, a German Federal special fund)	Quarterly
The total amount of supplementary cover assets included in the cover pool in accordance with Section 26f	quarterly

¹¹² Source: World Aviation Yearbook 2013 of the Centre for Aviation (CAPA).

¹¹³ Source: Article on largest airlines by December 2012 published by the Centre for Aviation (CAPA).

Disclosure requirement	Frequency
paragraph 1 number 3 of the Pfandbrief Act (securities issued by a sovereign of EEA, US, JAP, CH, CAN, German sub-sovereigns, supranationals and money claims on EU central banks and suitable credit institutions) separated by states of the debtor's location (including the total amount of claims exceeding the limits set in Section 26f paragraph 1 of the Pfandbrief Act)	
The total amount of supplementary cover assets included in the cover pool in accordance with Section 26f paragraph 1 number 4 of the Pfandbrief Act (securities representing direct payment claims of the type being regular cover assets for Public Sector Pfandbriefe) separated by states of the debtor's or in case of a full guarantee of the guarantor's location (including the total amount of claims exceeding the limits specified in Section 26f paragraph 1 of the Pfandbrief Act)	quarterly
The percentage of fixed interest rate cover assets in relation to the total cover pool and the percentage of fixed interest rate Flugzeugpfandbriefe in relation to the total liabilities covered by the cover pool	quarterly
For each foreign currency, the net present value according to Section 6 of the Pfandbrief Present Value Regulation	quarterly
The distribution of the nominal values of claims used as cover assets for the Flugzeugpfandbriefe according to their amount within the ranges of up to 500,000 Euro, > 500,000 and ≤ 5 million Euro, and more than 5 million Euro	quarterly
The distribution of the nominal values of total claims used as cover assets for the Flugzeugpfandbriefe according to the countries where the aircraft used as collateral for these claims are registered	quarterly
With regard to the total claims used as cover assets for the Flugzeugpfandbriefe the number of foreclosure proceedings of aircraft that were pending on the date of closing the accounts and the number of foreclosures conducted during the financial year	annually
With regard to the total claims used as cover assets for the Flugzeugpfandbriefe the number of cases in which the bank had to take over aircraft to prevent losses on registered liens or foreign aircraft mortgages during the financial year	annually
With regard to the total claims used as cover assets for the Flugzeugpfandbriefe the total amount of arrears on the interest payable by borrowers as far as these arrears have not already been written off in previous years	annually

Annex IV: Additional output on residential loans secured by a guarantee as cover assets

LTI ratio

In general, French real estate loans are granted against the repayment capacity of the borrower, rather than against the value of a pledged property (mortgage).

Accordingly, the LTI criterion is central to the credit granting decision in France and banks are eager to ensure that households do not spend more than 35% of their net disposable income to service their debts.

This contributes to lower ratios of housing loans value to household gross disposable yearly income in France (61%) than in the rest of the European Union (70%)¹¹⁴.

As far as guaranteed loans are concerned, the average LTI is slightly lower (around one percentage point) for Crédit Logement than the overall French market (See below).

Table 44 Crédit Logement Vs. residential loans market LTI

	2009	2010	2011	2012	2013
Crédit Logement LTI	28.6%	28.9%	28.8%	29.2%	30,0%
Overall market LTI	29.5%	29.6%	30.4%	30,4%	N/A

LTV ratio

Another underwriting criterion for Residential Guaranteed Loans is the LTV, for which Crédit Logement stands around 10 percentage points below the residential loans market average, with a 66% to 68% LTV ratio over the last 3 years, compared to a 79% 2012 market average LTV. (see Table 45).

Table 45 Crédit Logement vs. residential loans market LTV

	2009	2010	2011	2012	2013
Crédit Logement LTV	71.7%	72.2%	68.3%	66.8%	68.5%
Overall market LTV	77.4%	79.3%	81.1%	78.5%	N/A

Other underwriting criteria

Some other aspects need to be considered to assess the residential guaranteed loans underwriting criteria:

Crédit Logement's average credit length is 4 years below the average credit length in the market (15.8 years vs. 19.8 years in 2012);

¹¹⁴ Source: ECB, Eurostat, CFF, Altares.

Fixed rates credits represented 94% of Crédit Logement’s new commitments in 2012 vs. a 92.6% on the average market.

Comparison: cost of risk

Another comparison shows the good relative performance of French guaranteed loans: the cost of risk (as a percentage of the total outstanding) is lower for guaranteed loans than for the overall residential loans market.

Table 46 Crédit Logement vs. market cost of risk on residential loans comparison

	Overall cost of risk on residential loans	Cost of risk on residential loans guaranteed by Crédit Logement
	% of the outstanding	
2009	0.0950%	0.0314%
2010	0.0800%	0.0490%
2011	0.0430%	0.0364%
2012	0.0610%	0.0443%

Annex V: Calibration of the risk-sensitivity model

The tables below indicate the source of the calibrations for the various asset type properties described and values used in Chapter 8 of this report.

Table 47 Source of calibration for residential mortgage loans

Residential mortgage loans						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Jurisdiction 1	0.06	Jurisdiction 2	16.4	Jurisdiction 2	91
Medium	Jurisdiction 3	0.3	Jurisdiction 1	11.36	Jurisdiction 4	71
Severe	Jurisdiction 4	0.8	Jurisdiction 5	6.5	Jurisdiction 5	50

Table 48 Source of calibration for commercial mortgage loans

Commercial mortgage loans						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Europe	0.3	Europe	17	Extrapolated	82
Medium	Europe	1.5	Extrapolated	8	Jurisdiction 2	64
Severe	Europe	7.5	Estimated	0	Jurisdiction 5	47

Table 49 Source of calibration for public sector loans - sovereign

Public sector loans – sovereign						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Estimate	0	Estimated	25	Jurisdiction 8/9	92.2
Medium	Jurisdiction 6	0.54	Estimated	15	Jurisdiction 5/7	61.8
Severe	Jurisdiction 3	1.6	Estimated	5	Jurisdiction 3	33.8

Table 50 Source of calibration for public sector loans - regional

Public sector loans – regional						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Jurisdiction 8	0.25	Extrapolated	22.5	Extrapolated	82.98
Medium	Extrapolated	1.08	Extrapolated	13.5	Extrapolated	55.62
Severe	Extrapolated	3.2	Extrapolated	4.5	Extrapolated	30.42

Table 51 Source of calibration for public sector loans - other

Public sector loans – other						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	

Scenario	Source	%	Source	%	Source	%
Weak	Extrapolated	0.5	Extrapolated	20.25	Extrapolated	74.68
Medium	Extrapolated	1.62	Extrapolated	12.15	Extrapolated	50.06
Severe	Extrapolated	4.8	Extrapolated	4.05	Extrapolated	27.38

Table 52 Source of calibration for ship loans

Shipping loans						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Proxy	2.18	Estimated	7	Price Index	84
Medium	Proxy	4.35	Estimated	5	Price Index	63
Severe	Proxy	8.7	Estimated	3	Price Index	23

Table 53 Source of calibration for aircraft loans

Aircraft loans						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Extrapolated	2.18	Estimated	7	Extrapolated	87.5
Medium	Extrapolated	4.35	Estimated	5	Price Index	75
Severe	Extrapolated	8.7	Estimated	3	Price Index	50

Table 54 Source of calibration for securitisations

Securitisations						
	Portfolio loss rate		Portfolio payment rate		Asset sale scenario	
Scenario	Source	%	Source	%	Source	%
Weak	Europe all ABS	0.31	Estimated	5	Extrapolated	93.35
Medium	Europe all ABS	0.45	Estimated	15	European ABS	86.7
Severe	Europe all ABS	2.66	Estimated	25	Jurisdiction 5 MBS	63