



Covered Bonds in the European Union: Harmonisation of legal frameworks and market behaviours

Final report

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Abstract

This study examines the current state of the European covered bond markets and the likely costs and benefits of introducing a dedicated EU legal framework for covered bonds comprising the following building blocks: (i) a harmonised definition detailing the standard structural aspects of a covered bond (replacing Article 52(4) of the UCITS Directive); and (ii) conditions for preferential risk weight treatment of covered bonds (by introducing targeted amendments to Article 129 of the Capital Requirement Regulation).

The potential impact of the policy proposals under consideration have been assessed against a “no EU policy action” scenario (i.e. a baseline scenario where there is no EU intervention, but includes market developments such as the covered bonds label).

Résumé

Cette étude examine l'état actuel des marchés covered bonds européens ainsi que les coûts et avantages probables d'un cadre juridique spécifique de l'UE pour les covered bonds comprenant les éléments suivants: (i) une définition harmonisée des covered bonds définissant les aspects structurels standard D'une covered bond (en remplacement de l'article 52, paragraphe 4, de la directive UCITS); Et ii) les conditions du traitement préférentiel du risque pondéré des covered bonds (en introduisant des modifications ciblées à l'article 129 du règlement sur CRR).

Les impacts potentiels des propositions de politique à l'étude ont été évalués par rapport à un scénario de «pas d'action de l'UE» (c'est-à-dire un scénario de référence dans lequel il n'y a pas d'intervention de l'UE mais qui tient compte de l'évolution du marché comme l'étiquette des covered bonds).

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Glossary

Term	Definition
Alternative Assets	Assets that could back covered bonds, but which fall outside the definition of 'Traditional Assets' <i>qv</i> . For example, loans to small and medium-sized enterprises
Asset encumbrance	The percentage of assets on a bank's balance sheet pledged or otherwise used as security, including, <i>inter alia</i> to covered bonds. A concern for regulators and creditors to the extent that over-encumbrance reduces the assets available for unsecured creditors or for emergency funding in a stress scenario.
ASW	(Spread over) Asset Swaps. Yield on a covered bond relative to the yield on interbank swaps of the same maturity. Usually quoted in basis points. Used to both determine the yield on a bond at issue and to track its relative price performance over time
Bank Recovery and Resolution Directive ("BRRD")	Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms. UCITS compliant covered bonds are exempt from the use of the bail-in tool under article 44(2)
Capital Requirements Regulations ("CRR")	"Regulation EU no. 575/2013 on prudential requirements for credit institutions and investment firms". Covered bonds which are eligible for a preferential capital treatment for bank investors must meet criteria contained in article 129.
Cedulas Hipotecarios ("CH")	Spanish term for covered bonds structured in accordance with Spanish law and regulations.
Conditional pass through	Arrangement defined in either contract or statute (currently only in Poland) to address a potential inability of an issuer in distress to meet covered bond obligations when falling due. Typically specifies that a failure to make a bond repayment on the scheduled maturity date does not constitute an event of default. In such eventuality, the underlying bond converts to a floating rate security after its scheduled maturity date and will be repaid as and when the underlying cover assets can be liquidated for sufficient proceeds to make repayment in full. Used in contrast to soft bullet and hard bullet structures <i>qv</i> .
Contractual over-collateralisation	That amount of over-collateralisation in a cover pool which is included by virtue of contractual obligations voluntarily entered into by the issuer. It is typically set out in covenants of the bond documents and is typically in excess of statutory over-collateralisation. It is used to support the credit rating treatment of the bonds.
Cover Pool	The assets that, at any point in time, constitute the security for the covered bonds (and associated senior obligations, for example to derivative counterparties). Consists of both primary and secondary assets. Typically subject to legal arrangements to segregate them from other assets owned by the issuer to ensure certainty of bondholder claim.
Cover Register	A record, usually with legal status and in a form defined by statute that contains information regarding the assets in the cover pool.

Term	Definition
Cover Pool Monitor	An individual or entity, independent of both the issuer and the supervisor with responsibilities defined under applicable covered bond law. The main responsibility of a cover pool monitor is to ensure that covered bonds are issued and managed in accordance with the law. Different Member States have slightly differing definitions of and titles for this entity.
Coverage Test	Test defined in either statute or contract which measures an issuer's compliance with obligations to maintain a sufficient cover pool to support the then outstanding covered bonds
Covered Bond Label	Voluntary industry led initiative to define certain minimum quality standards for covered bonds. See also National Transparency Template.
Credit Support Annex	Part of a swap agreement that determines the credit support for the swap, typically the collateral that must be posted to provide credit protection.
D-Cap	Discontinuity cap. Measure calculated by rating agency Fitch for any given covered bond to indicate how far that covered bond could continue to make timely payments in the event of a failure of the issuer or sponsor of that bond. Frequently used as an approximation of that aspect of the quality of a covered bond's credit structure
EBA best practices	A series of eight topics, divided into 17 subtopics identified by the EBA in their 2014 report qv as key elements of a well-functioning covered bond market and used as a criteria for the analysis of European covered bond market practice in their 2016 report.
EBA 2014	EBA report on EU covered bond frameworks and capital treatment, London, June 2014
EBA 2016	EBA report on covered bonds: recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA 20 December 2016
European Markets Infrastructure Regulations ("EMIR")	'Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories'. Under this regulation, derivatives associated with covered bonds that meet certain criteria (including inter alia a minimum 2% over-collateralisation) are exempt from the requirement for central clearing and any punitive treatment applied to non-cleared derivatives
Hard bullet	A covered bond in which a failure to repay the principal on the scheduled maturity date constitutes an event of default. See also soft bullet and conditional pass through.
Hard LTV limit	A level for an LTV which if breached in the case of an individual asset precludes any portion of that asset from inclusion in a cover pool. See also Soft LTV limit.
Harmonised Transparency Template ("HTT")	A standardised, form used to voluntarily disclose additional information on covered bond programmes beyond that required by statute. Part of the market initiative, the covered bond label, the HTT is designed to be fully compliant with art 129(7) CRR itself a requirement in the label convention.
iBoxx	A family of bond indices defined by Markit, a commercial entity. In this context the covered bond iBoxx index is frequently used as a

Term	Definition
	proxy of all tradeable covered bonds.
Interest mismatch	Difference between interests received on assets in the cover pool and coupons due on a bond after adjustment for net flows on derivative transactions during a specific time. An amount that must be covered by other assets in the cover pool or other means, if negative.
Liquidity Buffer	Pool of assets, other than primary assets, typically either cash or assets with very short-term, highly liquid characteristics, held in a cover pool to ensure sufficient cash is available for an issuer to meet principal and interest payments when they fall due without recourse to the liquidation of primary assets.
Liquidity Cover Ratio ("LCR")	Rules specifying the assets that must be held by credit institutions to mitigate the risk of an inability to meet obligations falling due in stressed market conditions. Defined in the capital requirements regulation and the Commission's Delegated Regulation EU 2015/61 with regard to liquidity coverage requirements for credit institutions
Loan to value ratio ("LTV")	With reference to mortgages the ratio between the balance due on a loan (either currently or at the loan's inception) and the value of the property granted as security for the amounts due on that loan. There are differences in the way in which this is calculated and defined in Member States. See also 'Hard LTV' and 'Soft LTV'.
Market Value	The estimated amount for which the property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without being under compulsion'. [Article 3(76) CRR]
Maturity mismatch	The difference between the principal repayment profile of the assets in the cover pool and the bonds issued against it. In the context of liquidity calculations, principal repayments due on bonds over a specified time period, less scheduled repayments of principal by the assets in the cover pool. An amount that must be covered by other assets in the cover pool or other means if negative.
Mortgage Backed Securities ("MBS")	Typically used to refer to securitisations (in contrast to covered bonds). Also RMBS (Residential MBS) and CMBS (Commercial MBS)
Mortgage Lending Value	The value of immovable property as determined by a prudent assessment of the future marketability of the property taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property. [Article 4(74) CRR]
National Transparency Template ("NTT")	A standardised form for country-specific information on covered bond programmes beyond that required by statute within the overall HTT framework.
Net Present Value. ("NPV")	In the context of coverage calculations, the future value of assets or liabilities discounted according to a methodology typically specified in the national covered bond legislation or regulations.

Term	Definition
Over-collateralisation	The difference between the value of the cover pool and the value of the liabilities it secures. Typically calculated on either a nominal or present value basis. Assets and liabilities are defined differently for these purposes in different Member States
Pfandbrief	German phrase for covered bonds issued in accordance with applicable German laws and regulations. Occasionally but erroneously used in Germany to refer to covered bonds from other Member States which conform to EU prudential rules. Other Member States have equivalent phrases for covered bonds issued in accordance with their local laws (for example, Cédulas Hipotecarias, Asset Covered Securities).
Primary assets	Those assets which the covered bond programme was established to finance. Distinct from derivatives and substitute or liquidity assets.
Bank Recovery and Resolution Directive (BRRD)	Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms. UCITS compliant covered bonds are exempt from the use of the bail-in tool under article 44(2)
Soft bullet	Arrangement defined in contract to address a potential inability of an issuer in distress to meet covered bond obligations when falling due. Typically specifies that a failure to make a bond repayment on the scheduled maturity date does not constitute an event of default. In such eventuality the underlying bond typically converts to a floating rate security after its scheduled maturity date and will be repaid if the underlying cover assets can be liquidated for sufficient proceeds to make repayment in full up until a pre-determined date, typically one year after the scheduled maturity date. If repayment is not made by this pre-determined date an event of default results. Used in contrast to conditional pass through and hard bullet structures qv.
Soft LTV limit	A level for an LTV which if breached in the case of an individual asset precludes that portion of the asset which is in excess of that level being considered for Coverage Tests. See also Hard LTV limit
Solvency Directive	Directive 2009/138/EC on the taking up and pursuit of the business of insurance and reinsurance. Also known as Solvency II Directive.
Special administrator	An entity responsible for the administration of the covered bond pool and programme for the benefit of the covered bond holders after the insolvency of the issuer or sponsor.
Special Bank	A credit institution established for and limited to the issuance of covered bonds, the acquisition of assets to secure them and limited other ancillary activities. Contrast with SPV.
Special Public Supervision	Supervision of covered bond issuers, programmes and covered pools undertaken specifically to protect the interests of covered bond holders, over and above the normal supervisory processes for credit institutions.
Special purpose vehicle ("SPV")	An independent legal entity used in some jurisdictions to own assets in order to ensure certainty of legal title for the benefit of bond holders. Contrast with Special Bank.

Term	Definition
BRRD	Bank Recovery and Resolution Directive
Statutory over-collateralisation	That amount of over-collateralisation that is required either by law or by regulations passed by the competent authority for the regulation and supervision of the covered bond issuer.
STS Securitisation	Proposal for a Regulation of the European Parliament and of the Council laying down common rules on securitisation and creating a European framework for simple, transparent and standardised securitisation (EU/2015/0226)
Substitute Assets	Assets held in addition to the primary assets, typically constituting derivatives and assets held for liquidity purposes.
Traditional assets	Generally understood to mean assets currently eligible to back covered bonds under article 129 of the CRR (qv). Some users limit the definition to these assets other than mortgages on ships, other users also use the phrase to mean assets defined under national legislation (for example, mortgages on aircraft under German law). Consists of both primary assets (for example, residential mortgages) and secondary assets (for example, deposits held at the central bank for liquidity or other purposes).
Undertakings for Collective Investments in Transferable Securities ("UCITS") Directive	Directive 2009/65/EC on Undertakings for Collective Investments in Transferable Securities. Article 52(4) contains a definition of covered bonds for the purposes of certain exemptions under this directive and is frequently referred to in other directives as a definition for covered bonds.
Value Haircut	Discount applied to the market value of a security as a risk mitigation measure when used as collateral, typically by a central bank in monetary policy operations and/or emergency liquidity operations."
Voluntary over-collateralisation	According to the EBA "cover assets set aside by the issuer for the benefit of the investors in addition to the required coverage". However, as per the discussion in 4.1.2(b), there is some confusion as to whether 'required' in this context refers to statutory requirements only or also to contractual requirements of the issuer.

List of acronyms and abbreviations

CBPP	Covered Bond Purchase Programme
CMBS	Commercial Mortgage Backed Securities
CMU	Capital Markets Union
CRR	Capital Requirements Regulations
CSA	Credit Support Annex
CQS	Credit Quality Step
EBA	European Banking Authority
ECB	European Central Bank
ECBC	European Covered Bond Council
EEA	European Economic Area
ELA	Emergency Liquidity Assistance
EMIR	European Markets Infrastructure Regulations
FSA	Financial Service Authority
LTV	Loan to Value (ratio)
LCR	Liquidity Cover Ratio
NPV	Net Present Value
OC	Over-collateralisation
OECD	Organisation for Economic Co-operation and Development
OPC	Open Public Consultation
PV	Present Value
RMBS	Residential Mortgage Backed Securities
SME	Small and Medium (sized) Enterprises
SPV	Special Purpose Vehicle
STS	Simple, Transparent and Standardised (Securitisation)
UCITS	Undertaking for Collective Investment in Transferable Securities (Directive)

1 Introduction

This is the Final Report for a study examining the current state of the European covered bond markets and the likely costs and benefits of a dedicated EU legal framework for covered bonds.

1.1 Study context and objectives

Covered bonds constitute one of the largest asset classes in Europe and represent an important, stable source of long-term funding for key banking functions such as mortgages and public infrastructure loans. The instrument has a long-established track record in Europe, dating back to the 18th century¹. Even during the peak of the global financial crisis and euro area sovereign debt crisis, covered bonds issuance remained remarkably resilient in Europe, outperforming other wholesale funding instruments.

The covered bond market was not entirely immune to the effects of the crisis as secondary market spreads widened and liquidity worsened from September 2008 onwards. The Commission initially viewed this development as symptomatic of market fragmentation arising primarily from differences in national regulatory frameworks and supervisory practices. In the context of the Capital Markets Union (CMU) project, the Commission launched a public consultation in September 2015², inviting evidence of market fragmentation and feedback on three potential options for addressing fragmenting within the European covered bonds market:

- Voluntary approaches to encourage greater convergence in covered bond laws e.g. Commission recommendations to Member States to implement the European Banking Authority's (EBA's) best practices in their national legal frameworks;
- A dedicated EU covered bond legislative framework; or
- A comprehensive EU legal framework for covered bonds as an alternative to national laws (29th Regime).

As regards the first issue (evidence of market fragmentation), responses to the consultation suggested that increased yield divergence between Member States after 2007-8 was not necessarily a consequence of legislative fragmentation nor necessarily an undesirable market characteristic, but rather a normal adjustment to post-crisis market context. Stakeholders also emphasised that covered bonds prices are a function of issuer's sovereign risk, issuer's credit risk and the specific characteristics of each covered bond programme (mainly, structure and cover pool). Rating actions on issuers and sovereigns after 2007 led to the downgrade of many covered bond programmes resulting in a loss of homogeneity of AAA ratings (that which had existed for virtually all covered bonds in Europe was lost) and consequently, spread divergence. Finally, market participants indicated that investor demand across markets has been driven mainly by risk appetite, search for yield, investment strategies, regulatory treatment, market liquidity, etc., rather than the difference in legal frameworks.

As regards the policy options proposed by the Commission, the 29th regime in particular garnered little support from stakeholders who argued it would increase regulatory fragmentation in the short term. Most of stakeholders cautiously supported the idea of an integrated covered bonds framework.

¹It is believed that covered bonds were first issued in Prussia in 1769.

² European Commission (2015) Consultation Document: Covered bonds in the European Union. Available at: http://ec.europa.eu/finance/consultations/2015/covered-bonds/docs/consultation-document_en.pdf

Against this backdrop, the Commission set the following objectives for the present study:

- To assess the functioning and performance of the European covered bonds market to identify improvements deliverable through EU intervention without harming the market.
- To assess the implications of potential EU action considering market developments such as the Covered Bonds label and to critically assess the added value of potential EU action compared to what the market could achieve by itself. The specific elements of a potential EU legislative framework assessed by this study draw heavily on the EBA recommendations published in December 2016³.

1.2 Evidence base for the Study

This Report is based on the following research:

- A review and synthesis of relevant reports produced by the European Banking Authority (EBA), the European Central Bank (ECB), the European Covered Bonds Council (ECBC) and relevant academic and grey material. Annex 1 provides a list of secondary literature reviewed.
- Quantitative and qualitative analysis of the responses received to the OPC.
- Analysis of descriptive statistics compiled from a variety of sources including, published information from rating agencies, issuers and investment banks, unpublished analysis from rating agencies, issuers, issuer associations, and investment banks, the ECBC 2016 Factbook, the ECBC comparative database, the covered bond label website, the covered bond investor council website, and primary and secondary laws in Member State.
- Stakeholder interviews covering issuers, investors, supervisors/regulators, industry bodies and rating agencies. The table below provides a summary overview. A full list of interviews is available in Annex 2.
- An online survey of issuers and national coordinators that received 61 responses.

Table 1. Inputs collected through interviews and the online survey

Stakeholder group	No. of organisations interviewed	No. of responses received to online surveys	No. of unique organisations consulted via interview/online surveys	Country coverage of interviews/ responses
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³ EBA (2016) EBA Report on covered bonds – Recommendations on harmonisation of covered bond frameworks in the EU

Stakeholder group	No. of organisations interviewed	No. of responses received on online surveys	No. of unique organisations consulted via interview/ online surveys	Country coverage of interviews/ responses
Issuers	21	60	70	16 EU MS: Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Spain, Sweden, UK Non-EU: Norway and Singapore
Relevant national industry associations	5	1	6	5 EU MS: Germany, Sweden, Denmark, Spain, the Netherlands
Investors	7	n/a	7	5 EU MS: Spain, Germany, Italy, the Netherlands, UK
Law firms	4	n/a	4	4 EU MS: UK, Sweden, Slovakia, Spain
Relevant Rating Agencies	4	n/a	4	Fitch, S&P, Moody's, DBRS
National regulators	9	n/a	9	7 EU MS: France, Italy, Spain, Germany, Denmark, Sweden, UK
Others (Working Groups of ECBC and EBRD), ECB, EBA, EIF etc.	6	n/a	6	EBA, EBRD, ECB, EIF, ECBC working group on EU legislation and ECBC Steering Committee
Total	56	61	106	

1.3 Caveats and limitations

The limited time available for the study (effectively, three months for data collection and analysis) inevitably restricted the depth and breadth of the research. This limitation needs to be explicitly acknowledged alongside the following caveats:

- Investors are under-represented in primary data collection activities (interviews and the online survey). This is because the investor community was generally unwilling to participate in the study. In their view, they could not meaningfully contribute to the study given the market context (ECB intervention crowding out private sector activity). We did manage to conduct some useful interviews with investors, and supplemented this information with evidence collected from investment bank research analysts in constant dialogue with investors, the Covered Bond Investor Council, interviews with issuers who also, in their capacity as bank treasurers, undertake investment activities (these have all been categorised as issuers), OPC responses, press/ journal articles and

investor perspectives presented at the Commission's covered bonds conference in 2016⁴ and various industry events (such as the 14th annual Euromoney/ECBC Covered Bond Congress on 15 September 2016 in Düsseldorf).

- Lack of precision on specific proposals meant that market participants were unable to get into specific details of the potential costs and benefits of the proposal. For example, EBA recommends that operational costs should be included in the calculation of coverage ratio. It does not specify how the operational costs should be calculated. Given the diversity of approaches used to calculate operational costs, it was difficult to assess the implications of this proposal.
- Because some of the proposals (for example those that establish limits that do not currently constrain investors. The proposed 15 per cent limit on substitution assets for instance, does not appear to constrain investor behaviour currently), it was also not possible to quantify or monetise their potential costs and benefits. Instead of engaging in spurious quantification, the study pragmatically indicated the likely direction and order of magnitude of impact of such policy proposals.

1.4 Structure of this Report

The remainder of this Report is structured as follows:

- Section 2 summarises the current EU and national legislative frameworks for covered bonds by way of background and context for the study.
- Section 3 assesses the functioning and recent performance of the European covered bonds market.
- Section 4 critically examines the case for EU action.
- Section 5 provides an in-depth quantitative and qualitative assessment of the costs and benefits of the different elements of a potential EU legislative framework for covered bonds.

The main report is supported by several annexes as follows:

- Annex 1 provides a list of references used for this study;
- Annex 2 contains the list of interviews conducted;
- Annex 3 contains a short note on asset encumbrance;
- Annex 4 discussed the treatment of derivatives in coverage calculations;
- Annex 5 presents some evidence on the costs of setting up and running a covered bond programme for an issuer;
- Annex 6 provides some evidence on supervision costs;
- Annex 7 elaborates the methodology, calculations and assumptions underpinning our estimates of market sensitivity to spreads.

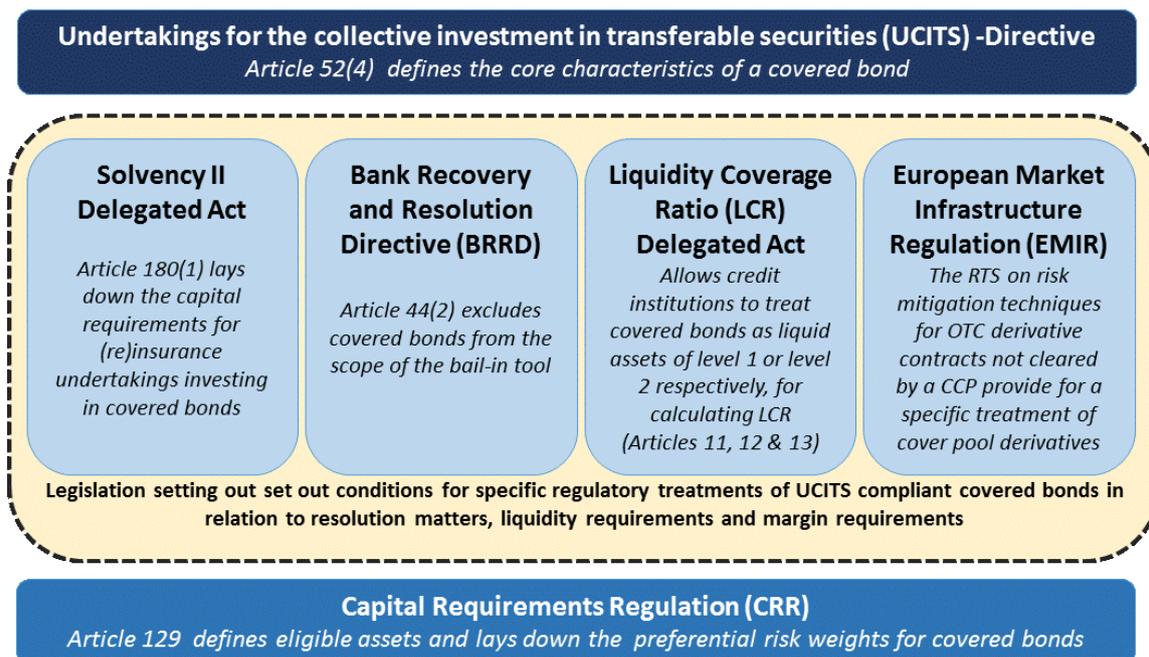
⁴ Link to conference material: https://ec.europa.eu/info/finance-events-160201-covered-bonds_en

2 Legislative framework for Covered Bonds: the current situation

2.1 The current EU legislative framework for covered bonds

There is currently no EU-wide dedicated legislative framework for covered bonds. There is however, a body of EU law that regulates the prudential treatment of covered bonds - as illustrated in Figure 1.

Figure 1. EU rules regulating the prudential treatment of covered bonds



Source: ICF

All aspects of the treatment of covered bonds under EU law represent a derogation of the equivalent Basel rules. Despite the growth of covered bonds outside the EU, from both an issuer and investor perspective, there is currently no explicit recognition of the asset class at global level.

Each of the above pieces of EU legislation is summarised below.

Article 52(4) of Directive 2009/65/EC on Undertakings for Collective Investment in Transferable Securities (the "UCITS Directive")

Under the UCITS Directive, a "UCITS" (i.e. an investment fund) cannot invest more than 5 per cent of its assets in transferable securities issued by the same entity. Article 52(4) of the UCITS Directive, however, allows Member States to raise this investment limit to 25 per cent for investments in "UCITS compliant covered bonds" issued by a single entity. Article 52(4) specifies the following minimum requirements for covered bonds as the basis for easing of prudential investment limits:

- The covered bond issuer must be a credit institution;
- The issuer must have its registered office in an EU Member State;
- The issuer should be subject, by law, to special public supervision designed to protect bond-holder;
- Issue must be in a Member State;

- Issuing institutions must be subject to special prudential public supervision;
- The cover asset pool must provide sufficient collateral to cover bondholder claims throughout the whole term of the covered bond; and
- Bondholders must have priority claim on the cover asset pool in case of default of the issuer.

Article 52(4) also obliges Member States to send the Commission a list of covered bonds that comply with the above criteria together with the categories of issuers authorised to issue such bonds.

Article 52(4) de facto defines a covered bond for EU regulatory purposes, serving as a reference for several other pieces of EU legislation (see below).

Article 129 of the Capital Requirements Regulation (EU) No 575/2013 (the "CRR")

Credit institutions must hold regulatory capital in respect of debt securities held on their books, risk-weighted according to the type of issuer and obligation. Those investing in covered bonds qualifying under Article 129 are allowed to hold lower levels of regulatory capital in relation to these instruments as compared to other debt such as senior unsecured bank debt (e.g. 10 per cent risk weight for a "credit quality step 1" covered bond compared to 20 per cent for another type of direct exposure to a credit institution of the same step). These comparative lower capital requirements are referred to by the CRR as "preferential risk weights".

These preferential risk weights are, however, only available for "qualifying covered bonds". To qualify for preferential treatment, covered bonds must be (a) UCITS compliant [Art. 129 (1) CRR]; (b) secured by specific cover assets [Art. 129 (1) CRR]; and (c) satisfy various transparency requirements [Art. 129 (7) CRR].

These comments all relate to bank investors who use the standard approach to capital risk weight allocation. While the internal ratings based approaches are substantially more complex they also allow similar levels of preferential risk weighting treatment. One investor who took part in the study was able to use the Advanced Internal Rating Based approach to allocate capital in some covered bond markets and confirmed that the criteria in article 129 remain equally important in these cases as where he is forced to apply the standard approach.

Article 180(1) of the Commission's Delegated Regulation (EU) 2015/35 ("Solvency II Delegated Act")

Article 180(1) of the Solvency II delegated Act lays down the capital requirements for (re)insurance undertakings investing in covered bonds: UCITS compliant covered bonds attract specific risk factors lying between those applicable to corporate bonds and government bonds, provided they are highly rated.

Commission's Delegated Regulation (EU) 2015/61 with regard to liquidity coverage requirement for Credit Institutions (the "LCR Delegated Act")

The LCR Delegated Act requires that banks hold enough high quality liquid assets to cover the difference between the expected outflows and inflows over a 30-day stressed period. It provides favourable treatment to covered bonds by allowing credit institutions to hold covered bonds as part of their liquidity requirements i.e. it allows credit institutions to treat covered bonds as liquid assets of level 1, if they qualify as "extremely high quality", or as level 2, if they are so called "high quality", for the purposes of calculating their liquidity coverage ratio (LCR). The LCR Delegated Act sets out a number of specific criteria to differentiate between covered bonds of level 1 and 2 but also incorporates by reference the well-established covered bond definition contained in Article 52(4) of the UCITS Directive.

The Bank Recovery and Resolution Directive ("BRRD")

Article 44(2) of the BRRD exempts UCITS-compliant covered bonds from the scope of the bail-in tool, under specific conditions. The BRRD also mandates Member States to "ensure that all secured assets relating to a covered bond cover pool remain unaffected, segregated and with enough funding" if resolution authorities exercise write-down or conversion powers in relation to the liabilities of a credit institution. Covered bonds are defined by reference to Article 52(4) of the UCITS Directive.

The European Market Infrastructure Regulation ("EMIR")

Under the EMIR regulations, derivatives should normally be cleared through a central clearing party. As covered bond swaps contain certain non-standard clauses they are typically not eligible for this clearing. The Regulatory and Implementing Technical Standards (RTS) under this regulation for risk mitigation for derivatives that are not cleared provide for a specific treatment of cover pool derivatives. To obtain this treatment the swaps must meet certain conditions including compliance with Article 129 of the CRR.

2.2 Special treatment of covered bonds in the ECB monetary policy

In addition to their prudential treatment under EU law, covered bonds also benefit from favourable treatment by the ECB in several respects.

Since before the financial crisis, covered bonds have received preferential treatment when presented as collateral by credit institutions in open market operations. This has become significantly more important as these operations have increased in maturity and volume as a mitigant of financial market stress. Preferential treatment is complex and depends heavily on specific risk, liquidity and maturity characteristics of individual bonds but can be summarised as a higher advance rate than equivalently rated other collateral (that is a lower "value haircut") and more flexible eligibility criteria.

The treatment of covered bonds as repo collateral is potentially far more significant for Emergency Liquidity Assistance (ELA) such as currently in place in Greece. In these cases, the traditionally largest type of repo collateral - government bonds - may no longer be appropriate requiring much greater use of private sector asset classes such as covered bonds.

The ECB has also entered into three "covered bond purchase programmes". The first two recognised the importance of covered bonds in providing funding to the real economy and were designed to stimulate such lending.

The third, larger, programme which is on-going, in contrast was introduced as an instrument of monetary policy, in particular in support of quantitative easing. Further details of this are provided in section 3.

Other central banks of non-euro zone Member States typically provide similar preferential treatment for covered bonds in various ways.

2.3 National legislative frameworks for covered bonds: divergences and alignment with EBA best practice

Most EU Member States have implemented dedicated legislation for covered bonds, with the exception of Croatia, Estonia and Malta. Croatia and Estonia are currently developing laws.

In Member States (Bulgaria, Cyprus, Latvia, Lithuania, Romania) that have passed covered bond legislation, there is virtually no active covered bonds market (either no covered bonds have ever been issued or no covered bonds are currently outstanding.) In some, it is not clear that, even if the law were used, whether the resultant bonds

would meet the current criteria for covered bonds in the UCITS or Capital Requirements Directive. The failure of several Member States to pass workable covered bond laws, for example Bulgaria, Croatia, Estonia, Latvia, Lithuania and Slovenia, was identified as a market failing in interviews, in particular with a public sector stakeholder with extensive experience in the region.

A recent EBA report undertook a comprehensive analysis of regulatory developments in national covered bond frameworks and their level of alignment with the EBA's best practices (based on self-assessment)⁵. A key limitation of the report is that it is based on self-assessments made by national competent authorities. It is also based solely on existing national legal and regulatory frameworks and does not consider any supervisory frameworks or contractual specificities that may exist under individual covered bond programmes within a given framework.

The report finds that best practices relating to the core features of the covered bonds are very well adhered to, particularly in:

- Dual recourse principle;
- Segregation of cover assets;
- Structural features of the bankruptcy remoteness;
- Coverage principle.

It also identifies a number of specific areas of the covered bond regulation with relatively low level of adherence:

- Disclosure of data by issuers on the cover assets and covered bonds;
- Existence of liquidity buffers addressing liquidity risks in the covered bond programmes;
- Composition of the cover pool;
- Stress testing on calculation of the coverage requirement.

The table below provides a dashboard of the level of alignment of national legislation with the 17 EBA best practices.

⁵⁵ EBA (2016) EBA Report on Covered Bonds: Recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA, 20 December 2016.

Table 2. Level of alignment of national covered bonds legal frameworks with EBA best practices

		Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	Fully aligned	Partially aligned	Not aligned	Overall alignment
1	Dual recourse	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	●	●	●	●	●	●	●	●	●	21	0	0	High
2A	Segregation of the cover assets	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	●	●	●	●	●	●	●	●	20	1	0	High	
2B	Bankruptcy remoteness of the covered bond	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	●	14	7	0	High	
2C	Administration of the covered bond programme post the issuer's insolvency or resolution	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	19	1	1	High		
3A	Composition of cover pools	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	8	13	0	Medium		
3B	Cover pools with underlying assets located in different jurisdictions	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	15	6	0	High		
4A	LTV limits	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	17	4	0	High		
4B	LTV measurement and frequency of revaluation	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	13	7	1	Medium		
5	Coverage principles and legal/regulatory overcollateralisation	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	18	3	0	High		
6A	Use of derivatives	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	18	3	0	High		
6B	Liquidity buffer	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	9	9	3	Medium		
6C	Stress testing	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	4	10	7	Low		
7A	Appointment of the cover pool monitor	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	20	0	1	High		
7B	Supervision of the covered bond issuer	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	16	5	0	High		
7C	Duties and powers of the national authority in a scenario of the issuer's insolvency	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	19	2	0	High		
8A	Scope of disclosure	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	10	7	4	Medium		
8B	Frequency of disclosure	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	10	3	8	Low		

Fully aligned	7	14	■	■	11	6	15	■	15	14	12	14	■	12	11	■	■	9	■	17	11	12	15	7	12	10	12	15
Partially aligned	5	1	■	■	6	6	2	■	2	3	5	3	■	4	5	■	■	5	■	0	6	4	2	8	3	5	4	2
Not aligned	5	2	■	■	0	5	0	■	0	0	0	0	■	1	1	■	■	3	■	0	0	1	0	2	2	2	1	0
Overall alignment with EBA Best Practice	●	●	■	■	●	●	●	■	●	●	●	●	■	●	●	■	■	●	■	■	●	●	●	●	●	●	●	●

■ No national legal framework for covered bonds ■ No response

Based on EBA (2016) EBA Report on Covered Bonds: Recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA, 20 December 2016

3 The European Covered Bond Market

This section describes the main characteristics of the European covered bond market and recent trends and key developments. It also assesses the performance and functioning of the market.

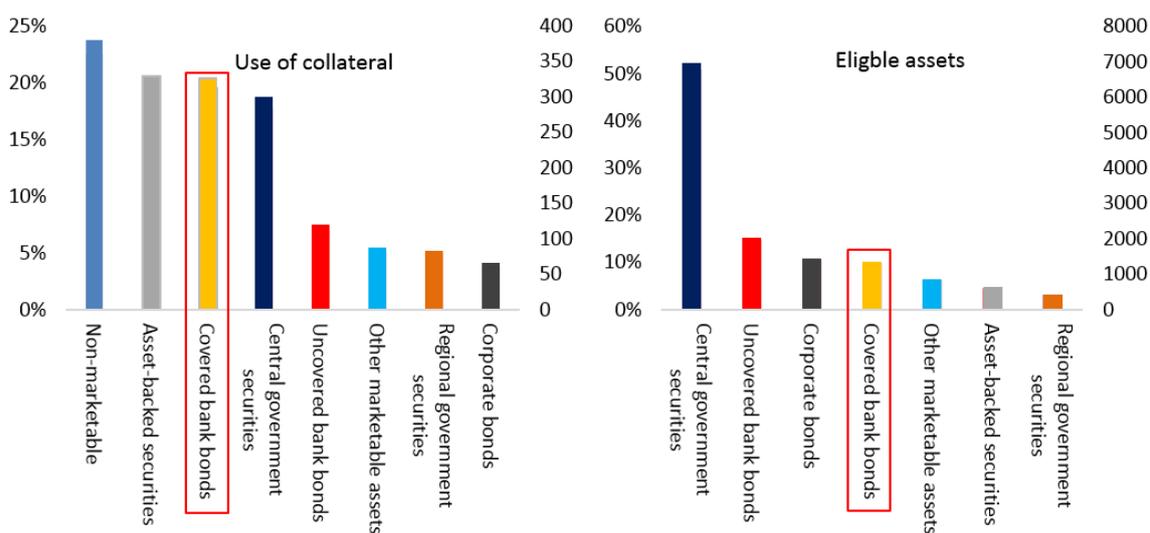
It relies largely on the data for the period until December 2015 few complete and validated time series for 2016 were available at the time of writing. The ECBC –the only comprehensive source of market data - launched its data collection exercise for the 2016 factbook at the end of February 2017. However, some provisional data available for 2016 suggests that the market has not changed materially during that year. For instance, preliminary values for the iBoxx eligible portion of the market for 2016 suggests that at the end of 2016, the market was less than 0.05 per cent smaller than at the end of 2015.

3.1 Market size: outstanding volumes

The European covered bond market is substantial. As of December 2015, the total outstanding amount of covered bonds issued by banks from the EU stood at €2.1 trillion. To put it into perspective, this figures amounts to about 1.2 times the outstanding volume of corporate bonds issued by non-financial institutions in the EU (which stood at €1.8 trillion in 2015⁶).

Covered bonds are a key transmission channel for the euro area monetary policy, as illustrated by the importance of covered bonds within the Eurosystem Collateral Data (see Figure 2). Covered bonds make up 10 per cent of assets eligible for collateral and 19 per cent of assets actually used as collateral. In comparison, asset backed securities represent 5 per cent of eligible assets and 20 per cent of assets used as collateral.

Figure 2. Eurosystem Collateral Data [in % of total – left axis, and EUR bn – right axis], as of Q3 2016



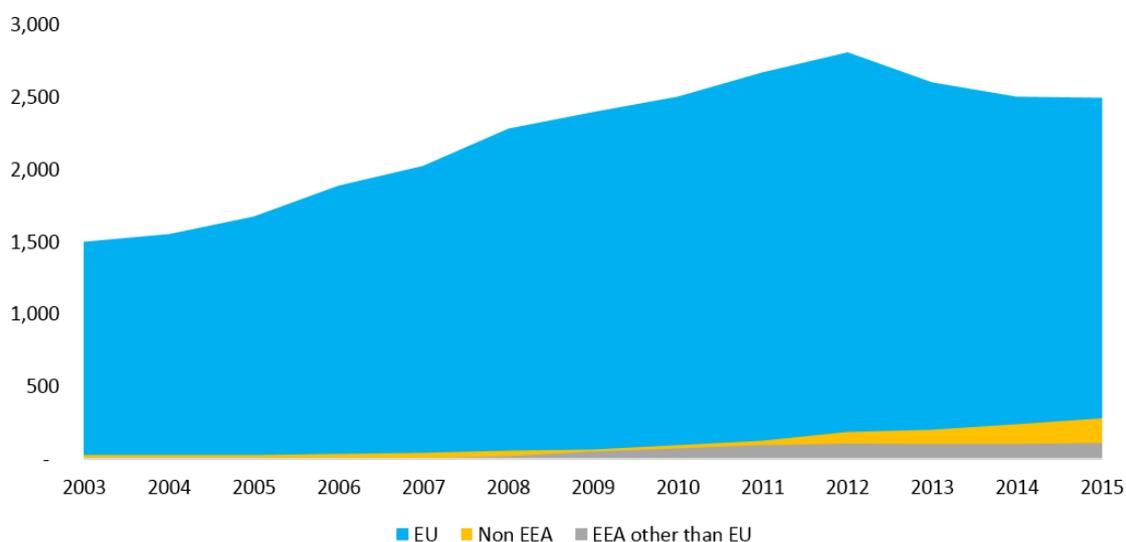
Source: European Central Bank statistics

⁶ http://ec.europa.eu/newsroom/fisma/itemlongdetail.cfm?item_id=36197

Despite some changes, it is still largely an EU market. Global outstanding covered bonds accounted for €2.5 trillion in 2015, as illustrated in Figure 3. The EU represented 98 per cent of the outstanding volumes of covered bonds in 2003 and, with around €2.1 trillion in 2015, still made up 84 per cent of the global outstanding volumes, followed by 11 per cent for non-EEA and 5 per cent for non-EU EEA countries.

Although still comparatively small in absolute terms, the Non-EEA markets have recently been growing rapidly, accounting for 11 per cent of the global outstanding volumes in 2015 (circa €0.3 billion). Between 2003 and 2015, non-EEA markets posted a compound annual growth rate of 20 per cent compared to 3 per cent for the EU.

Figure 3. Evolution of Total Outstanding Covered Bonds [2003-2015, in EUR billion]



Source: ECBC statistics

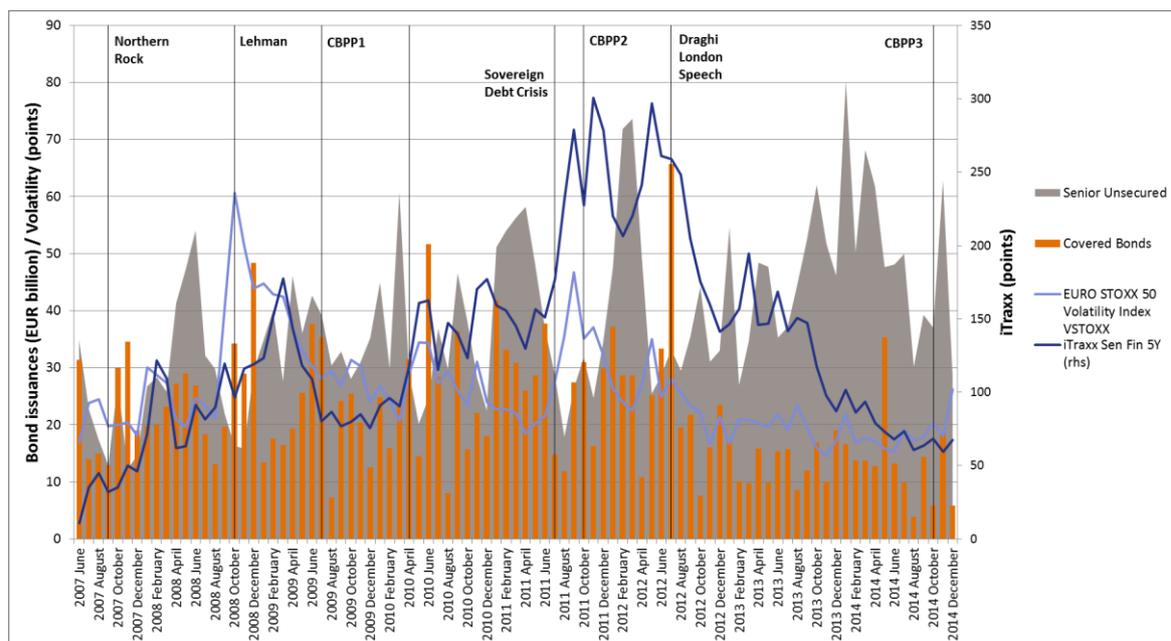
The global covered bond market has grown steadily for more than 20 years, in particular since 1995 when a group of German issuers introduced concepts designed to improve the attractiveness of the asset class for international investors. For example, by stipulating certain trading rules (such as a maximum "bid/ask" spread and minimum ticket size) they managed to significantly improve international participation in the market and thus the attractiveness of the funding tool for German issuers.

The aggregate growth, however, masks several divergent trends. Overall the growth rate of the market would have been more rapid were it not for the 10-year decline in public sector backed covered bonds from Germany. This decline was the result of an amendment to certain rules for public sector assets in Germany, passed in 2003 and phased in between 2005 and 2015, which significantly reduced the pool of available public sector collateral.

From roughly 2003 until the financial crisis, the twin drivers of overall market growth were the introduction of covered bond regimes in many new jurisdictions and the tightening spread environment at least partially caused by the decline in German covered bonds outstanding and the consequential need for investors to diversify.

The financial crisis saw some episodes where covered bond issuance was relatively low - typically following a period of market turmoil. Overall, though, the issuance level was relatively high. As shown by the chart below, during greater market volatility, issuers relied more heavily on covered bond funding than senior unsecured.

Figure 4. Covered bonds as a crisis management tool



Source: Bloomberg, EMF-ECBC.

Notes: "Senior Unsecured" refers to all senior unsecured bonds (all face values) issued by "financials" in the EU in the given month.

"Covered Bonds" refer to all covered bonds issued in the EU in the given month.

EURO STOXX 50 Volatility Index VSTOXX - VSTOXX Index is based on a new methodology jointly developed by Deutsche Borse and Goldman Sachs to measure volatility in the Eurozone. VSTOXX is based on the EURO STOXX 50 Index options traded on Eurex (a German derivatives exchange that offers more than 1,900 products covering all major as well as alternative asset classes). It measures implied volatility on options with a rolling 30 day expiry.

ITRAXX EU SEN FIN 5YR TR - Markit iTraxx Europe Senior Financials 5-year Total Return Index measures the total return performance of a funded long credit position in the on-the-run Markit iTraxx Europe Senior Financials 5 Year Index. The base index level is 100 on March 20, 2007. Markit iTraxx indices are a family of European, Asian and Emerging Market tradable credit default swap indices

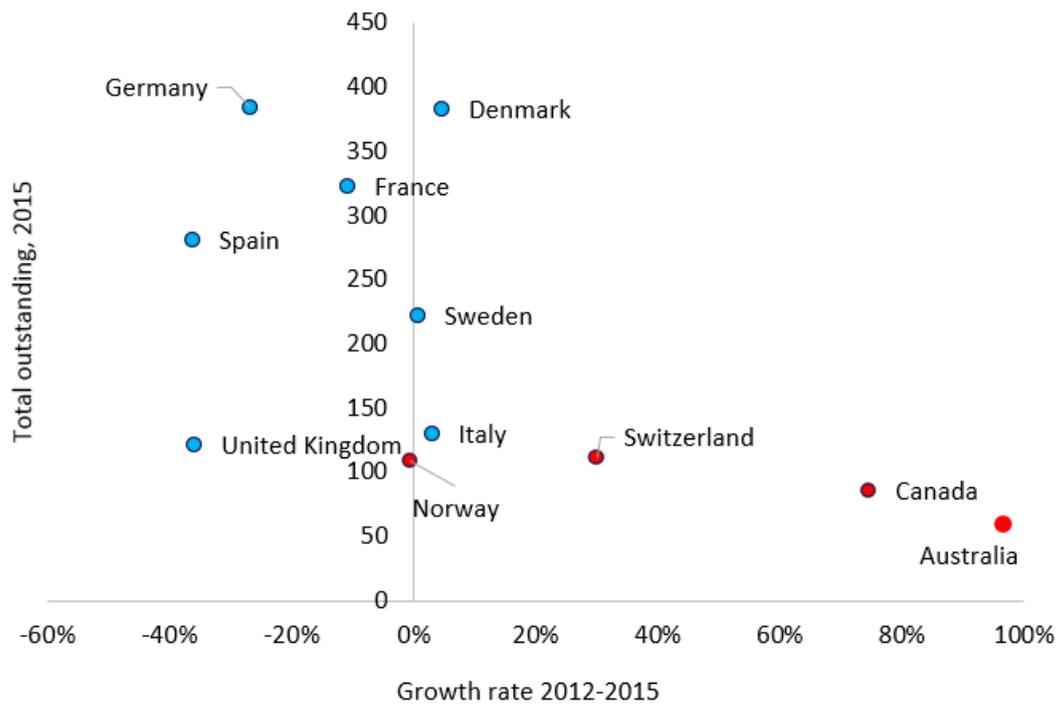
Some of the increase in market size from 2007 to its peak in 2012 can be attributed to issuers switching their funding sources from unsecured to secured funding as the absolute cost differential between the instruments widened in response to credit concerns. The other main driver of higher reported levels of covered bonds outstanding was the increase in bonds issued purely for use as collateral to access the generous funding made available by many central banks, including the ECB.

Since 2012, the overall market size has shrunk slightly: outstanding bonds contracted by 7 per cent in 2013 before declining more slowly to establish themselves at the level of €2.5 trillion in 2015. The EU covered bond market followed a similar trajectory. Anecdotally, the main reasons for this have been a normalisation of the spread differential between covered and unsecured bank bonds, less use of central bank emergency funding facilities (therefore less need for covered bonds as collateral), low levels of growth in bank lending in general and mortgage lending in particular and regulatory developments including the need for banks to raise more term funding in the form of capital (including bail-in eligible securities).

More recently, among the seven top EU countries, four have experienced decline in value of outstanding bonds between 2012 and 2015, namely the UK (-37 per cent),

Spain (-37 per cent) Germany (-27 per cent) and France (-11 per cent), while the highest growth rates were observed in non-EU countries, primarily in Australia (+97 per cent), and Canada (+75 per cent) – see the change in value of outstanding bonds between 2012 and 2015 illustrated in Figure 5.

Figure 5. Top 10 countries based on total outstanding covered bond [in EUR billion as of 2015]; and change in value of outstanding bonds indicated on the horizontal axis [over the period 2012-2015]



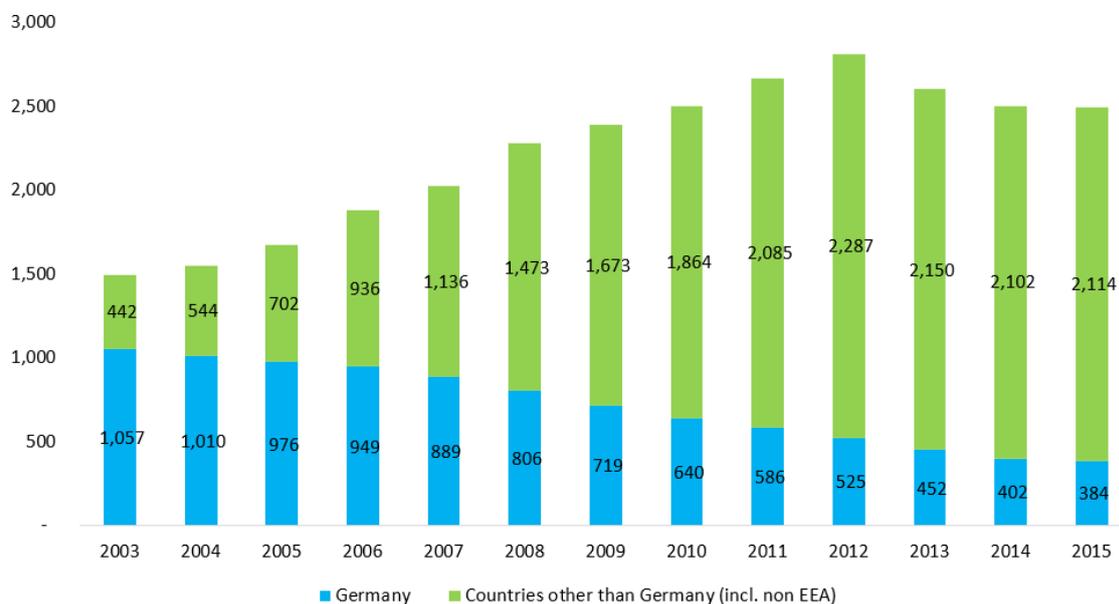
Source: ECBC statistics. Red denotes non-EU countries.

Figure 6 illustrates Germany’s share of overall global outstanding volume of covered bonds. Within the EEA, four Member States (Germany (18 per cent), Denmark (18 per cent), France (15 per cent) and Spain (13 per cent) still account for almost two-thirds of the EEA market in 2015 (vs. 97 per cent in 2003). Most Member States⁷ now have covered bond markets in place and others such as Croatia, Estonia, Lithuania and Romania are developing their markets⁸.

⁷ AT, BE, CZ, DK, FI, FR, HU, DE, EL, IE, IT, LU, NL, PL, PT, ES SE, SK and UK

⁸ At the time when report was being produced, the study team was not aware of any moves to develop the market in Slovenia, Latvia and Bulgaria. Malta, given the size of its financial market, did not develop the covered bond market.

Figure 6. Germany's shares of global outstanding volume of covered bonds [2003 - 2015, in EUR billion]

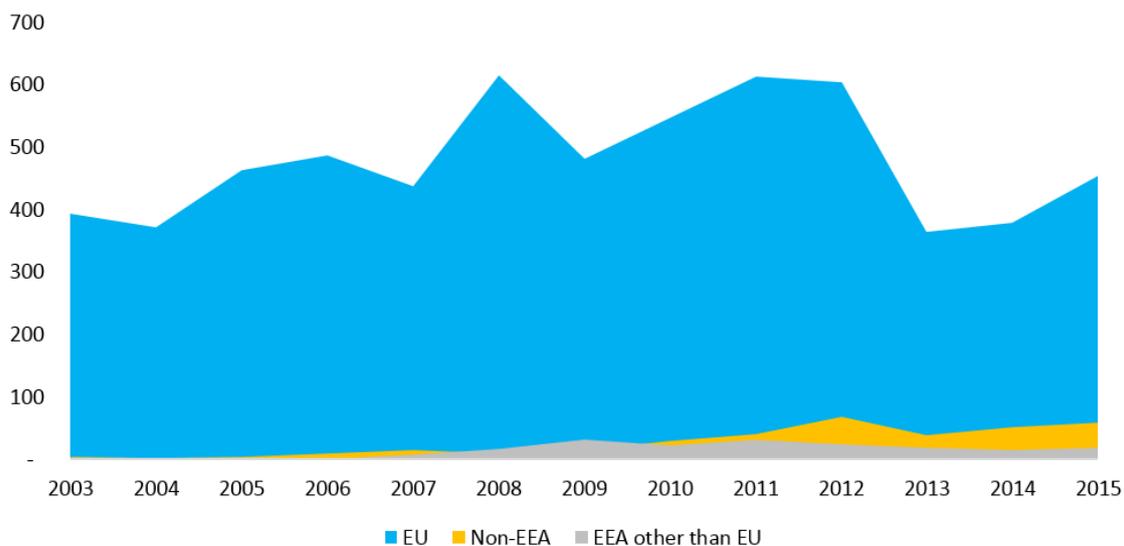


Source: ECBC statistics

3.2 New issuance

Up until 2012, the annual level of issuance in the EU increased substantially, rising from €394 billion in 2003 to €613 billion in 2011. This upward trend halted temporarily in 2012 and 2013 (-2 per cent and -39 per cent respectively). The market quickly recovered – with year-on-year growth rates standing at +4 per cent and +20 per cent in 2014 and 2015 respectively – to reach a level of €454 billion.

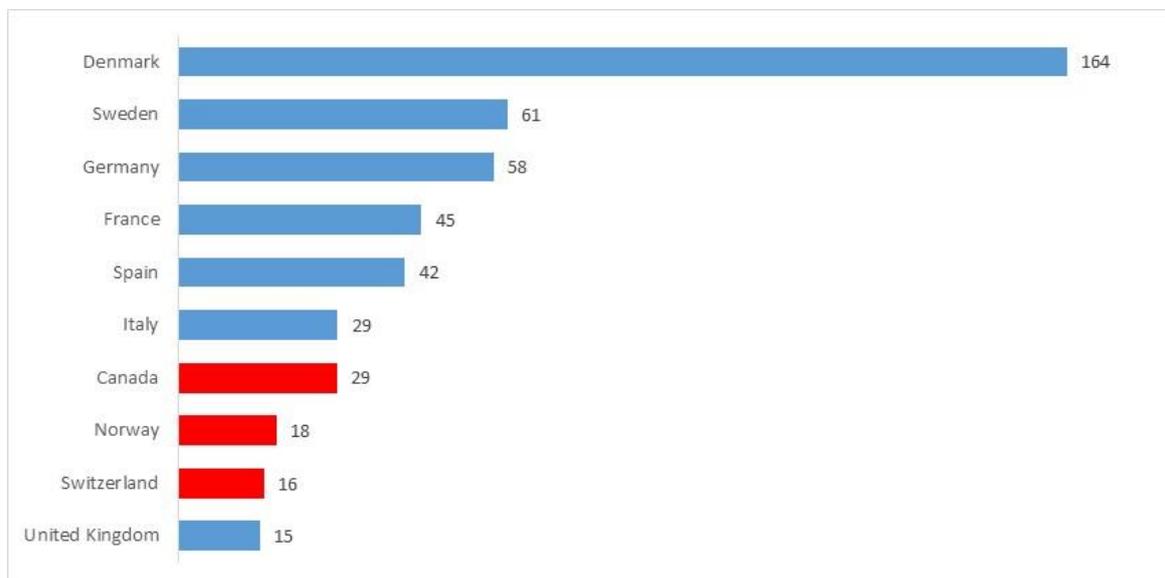
Figure 7. Evolution of Covered Bonds Issuance [2003-2015, in EUR billion]



Source: ECBC statistics

The six largest countries of issuance are all in the EU, as illustrated in Figure 8 below.

Figure 8. Top 10 issuance countries [2015, in EUR billion]



Source: ECBC statistics

In non-EEA countries, the level of issuance has been recovering during the past two years to establish itself at €58 billion – although still short of the record high of 2012 (€69 billion). In terms of EEA countries other than EU, namely Norway and Iceland, they entered the market in 2006 and 2007 respectively, although issuance level in Iceland remains relatively very small (€0.4 billion in record year 2015 versus €18 billion in Norway).

Yet non EEA issuers are catching up and their share increased from 1 per cent in 2003 to 11 per cent in 2015. The number of countries outside the EEA with active covered bond markets has grown: Singapore is the latest 2015 addition to a list walready containing Australia, Canada, New Zealand, Switzerland, South Korea and Turkey⁹.

3.3 Liquidity¹⁰

Secondary market liquidity in the covered bond market is frequently cited by market participants interviewed and at industry events as a major concern for investors. According to a Fitch investor survey¹¹, 74 per cent of covered bond investors cited “declining secondary liquidity” as one of their top three major concerns about the market in 2016. Given the diverse trading of covered bonds, including via “traditional” phone- based trading and various electronic platforms, it is difficult to quantify total trading levels and therefore reliably say if the situation is better or worse than in comparable fixed income markets where liquidity is a concern.

Certain specific features of the covered bond market are, however, relevant:

⁹ Arguably, Bonos Hipotecarios in Chile, Structured covered bonds in Panama and Mortgage Obligations in Russia could also be considered covered bonds in the broadest definition of the term. They have however, been excluded from the current analysis.

¹⁰ Understood as the ability of investors to quickly buy and sell covered bonds without affecting market prices too much

¹¹ Fitch, 2016. ‘Covered Bond Investors’ Survey Year-End 2016’

- Expectations of liquidity are higher because many investors compare covered bonds to supra, agency and sovereign bonds, typically larger, more of a “rate” than credit nature and therefore inevitably more liquid (although not immune to accusations of illiquidity);
- For many longstanding investors in the covered bond market, expectations of liquidity were formed pre-crisis when traders provided guaranteed minimum levels of liquidity - in particular specifying ticket sizes that they were prepared to quote on and maximum bid ask spreads via so called “market making” agreements. Initially, market makers in a bond guaranteed their prices for ticket sizes of up to DM25 million (and, subsequently, €15 million) in the interbank market;
- Historically, the nature of the investor base was relatively heterogeneous both by country and by investor type. But most investors were “real money”, i.e., they were investing cash without borrowing. In contrast, most investors in, for example, the securitisation market funded their purchases of securities with borrowing. Leveraged investors typically have to reduce their borrowing levels during a market downturn, thus contributing to market volatility. In contrast, few “real money” covered bond investors were forced to liquidate their positions during the crisis. Recent trends in investor composition of the market (see Figure 10 and Figure 11), in particular, the diminished importance of the asset manager sector, have partially undermined this.
- More recently, the ECB’s third covered bond purchase programme (CBPP3), in particular its purchases in the secondary market have had a very significant detrimental impact on secondary liquidity, according to conversations with stakeholders.
- The market has slightly shrunk in recent years (see Figure 3). A reduction in the available investment opportunities, unless accompanied by an equal reduction in investment capacity will tend to discourage trading.
- It should be noted that these comments relate primarily to euro denominated trading. The Swedish and Danish domestic markets continue to enjoy very high levels of liquidity for various reasons, including relative homogeneity (with little credit differentiation between issuers, traders are more willing to take positions in one bank’s bonds hedged by those of another) and the “captive” nature of the investor base (Danish Krona fixed income investors have much smaller universe of non-covered bond investment opportunities than their euro peers).

3.4 Transaction structures

Although the legal technology and structuring techniques used to create covered bonds in most jurisdictions have been relatively stable, some recent developments are worth highlighting:

- Some national covered bond laws and regulations have changed with occasional impact on programme structures, for example the 2014 amendments to the Dutch covered bond regulations, or the 2015 amendments to the German Pfandbrief act. The key drivers of this have included a desire to conform to the EBA’s best practice recommendations issued in 2014, amendments to ensure that covered bond regulations comply with the exemptions to central clearing for associated derivatives under EMIR and the implementation of the Bank Recovery and Resolution Directive.
- Removing certain “rating triggers” in some programmes. Rating triggers specify remedial action that issuers must take when counterparties relevant to the

transaction are downgraded below a certain level. The removal or amendments to these triggers have partly been driven by lower overall ratings in the banking system, partly by the lower ratings of the covered bonds themselves making the previous triggers (which were typically predicated on a AAA bond rating) unnecessarily onerous.

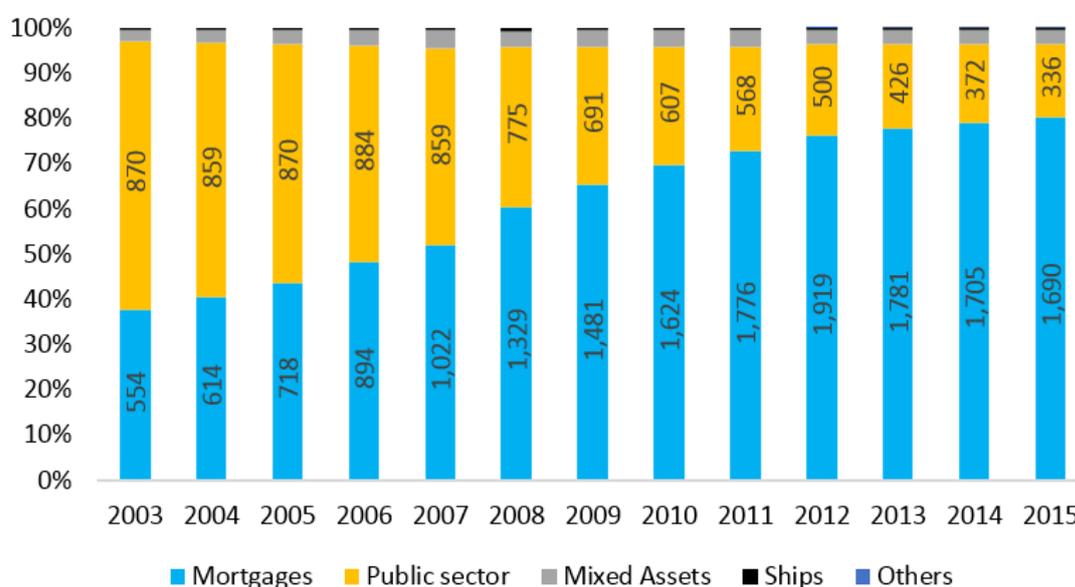
- A tendency towards alternative maturity structures including “soft bullet” and “conditional pass through” structures. These features are being increasingly introduced into programmes to address the mismatch between the amortising maturity profile of a pool of assets and the expected bullet maturity profile of the bonds themselves. Typically, these features are defined in covered bond programmes, but in Poland and in a suggested amendment to German law, they are defined by statute.

3.5 Composition of cover pools

In terms of outstanding volumes, the two traditional asset classes still dominate the EU market: mortgages represented 80 per cent of the cover pool in outstanding covered bonds in 2015 and public sector 16 per cent, the rest accounting for circa 1 per cent (ships and planes).¹²

A closer look at the data shows that the composition of the cover pool of assets in the EU is gradually shifting away from public sector debt towards mortgage debt (see Figure 9). Public sector debt represented 59 per cent of total assets in 2003 and fell to 16 per cent in 2015, while mortgages increased from 38 per cent in 2003 to 80 per cent in 2015. This trend is confirmed by the composition of the cover pool of new issuances.

Figure 9. Composition of the cover pool in EU countries’ outstanding covered bonds [2003-2015], figures in bars are in € billion



Source: ECBC statistics

¹² Does not add to 100% due to small number of pool which combine mortgage and public sector assets

This is essentially due to changes in the German public sector bond market¹³, where the market decreased from €797 billion in 2003 to €181 billion in 2015. Several factors explain this decline. Originally, the size of the public sector covered bond market in Germany had been fuelled by the costs of re-unification. The influence of this special factor diminished over the years. In parallel, the gradual withdrawal of guarantees for the German public banks since 2005¹⁴ has contributed to less eligible collateral and thus to reduced issuance. German public entities – particularly the larger ones such as the regional governments – are now more inclined to raise funds directly on the market rather than Pfandbrief banks.

Despite this decline, covered bonds remain an important refinancing instrument of local public sector loans and public sector bond markets actually increased in terms of outstanding volume in several EU countries, including France (from €31 billion in 2003 to €67 billion in 2015), Spain (from €5 billion in 2003 to €29 billion in 2015) and Austria (from €7 billion in 2003 to €18 billion in 2015).

3.6 Issuers

In 2015, there were 317 active issuers globally and 288 in the EEA. The number of issuers based in the EU specifically was 261. It should be emphasised that the majority of issuers are relatively small credit institutions, most of whom have never issued a benchmark sized bond (defined as €500 million or above). Many market statistics and commentaries refer only to benchmark sized bonds¹⁵ and therefore understate the importance of these smaller issuers. Non EEA issuers increased from 2 in 2003 (both in Switzerland) to 27 in 2015 (from 1 per cent to 9 per cent of total issuers).

Within the EU, there has been an increase of the number of issuers from 139 in 2003 to 261 in 2015. Germany is still the top EU country in terms of the number of credit institutions issuing covered bonds – 79. Spain has 31 active issuers¹⁶, followed by Austria (27), France (19), the UK (15) and Italy (13). There are also substantial differences between the countries in terms of the typical size of the issuer¹⁷.

At national level, differences also exist in terms of share of issuance between universal banks and specialised banks.

3.7 Investor base

Banks and central banks are the most important investors in covered bonds, accounting for almost two-thirds of the markets (32 per cent and 31 per cent each in 2016). Asset managers', insurance companies' and pension funds' investment in this market account for the remaining third (about 36 per cent in 2016).

¹³ See ECBC Factbook 2016 p 120 and BIS (2007) The covered bond market – BIS Quarterly Review, September 2007. Available at: http://www.bis.org/publ/qtrpdf/r_qt0709f.pdf

¹⁴ For more information on the abolition of the German system of State guarantees, see IP/03/49 of 15 January 2002 available at: www.europa.eu/rapid/press-release_IP-03-49_en.pdf

¹⁵ bonds of at least €500mn outstanding, with at least one year to run before maturity and sold to third party investors in a public syndication

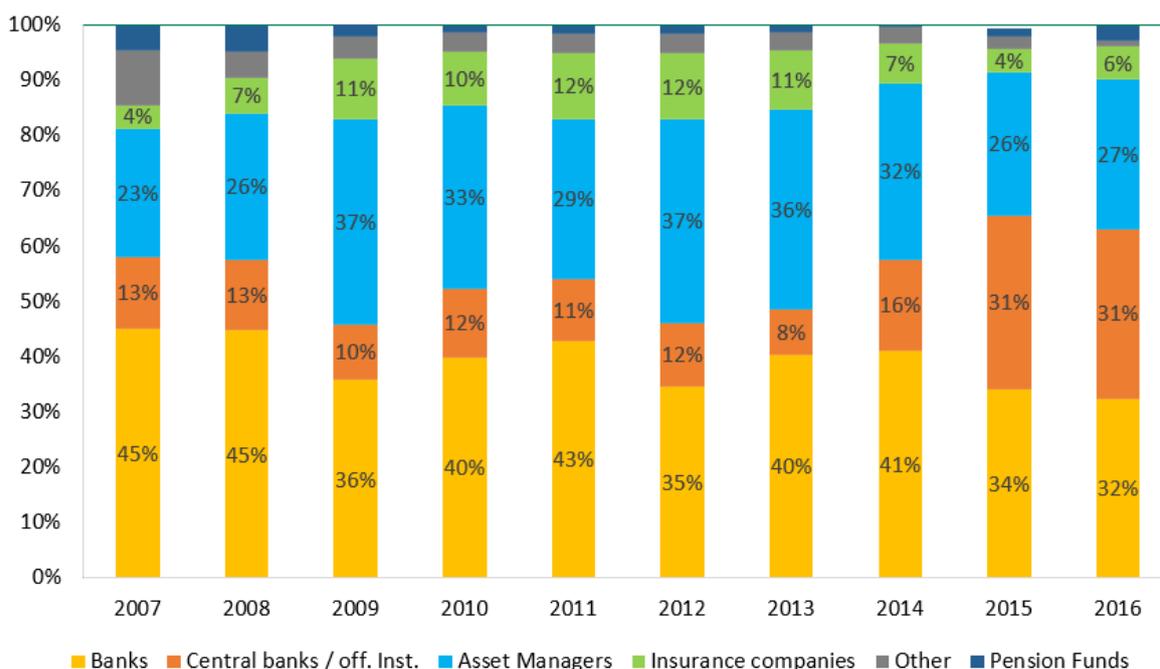
¹⁶ There are nominally 40 programmes in Spain but only 31 issuers, most of the discrepancy is explained by the merger of two or more issuers with their respective programmes into one legal entity as part of the consolidation of the financial sector

¹⁷ ECBC, 2016. 2016 Factbook.

Three factors dominate recent trends in the investor distribution of covered bonds:

- Firstly, negative or very low absolute yields have drastically reduced the purchases of covered bonds by real money investors such as asset managers, pension and insurance fund managers. Their shares among investors declined from 44 per cent in 2010 to 36 per cent in 2016.
- Secondly, changes to the regulatory environment, particularly the favourable treatment of covered bonds in the Delegated Act on Liquidity Coverage Ratios has significantly increased the attractiveness of the asset class for bank treasury investors since it enables them to hold covered bonds as an alternative to typically lower yielding government securities in their liquidity buffers.
- Finally, central banks have significantly increased their investments in covered bonds over the past years (12 per cent in 2010 to 31 per cent in 2016) – as a consequence of the successive Covered Bond Purchase Programmes. The third covered bond purchase programme of the European Central Bank has resulted in allocations to the central bank sector squeezing out other investor types (e.g. the shares of banks have slightly decreased - from 41 per cent in 2014 to 32 per cent in 2016), as Figure 10 shows.

Figure 10. Investor distribution by investor group (by year)



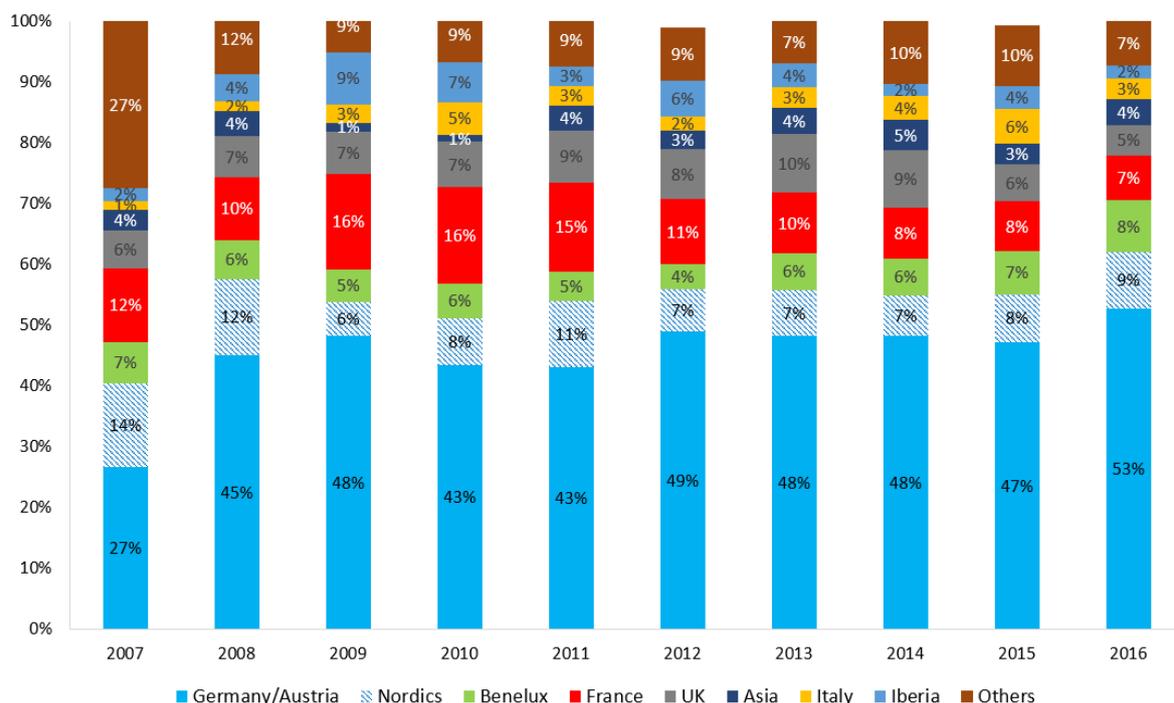
Source: Credit Agricole 2016 data

Note: shows for all publicly syndicated bonds issued in each period in Europe (i.e. in AT, DK, UK, FI, FR, DE, IE, IT, NL, NO, PT, ES, SE, CH), the distribution of bonds at launch by investor type, regardless of their geographical origin, according to figures reported by issuers or lead managers.

2016 data is data as of mid-October 2016.

Germany is the largest investor and has dominated the European covered bond market over the past decade. In 2016, German investors held 49 per cent of the European covered bonds outstanding- see Figure 11.

Figure 11. Investor distribution by country / region



Source: Credit Agricole 2016 data.

Note:

Countries covered are European countries (i.e. in AT, DK, UK, FI, FR, DE, IE, IT, NL, NO, PT, ES, SE, CH).

Geographical distributions are based on data provided by the issuer and are not always on a consistent basis. Typically purchases under the covered bond purchase programme are made by national central bank members of the ECB and will be recorded as having originated from that country

2016 data is data as of mid-October 2016.

3.7.1 ECB's covered bonds purchase programmes

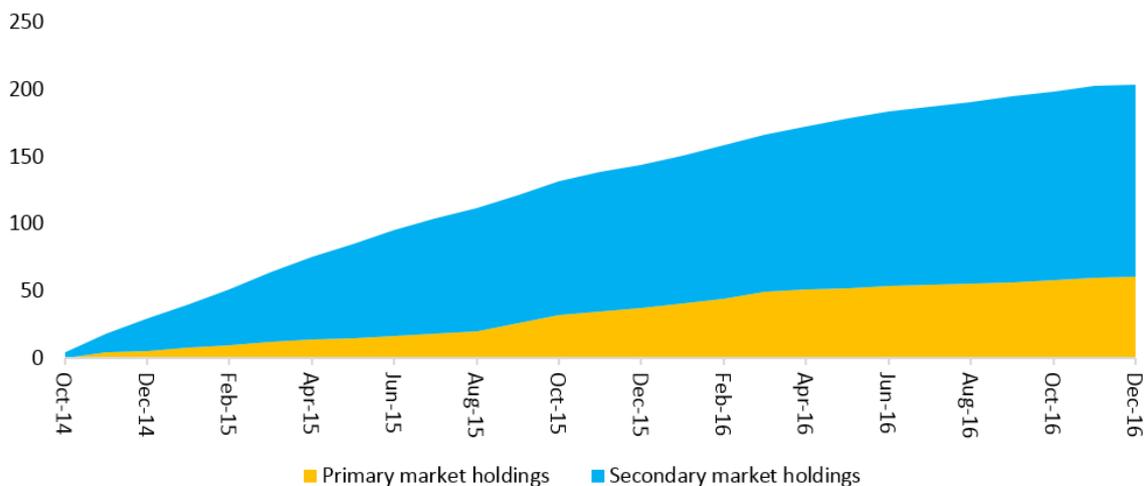
Covered bond purchase programmes (CBPPs)

CBPPs are successive interventions of the ECB, key elements of the Eurosystem's quantitative easing policy aimed at restoring liquidity in the inter-banking market and facilitating the monetary policy transmission. Concretely through the CBPP, the ECB purchases covered bonds, both in primary and secondary markets.

The first two CBPPs, both one-year programmes, were implemented in 2009/10 and 2011/12 respectively. The third, CBPP3, began in October 2014, is ongoing and will continue until at least March 2017.

By the end of 2016, CBPP3 holdings stood at €203 billion, 70 per cent of which was on the secondary markets (Figure 12).

Figure 12. CBPP3 holdings



Source: ECB

CBPP3 in particular substantially impacted the composition of covered bonds' investor base – with the share of central banks reaching 31 per cent in 2015/16 (up from 16 per cent in 2014 and 8 per cent in 2013). Recent data suggest that by early 2017, the ECB has already bought €210 billion of bonds under its third programme¹⁸.

CBPP3 has also impacted supply and translates into an expansion of the covered bond issuer base.

According to a 2016 ECBC survey, quoted in their factbook, market participants disagree on the added value of CBPP3. Issuers regard the programme as positive, while investors concerned with further downward pressure on the already low liquidity (particularly in secondary markets) tend to be negative. An investor survey conducted by Fitch, reported in the 2016 ECBC factbook, substantiates the claim of the programme's *crowding out* effect, with two-thirds of the 35 responding investors indicating they will switch to assets other than covered bonds (in the context of the CBPP and more generally of the quantitative easing) and half stating they will buy covered bonds instead, not eligible for CBPP3.

3.8 Cross border activity

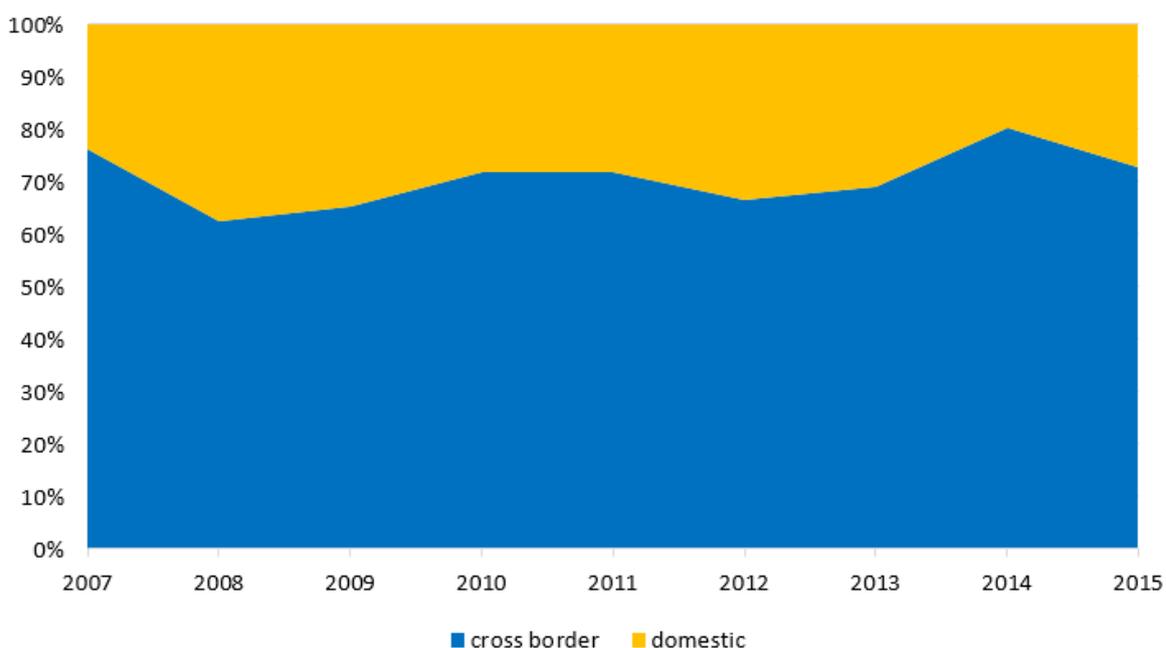
3.8.1 Cross-border investment

Cross-border investment in covered bonds in selected EEA markets represented between 60 and 80 per cent of total investments since 2007, including during the crisis (see Figure 13). The majority of the respondents to the open public consultation also confirmed that cross-border investment in covered bonds is "already taking place" despite the differences in national legislative frameworks. Certain respondents (insurers and some investors) suggested that harmonisation could encourage and facilitate additional cross-border investment, although they also highlighted the benefits of the diversity within the European covered bonds market.

¹⁸ Financial Times, 2017. Available at: <https://www.ft.com/content/c5568324-ec8f-11e6-930f-061b01e23655>

Some investors and public authorities however, consider that the complexity of undertaking and comparing credit analysis across multiple jurisdictions to be an obstacle to cross-border investment. Withholding tax was also cited as an obstacle to cross-border investment in covered bond markets by some national industry associations. One respondent additionally mentioned that cross-border investment is significantly hindered by the current lack of common, transparent standards on which property valuations are based. In their view, additional clarity, consistency and transparency in valuation standards worldwide would be a way of reducing the credit risk profile of a covered bond programme.

Figure 13. Share of cross-border investment [in orange] in the sample of selected countries

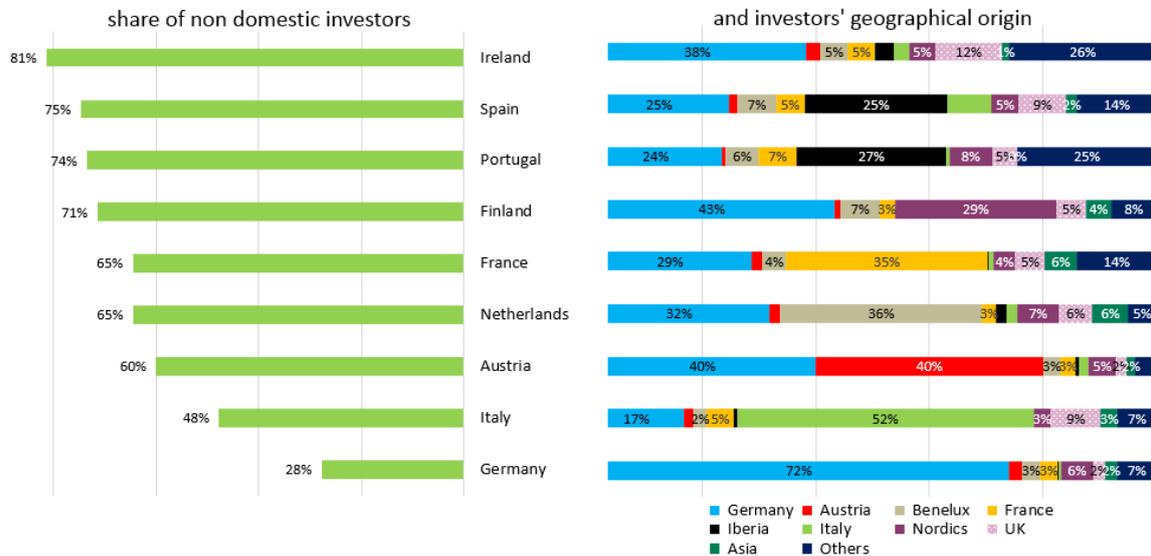


Source: own calculations based on ECBC statistics and Credit Agricole 2016 data

Note: Sample of countries covered in the chart include: Austria, Denmark, United Kingdom, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain and Sweden

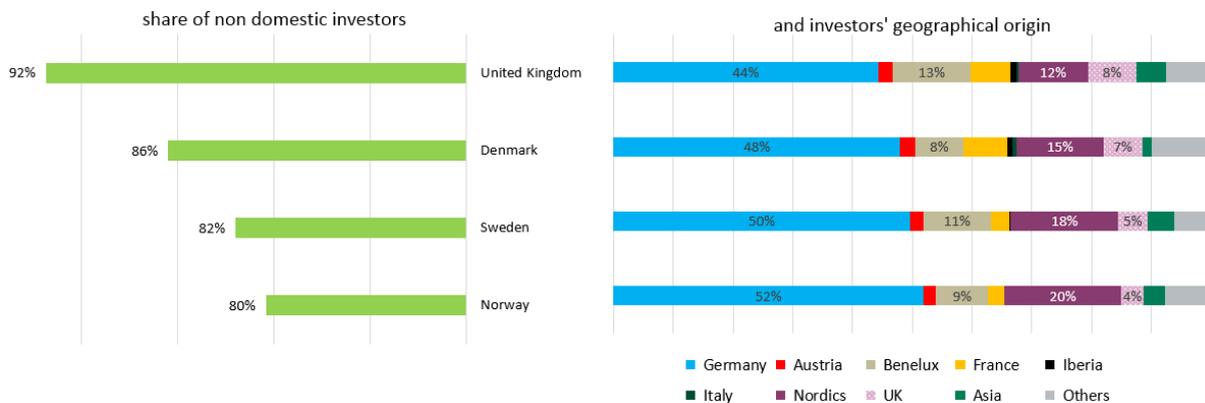
Figure 14 shows the overall share of non-domestic investors for selected Euro-area Member States (chart on the left hand side) along with specific disaggregation per origin of investor for each of those Member States (chart on the right hand side). Figure 15 gives the identical illustration but for some non-Euro area countries.

Figure 14. Share of non-domestic investors and investors' geographical origin, [Euro-area countries, as of 2015]



Source: Credit Agricole 2016 data (as of mid-October 2016).

Figure 15. Share of non-domestic investors and investors' geographical origin, [non Euro-area countries from the EEA, as of 2015]



Source: Credit Agricole 2016 data (as of mid-October 2016).

The UK has the highest share of cross border investors, with 92 per cent in 2015. At the opposite end, Germany has the highest share of domestic investment with 78 per cent. Because German covered bond yields are below government yields in most other Member States, there is very little incentive for non-German fixed income investors to buy them in preference to their own government bonds.

Cross-border investors are mainly from Germany/Austria, Nordic countries, Benelux and the UK.

The Open Public Consultation conducted by the European Commission in 2015 and the preliminary findings from the interviews conducted here reveal no current major issues with the ability of investors to invest cross-border. EU level and national industry associations particularly shared this opinion (25 respondents in total, including four investors). Only 14 respondents to the Open Public Consultation,

including three investors, stated that there are some significant legal or practical obstacles to cross-border investment in covered bonds in the EU, although a few respondents from this group still believed that cross-border investment is already well established. Among those stakeholders with unambiguous views, the commonly highlighted issue referred to overall differences in legal frameworks between markets which then require greater investment in credit analysis and legal research. In this context, some specific areas of concern included lack of common and transparent standards on property valuation.

3.8.2 Cross-border cover pools

Whereas most covered bond regimes allow assets to be included in cover pools from multiple jurisdictions, in practice most pools fund assets from only one Member State¹⁹. Specifically, of 125 programmes rated by Fitch²⁰, only 21 included assets from jurisdictions other than the one in which the issuer was based. This minority represents €70.3 billion, or circa 3.2 per cent of the outstanding European covered bond market and comprise:

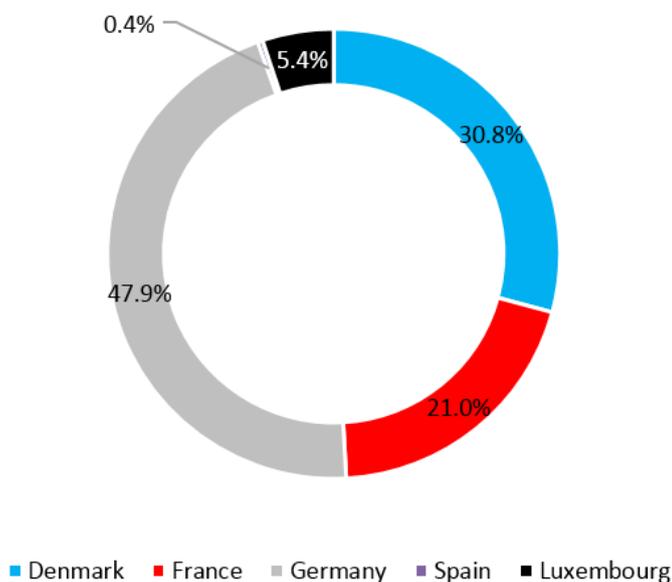
1. Five programmes backed by residential mortgages (defined as at least 80 per cent residential mortgages) had assets in more than one country. In contrast to public sector and commercial mortgage mixed jurisdiction pools, these were all pools that funded mortgage assets in adjacent countries with similar credit characteristics in line with the issuer's origination model (for example, France and Belgium or Sweden and Denmark);
2. Five programmes (4 per cent by number of programmes, circa 1 per cent by bonds outstanding) backed by commercial or commercial and residential mortgages had assets in more than one country;
3. Twelve programmes (10 per cent by number of all Fitch rated programmes, 1 per cent by bonds outstanding) backed by public sector or mixed cover pools had assets in more than one country.

In terms of the geographical distribution of covered bonds programmes that include assets from foreign jurisdictions (based on Fitch sample), these were concentrated in only five countries, namely, Denmark, France, Germany, Luxembourg and Spain. Yet, the value of foreign assets in one relevant Spanish programme is negligible (see Figure 16).

¹⁹ Our survey suggests that awareness of national laws allowing cross-border cover pools is limited among issuers

²⁰ Fitch rated covered bond programmes as of October 2016

Figure 16. Value of foreign assets in the cover pools, all Fitch CB programmes as of October 2016



Source: Fitch rated covered bonds programmes, as of October 2016

33 per cent of respondents to Open Public Consultation agreed that there are significant legal or practical barriers to issuance of covered bonds on the back of multi-jurisdictional cover pools. National specificities in real estate markets, different levels of ring-fence structure in case of insolvency of the issuer national legislative differences (e.g. in terms of asset segregation, constitution of guarantees, potential fiscal issues related to the assets), operational issues such as different IT systems, and, more generally, higher costs of due diligence and reduced transparency of multi-jurisdiction pools were frequently cited as impediments. In our survey, respondents additionally mentioned fiscal problems regarding the transfer of mortgage/mortgage guarantee²¹ as a barrier.

Investors' comments both in the public consultation and in interviews conducted as part of this study, expressed a strong preference for single jurisdiction cover pools and a single asset class. In particular, investors strongly object that cross-border cover pools - to the extent that their composition by Member State is not fixed over time - give issuers a "free option" to change the cover pool and increase the exposure to assets in higher risk countries/reduce it in lower risk countries. As one investor commented, "the job of choosing which countries I take the credit risk of in my portfolio is my job, not the issuers."

Conversely, comments made by some issuers emphasised the high level of transparency on the geographical distribution of mixed-jurisdiction pools and the credit and liquidity diversity benefits of a more heterogeneous geographical

²¹ Basically if a mortgage is written in country A and you want to use it in the cover pool in country B you have to either originate it from country B (only tends to work with commercial mortgages due to the licensing issues around residential mortgages, consumer credit rules, etc) or from a branch in country A (as some of the Scandinavian issuers tend to) or do a true sale between subsidiaries. The true sale creates lots of onerous problems of which tax on sale, transfer pricing, treatment in resolution are all fairly significant. These problems need to be addressed from both perspectives - make the 'receivers' covered bond and tax laws work then look at 'sender' countries on a case by case basis.

composition. Specifically, some respondents to the open public consultation indicated that in some specific programmes (for instance in public sector covered bonds) the possibility to include assets from other jurisdictions is seen favourably by rating agencies as it lowers country risk concentration.

Other issuers, in particular those active in mortgage lending in more than one Member State, have highlighted that they have voluntarily restricted themselves to single country cover pools in response to stated investor preferences.

One interviewee pointed out that in many Member States, in particular those in Central and Eastern Europe that do not currently have developed mortgage or covered bond markets, the small scale of mortgage operations may necessitate cross-border cover pools to achieve critical mass. The interview specifically highlighted that in certain jurisdictions, mortgage lending itself is increasingly undertaken by foreign banks but cannot be regarded as truly cross-border because an issuer in country A lends in country B via a local branch/subsidiary that must follow local mortgage rules (rather than conducting its mortgage lending operations directly from country A).

According to this interviewee, it is difficult to compose cross-border cover pools when the underlying asset class is residential mortgages due to lack of harmonised consumer law for mortgages. That residential mortgages remain a dominant asset class for covered bonds means that, in practice, there is limited use of cross-border assets in cover pools.

Comments from interviews suggest that cross-border funding fell due to investor and/or regulator concerns during crisis.

3.9 Maturity of transactions

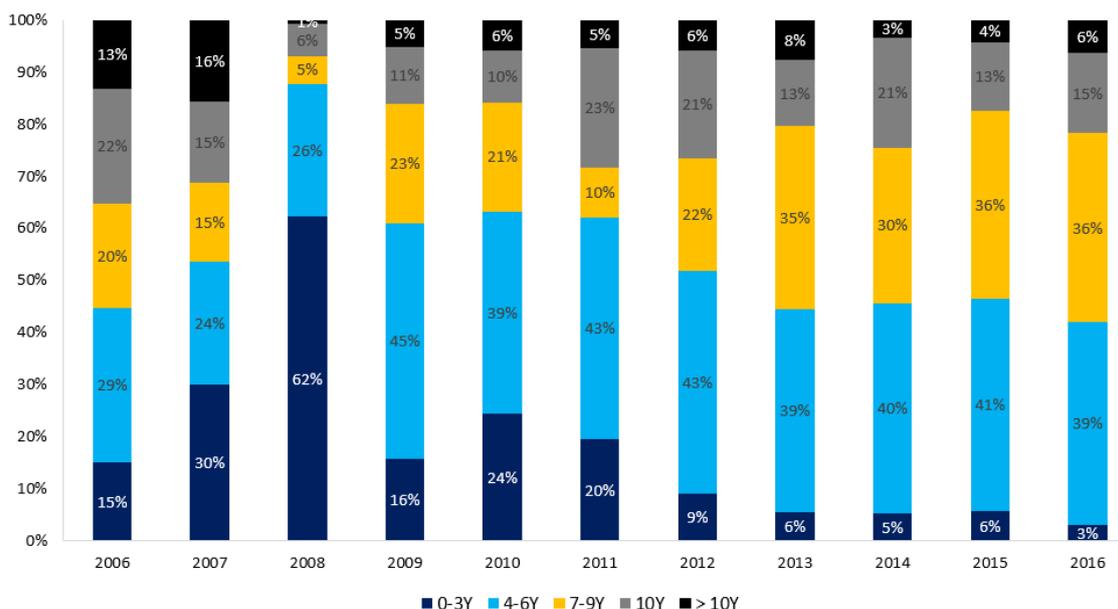
Covered bonds are frequently issued in a wide range of maturities ranging from 1 to 50 years. From interview comments from issuers, it is clear that the choice of maturity is most frequently driven by the needs of the issuer (such as matching asset maturity profiles or smoothing refinancing profiles) and the cost effectiveness of other potential funding sources. For example, as central bank repos typically have a shorter maturity (even in exceptional circumstances only up to 4 years), the more bank treasurers rely on them, the more they tend to use their covered bond programmes for longer dated funding.

Also, trends in maturity profiles are driven by investor preferences, in particular that different investor groups with different preferred maturities take on a greater or lesser importance in the market over time. For example, current very low interest rates have reduced the appetite for covered bonds from investors who typically prefer shorter maturity bonds, such as asset managers. For instance, 40 per cent of total Investment in covered bonds launched in 2009 accounted for asset managers while the same figure in 2015 was 26 per cent. And in this context, the ECB purchasing programmes have been material in reducing the appetite of certain categories of investors²². In terms of maturities' focus of the ECB programmes, CBPP1 focused on 3-7 years, CBPP2 capped it at 10.5 years while CBPP3 did not define the minimum and maximum maturity of eligible covered bonds. Yet, available data suggest that the take-up has been the highest for the covered bonds with 10 years' maturity.

²² Financial Times, 2015. ECB's buying challenges covered bonds. Available at: <https://www.ft.com/content/3118a24a-26f8-11e5-bd83-71cb60e8f08c>

Figure 17 shows the relatively stable maturity distribution of newly issued covered bonds over time. The largest discrepancies in the maturity profile refer to periods of general market stress where all fixed income products tended to be shorter dated. Indeed, the share of the shortest maturity bonds (0-3 years) more than doubled between 2007 and 2008 while issuance of the covered bonds with the longest maturity (>10 years) virtually ceased. Figure 17 however, only refers to benchmark covered bonds and therefore tends to understate the average maturity as it excludes typically long-dated private placements, in particular of registered bonds to German insurers.

Figure 17. EUR benchmark covered bond issuance by initial term



Source: Credit Agricole, 2016 (as of mid-October). Countries covered are European countries (i.e. in AT, DK, UK, FI, FR, DE, IE, IT, NL, NO, PT, ES, SE, CH).

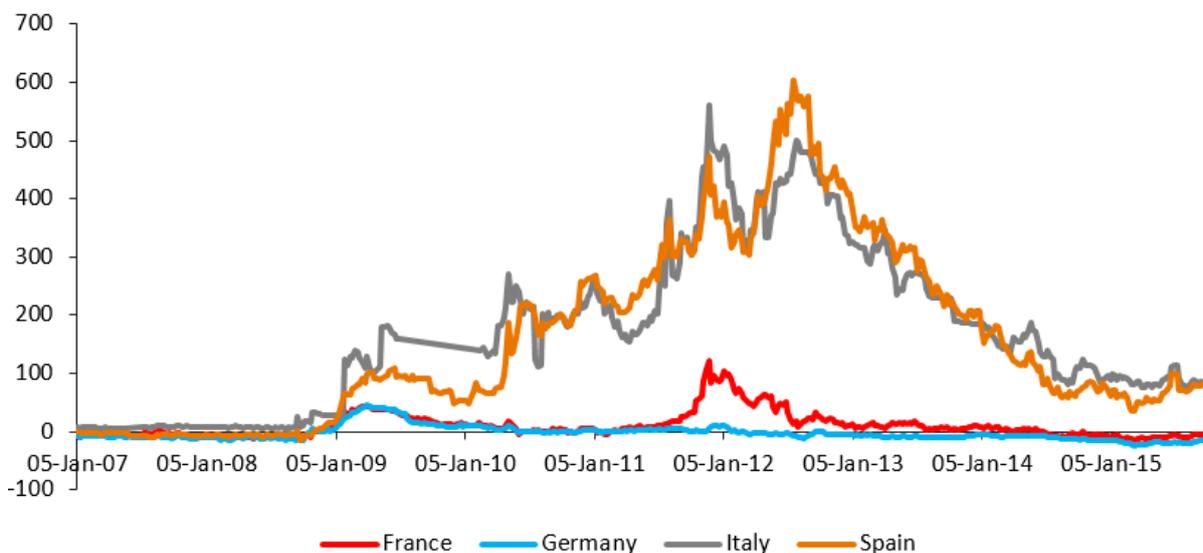
Anecdotally, and based on interviews and the responses to the public consultation, issuers are rarely constrained in their choice of maturity by any form of market failure, but rather investors typically are not willing to participate in longer dated transaction.

In the context of the different asset classes, and leaving aside volatility and risk, the maturity of SME loans is significantly shorter than for mortgage loans. If those were hypothetically eligible for the cover pool, almost certainly all of them would be issued with short maturities.

3.10 Prices and spreads

The spread required by investors to hold covered bonds not surprisingly widened significantly during the financial crisis and was most pronounced in those countries where sovereign credit was a major concern, as shown in Figure 18.

Figure 18. Pricing differential of EUR ASW spreads, [3-5 yr EUR ASW basis points]

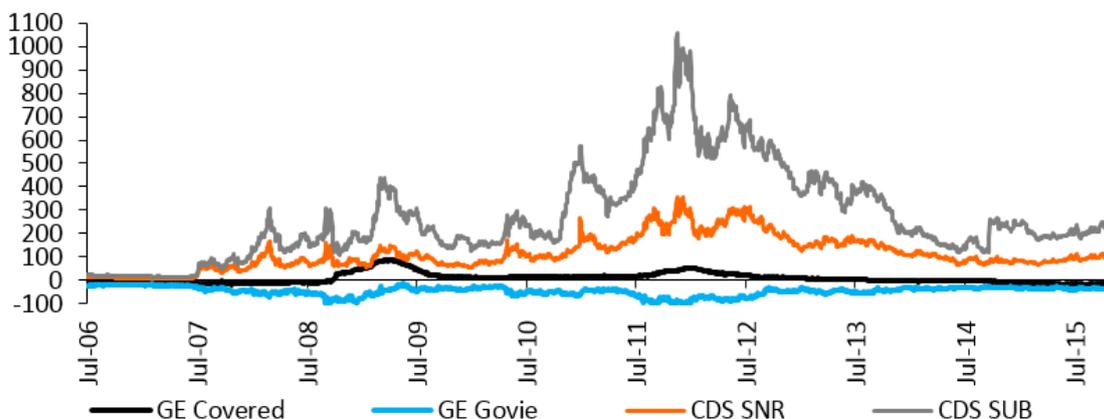


Source: BofA Merrill Lynch Global Research

As has been very widely commented in responses to the public consultation, in interviews conducted to date and in general market commentary, market participants did not feel that this widening reflects failings endogenous to the covered bond market, but rather is a function of the following:

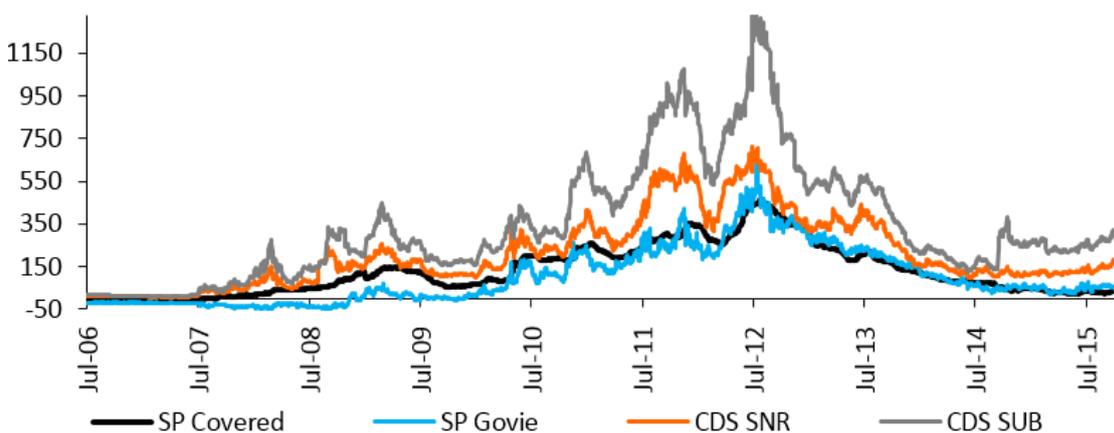
- Credit concerns arising from the macro-economic and fiscal situation of the host state of the programme. These risks potentially manifesting as, for example, a deterioration in the credit quality of the underlying assets and/or explicit actions of the government, for example the imposition of capital controls.
- The relative value of similar credits, in particular government securities of the same country.
- The fact that covered bond spreads have been less volatile than other asset class supports that argument. Fragmentation in sovereign markets was much higher than in covered bond markets and, consequently, it can hardly be argued that different covered bond frameworks have led to spread differentiation. Despite the differences in the legal frameworks, fragmentation actually appeared lower in covered bonds than in government bonds. It also seems plausible that whereas there is "contagion" from sovereign risk spreads, it is partly mitigated by covered bond structures. Figure 19 and Figure 20 with spreads histories for Germany and Spain are a good illustration of this point.

Figure 19. Spreads of main asset classes in Germany, [in basis points]



Source: *Crédit Agricole CIB*

Figure 20. Spreads of main asset classes in Spain, [in basis points]



Source: *Crédit Agricole CIB*

Similarly, covered bond ratings have been downgraded less than sovereign ratings in affected countries. Both suggest that, whereas there has been some “contagion” effect from sovereign credit, this is at least partially off-set by the credit protection provided by covered bonds in the views of both rating agencies and investors.

Ending the ECB purchasing power could initiate some substantial changes in pricing of the instrument and return to wider level of spreads²³.

3.11 Credit ratings - trends

The rating of any given covered bond is a function of factors specific to the covered bond and issuer on the one hand, and “external” factors on the other.

²³ Financial Times, 2015. ECB’s buying challenges covered bonds. Available at: <https://www.ft.com/content/3118a24a-26f8-11e5-bd83-71cb60e8f08c>

These include:

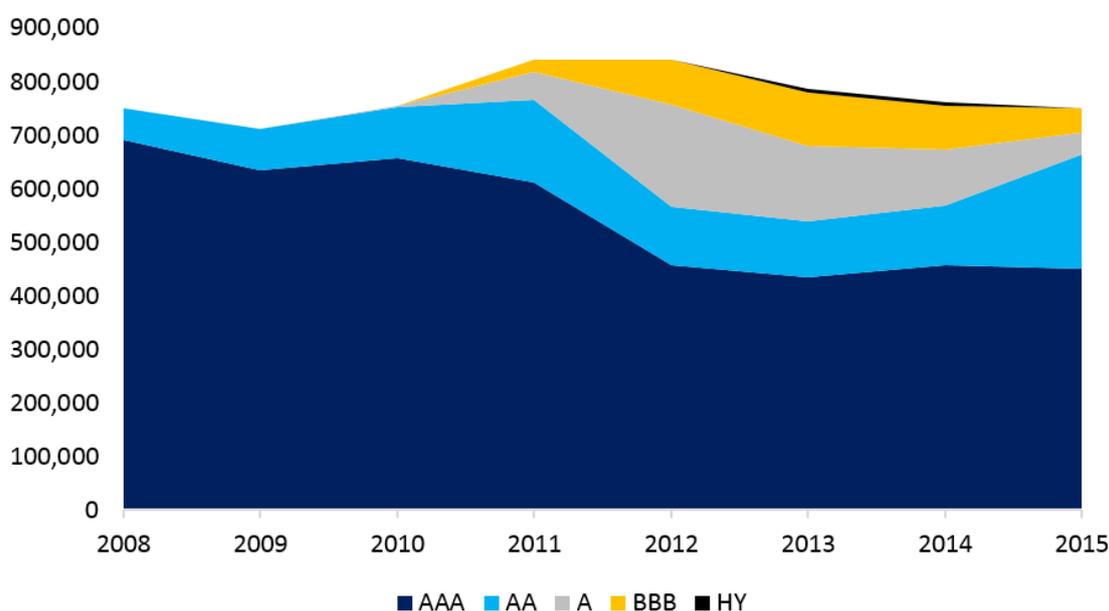
- The quality of the underlying assets, in turn a reflection of the economic environment in which the issuer operates and the issuer's business model;
- Decisions made by the issuer including the over-collateralisation²⁴ they are willing to commit to and their choice of maturity structure;
- The quality of the covered bond law and regulation available in that jurisdiction, and
- The overall issuer's credit strength, particularly from the default probability perspective. If the issuer's credit strength deteriorates, *ceteris paribus*, the rating of the covered bonds comes under downward pressure.²⁵

External factors are basically twofold:

- The senior unsecured rating of the issuer; and
- The "sovereign rating cap" which most rating agencies apply to all securities coming from a country with an impaired sovereign credit rating.

Historically, particularly pre-crisis, most covered bonds were rated AAA. More recently, whereas the market remains dominated by highly rated bonds, there has been a substantial decline in the average credit rating as illustrated by Figure 21. The appearance of programmes rated BBB around 2011 and an increase in the proportion of AA rated programmes around 2014-15 was largely driven by the downgrade of Italian and Spanish bonds that could no longer achieve the triple AAA ratings (the so called 'fallen angels').

Figure 21. iBoxx per rating [end of year nominal value]



Source: Credit Agricole 2016 data.

²⁴ In general most issuers commit to the level of over-collateralisation that they need to achieve the highest possible rating uplift over unsecured rating in their jurisdiction.

²⁵ Moody's, April 19, 2013. SME Structured Covered Bond Programme.

The appearance and then continuous presence of the BBB rated programmes from around 2011 onwards (although the share of BBB has been shrinking recently) coincides well with the marked increase in cover pool losses²⁶, as estimated by the credit rating agencies²⁷. The emergence of BBB rated programmes may be also partly attributed to the ECB asset purchasing programmes, which have smoothed yields differentials between differently rated programmes²⁸, and consequently created a more favourable environment for the issue of lower quality programmes. It is also plausible that the overall decline in sovereign ratings in Europe (by aggregate -2.9²⁹ notches for 20 advanced European economies between 2007 and 2015³⁰) has also affected the rating of covered bonds given the existence of a clear one-way causality between sovereign rating and covered bond rating driven also by explicit assessment of the methodological frameworks such as Country Ceiling³¹ used by agencies.

Certain issuers have also chosen deliberately not to optimise the rating and have received unsolicited³² ratings.

Changes to the national covered bond laws and regulations can potentially achieve two objectives:

- Improve the achievable rating uplift over issuer unsecured ratings, in particular in Member States where existing laws currently provide a lower level of uplift (and thus 'level the playing field' between issuers in different Member States); and
- Reduce the cost of achieving the potential rating uplift, most significantly in the level of over-collateralisation that is required.

The recent EBA Report on Covered Bonds³³ highlighted particular differences in the public supervision frameworks between the individual Member States: *'...in particular, the analysis of frameworks for special public supervision confirms differences across the EU in the content and level of detail regarding the rules on special public supervision, scope of duties and the powers of supervisory authorities regarding ongoing supervision of covered bond issuers and programmes, as well as the rules on approval and licensing of covered bond programmes. Furthermore, the EBA notes that the divergences extend beyond the regulatory frameworks and are also observed in actual supervisory practices of individual competent authorities in the execution of*

²⁶ For instance, Moody's models cover pool losses as part of its rating approach following a CB anchor event. Modelling cover pool losses is important as it tells the investor the level of losses that the agency models in the event of a CB anchor event. It enables an investor to take a view on agency's loss assumptions if the issuer is removed from the rating analysis. The cover pool loss has two components - (1) collateral risk and (2) market risk

²⁷ Moody's, November 2016. Moody's Global Covered Bond Monitoring Overview: Q2 2016.

²⁸ European Commission, June 2015. Economic analysis accompanying the consultation paper on covered bonds in the European Union.

²⁹ A notch as a difference between A and A-, A- and BBB+ etc.

³⁰ Amstad, M, and Packer, F. December 2015. Sovereign ratings of advanced and emerging economies after the crisis. BIS Quarterly Review. Available at: http://www.bis.org/publ/qtrpdf/r_qt1512h.pdf

³¹ For instance, assuming that the Transfer and Convertibility risk is mitigated, Fitch rating of a covered bond programme cannot be higher than 4 notches above the Country Ceiling.

³² A rating's agency's assessment of a borrower's creditworthiness without involvement of the borrower itself. In particular, the borrower does not pay for the rating assessment.

³³ EBA, December 2016. EBA Report on Covered Bonds. Available at: <https://www.eba.europa.eu/-/eba-recommends-a-harmonised-eu-wide-framework-for-covered-bonds>

*special public supervision*³⁴. In this context, the information provided by Moody's as part of the consultation process in this study and outlined in Table 3 is a useful illustration of relevant elements of the regulatory framework related to supervisory model that have potential credit impact.

More generally, there are also relevant links between covered bonds laws and general banking laws/insolvency laws (particularly for specialist issuers) that also need considering.

³⁴ EBA, December 2016. EBA Report on Covered Bonds. Available at: <https://www.eba.europa.eu/-/eba-recommends-a-harmonised-eu-wide-framework-for-covered-bonds>

Table 3. Elements of the country's supervisory model that have potential credit impact, Moody's assessment framework

Specific aspect of the special public supervision and administration	Details with potential credit impact
Cover pool monitor	<ul style="list-style-type: none"> - Professional qualifications; - Reporting frequency; - Scope of checks in regulatory reporting; - Duty to inform regulator of non-compliance; - Duty/standard of care; - Approval or additions and/or removal of cover pool assets; - Blocking powers for new issuances in case of breach.
Supervision of the covered bond issuer in going concern	<ul style="list-style-type: none"> - Scope of oversight: active role in relation to the programme? Frequency of checks? Ability to request audits? - Monitor appointment approved by the regulator; - Right to impose programme-specific requirements (e.g. increase minimum OC).
Supervision in the event of the issuer's insolvency/ resolution	<ul style="list-style-type: none"> - Direct or oversight function in relation to cover pool maintenance (e.g. approval of asset classes); - Monitor appointment approved by the regulator? - Regulator acting as servicer/administrator of a last resort?
Administration of the covered bond programme post issuer's insolvency/ resolution	<ul style="list-style-type: none"> - Independent administrator (distinct from the issuer's insolvency administrator); - Timing of appointment/ability to appoint administrator prior to issuer's insolvency/resolution/default; - Flexibility in cover pool management (asset sale, transfer of assets and liabilities etc.) - Right to enter into hedging contracts, liquidity loans or repo arrangements

Source: Moody's feedback based in relation to the EBA's best practice recommendations on supervisory model, 2016

The extent of the discrepancy between the quality of covered bond laws in different Member States can be illustrated with reference to rating agency data (see Table 4). For example, Fitch uses a metric (the Discontinuity factor or “d-factor”) which is assessed for each covered bond programme and can be considered a proxy for the quality of the programme. It assesses the likelihood of an interruption to payments on the bond as a result of having to rely on the cover pool after an issuer default. It takes systemic and cover pool as well as issuer-specific aspects into account. In 90-per cent of cases, the d-factor for all the covered bond issuers in any given Member State is very similar (plus or minus one notch), therefore the mode for d-factor in each country is a good indication of the quality of the covered bond law there. The differences between mode d-factors in different jurisdictions gives an indication of the relative strength of different covered bond regimes and therefore the potential upside that could be achieved in ratings as a result of legislative actions.

Table 4 shows for each country the most frequent d-cap score for covered bonds in that country. The higher the d-cap the better the covered bond programme in terms of Fitch’s assessment of its ability to increase the rating of the covered bond over the rating of the issuer of that bond. The third column shows the number of programmes in that country that are more than one score away from this most frequent value. In most countries, most covered bond programmes have either the same d-cap or a very similar d-cap to the other covered bond programmes in that country, whereas d-factors often vary between countries. This suggests that national factors are the main determinant of d-factor, and thus covered bond programme quality. The ‘outliers’ in this table - for example, the high number of French programmes with a different (higher) d-cap than their peers are typically a result of very specific structural choices made by the issuer, as explained in the final column.

Table 4. Mode D-Caps for programmes issued in selected countries, existing outliers and determinant(s)

Country	Number of programmes	Mode	Number of outlier (>1 D-Cap difference from mode)	Explanation
Australia	6	4	0	N/A
Austria	1	2	0	N/A
Belgium	3	4	0	N/A
Canada	11	3	0	N/A
Cyprus	1	8	0	N/A
Denmark	5	3	0	N/A
France	13	3	4	All have entered into contractual conditional pass through structures
Germany	19	5	1	Issuer is not structured under German law, has structured transaction as a pass through
Greece	4	N/A	0	N/A
Ireland	2	3	0	N/A
Italy	9	2	2	One issuer is conditional pass through. One programme structured to create collateral for own use
Luxembourg	1	2	0	N/A
The Netherlands	8	4	3	All are contractually agreed conditional pass through
New Zealand	5	3	0	N/A
Norway	2	4	0	N/A
Poland	2	3	0	N/A
Portugal	4	0	1	Conditional pass through
Singapore	1	3	0	N/A
Slovakia	1	N/A	0	N/A
Spain	7	0	0	N/A
Switzerland	2	3	0	N/A
The United Kingdom	13	4	1	Outlier is structured under contract outside the UK covered bond regime
Total	120	-	12	

Source: Based on the Fitch data related to 120 rated covered bonds programmes presented in the table [programmes from Chile, South Korea and United States, 5 in total, are excluded]

Note: Some caution is needed while interpreting the data. For example, there is only one rated programme from Cyprus and this has the highest d-factor possible.

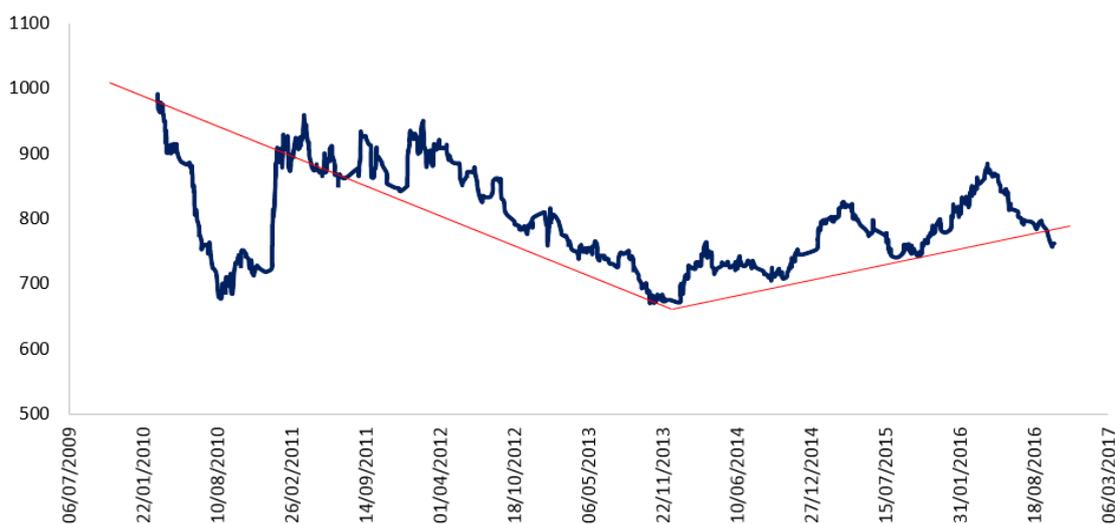
3.12 Deal size

In recent years, the average deal size of covered bonds has declined as compared to pre-crisis levels. This is a result of several factors and is not necessarily indicative of stressed conditions in the new issue market.

- Several of the issuers of exceptionally large deals historically, in particular public sector covered bond issuers from Germany, France and Ireland who frequently issued bonds in the €2-5 billion range are either no longer active or significantly smaller as a result of the financial crisis.
- On the other hand, smaller issuers including in newer jurisdictions are increasingly important as a proportion of the overall issuance universe.
- A greater focus by rating agencies on refinance risk within cover pools has incentivised issuers to prefer more granular amortisation profiles.
- Technical reasons such as a reduction in the minimum size for bonds to be included in certain indices³⁵ from €1 billion to €500 million and a decline in the importance of formal market making agreements (which only apply to bonds of at least €1 billion).

Anecdotally, issuers have indicated that the decline in deal size has not been a result of an inability to raise funding. The oversubscription levels seen in new issue syndicate books supports this view. According to some anecdotal evidence, investors have reduced ticket size in the primary market as they are finding it harder to sell larger tickets in secondary markets.

Figure 22. Moving average of deal size for EUR covered bond issues [interval = 100]



Source: Credit Agricole 2016 data

3.13 Other market characteristics

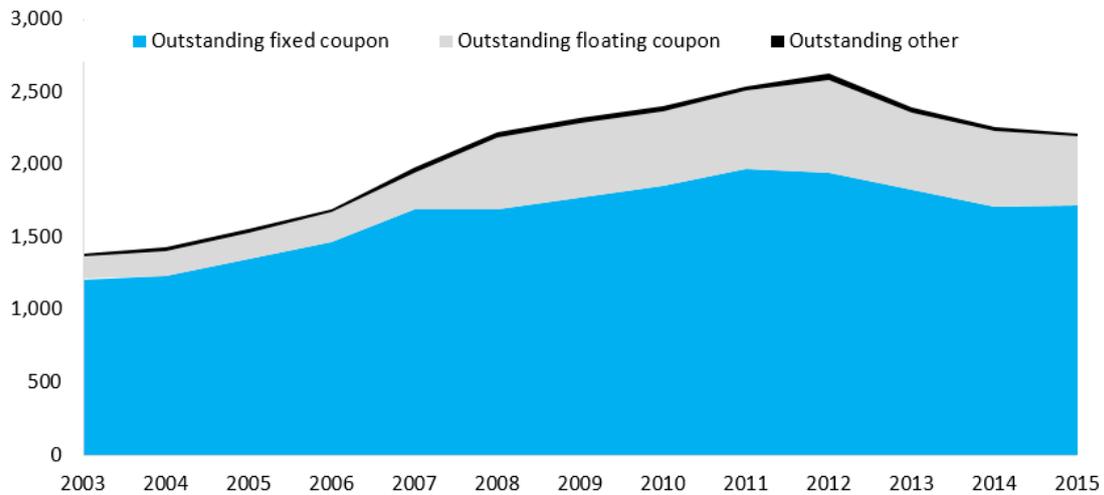
In 2015, bonds privately placed represented 28 per cent of the market with a further 10 per cent in sub-benchmark format³⁶, while 62 per cent were publically syndicated benchmark transactions³⁷. This has been constant since 2012, when data became available for many countries. Longer time series are not available to analyse trends. Fixed rate bonds still dominate the market representing 82 per cent of bonds in 2015. Most floating rate bonds are retained to use for repo collateral.

³⁵ iBoxx

³⁶ Can be considered as private placement

³⁷ ECBC, 2015. 2015 Yearbook, p.522.

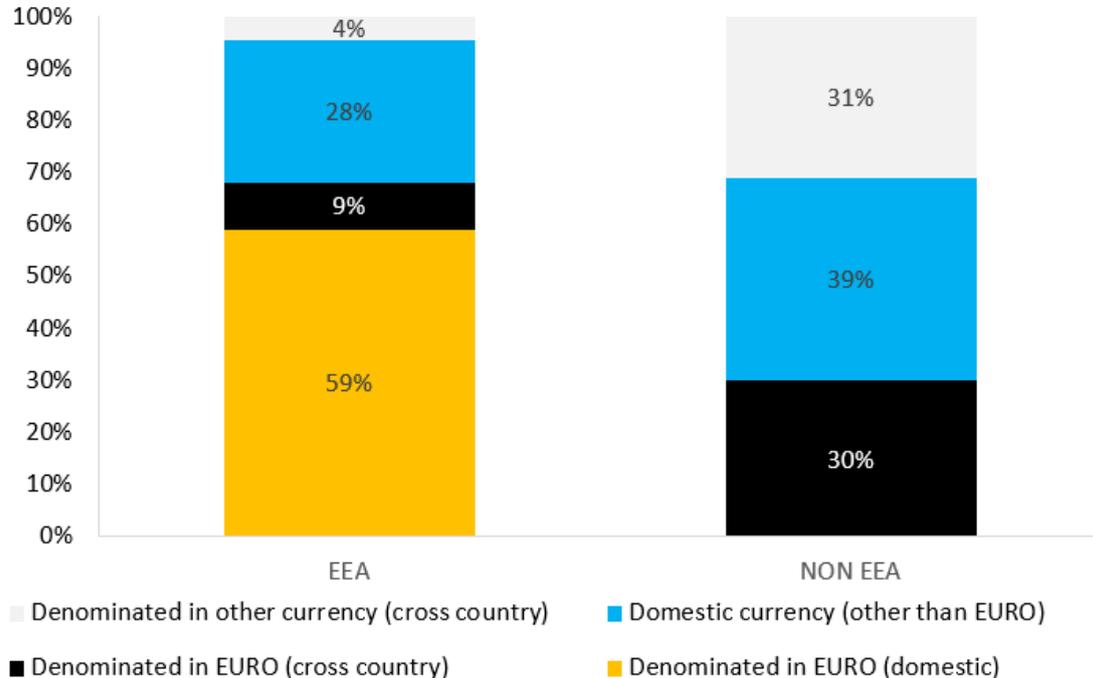
Figure 23. EU outstanding covered bonds, by coupon type [end of each year for the period 2003-2015, in EUR billion]



Source: Based on ECBC statistics

Most covered bonds in the EEA are issued in euros by euro area countries mostly (59 per cent) and other EEA countries (9 per cent). In 2015, eight EEA countries issued covered bonds in their domestic currency (other than the euro), most importantly Denmark, Sweden, the UK and Norway. Denmark issued 88 per cent of covered bonds in DKK while Sweden issued 75 per cent in SKR. Other currencies such as USD only represented 4 per cent of total issuance in the EEA in 2015.

Figure 24. EU outstanding covered bonds, [by issuance currency as of 2015]



Source: Based on ECBC statistics

4 The case for EU action

Available evidence – industry statistics and feedback from market participants – suggests that the European covered bonds market is currently functioning well. The resilience demonstrated by the market during the global financial crisis might even suggest that there is no case for any EU legislative action. There are also some valid concerns that a harmonised EU legislation could potentially undermine well functioning national markets by imposing a “one size fits all” approach, thus disregarding national specificities such as the structure of the banking sector, real-estate sector and public sector markets (e.g. type of loans, origination patterns, national legislation on credit activity etc.). While this may be true to some extent, there are some compelling reasons for EU legislative action, namely:

- ***There are significant potential risks and vulnerabilities in the market that could suggest that previous good performance is not necessarily a guarantee of future robustness of the market.*** Appropriate EU action could reduce the future risks to the extent that it improves covered bond frameworks, in particular after the insolvency or resolution of the issuer.
- ***The current lack of harmonisation between Member States and areas of relative weakness in some covered bond frameworks, while not necessarily considered serious by investors in current market conditions, could undermine the basis for the prudential treatment of the asset class.*** In this context, we note the debate over the appropriate prudential treatment for covered bonds and securitisations given the changes in both markets which some have argued represents a degree of convergence. EU legislative action could better align prudential treatment of the bonds between member states and provide better justification for the current preferential treatment.
- ***The success of the covered bond instrument as a financing tool for existing assets could help wider macro-economic funding needs of the Union and contribute to the objectives of the Capital Markets Union initiative.*** This potential benefit must be set against the risk of disruption to the traditional covered bond market. Although we deal with this in detail in the following section where we discuss specific aspects of the proposed legislation (in particular the appropriate definition of eligible assets), it is key to the overall case for action.

The covered bond market, left to its own devices, is unlikely address all of the above issues. While market-led initiatives have their benefits, they are not sufficient on their own. The European “Covered Bond Label” is no doubt, a step towards better integration of the covered bond markets, but there are certain limitations to self-regulation e.g. voluntary arrangements cannot form the basis for a specific regulatory treatment. Moreover, issuers may choose not to fulfil voluntary obligations, especially during stressed market conditions.

Overall, the weight of the evidence supports the conclusion that EU action is justified. The arguments and evidence in favour of and against EU action are discussed in further detail below.

4.1 Addressing market risks and vulnerabilities

Industry responses to the public consultation, interviews conducted as part of this study and general market commentary have frequently emphasised the exemplary credit performance of covered bonds over an extremely long period as an argument against the need for legislative intervention. Whereas this track record should not be undermined, interviews have highlighted several factors that suggest it might not be a sufficient argument to maintain status quo. In particular:

Unwinding of CBPP3

The current, exceptional funding available to issuers, which significantly undermines their appetite for legislative intervention, is largely a result of actions of the ECB, in particular the covered bond purchase programme that has significantly reduced funding costs, but also the provision of large levels of liquidity to the market, low absolute policy rates and a relatively flat yield curve (particularly beneficial given the typically longer maturity of covered bonds compared with other term funding tools).

Adverse, unintended consequences of the ECB's programme, including the crowding out of private sector investors and reduced liquidity, have largely been masked by the exceptional rate and liquidity environment. It is unclear whether these will become less significant problems when the ECB monetary policy becomes less accommodative.

Clearly, however, the inevitable eventual unwinding of this programme is likely to significantly reduce the most frequently cited (by issuers) reason not to pursue EU legislative action.

Untested instrument

Whereas it has been frequently pointed out that no covered bond has ever defaulted, many issuers of covered bonds failed (in some form) during the financial crisis.

Table 5. *Cases of issuers default, but no subsequent covered bond programme default*

Senior default?	What next?	Who?
Yes	Transfer to other bank	Cyprus Popular Bank (2), Washington Mutual
Yes	Transfer to new bank	Glitnir, Kaupthing
Yes	Wind down	Irish Bank Resolution Corporation
No	Resolution and bad bank	Allied Irish, Bank of Ireland, Liberbank
No	Resolution/bad bank/transfer	EBS, Banco CEISS, NCG Banco, Catalunya Banca, Banco de Valencia
No	Resolution/recapitalisation	SNS, Ibercaja, Co-op
No	Transfer to existing bank	Cyprus Popular Bank (1), Chelsea BS
No	Transfer to new bank	Banco Espirito Santo
No	Wind down	Bradford and Bingley

Source: *Richard Kemmish Consulting Limited*

In most cases, government or other public sector intervention in these failures ensured that the covered bonds themselves were not adversely effected. Even when senior unsecured bonds of the issuer defaulted, their covered bond programmes were never actually relied upon to make payments under the bonds.

The introduction of the bank recovery and resolution directive and accompanying changes to state aid rules reduce the probability that tax-payers will need to bail-out failing institutions going forward. There are many tools available to the resolution authority to address the problem of a failing bank. Whereas covered bonds are

explicitly exempted from bail-in under article 44 of the directive, many of the potential resolution scenarios will involve largely untested scenarios for covered bonds, for example:

i) Sale of business. The possible sale of the covered bond business from a bank in resolution would create significant issues such as the licensing and supervisory treatment of the bonds and assets in the acquiring entity.

ii) The creation of a bridge institution would raise similar licensing and supervisory issues to the sale of the business outlined above with the added complexity that the bridge institution should be wound down if no private sector buyers can be found within an appropriate timeframe. Given the non-acceleration of covered bonds this scenario could create legal uncertainty in such an eventuality.

iii) Asset separation could, following the principles defined for such an action, involve the resolution authority transferring individual assets out of a cover pool. The extent that they are able to undertake this action whilst still maintaining obligations towards covered bond holders is unclear.

iv) Bail-in of unsecured liabilities should not impact covered bonds except to the extent that there is negative over-collateralisation, for example to the extent that there have been credit losses in the cover pool.

Finally, the different resolution alternatives are not the only possible outcome, a liquidation of the failing institution is also plausible that will generate a direct test of features such as the legal segregation of the assets and post-insolvency administration and servicing plans.

Encumbrance

The increased use of covered bonds by some issuers and higher over-collateralisation requirements to support programmes have both been cited as a source of instability in the banking system in that they increase levels of asset encumbrance on bank balance sheets and reduce the assets available to unsecured creditors in insolvency.

Legislative or supervisory improvements that reduce the required over-collateralisation for a covered bond programme, whether determined by legal minimums or rating agency models, could reduce the extent of the encumbrance in the banking system. This is particularly evident in, for example, Spain where the minimum over-collateralisation is very high (25 per cent, or currently circa €70 billion) due to perceived weaknesses in the covered bond framework. On the other hand, an increase in encumbrance levels is a cost to take into account to the extent that the proposals increase the use of covered bond funding.

Appropriate legislative action at EU level could address these risks and vulnerabilities to the extent that they generate the following outcomes:

- A lower risk profile for the asset class that will encourage greater investor participation after the end of the covered bond purchase programme and will ensure an accurate alignment of actual risk and prudential treatment under EU law. Many of the EBA proposals are in line with investor preferences which in turn represent concerns about existing risk characteristics in some or all national covered bond frameworks. For example, the introduction of a pan-European minimum over-collateralisation ratio for all covered bonds reduces the risk that national legislations may apply inappropriately low levels in order to better protect unsecured creditors at the expense of covered bond creditors.
- Greater certainty of outcomes, particularly in insolvency or resolution without recourse to external support. The EBA's proposals, for example, to better define

post-insolvency operating plans (“living wills”) reduce the potential for unknown outcomes in the four possible resolution scenarios described above.

- More efficient use of collateral for any given rating to thus reduce the contribution of over-collateralisation to asset encumbrance levels in the European banking system whilst continuing to ensure market access for issuers. Over-collateralisation levels required by rating agencies typically penalise areas of uncertainty or weaknesses in existing covered bond frameworks. Some Member States have more uncertainty or weaknesses than others in their existing arrangements. By reducing these weaknesses appropriate EU action could reduce aggregate encumbrance levels in the banking system for any given quantity of covered bonds outstanding.

4.2 Protecting preferential treatment of covered bonds

The covered bond market benefits significantly from preferential prudential treatment, in particular under banking and insurance capital rules. In 2014, EBA assessed the appropriateness of the prudential treatment and concluded that it was justified. But it cannot be guaranteed that this will continue in the future. In particular:

- Covered bonds are increasingly used by issuers with lower credit ratings or in countries with lower “sovereign rating ceilings”.
- Product innovations including to the structure of the bonds, the underlying assets and supporting ratings are viewed by some observers as reducing the creditworthiness of the asset class.

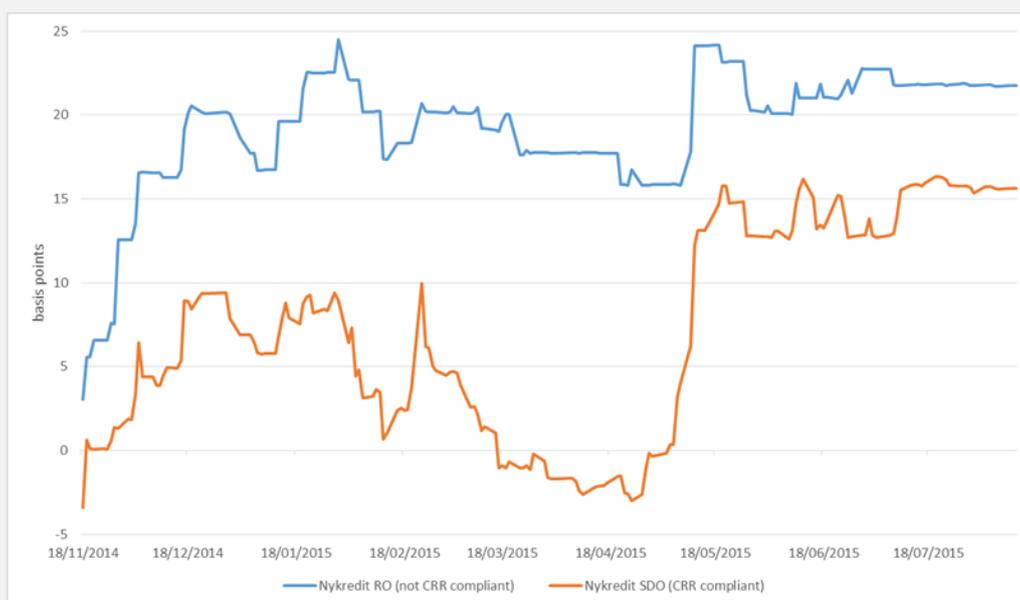
The relative prudential treatment of the covered bond and securitisation markets has frequently been criticised by participants in the latter. To the extent that the securitisation market is likely to significantly improve its risk characteristics as a result of EU legislative action (the STS directive) there will be significant pressure to reduce the difference between the two markets’ prudential treatment.

EU legislative action has the potential to safeguard the prudential treatment of covered bonds so that it reduces perceived risks and areas of uncertainty in the market. Most EBA proposals considered in the next section aim to reduce risks by addressing specific shortcomings in existing practice.

Benefits of existing prudential treatment

The effect of the loss of preferential risk weighting for covered bonds is easier to estimate by observing the differential between CRR compliant and non-CRR compliant covered bonds of the same issuer. The most reliable liquid case of this is two series of bonds issued by Nykredit – the spreads of which are shown in the below graph. While this is in Danish Krone, we believe that a similar price relationship would exist in euros (Danish bank investors and Eurozone bank investors would take into account similar pricing considerations). As the below time series shows for a pair of such bonds issued by Nykredit the basis points implications have ranged between 4.8 and 21.1 basis points (average 12.0).

Comparison of yield on CRR compliant and non-compliant bonds (April 2019 maturities)



Source: Nykredit

Finally, another way to quantify the potential downside would be to look at the cost implications of a lower or no recognition of the asset class in the LCR delegated act. Again, it is difficult to accurately estimate this in most cases because the factors that caused them to have these differences are themselves price sensitive so it is difficult to isolate the effect of the LCR treatment. In Denmark, where the differences between level 1B and 2A LCR bonds are smaller the difference between the two groups is typically 2 basis points and, between 2A treatment and no eligibility at all, seven basis points (according to data provided by Nykredit and Danske).

4.3 Perceptions of potential benefits and costs

Potential benefits

There was widespread consensus among respondents to the OPC that a more integrated market would deliver a number of benefits. Generally, respondents also mention that benefits may vary depending on the choice of instrument and the regulatory approach sought.

Most respondents also confirm that market-led initiatives have their benefits but are not considered sufficient because they cannot be imposed on participants. While respondents consider the European "Covered Bond Label" as a step towards better integration of the covered bond markets, most acknowledge that there are certain limitations to self-regulation; for example, voluntary arrangements cannot form the

basis for a specific regulatory treatment so need to be complemented by sound regulatory treatment, at national or European level.

A majority of respondents consider that further integration can be achieved by following a high principle based approach. They mention that principle based standards set by the EU legislator might be necessary and also sufficient. This would allow Member States to remain competent to define technical aspects. Some respondents consider that this should be pursued via Commission recommendations to Member States, while others consider a Directive as more effective. In both cases, there is consensus that such an approach should be limited to capturing key characteristics and legal requirements for an EU covered bond market by building on existing frameworks and preserving national specificities. More precisely, it is generally agreed that the Commission should at least improve the existing EU regulatory framework for covered bonds.

Most respondents to the ICF survey believe that a dedicated legislative framework for covered bonds at an EU level would deliver the following benefits (Figure 25):

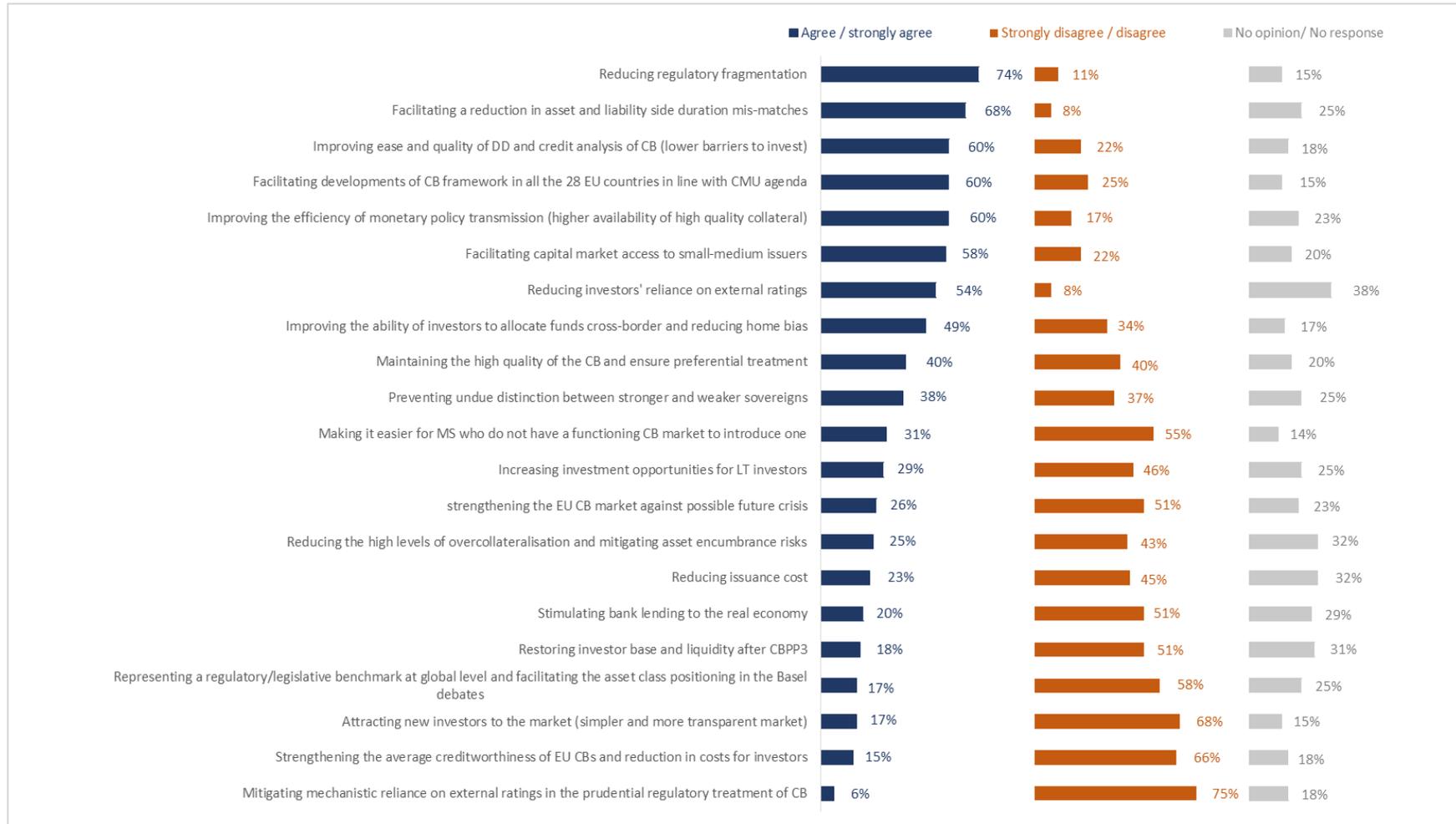
- Reduce regulatory fragmentation (74%);
- Facilitate reduction in asset and liability side duration mismatches (68 per cent);
- Improve ease and quality of due diligence and credit analysis of covered bonds (lower barriers to invest) (60 per cent);
- Facilitate developments of CB framework in all the 28 EU countries in line with CMU agenda (60 per cent);
- Improve the efficiency of monetary policy transmission (higher availability of high quality collateral) (60 per cent)
- Facilitate capital market access to small-medium issuers (58 per cent);
- Reduce investors' reliance on external ratings (54 per cent).

On the other hand, most respondents do not see the following as potential benefits of an EU legislative framework for covered bonds:

- Mitigating mechanistic reliance on external ratings in the prudential regulatory treatment of CB (75 per cent);
- Attracting new investors to the market (simpler and more transparent market) (68 per cent);
- Strengthening the average creditworthiness of EU CBs and reduction in costs for investors (66 per cent);
- Representing a regulatory/legislative benchmark at global level and facilitating the asset class positioning in the Basel debates (58 per cent);
- Making it easier for MS who do not have a functioning CB market to introduce one (55 per cent);
- Stimulating bank lending to the real economy (51 per cent);
- Restoring investor base and liquidity after CBPP3 (51 per cent).

Figure 25. Overall assessment of the benefits of a potential EU legislative framework on covered bonds

Potential benefits of an EU legislative framework are...



Source: ICF survey, feb. 2017, n=65

Note: Question 22 from online survey

The overall benefits of improving the covered bond market could be measured quantitatively by a lower borrowing cost measured in basis points. While this seemingly only benefits issuers, it also measures the improvement in risk perceptions of the market for investors (as they are prepared to take a lower yield for the risks that they perceive in the asset class).

The number of basis points of improvement is, like “normal market conditions” impossible to meaningfully define but, as an illustration of magnitude, we have estimated the price sensitivity of the entire covered bond market to a one basis point move in the return required by investors. We have made this analysis based on all outstanding covered bonds, all benchmark covered bonds and a typical year’s new issuance (we have also calculated these values for member states only). These values are shown below. A one basis point movement in investor yield represents a very significant change (€1.5 billion) in the overall value of existing covered bonds or, in any given year a saving for issuers of €220 million - Table 6.

It seems reasonable to estimate that appropriate EU legislative action will generate a multiple basis point saving.

Table 6. Change in the value of outstanding covered bonds to a one basis point change in yield demanded by investors, € million

	All covered bonds outstanding	Benchmark bonds outstanding	One year’s average issuance
Whole market	1,537	643	221
EEA Member States	1,361	556	196

Source: own calculations. See Annex 7 for an explanation of the methodology and detailed calculations.

Potential costs

A majority (63–89 per cent) of the issuers and national coordinators who responded to our survey also believe that there are costs and risks associated with introducing harmonised rules at an EU level (Figure 26), most notably:

- The new rules may need issuers to establish new covered bond programmes. Existing bonds and programmes would need to be grandfathered which could create cost and liquidity problems (89 per cent);
- Other transition costs in the form of administrative costs for issuers in implementing the changes, for example as a result of changing legal documentation or amending IT systems (88 per cent);
- An EU framework could potentially undermine well-functioning national regimes and markets (88 per cent).

Moreover, 31-40 per cent of the respondents believe that these costs and risks are high. Taking these concerns in turn:

Change to existing programmes

As discussed in the following section, we consider that the proposed rules can, in most cases, be accommodated within existing covered bond programmes. Most of the amendments clearly increase bond holder protection and, therefore, can be expected to obtain trustee consent (where this is needed) or can be changed by statute or regulation without causing controversy.

To the extent that the proposed minimum standards are set below existing national standards, the higher national standard is expected to continue to apply thus negating any potential reduction in investor protection.

Some programmes may make changes that will require bond holder consent, for example, the changes from hard to soft bullet maturity structures as a result of the proposed liquidity rules. Failing to achieve such consent will result in an incremental cost for issuers, but will not result in non-compliance with the rules.

Where this does not apply and where changes to existing programmes may be necessary are discussed separately. Although the transitional arrangements may be relatively expensive, we note that in all three cases identified, it was already intended to make these changes to bring the law in line with international norms. The transitional costs do not, therefore, represent an incremental cost following the proposed EU legislative action.

Other costs

We recognise that some proposals will generate incremental costs for issuers, in particular legal costs but also potentially IT, audit and management time. Where costs associated with a proposal can be identified they have been compared with the potential benefits proposal-by-proposal in section 4 of this report.

We highlight that an awareness of the costs and likely timescale of transition processes should determine how long the proposals take to implement, with a transition period sufficient to, for example, make necessary IT amendments.

Undermining existing well-functioning markets

This often-cited and very valid concern has underpinned many of our recommendations in this report and should always be factored in to any legislative proposal.

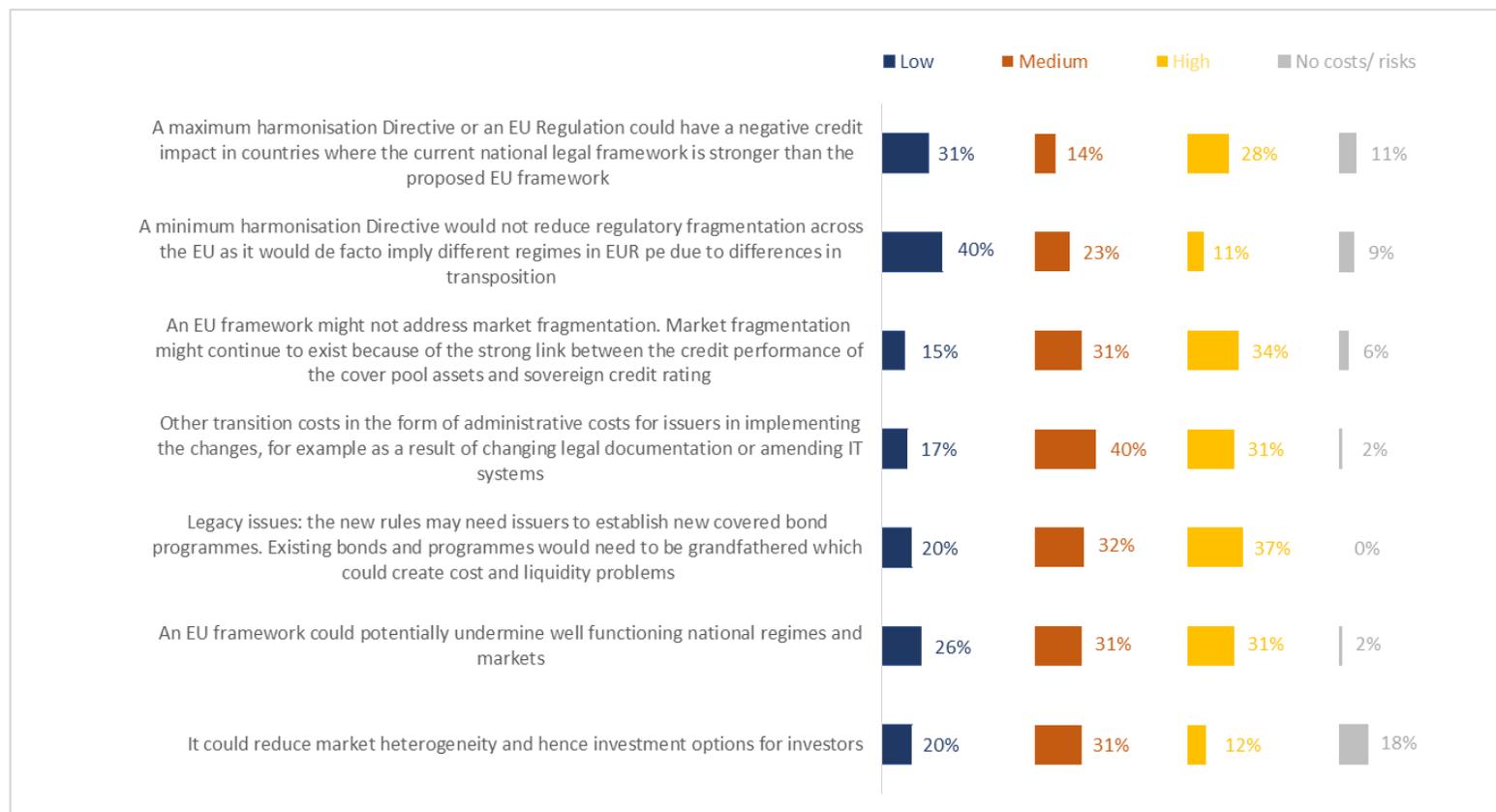
In particular, we would note:

- The proposals are often a minimum standard and there is nothing to stop the specific investor protection measures from being added to this minimum to ensure continued high levels of investor confidence in national products;
- Some proposals may increase costs for issuers and therefore the attractiveness of the asset class. We have only supported these proposals as far as we consider the increased costs are justified by overarching benefits.

While the covered bond market is well functioning and has survived the financial crisis, it can still be improved to protect it from future financial crisis, as discussed in the section 4.3 (“Addressing market risks and vulnerabilities”).

Figure 26. Overall assessment of the costs and risks of a potential EU legislative framework on covered bonds

Please indicate the costs or risks that could arise as a result of introducing a dedicated EU legislative for covered bonds and their likely order of magnitude?



Source: ICF survey, feb. 2017, n=65, avg 14% of no response.

Note: Question 23 from online survey

4.4 Conclusion: the case for EU legislative action

Section 5 considers the costs and benefits of the individual proposals made by the EBA. In most cases, the upfront costs of the proposals or “contingent” costs such as the loss of future flexibility are insignificant. Their benefits on the other hand are potentially significant but generally difficult to quantify.

The overall benefits of potential EU legislative action as described in this section are clear. Legislative action can:

- Reduce the vulnerability of the asset class to future market risks and vulnerabilities;
- Improve investor confidence in the asset class, as indicated by the responses to the survey;
- Help to safeguard the existing prudential treatment;
- Contribute to the objectives of capital markets union, in particular by better linking the capital markets to economic needs.

Most of these benefits are difficult to quantify, either:

- By their nature (in particular the outcome of better linking capital markets to economic needs);
- Due to the difficulty of defining “normal market conditions”, given the market distorting effects of the covered bond purchase programme; and/or
- Due to the difficulty of defining the “baseline”. We note that in several countries on-going changes to the covered bond law have been put “on hold” pending the current process. From the stakeholder discussions in certain countries it is clearly impossible to accurately predict what would happen without EU action.

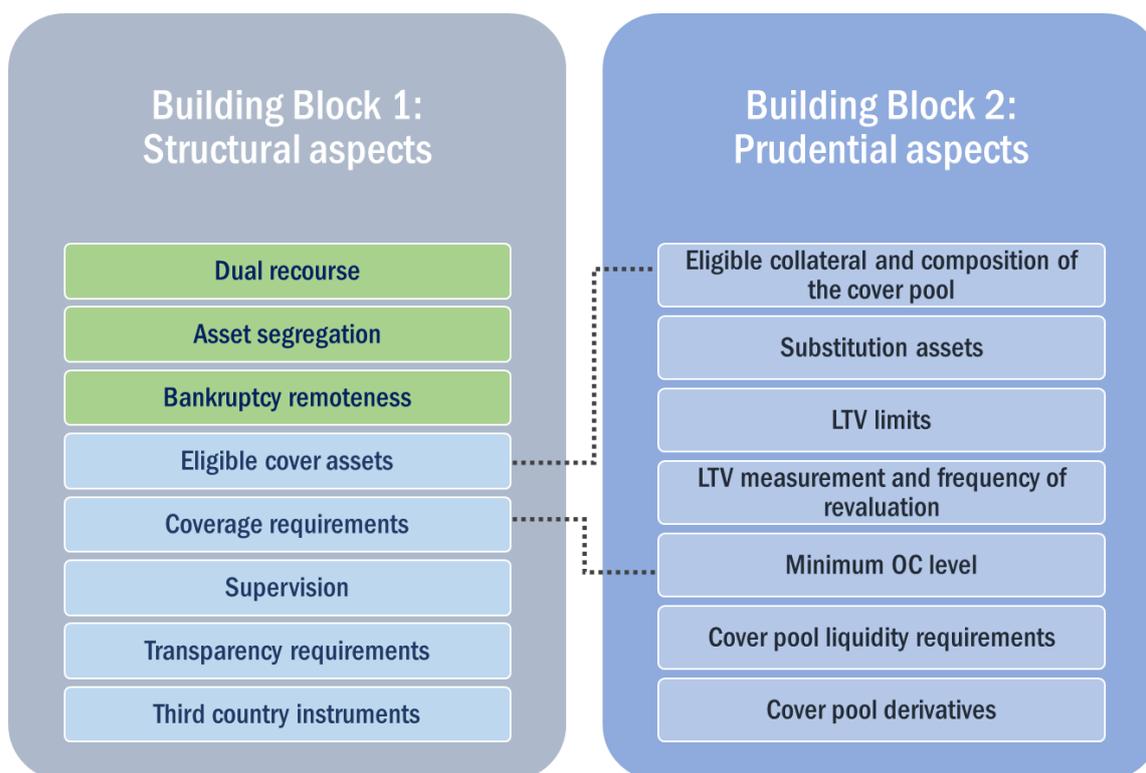
Whereas it is impossible to quantify the benefits of EU action meaningfully, it is clear that the benefit of increasing investor confidence alone would far outweigh any costs identified in the following section. An improvement in investor confidence will presumably yield “multiple basis points” of savings. Given the above value sensitivity analysis for the entire market of €1.5 billion per basis point, a reduction in risk equivalent to a five basis point improvement in pricing would generate a total benefit of €7.5 billion. As five basis points is a relatively conservative estimate of the potential benefit, this seems a self-evident justification for legislative action.

5 Assessment of specific proposals

Drawing on the EBA recommendations published in December 2016³⁸, a potential EU legislative framework for covered bonds could comprise the following two building blocks (Figure 27):

- Building block one dealing with the structural aspects of a covered bond: introduction of a harmonised definition of covered bonds, replacing Article 52(4) of the UCITS Directive.
- Building block two dealing with prudential aspects: laying out the conditions for preferential risk weight treatment of covered bonds. This would involve targeted amendments to Article 129 of the Capital Requirement Regulation.

Figure 27. Potential EU legislative framework for covered bonds



Source: ICF. linked rules. LTV = Loan to Value; OC = over-collateralisation

The following sub-sections describe and assess each of the specific elements of a potential EU legislative framework for covered bonds indicated above. Certain elements in green boxes in Figure 27 (e.g. dual recourse) represent no change in the current situation. These are therefore not assessed in any detail since they do not bring any benefits or cost implications. The elements that represent a departure from current legislation or industry practice (in all or some Member States) have been assessed in detail.

Most of the proposals have been assessed against the current situation since it was not possible to develop a baseline scenario because potential legislative changes at a national level have effectively been put on hold by Member States pending the outcome of this process. The assessment of the potential costs and benefits of the

³⁸ EBA (2016) EBA Report on covered bonds – Recommendations on harmonisation of covered bond frameworks in the EU

specific legislative provision relating to transparency requirements however, takes account of market developments such as the covered bonds label.

As far as possible, we have quantified the likely costs and benefits of the various proposals. But it was not feasible to quantify the costs and benefits in every case, as the underlying data simply do not exist. We have, therefore, supplemented the quantitative analysis with qualitative analysis.

5.1 Building block one: harmonised definition of covered bonds

5.1.1 Dual recourse

Qualifying covered bonds would be defined as "dual recourse" debt instruments. This means that covered bond holders would have a claim on the covered bond issuer and, in case of their insolvency, a priority claim on the proceeds from assets in the cover pool, both claims limited to the fulfilment of the payment obligations attached to the covered bond.

If the assets are insufficient, the covered bond holders would have a claim on the issuer's insolvency estate that ranks *pari passu*, but not senior to the claims of the issuer's unsecured creditors.

a) The current situation (baseline)

The proposal is in line with the equivalent rule currently contained in the UCITS directive, other than to clarify the nature of the claim against the insolvency estate. The proposal is also in line with the EBA best practice. All 21 jurisdictions that reported to the EBA currently conform to this rule (Table 2 in section 2).

National covered bond laws in the remaining four jurisdictions (Bulgaria, Hungary, Latvia and Lithuania) also enshrine the principle of dual recourse.

b) Potential implications and impacts of the specific proposal

The dual recourse principle is a fundamental structural feature of covered bonds. There are no specific costs and benefits associated with this rule. Elaborating the existing UCITS definition, however, adds clarity³⁹.

Respondents to the OPC made the following points:

- The definition (although to note that the definition provided in the consultation document is different from the proposal above) seems to signpost the cover bond holders primarily to the cover pool by specifically stating that full recourse means that investors have an unsecured claim against the issuer for any deficit that may result from applying the proceeds of the cover pool.
- The apparent sequencing, which suggests that covered bond holders may not exercise their unsecured claim against the issuer before the cover pool is realised- was a concern for some respondents since exercising the claim against the issuer before the realisation of the cover pool is currently permitted in some jurisdiction and the sequencing could potentially put other unsecured creditors at an advantage.

³⁹ It is worth highlighting that some respondents to the OPC specifically indicated they preferred the EBA formulation compared to the definition of dual recourse principle put forward by the Commission in the OPC document, for its clarity and because in the EBA, the more important recourse, which is against the issuer, comes first.

- An alternative, suggested requirement was that investors should have an unsecured claim against the issuer for an amount equal to the nominal amount of the bonds.
- The definition remains unclear as to the treatment of the derivative counterparties/hedge providers. Some respondents thought it should be made clear that they also rank *pari passu* with the bondholders.
- The definition should be worded to be fully applicable to all covered bond frameworks. For instance, from the definition proposed in the public consultation, it was not clear that the covered bondholder can effectively have a separate claim against not only the issuer but also, under certain circumstances, the SPV asset pool owner (as is the case in the UK).
- One comment was that to safeguard covered bonds from being put at risk by the "Originate to Distribute" model, the definition should specify that the issuer/originator in question cannot mean a special vehicle without any assets besides the cover pool and without managerial capacity to set up a covered bond programme.

Please note also the discussion in section "4.1.2 Segregation of cover assets" of the claim against assets in the cover pool with specific reference to voluntary over-collateralisation.

c) Conclusion

The dual recourse principle is already provided for in the UCITS definition and all Member States are fully aligned with this rule. The inclusion of the dual recourse principle in a harmonised EU definition is therefore, not expected to generate any practical changes in the market in relation to the current situation.

5.1.2 Asset segregation

The covered bond should ensure identification and effective legal segregation of all assets in the cover pool either by (i) a cover register (ii) transfer to an SPV or (iii) segregation in a specialised credit institution. The segregation should be binding and enforceable including in the issuer's insolvency or resolution.

This relates to all assets that contribute to the coverage requirement (primary assets, substitution and liquidity assets and derivatives and connected collateral).

This should also include "voluntary over-collateralisation i.e. cover assets set aside by the issuer for the benefit of the investors in addition to the required coverage."

a) Current situation (baseline)

This rule is not currently covered by UCITS.

The proposal is, however, broadly in line with EBA best practice 2 –A (segregation of cover assets), except that it clarifies that the scope of assets segregated should also include assets in the liquidity buffer, collateral posted under a CSA and voluntary over-collateralisation.

In its 2016 Report, EBA observes a very high level of alignment with this best practice, with 21 out of 22 responding jurisdictions assessed as fully aligned with EBA best practice (Table 2 in section 2). But, contrary to the EBA's appraisal of conformity with this best practice, we are aware of at least one major jurisdiction (which cannot be

named due to requests for confidentiality) where collateral posted under a CSA is not properly segregated in a cover pool.

As highlighted by the EBA, the Spanish framework does not currently fully align with this proposed rule. The Spanish framework for CH does not require segregation of cover assets, although some legal procedures exist that effectively achieve the same result. Specifically, all mortgages serving as collateral for this type of covered bond must be registered with the land registry and a special accounting register must be kept by issuers that registers the collateral and substitute assets and derivatives.

In practice, supervisors in some Member States rely on third-party legal advice to ensure that this is fully achieved.

b) Potential implications and impacts of the specific proposal

The clear legal segregation of assets is a fundamental principle of covered bonds. How the assets are segregated is a function of national legal arrangements and it would be difficult or impossible to standardise it in practice across Member States. For example, the way security is created, how assets are transferred and ownership or security interests registered are all a function of national land law, security law and insolvency law, none of which have been standardised across the Union.

Most of the investors consulted for this study have emphasised the importance of clarity over legal segregation and the extent of their claim over voluntary over-collateralisation.

It should also be noted that there is some ambiguity around the phrase "voluntary over-collateralisation". The EBA defines it as "cover assets set aside by the issuer for the benefit of the investors in addition to the required coverage". But stake holder interviews made it clear that "required coverage" could either be defined as "required by law or regulation" or "required by contractual terms". If the former definition is assumed, it is vital that the legal segregation of the over-collateralisation required by contractual terms is also ensured. If the latter definition is applied, the segregation of "voluntary over-collateralisation" (i.e. over-collateralisation that happens to be in the pool occasionally but which is not required under any contractual obligations) is not essential.

We would point out here that there are two non-EU jurisdictions (Australia and Singapore) where voluntary over-collateralisation defined by contract is fully protected, but any residual amount over this contractual commitment is automatically returned to the estate of a failed bank. From the point of view of the protection of unsecured creditors of the bank and the improvement of the clarity of any potential resolution scenario, this approach appears to work.

There is further misunderstanding of this rule involving the confusion of the concept of legal separation and the extent of the claim. For example, in Germany, the legal segregation of the entirety of the cover pool is totally clear. However, the insolvency administrator of the issuer may demand the return of those assets in the cover pool "which will obviously not be necessary [as cover]".

In the case of Spain, it is clear that conforming to this proposal will require a very substantial revision of the legal framework. This is discussed in section 5.3.

c) Conclusion

The clear legal segregation of cover pool assets is fundamentally important to the functioning of covered bonds and there should be no incremental costs involved in implementing this proposal since this principle is being applied in almost all EU jurisdictions with covered bond laws, except in Spain where the national covered bond legal framework is currently partially aligned with EBA best practice and those cases where derivatives are not fully segregated in cover pools. The segregation of derivatives into cover pools may be operationally onerous, but should not involve any material commercial costs.

In the case of Spain, as the necessary changes to ensure compliance with the proposal touch on much of the proposal, it is considered separately in section 5.3.

Market participants would benefit from greater clarity over the definition of “required coverage” in the context of the discussion of voluntary over-collateralisation. We note that in the 2016 EBA report, this is recommended under step 2 (which corresponds to building block 2 in this report) in the context of the recommendation on minimum over-collateralisation. Given that clarity on this point is required for all covered bonds, we would propose introducing it as a step 1 requirement (which corresponds to building block 1 in this report).

To the extent that assets in the pool are in excess of the required coverage, their return to the estate of the originator does not seemingly contradict the asset segregation principle. Whereas the return of this over-collateralisation has considerable merit from a broader perspective than the interests of covered bond holders, we appreciate that it is not necessarily compatible with all jurisdictions in the EU, in particular those where there are no contractually based over-collateralisation rules. Therefore, it is not appropriate to include such a requirement to return such assets in EU legislation but some Member States may voluntarily consider implementing such a rule.

5.1.3 Bankruptcy remoteness of covered bonds

Payments under the covered bond should not automatically accelerate upon insolvency or resolution and [frameworks should] ensure that the options available to the covered bond administrator are not constrained.

In the event of insolvency, bond claims should have priority over proceeds from assets in the cover pool. Claims of other creditors should be subordinated to these claims.

The issuer should have a plan in place specifying the operational procedures upon their insolvency or resolution to ensure an orderly functioning of the covered bond programme.

a) The current situation (baseline)

This rule is very similar to EBA best practice 2-B (Bankruptcy remoteness of the covered bond).

As highlighted by the EBA report, there are several jurisdictions that partially do not conform to this rule due to the absence of a sufficient operational plan (Cyprus, the Czech Republic, Germany, France, Portugal Slovakia and Slovenia) – see Table 2 in section 2.

In the Czech Republic, covered bonds accelerate in the event of issuer insolvency⁴⁰. Contrary to the comment made by the EBA this is currently also the case in Slovakia (under section 195(2) of the Insolvency Act which is not derogated by the covered bond legislation).

We note that the EBA in their general comments on the survey highlight that responses “may contain elements of subjective consideration” and [have] “not been

⁴⁰ Acceleration refers to the principle of all outstanding bonds becoming due immediately in the event of issuer insolvency, rather than according to their original maturity schedule. This should be contrasted to the practice in many jurisdictions whereby bonds continue to fall due on their scheduled date after issuer insolvency unless other triggers occur – such as the pool itself becoming insolvent, that is there is no remaining over-collateralisation due to credit losses.

subject to a peer review by the competent authorities". In the case of operational rules, based on conversations we had with issuers in several jurisdictions, we suspect that this topic may be an area where interpretations of the requirement differ and therefore treat the reported list of partially compliant countries with a degree of scepticism.

b) Potential implications and impacts of the specific proposal

Acceleration

There are currently diverse practices in Member States over the triggers for acceleration of claims under bonds, although as highlighted above, all but two Member States (Czech and Slovakia) appear to meet the EBA's proposed rule in its current format. According to the rating agencies, an inappropriate acceleration trigger could potentially generate time subordination between different classes of covered bonds (i.e., a delayed acceleration of claims may result in shorter dated bonds being de facto subordinated to later maturing bonds). Although it would be difficult to legislate exact conditions for acceleration trigger events, it may be helpful for the EBA to elaborate the principles that should apply to them.

Operational plans

Issuers in some of the jurisdictions highlighted as non-compliant with the operational procedures part of this proposed rule have pointed out that they do have operational plans in place, but that these exist outside covered bond supervisory processes, for example, in recovery and resolution plans/living wills. Furthermore, the covered bond regulations and/or contractual agreements (such as servicing agreements) themselves are sometimes detailed with regard to aspects of this (for example, the automatic redirection of cashflows). Arguably, this amounts to de facto compliance with this rule. Even if, according to one issuer (in the Netherlands) with whom we discussed this topic, it was a relatively easy process to take their existing "post issuer default plan" and modify it to conform to these requirements. In particular, this did not require external costs (for example, from lawyers or auditors).

In contrast, an industry association we discussed this topic with was currently in discussion with the resolution authorities as to the necessary additional operational preparations, but strongly wanted to avoid a "double burden" of operational plans. It estimated the cost of preparing such a plan as in excess of €20,000 per issuer.

Altogether, 168 covered bond programmes are in jurisdictions where the competent authority reports that they do not require an operational plan to be in place. The costs of implementing such a plan are primarily management time, and estimates of the cost vary considerably (from "very little" to "in excess of €20,000"). Taking €10,000 as the average across all programmes and jurisdictions, the total cost of developing operational plans is estimated at €1.7 million (Table 7).

Table 7. Estimated cost of putting in place an operational plan

Jurisdictions assessed as partially aligned by EBA	Number of programmes (2015)*	Average cost of putting an operational plan in place	Total cost
Cyprus	1	10,000 €	10,000 €
The Czech Republic	8	10,000 €	80,000 €
Germany	121	10,000 €	1,210,000 €

Jurisdictions assessed as partially aligned by EBA	Number of programmes (2015)*	Average cost of putting an operational plan in place	Total cost
France	19	10,000 €	190,000 €
Portugal	11	10,000 €	110,000 €
Slovakia	8	10,000 €	80,000 €
Slovenia	na		
Total	168		1,680,000 €

Source: *ECBC Factbook- 2016; own calculations

Some stakeholders also flagged that an operational plan might reduce supervisors and administrators' flexibility post-insolvency. We consider that, in practice, a correctly drafted operational plan does not reduce the flexibility of supervisors and administrators post-insolvency. Issuer comments here highlighted that a well-drafted operational plan is principles based and, typically, in conjunction with bond documents, contains a clear route that can be followed for post-insolvency administrators to act outside the operational plan where this is in the best interests of bondholders.

c) Conclusion

An EU legal framework requiring bankruptcy remoteness of covered bonds would lead to legislative changes in seven Member States where national legislation is partly aligned with this rule due to the absence of a regulatory requirement for issuers to have operational procedures in place for orderly functioning of the covered bond programme upon issuer's insolvency/resolution. It is estimated that making the necessary change in national legislation would impact upon 168 programmes and generate a cost of around €1.7 million for the issuers.

The introduction of such operational plans specific to covered bonds, although to some extent duplicating work already done elsewhere, will help to ensure that there are no inconsistencies between the "resolution and recovery" and covered bond plans, will allow the regulator to ensure consistency between the operational plans and cost estimates of different issuers and will provide a useful guide in the event that such operational plans ever need to be put into place. These benefits, although not quantifiable, appear to justify the above estimated expenditure

The laws and existing programmes in the Czech Republic and Slovakia (where transition arrangements would be needed) would need to be amended. As these amendments are for reasons of non-compliance with several of the EBA proposed rules the impact of these amendments are considered separately in section 5.3.

5.1.4 Eligible cover assets

Note: eligible cover assets are considered in the context of step 2 by the EBA. However, the terms of reference for this report asked us to consider this topic in the context of both steps 1 and 2, specifically:

Step one

Consider two options for potential asset eligibility requirements:

- not include a list of eligible cover assets, thus focusing only on the structural aspects of covered bonds;
- include a list of eligible assets.

If the option of listing eligible cover assets were followed, consider two further alternatives:

- include only "traditional cover bond assets", i.e., those eligible under covered bond national laws (mortgage-backed loans, residential guaranteed loans in France, public sector loans, ship and aircraft loans);
- add other "alternative" assets such as loans to SMEs or infrastructure projects

NB: it is not intended to import the eligibility criteria of Art. 129 CRR. If option 2 were followed, assets would be described as security for the cover bonds, but any specific criteria for safety and soundness purposes (e.g. LTVs) should be left to prudential legislation

Step two: requirements on eligible collateral and rules on composition of the cover pool

The EU framework would not extend the current scope of eligible assets for Art. 129 CRR purposes to other assets.

On the list of eligible cover assets, certain other criteria could be added, for instance:

- for "residential" and "commercial loans", minimum standards on enforcement of collateral;
- for "public sector loans", minimum standards and a principle of effective enforceability;
- concentration requirements for mixed pools;

Covered bonds backed by ship loans would be removed from the list of eligible cover assets (current par. (1)(g) of Article 129 of the CRR).

a) Current situation (baseline)

As mentioned in section 2, eligible assets for covered bonds are currently defined in EU law in the CRR article 129. They are also variously defined in national laws. Generally, the national law has a narrower definition of asset eligibility, but in a few cases, covered bonds constructed under national laws contain assets not covered in article 129. These covered bonds are UCITS compliant but not CRR compliant. This is the case, for example, for loans secured on aircraft permitted under German law.

Table 8 shows the primary asset classes allowed in cover pools in EU Member States. All 21 EU jurisdictions that responded to the EBA's questionnaire allow mortgages as primary asset class (at least for one of their covered bond programmes), while most also allow public sector loans. Covered bond frameworks only allowing mortgage cover pools exist in a few jurisdictions (e.g. the Czech Republic and Romania). A few

jurisdictions allow for securitisation notes as primary cover assets (e.g. France, Ireland and Italy), within the constraints of article 129 and as approved by the EBA recommendations in 2014. Covered bonds primarily backed by ship loans are allowed in a few jurisdictions' covered bond frameworks (e.g. Cyprus, Denmark, Luxembourg, Germany and Greece).

Whereas most national legislation in theory allows a relatively broad definition of eligible assets in many cases specific secondary regulations have not been developed for any asset classes other than residential mortgages, typically due to a lack of commercial pressure. Therefore, the eligibility of other asset classes in the primary legislation is largely theoretical.

Furthermore, in the vast majority of covered bond programmes most issuers have chosen to restrict their choice of primary assets to only residential mortgages.

Table 8. Primary assets allowed in cover pools

	Residential mortgages	Commercial mortgages	Public sector loans	Ship loans	Aircraft loans	Guaranteed real estate loans	Certain types of MBS	Other	Derivatives allowed in cover pool?
Austria	Y	Y	Y					Eligible bonds	Y
Belgium	Y	Y	Y						Y
Bulgaria	Y	Y	Y						N
Croatia									
Cyprus	Y	Y	Y	Y				Other loans determined by CA	Y
Czech Republic	Y	Y							N
Denmark: universal banks	Y	Y		Y					Y
Denmark: specialised	Y	Y							Y
Estonia									
Finland	Y	Y	Y						Y
France: OF	Y	Y	Y			Y	Y		Y
France: OFH						Y			Y
France: CRH	Y					Y			N
Germany	Y	Y	Y	Y	Y				Y
Greece	Y	Y	Y	Y					Y
Hungary	Y	Y							Y
Ireland	Y	Y	Y				Y (senior)		Y
Italy	Y	Y	Y				Y (senior)		No rule

	Residential mortgages	Commercial mortgages	Public sector loans	Ship loans	Aircraft loans	Guaranteed real estate loans	Certain types of MBS	Other	Derivatives allowed in cover pool?
Latvia									
Lithuania									
Luxembourg	Y	Y	Y	Y	Y		Y	Other moveable assets	Y
Malta									
Netherlands	Y	Y	Y	Y					Y
Poland	Y	Y	Y						Y
Portugal	Y	Y	Y						Y
Romania	Y	Y	Y						Y
Slovakia: mortgage bond	Y								N
Slovakia: municipal bond			Y						N
Slovenia: mortgage bond	Y	Y							Y
Slovenia: municipal bond			Y						Y
Spain: CH	Y	Y							Y
Spain: CT			Y						N
Sweden	Y	Y	Y						Y
United Kingdom	Y	Y	Y						Y

Based on ECBC database and EBA (2016) EBA Report on Covered Bonds: Recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA, 20 December 2016

b) Potential implications and impacts of the specific proposal

General principle

Although the stakeholders interviewed disagreed about the suitability of “alternative” asset classes (i.e. asset classes other than those currently defined in article 129 of the capital regulations), they generally agreed that if these are to be included in building block one (i.e. a harmonised EU definition of covered bonds), there should be a clear differentiation of bonds backed by these assets from bonds backed by “traditional” assets to protect the reputation of existing covered bonds.

This is based on the widely held assumption that “alternative” asset backed covered bonds will necessarily have a lower credit quality than “traditional” asset backed covered bonds, all other things being equal.

This could be undertaken as a minimum by requiring separate cover pools (although this would require substantial additional legal changes in France and Austria (FBS framework only) as they currently allow mixed asset cover pools).

Alternatively, there was widespread support for the EBA’s proposed “two step” approach with non-traditional assets constituting the first step. However, to emphasise the distinction and protect the traditional covered bond “brand”, several stakeholders proposed a different terminology for bonds backed by alternative assets, with “European Secured Notes” the most frequently cited term for the step 1 alternative bonds. But further consideration is clearly needed on the merits of creating an alternative brand, which is beyond the scope of the present study.

Opponents of the widening of the concept offered the following arguments:

- All the likely alternative asset classes are more heterogeneous than existing asset classes in terms of (inter alia) valuation, definition, supervision and management. For example, a specialist on the SME sector pointed out that the EU standard definition of SME captured very different types of credit in different Member States and was considered inadequate for these purposes. This was felt to increase market fragmentation and require more complex supervisory rules.
- Even with safeguards in place to differentiate traditional from alternative asset backed covered bonds, it was felt that the failure of a “covered bond” backed by alternative assets was more probable than one backed by traditional assets but that this would undermine the global reputation of the covered bond market. Many stakeholders pointed out (in particular those in jurisdictions with a more “granular” investor base, such as exists in Denmark and Germany) that the appeal of the asset class in particular for less sophisticated investors rested on its unblemished credit track record and its homogeneity and simplicity.
- As most of the likely alternative assets have a lower credit quality and are less resilient to economic distress than traditional assets (SMEs are among the main drivers of business cycles), it was felt that their inclusion would increase the level of encumbrance of bank balance sheets and that this would be pro-cyclical. Concretely, those assets would need to be replaced, at times of distress when they become non-performing, with assets of higher quality previously unencumbered. This could undermine the ability of covered bonds to function as a stable source of funding during economic downturns.

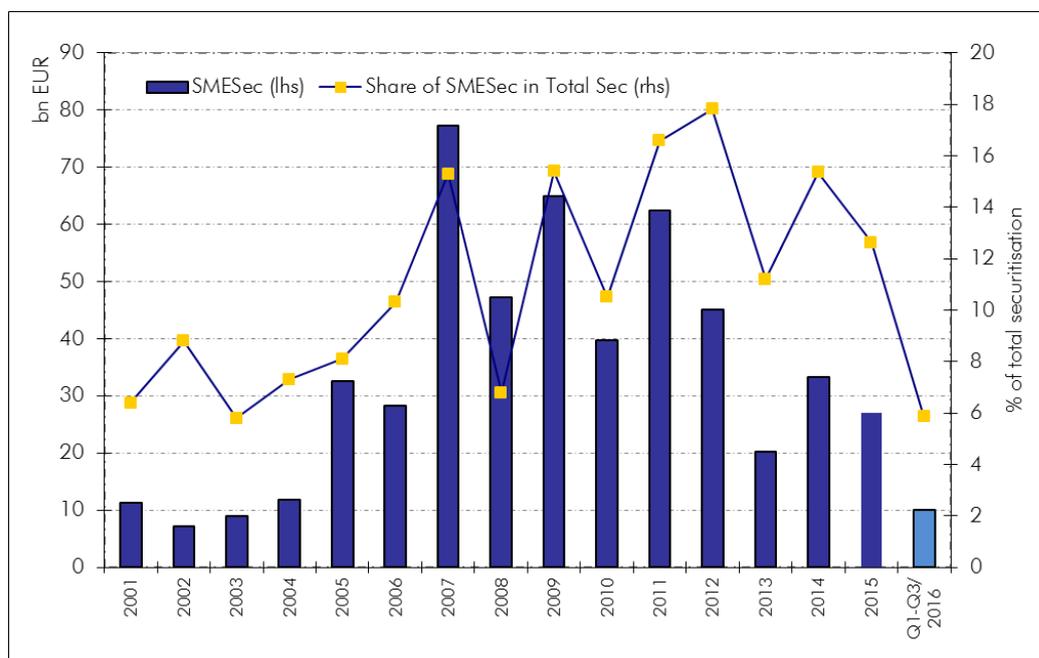
As a general point, several stakeholders questioned the basis on which assets should be defined as eligible for covered bonds. It has been proposed variously that the underlying assets should have an appraisable value, that security over a physical asset should exist and be legally enforceable, the ability to re-possess an asset and that the assets should be long-term. Based on these criteria, it could be argued that ships and

aircraft are more appropriate asset classes for inclusion in the eligibility criteria than loans to SMEs.

Alternatively, it has been suggested (by a rating agency discussing the probability of government intervention to support the asset class) that covered bond assets should be important to public policy, which would argue that loans to SMEs are more appropriate than loans secured on aircraft.

Several opponents of the introduction of non-traditional assets have emphasised that securitisations or unregulated secured/recourse debt are more appropriate funding tools for these assets. Whereas this may be true in practice, market conditions in the securitisation market (both currently – see Figure 28 and, more significantly in a stress scenario) and the eligibility criteria currently proposed for STS securitisations make this impractical currently and in the foreseeable future.

Figure 28. SME securitisation issuance in Europe (volume and share of total securitisation, bn EUR and %)



Source: EIF (based on data from AFME / SIFMA and own calculation)

Some rating agencies pointed out that non-traditional asset classes may have lower assumed levels of systemic support. But they would be willing to rate alternative asset classes and these could potentially achieve the same credit ratings as bonds backed by traditional asset classes with differences in security, long-term value, etc. being adjusted for via a requirement for higher levels of over-collateralisation.

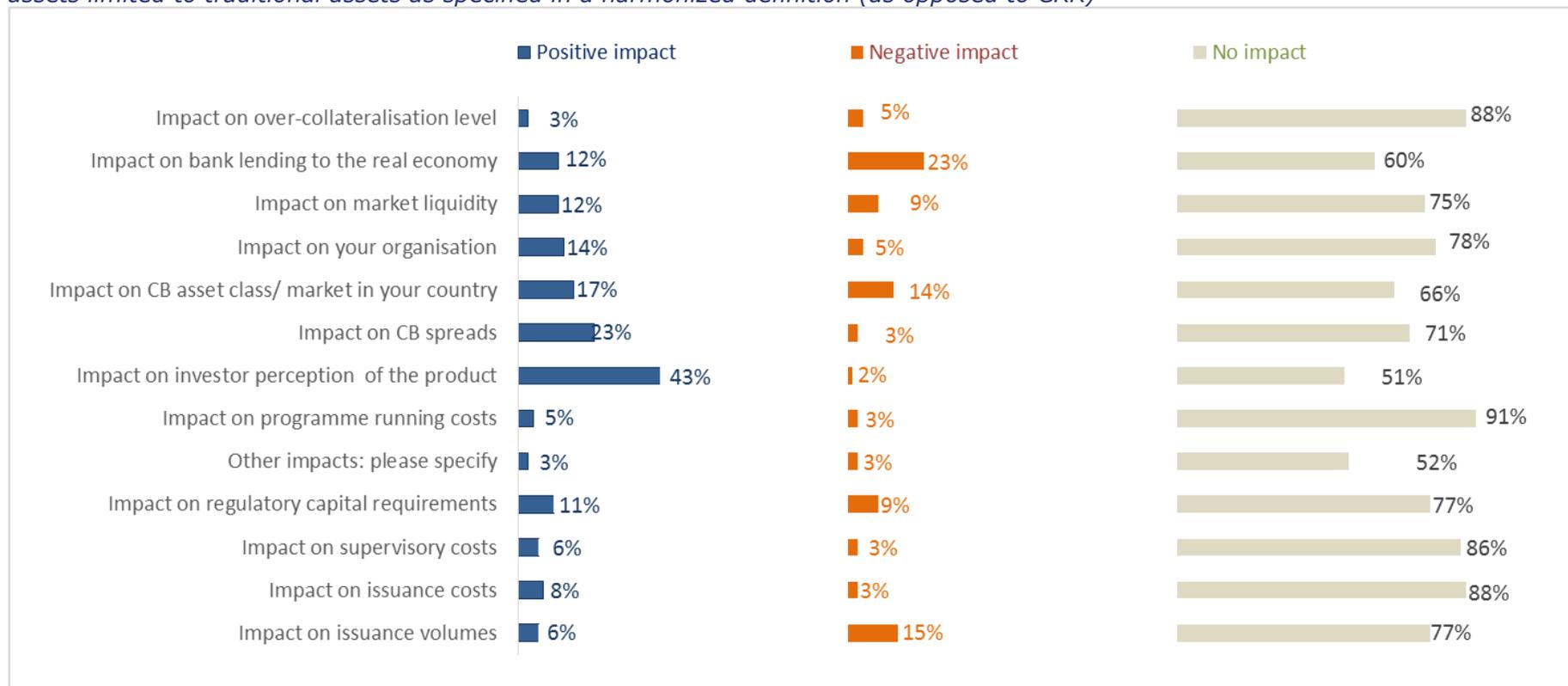
One response to the public consultation suggested partial recognition of this asset class in prudential regulations – i.e. a “half-way” capital weighting and full inclusion in ECB monetary policy but not in solvency 2. Whereas the discussion of step 1 and step 2 proposed by the EBA is entirely binary (covered bonds either receive prudential treatment or they do not) it may also be worth considering intermediate states for prudential regulation based on specific asset classes or structures. It should be noted that there is substantial precedent for “intermediate” treatment for covered bonds with certain characteristics, for example, in the different categories of ECB repo collateral or the different eligibility levels for liquidity cover ratio purposes.

Some stakeholders, in particular issuers in Southern Europe, have emphasised that whereas the funding of non-traditional assets by banks (in particular loans to SMEs) was currently constrained by capital rather than liquidity considerations, this was a function of the current non-normal market conditions. Therefore, given the importance

of this asset class for the real economy it was appropriate to allow it to be an eligible asset even if there was not a current need for SME covered bonds.

An ICF survey of issuers and national coordinators suggests that a majority of respondents believe that the inclusion of alternative asset classes would have a negative impact on investor perception of the product (58 per cent) and covered bond spreads (52 per cent), although a significant proportion of respondent also believe that this would increase bank lending to the real economy and have a positive impact on issuance volumes (Figure 30). On the other hand, limiting eligibility to traditional assets is seen to have little impact according to a majority of the respondents (Figure 29). This is not surprising, considering that this corresponds to the current situation.

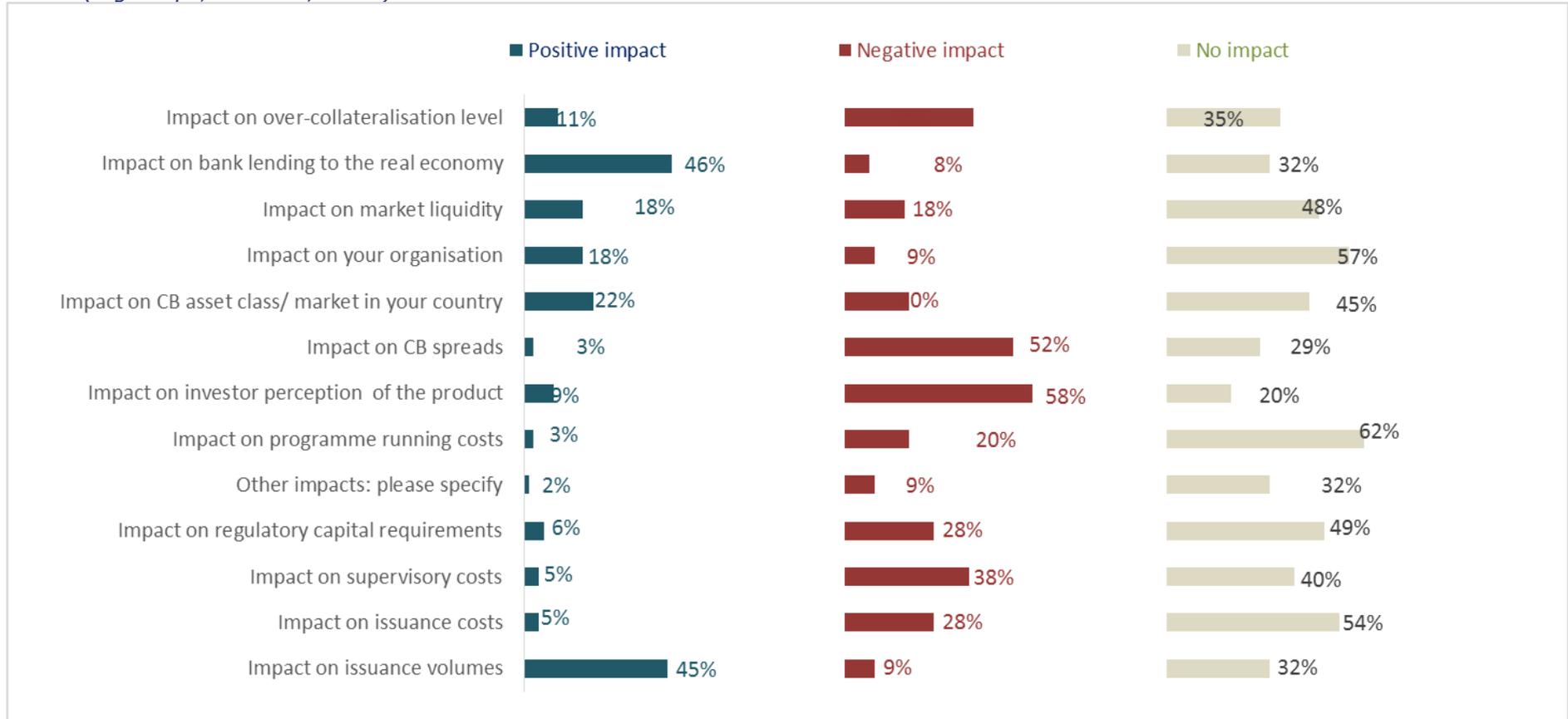
Figure 29. Likely impacts of some of the key elements of a potential EU legislative framework on covered bonds - Option 1: Eligible assets limited to traditional assets as specified in a harmonized definition (as opposed to CRR)



Source: ICF survey, feb. 2017, n=65, figures do not add up to 100% due to no response (average 3% of no response)

Note: Question 14 from online survey

Figure 30. Likely impacts of some of the key elements of a potential EU legislative framework on covered bonds - Option 2: Alternative assets (e.g. ships, aircrafts, SMEs) also included



Source: ICF survey, Feb 2017, n=65, figures do not add up to 100% due to no response (average 15% of no response).

Note: Question 15 from online survey

Ship specific comments

An analysis of the appropriate prudential treatment of aircraft backed covered bonds undertaken by the EBA in 2014 was lauded and widely held as a precedent for the appropriate way to determine whether ship mortgage covered bonds should benefit from preferential prudential treatment.

It was pointed out that ship mortgages have long been eligible assets without differentiation from bonds backed by real estate mortgages in both national and EU legislation. There is a long track record of ship covered bonds maintaining a high credit standing and substantial historic evidence suggesting that the actual credit quality is comparable with that of other eligible asset classes. Therefore, on the principle that any changes to existing legislation should be evidenced based, it was suggested that there was no case currently to exclude the asset class.

SME specific comments

In general, most stakeholders who explicitly commented on the inclusion of SMEs loans within the cover pool were fairly sceptical about the use of SMEs as cover pool assets. They emphasised that they typically have a lower credit quality, that they do not have security over any physical assets, and that the heterogeneity of the asset class implied an operational and supervisory framework would be needed that would be at odds with the simple and standardised nature of existing covered bond cover pools.

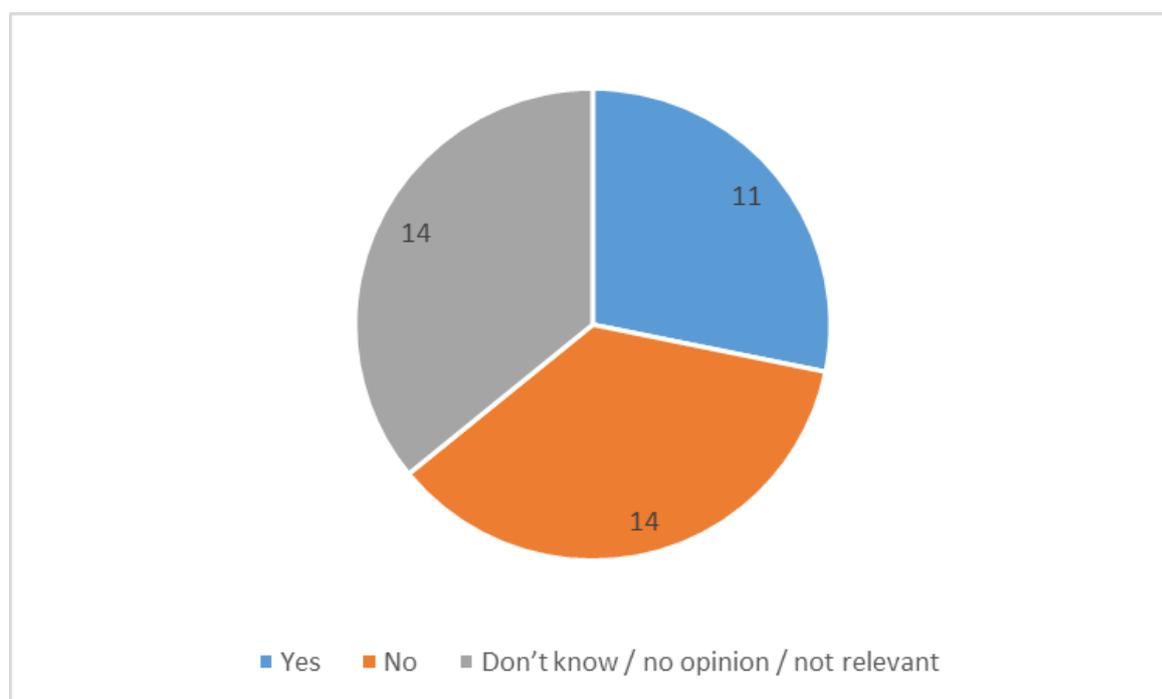
One stakeholder (a public sector entity) emphasised the lessons that can be drawn from the inclusion of SME loans in covered bonds under Turkish law. The inclusion of this asset class has not in any way harmed the strong investor reception for these bonds (although clearly it is difficult to generalise from this to the likely investor treatment of covered bonds in Member States). Furthermore, SME loans were allowed under Turkish law as they represent a larger portion of banking assets than residential mortgages. This is also true in many EU Member States, particularly those that do not currently have established covered bond markets and/or have limited residential mortgage markets, particularly those in central and eastern Europe.

Several stakeholders have also commented that one of the stated objective of CMU is to enhance the availability of financing for SMEs, therefore it would be appropriate to allow this asset class to back covered bonds.

In many jurisdictions, for example Spain, Denmark and Sweden, loans to SMEs are typically secured on mortgages, either residential, commercial or frequently mixed use and as such are frequently already included in cover pools. SME loans can also be guaranteed by mutual guarantee societies which are, in turn, guaranteed by a public company in a reinsurance scheme.

As to whether it is possible to identify a category of "prime" SME loans as a potential eligible asset class for cover pools, the views in the public consultation were divided, including among investors.

Figure 31. In relation to SME loans, is it possible to identify a category of "prime" SME loans as a potential eligible asset class for cover pools?



Source: European commission Open Public Consultation. N= 39

Some respondents rejected the idea of a "prime" SME loan. This could be for the opposite reasons: either because they oppose the idea of including SME loans per se, or, less commonly, among the supporters of inclusion of SME loans among eligible assets, because they believe that there is no need to attempt to define a "prime" category.

Among those who do not categorically oppose the idea, the main comments in qualitative answers related to the feasibility of defining a category of "prime" SME loans. Several consultation answers referred to the fact that, in a sense, SME loans secured on commercial property or guaranteed by public sector bodies (already currently eligible in some jurisdictions) could be what constitutes a "prime" SME loan. Some stakeholders even see such mortgage-backed SME loans as real estate loans (not SME loans). Apart from the reference to secured SME loans, other points raised regarding the definition of "prime" SME loans included:

- The definition of "prime" SME loan would be all the more complex that SMEs are generally not externally rated and central credit registers are not maintained in all EU countries and not centralized at an EU level⁴¹.
- Bank internal ratings systems could potentially be used although these would need to be approved by the regulators (and this solution might not be ideal from an investor's point of view).
- The assessment of a prime SME loan should not be based only on an assessment of the quality of the borrower, but also take into account the technicalities of the loan and the use of proceeds.

⁴¹ The Institute of International Finance (2015) Addressing SME Financing Impediments in Europe: A Review of Recent Initiatives Available at: <https://www.iif.com/file/7585/download?token=6ceEHVKq>

At the margin, approaches that have been suggested to define prime categories include drawing eligible SME loans from a list of eligible industry sectors less sensitive to economic cycles and noting also that prime SME loan portfolio should be built in such a way as to avoid concentration.

The relative size of SME lending market vis-à-vis mortgage lending (euro area)

The overall outstanding residential mortgages in the EEA represented €7.3 trillion in 2015. The euro area accounts for 62 per cent of that total or €4.5 trillion (source Hypostat). Total volume of outstanding loans to both small and large companies in the euro-area stood at €4.1 trillion at the end 2016 (source: ECB MFI statistics). Assuming that 30 per cent of this represents SME loans⁴², total outstanding SME lending is estimated at €1.23 trillion.

Quantified costs and benefits

Probability weighted cost: €200 million, worst case cost: €800 million

The potential cost of such a proposal is the reputational costs to the market for traditional covered bonds, if an alternative asset covered bond were to default. The probability weighted cost and worst case cost are based on tentative market proposals for the development of this asset class which are at a relatively early stage in their development. On the basis of our current understanding of how this asset class may develop based on conversations with stakeholders we have here made a preliminary attempt at a quantitative analysis of the factors that may influence both the costs and benefits. These methodologies and the assumptions underpinning these calculations are explained below.

The probability weighted cost of contagion has been calculated as follows:

$$p(CB^{SME}) = (i \times c \times m \times t \times ce) \times p$$

Where,

$p(CB^{SME})$ = probability weighted cost of default of SME backed covered bond

i = issuance volumes after a default

c = extra yield demanded by investors following a default

m = average maturity under stressed market conditions

t = duration of stressed issuance conditions

ce = contagion effect

P = probability that an SME backed covered bond defaults first

The detailed calculations are shown in the table below.

Table 9. Probability weighted cost of contagion: detailed calculations

Variable	Value	Notes
Issuance after a default (€ billion)	320	40% decline (worst in last crisis) applied to current volumes

⁴² The volume of average monthly new lending to SMEs in the euro area lied around € 59 billion in 2016, representing 30% of the total volume of loans granted.

Extra cost	0.10%	Estimate 0.25% in year 1, declining over time
Maturity (years)	3	modal maturity in last crisis
Duration of stress (years)	5	approximate duration of last crisis
Contagion effect	20%	Educated guess
Total cost of a default (€ billion)	0.96	Calculated
Probability default is caused by SME		
SME's share of market	5%	More conservative scenario
SME's risk multiple	4	Risk weight relative to residential mortgages
Probability that SME covered bond defaults first	20%	Conservatively ignores SME and traditional bonds defaulting simultaneously
Probability weighted cost of SME default on entire covered market (€ billion)	0.192	Rounded to € 200 million
Worst case		
Assumes contagion effect and extra costs both double	0.768	Rounded to € 800 million

Each of the above inputs and assumptions is explained below.

Issuance volumes and average maturity

In the case of a default, we can anticipate that both total issuance and average maturities will fall, for illustration we estimate to €300 billion per year with an average maturity of three years.

The issuance volume assumption is based on the largest one-year decline in issuance volumes (40 per cent from 2012 to 2013, largely as a result of the sovereign credit concerns during that period) applied to issuance volumes in the last available year (2015, €539 billion) which gives €320 billion that has been rounded to €300 billion to avoid the risk of spurious accuracy.

The average maturity of three years is based on the actual issuance behaviour in the worst year of the financial crisis, as described in section 3. In 2008, 62 per cent of issuance had a maturity of up to three years, 26 per cent had an initial maturity of four to six years, and 12 per cent had higher maturities. Three years was the modal maturity of bonds issued in the most stressed years in the financial crisis.

Although any given alternative asset covered bond is likely to be riskier than a traditional covered bond, this will largely be mitigated by rating agency demands for more over-collateralisation. Furthermore, even under the "high take up" scenario below (namely €25 billion of issuance per year), the volume of outstanding alternative asset covered bonds after five years will be 5 per cent of the total market (€25 billion multiplied by five years divided by €2.5 trillion). Under the low use scenario (€10 billion per year) it will be 2 per cent).

Cost increase and time horizon

We can make some educated guesses to estimate the potential effects of a default on the reputation of the covered bond market. This is necessarily arbitrary and it must be

recognised that any such failure would be recognised by market participants as being a result of a combination of two events (a corporate failure and a collapse in asset values) neither of which are a function of covered bonds per se. Conservatively, we can assume that a covered bond default would, on average, result in a 10 basis points increase in the yield demanded by investors over a five-year time horizon⁴³. The estimate of a five year duration for the envisaged stress period is based on the approximate duration of stressed issuance conditions from the previous financial crisis. Whereas it is difficult to be exact about the starting and ending points of the crisis and there were slight differences in the experience in different Member States the graphs shown in section 3.10 indicate that spread levels were broadly elevated from pre-crisis levels for approximately five years on average. Moreover we note that the "stigma" attached to individual issuers who have failed and been restructured or even to countries that have been excluded from the capital markets due to extreme stress events (Iceland or Ireland) for example can be up to this period.

Contagion effect

As alternative assets will be step 1 only, and to the extent that separate brands will be developed (for example, "gold standard" and "silver standard" covered bonds) we believe that most investors will be able to sufficiently differentiate the products and that the contagion risk is largely mitigated. We can estimate an 80 per cent value for the extent of this mitigation. It is reasonable to assume that the contagion effect of default by a SME backed covered bond would be limited as compared to default of a traditional covered bond.

The actual value will be a function of the success that the market has in creating distinct brands for the traditional and alternative asset classes. In this regard we note:

- At one extreme: there is no discernible correlation between events in the securitisation market and spreads in the covered bond market (other than to the extent that they are both correlated to general changes in market conditions). Arguably, the two secured debt products have several similarities, but their differences which include but are not limited to branding mean that market participants treat them as two distinct markets with totally separate brands and therefore no contagion between one another.
- At the other extreme: there is a correlation between events in different covered bond markets (for example, a widening of spreads in the covered bonds from one Member State or backed by one asset class will affect the covered bonds from other Member States or asset classes). However, even with a market considered to be largely homogeneous, anecdotally the market is relatively good at isolating such events – an increase in sovereign spreads or mortgage default rates in one country has a very small effect on spreads of bonds in other Member States.
- The best precedent for a "step 1 only" covered bond is the structured covered bond backed by SME loans issued by Commerzbank in 2013. There is a very high level of market awareness that this is a distinct "brand" from German covered bonds with, therefore, no contagion effect. This bond is not a perfect precedent as, for example, it is not based on national law, it is however the best available example of an "alternative" covered bond in an established jurisdiction and argues strongly for the ability of the market to differentiate.

⁴³ The 10 basis point assumption will clearly vary over time – it would be higher soon after a default, then diminishing over time, for example, the five -ear average of 10 basis points could be 25 basis points in the first year, 15 in the second year and 5 in each of the next two years following such a default

Furthermore, when considering the possible contagion effect, we should differentiate a failure that occurs in the context of a systemic market downturn and an idiosyncratic failure of an issuer. There are many examples of issuer failures in a systemic market downturn, but the impact of, for example, the failure of Northern Rock is impossible to differentiate from the other extreme market factors at the time. The widening of covered bond spreads then cannot be said to be a result of that specific issuer's failure.

Idiosyncratic failures of issuers on the other hand are less frequent but it is easier to isolate the effects. In this context, we note that the failure and subsequent rescue of AHBR in 2005 and Dusseldorf Hypo in 2015 had no discernible impact on the spreads of other pfandbrief issuers (source: Association of German Pfandbrief Banks) which again argues for a very low "contagion effect".

Assuming a contagion effect of 20 per cent for a SME backed covered bond, the cost of a default can be estimated as €1 billion.

Probability of default of an SME backed covered bond

This value should then be weighted by the probability that an alternative asset class covered bond will actually default and that a traditional covered bond will not (if it did, the contagion effect of the alternative asset class covered bond would be irrelevant).

Finally, the probabilities of default between the asset classes can be assumed to be highly correlated.

On this basis, we assume that there is a 20 per cent chance of a default of an alternative asset class, but not of a traditional asset class covered bond. This is a conservative assumption based on:

- The high issuance scenario (5 per cent of the market),
- A four times higher default probability for the asset class. This is calculated by comparing risk weights. We have assumed that the alternative assets will have a 100 per cent risk weight for bank capital purposes and that residential mortgages in the cover pool will have the lowest risk weight for the asset class available [under the BCBS proposal], namely 25 per cent.
- We have assigned no value to the correlation of default probabilities between traditional and alternative asset classes (i.e., that both a traditional and alternative asset class will default, in which case the impact on market reputation of the default of the alternative asset class covered bond will be outweighed by the impact of the default of the traditional asset class covered bond)

This therefore, gives a probability weighted cost of the contagion effect of €200 million.

We appreciate that this is highly subjective, in particular with regard to the weighted average basis point impact of the default and the ability of issuers to differentiate alternative and traditional asset classes. Although it is difficult to quantify these impacts, the assumptions are based on our best judgement and have been discussed for reasonableness with a small number of other market participants. Recognising their subjectivity, an alternative "worst case scenario" could also be defined where both impacts are doubled –i.e., the spreads are twice those assumed in the base case and the correlation doubled (i.e. ,the coefficient in the above formula decreased from 0.8 to 0.6). This would result in a **conservative worst case cost of €800 million.**

Probability weighted benefit: €1.6 billion

Probability weighted cost savings have been estimated as follows:

$$p(cs) = i \times p \times cs \times m \times t$$

Where,

$p(cs)$ = probability weighted cost savings

i = annual issuance volume of covered bonds backed by an alternative asset class

p = probability of occurrence

cs = cost savings resulting from raising funding via covered bonds as compared to an alternative source of funding

m = average maturity of covered bonds issued

t = time horizon for estimating benefits

The assumptions and inputs underpinning the above estimates are explained below.

Based on stakeholder interviews, we have assumed that the actual take up of this potential asset class will be low.

We define "scenario A" as a low use of the product, assumed to be a total of €10 billion per year and assign it a probability of 80 per cent. This is based on conversations with potential issuers who suggested that currently, there is only significant interest in issuance of covered bonds backed by an alternative asset class in Italy. Here we have assumed that total issuance of covered bonds will continue at the average rate for the last three years (€32 billion per year) and that approximately one-third will be in the form of alternative asset covered bonds. Over time, this proportion may increase.

We define an alternative "scenario B" on the assumption that the capital and NPL problems holding back lending to alternative asset classes are addressed and that there is a medium use of the product, assumed to be €25 billion per year and assign it a probability of 20 per cent. This assumes the Italian issuance, as above, plus a similar usage rate of alternative assets (one-third of the total) in those Member States where we consider issuance more likely to occur, namely France, Ireland, the Netherlands, Portugal and the UK, multiplied by average issuance in these countries over the past three years. These assumptions are subjective.

Furthermore we have assumed that the cost of funding the asset class via covered bonds is 50 basis points less than the alternative source of funding. This is based on, *inter alia*, the assumption that the alternative source of funding is also term funding (that is, not short term funding, for example via deposits) to ensure comparability.

The assumed cost saving "in normal market conditions" is estimated based on the following reference points:

- The Commerzbank SME structured covered bond referred to above generated a cost saving of 28 basis points for the issuer relative to the trading level of its own senior unsecured bonds of similar maturity at the time of launch (it priced at mid-swaps plus 0.47 per cent, a five-year unsecured bond of Commerzbank at the time was indicated at mid-swaps plus 0.75 per cent. Source: GlobalCapital). A "step 1" covered bond backed by alternative assets should price at a better level than this bond (which was not subject to public supervision or based on national legislation) therefore the 28 basis point saving is likely to be lower than the actual saving for a step 1 covered bond.
- Based on recently launched transactions, in current market conditions prime residential mortgage securitisations typically price at circa 30-40 basis points tighter than unsecured bonds for the same issuers. This cost saving could be expected to be greater for "step 1" covered bonds than for prime RMBS. However, the current saving is slightly inflated by the ECB's ABS purchase programme. Finally, there is only sufficient liquidity in the Dutch and British RMBS markets to make this comparison. We assume that alternative asset

classes will be used more in countries with a higher cost of debt, in particular Italy, therefore the likely saving can be expected to be more in basis point terms.

Assuming an average five-year duration of funding and a five-year time horizon (to compare with the costs section above), this generates of the following cost savings:

Table 10. Probability weighted benefits (cost savings) over a five year time horizon

	Scenario A	Scenario B
Issuance volume (€ billion)	10	25
Probability	0.8	0.2
Probability weighted issuance volume (€ billions)	8	5
Cost savings in basis points	50	50
Cost savings in € billions	0.04	0.025
Maturity (years)	5	5
Time horizon (years)	5	5
Probability weighted cost savings over a 5 year time horizon (€ billion)	1	0.625

Source: own calculations. Under Scenario A, issuers will save €1 billion and this scenario will occur with 80 per cent probability. Under Scenario B, issuers will save €0.625 billion and this scenario will occur with a 20 per cent probability. Summing the two scenarios, we arrive at a weighted average saving of €1.625 billion.

Additional costs and benefits

Benefit: Access to funding for SMEs

The above analysis does not capture the benefit to society of greater availability of funding to SMEs. Although this is clearly a very material benefit and is fully aligned with the stated objectives of the Capital Markets Union it is also extremely difficult to quantify in any meaningful way.

Benefit: Reduce probability of bank default

Several stakeholder meetings revealed that alternative assets would be an appropriate source of collateral for emergency funding operations.

Based on conversations with the treasurers of previously failed banks (undertaken by the author, but not in the context of this report) many banks in an extreme stress scenario which have insufficient covered bond funding (based on traditional assets) are forced to use their security portfolios as collateral and frequently these portfolios are insufficient.

Given that the size of the European banking sector is circa €30 trillion and that a single 'A' average rating is equivalent to a 0.4 per cent default probability over a five-year horizon, the expected losses from bank defaults in Europe over the next five years could be estimated as €120 billion (€30 trillion X 0.4 per cent default probability). If these effects were to reduce the risk of failure by 5 per cent, this would clearly be an over-arching consideration for this cost-benefit analysis. However, due to

the unknowability of the probability estimate, we have not included a quantitative estimate of this value.

Cost: ex ante contagion

Some issuer interviewees argued that the mere existence of covered bonds backed by alternative asset classes is a form of contagion that influences the pricing of covered bonds prior to a default. Given the proposed two-tier distinction and levels of investor awareness discussed above, and in the light of similar unfounded comments made historically (e.g. when covered bonds under contract law were introduced in 2003), we consider this to be a negligible effect.

Cost: Increase in encumbrance

The use of an alternative asset class, like all proposals that increase the use of covered bonds, potentially increases total levels of encumbrance in the banking system. This may be exacerbated in the case of alternative asset classes by a higher level of over-collateralisation. However, the net effect of this encumbrance is merely to shift losses from one class of creditor (unsecured) to another (secured) with no net effect. Furthermore, in the context of total encumbrance levels, the likely issuance levels on which the above cost/benefit analysis is predicated are not material. See appendix 4 for a more detailed discussion of this topic.

c) Conclusions

1/ Prudential treatment to be subject to periodic review

The definition of assets eligible for prudential treatment is an ongoing discussion and, over time, asset classes that are not currently eligible for prudential treatment may have established a sufficient track record that would justify it. EBA could therefore, be empowered to undertake occasional, more detailed reviews of individual asset classes' suitability for prudential treatment.

Following EBA comments regarding ships, we suggest it undertakes a review of the eligibility of this asset class similar to its analysis of certain asset classes in 2014.

2/ Alternative asset classes should be defined at the level of national legislation, building block one should be silent on this topic

It has become apparent from stakeholder conversations that the need for SME loans as the most prominent class of potential alternative assets, differs significantly between Member States. Despite the existing pan-European definition of SMEs, the nature of loans to SMEs is very diverse across Europe and a definition of the asset class can only be defined by taking into account national specificities.

The same is also probably true of other alternative asset classes that could be considered, even more since it is not clear which alternative asset classes may be most appropriate in each Member State.

This approach is in line with the rationale behind the current practice of only defining eligible assets for prudential purposes and leaving it to national regulators to define eligible assets for supervisory and harmonised definition purposes. It therefore avoids unnecessary disruption to current market definitions for those bonds that currently fall into this category.

3/ Alternative assets, as defined under national legislation should be eligible under building block one

Quantified costs and benefits are estimated to be as follows:

- Probability weighted cost: €200 million , worst case cost: €800 million
- Probability weighted benefit: €1.6 billion

Qualitative feedback from interviews and survey responses suggests that the inclusion of alternative asset classes would have a negative impact on investor perception of the covered bond product and covered bond spreads, and it would potentially increase total levels of encumbrance in the banking system.

On the benefits side, it would increase bank lending to the real economy (particularly, and have a positive impact on issuance volumes and reduce the probability of bank default.

5.1.5 Coverage requirements and over-collateralisation levels

Note: As the two topics are linked we consider them both in this section, although it should be noted that the EBA proposals for coverage requirements fall under building block 1 while the minimum over-collateralisation requirement is set out in building block 2. We furthermore refer to the EBA proposals for detail regarding the method by which the coverage should be calculated, and the requirement that assets should cover liabilities (proposal "d" in step 1) and the minimum over-collateralisation requirement (proposal "o" in step 2).

Proposal – coverage

All payment claims on cover assets must be at least equal to the sum of all payment obligations on the covered bonds (including operational costs).

Assets

The assets shall be for primary assets, substitution assets, and liquid assets the sum of:

- i) the principal outstanding on the loan (reduced where applicable based on nationally defined LTV limits), plus
- ii) total interest payments (fixed at the prevailing rates in the case of variable payments).

Plus,

Derivatives value calculated as the amount that is the smaller of i) the close out amount of the master agreement governing the derivatives and ii) the net cash inflows and outflows converted at spot prices where necessary.

Defaulted exposures without collateral (under the definition in article 178 of the CRR) are excluded from this calculation.

Note: for the avoidance of doubt, derivatives are always recorded as an asset even though they may have a negative value from the perspective of the cover pool.

Liabilities

The liabilities are the sum of:

- i) the principal of all covered bonds outstanding, plus
- ii) the aggregate interest payments for all outstanding covered bonds (fixed at the prevailing rates in the case of variable payments), plus
- iii) operational costs.

Calculation

The calculation is undertaken on a nominal basis with variable future payments calculated at current spot rates.

Proposal – minimum over-collateralisation (proposed to be included in building block 2)

There should be a minimum effective over-collateralisation level suggested to be 5 per cent based on the above coverage calculation methodology and that this should be set for all asset classes.

Limits on exposures in article 129 of CRR, for example the cap on the maximum exposure which is allowed to step 1 credit institutions should be calculated with reference to the minimum required coverage, including minimum effective required overcollateralization (and hence not the amount of outstanding covered bonds, as currently applicable).

The treatment of voluntary over-collateralisation in a resolution scenario should be clarified in national law.

a) Current situation (baseline)

EU regulations

This is a significant elaboration on the existing requirements that covered pools should be subject to some form of coverage rules and over-collateralisation in the following texts:

- i. “[covered bonds should be].capable of covering claims attached to the bonds” (*UCITS 52(4)*);
- ii. “[the covered bond’s exemption from bail in does not apply to..] any part of a secured liability or a liability for which collateral has been pledged that exceeds the value of the assets, pledge, lien or collateral against which it is secured.” (*BRRD 44(2)*);
- iii. “all liabilities of the covered bond programme...are covered by cover assets” (*EBA Best practice 5*);
- iv. iv) “[Derivatives which must be centrally cleared] ...shall not include contracts associated to [sic] covered bonds when...(f) the covered bond to which they are associated is subject to a regulatory collateralisation requirement of at least 102%.”
- *ESMA Regulatory Technical standard (draft) on Regulation (EU) No 648/2012* ..with regard to .. the clearing obligation; and
- v. “Level 1 assets shall [include] ... exposures in the form of extremely high quality covered bonds which shall comply with....[the requirement that]... f (vi) the cover pool meets at all times an asset coverage requirement of at least 2% in excess of the amount required to meet the claims attaching to the bonds”
- *Article 10, Delegated Regulation EU 2015/61*..with regard to liquidity coverage requirements for credit institutions.

National regulations

Typically, Member States establish coverage requirements under national legislation. There is however substantial variation with regard to:

The level of this over-collateralisation

Member State national laws currently require anything from 0 per cent to 25 per cent over-collateralisation (Table 11). The most frequently used values are 2 per cent (typically because this is the required over-collateralisation for exemption from clearing obligations for associated derivatives under EMIR) and 5 per cent (or in some cases 5.26 per cent as over-collateralisation is calculated on a reciprocal basis).

The method of calculation

As can be seen from Table 11, a number of methods/combination of methods are used for the calculation of the over-collateralisation requirement.

- Calculation based on the nominal value is used in 15 Member States;
- Calculation based on NPV is used in nine Member States;
- Calculation based on NPV under stress is applied in five Member States;
- Other methods include calculations based on risk weighted value, prudent value or accounting value;
- Eight Member States use a combination of methods.

The factors considered

In addition to liabilities under bonds and derivatives (where applicable) and assets, some jurisdictions take into account operational costs and potential cover pool losses (of a credit or rate nature) due to stress scenarios.

Table 11. Over-collateralisation requirements across EU Member States

	Methodology					Overall OC level
	Nominal value	Net Present Value (NPV)	NPV under stress	Risk-weighted Value	Other	
Austria*	✓					2%
Belgium	✓					5%
Bulgaria	Not specified in the law but stems from contractual obligation. 10-20% usually applies. No information on calculation method used					
Cyprus		✓				5%
Czech Republic	✓					0%
Denmark				✓		8%
Finland		✓				2%
France: SFH & SCF	✓			✓		5%
France: CRH	(covered bonds)			(cover assets)		25%
Germany		✓	✓			2%
Greece	✓	✓	✓			5.2632%
Hungary	No legal requirement for min OC					
Ireland	✓				prudent value	3%/10%

	Methodology					Overall OC level
	Nominal value	Net Present Value (NPV)	NPV under stress	Risk-weighted Value	Other	
Italy	✓	✓			✓	0%
Luxembourg	✓	✓				2%
Netherlands	✓					5%
Poland	✓					10%
Portugal	✓					5.2632%
Romania		✓	✓		accounting value	2%
Slovakia	✓					0%
Slovenia	✓	✓	✓			2%
Spain	✓					25%
Sweden	✓	✓				2%
United Kingdom		✓	✓			8%
	15	9	5	2	2	

*FBSchVG: no legal requirement for min OC.

Based on ECBC database and EBA (2016) EBA Report on Covered Bonds: Recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA, 20 December 2016

Member States with higher collateral levels in their national law

The table below shows several jurisdictions with a higher statutory over-collateralisation than the various proposed levels.

Table 12. Number of EU jurisdictions with over-collateralisation levels higher than 2% and 5%

	Countries with a minimum over-collateralisation in excess of this value	Bonds outstanding in these countries
2%	10	€929 billion
5%	5*	€494 billion *

*Note: of these, two Member States with €49bn bonds outstanding have a statutory minimum o/c of 5.26 per cent as they specify the minimum o/c on a slightly different basis ('95 of bonds can be issued against 100 of assets', as opposed to '100 of bonds require 105 of assets').

There is no proposed constraint on national regulators setting a higher level than the EU minimum, although in one jurisdiction (Spain) it was emphasised that the current legally required minimum over-collateralisation would be likely to be reduced to an EU defined minimum. Because this change would be a credit negative for investors (although a negative offset by other positive factors) the transition from the old to the new regime would not be straightforward, see section 5.3.

It is also worth noting that there is nothing to stop issuers setting higher levels of OC to preserve credit ratings or investor confidence, especially under stressed market conditions.

Regulatory obligations

In a few jurisdictions, the competent authority is authorised to require a covered bond issuer to hold a higher level of over-collateralisation than is specified in the national regulations on a "case-by-case".

In other Member States, competent authorities, while not explicitly empowered to do so, issue guidelines to issuers on the appropriate level of over-collateralisation they are allowed to hold.

Contractual obligations

To achieve the maximum possible credit rating for the bonds, many covered bond programmes have entered into contractual obligations to hold a higher level of over-collateralisation either on a static basis (x per cent) or dynamically, for example with reference to rating agency models. But:

- The method of calculation of the over-collateralisation in contractual terms frequently differs fundamentally from that in national legislation. A common market practice is that the contractual terms require the issuer to hold the greater of:
 1. The over-collateralisation required under the calculation method specified in the national legislation and
 2. The over-collateralisation required under the rating agency methodology (which, for example gives some credit to loan receivables in the cover pool that exceed the statutory LTV ratios).

In practice, the latter term is typically the higher.

- Contractual obligations differ in form, in particular with regard how far they can be amended over time and the consequences of a breach.
- Some contractual obligations take into account operational costs, others do not.
- Typically, contractual over-collateralisation requirements are subject to both a cap and a floor amount.

b) Potential implications and impacts of the specific proposal

The following aspects of the proposal are considered here:

Calculation method

- Basis for calculation;
- Operational costs;
- Derivatives; and
- Stress tests.

Over-collateralisation level

- Minimum over-collateralisation;

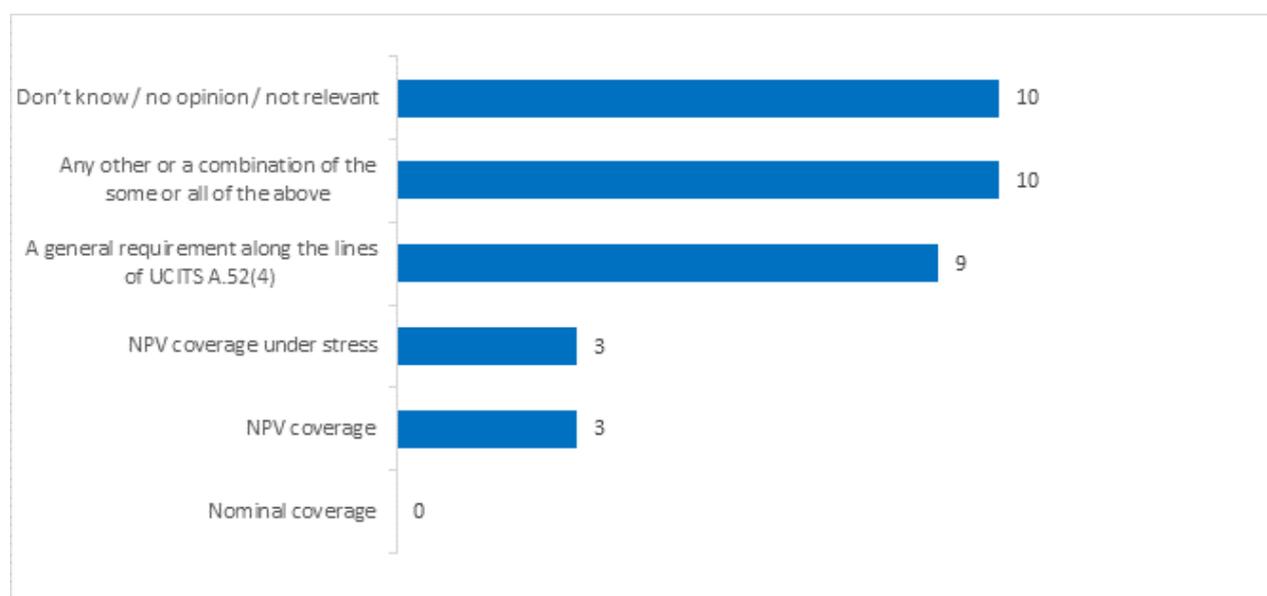
- Maximum over-collateralisation;
- Appropriate level for over-collateralisation;
- Use of non-harmonised minimum levels.

Calculation method: basis for calculation

Opinions differed on whether coverage should be based on nominal, present value (PV) or a combination of both, mirroring the current diversity of practice across Member States. It was highlighted that the choice of the metrics on which to formulate the coverage requirement should be made at the national level. Here in particular, respondents to the public consultation saw little need for legislative measures, highlighting that national regulations are the most suitable level for specifying concrete options.

In the public consultation, a one-size-fits-all approach based on single basis for calculation was not popular. What garnered more support was the option to keep a general requirement similar to Article 52(4) of the UCITS Directive (simply amending it to include the wording suggested by the EBA) or to use a combination of different/other options. The three respondents who supported a net-present value coverage under stress were all investors.

Figure 32. Which option should be preferred for the Framework to formulate the coverage requirement?



Source: European commission Open Public Consultation. N= 35

According to many stakeholders interviewed across all categories, calculation of the coverage on a nominal basis equates to the most prevalent methodology used in practice, is the easiest to understand basis of calculation intuitively and can be used in jurisdictions without meaningful term interest rates at which to discount future liabilities and assets (the latter point made by only one, public sector stakeholder, but no less valid).

But, as noted above, there is substantial divergence in particular around the use of both nominal and PV methodologies in national frameworks. The introduction of a nominal based calculation as an EU minimum in no way prevents Member States from additionally specifying a present value based calculation in their national frameworks.

We would say this in no way reduces the benefits of a simple, uniform minimum standard.

One interviewee (an issuer in a country that uses a nominal basis for their calculation) suggested that if a PV only coverage ratio were to be applied, issuers could effectively issue bonds against future interest income, which was felt to be inappropriate from a prudential standpoint.

Another investor commented that the coverage based on a present value calculation should be disclosed for investor transparency purposes, but should not necessarily be the basis of a coverage ratio.

Several stakeholders in one jurisdiction said that over-collateralisation should be required based on a percentage of risk weighted assets in the cover pool. They argued, analogous to arguments made about leverage ratios, that a nominal based over-collateralisation requirement would encourage issuers with low risk portfolios to increase their risk, which would not be an appropriate outcome of regulation.

Calculation method: operational costs

There is general support for the inclusion of operational costs as a liability in the coverage ratio. One respondent commented that, given asset-liability matching requirements and loan-to-value rules, operational costs were the only potential cost for which over-collateralisation was required.

But other stakeholders commented that the proposed method for the inclusion of operational costs in this formula is unclear. In particular, for how long and on what basis the operational costs should be calculated should be specified.

If the operational cost should be calculated for the entire life of the assets, this would be consistent with the approach of considering all future cash flows on the assets and liabilities as a part of the coverage calculation.

Many national frameworks already require the calculation of an operational cost for the sake of a contingency reserve, but the basis for this varies considerably. Typically, they are calculated to cover the costs of transition to a third-party servicer, for an intermediate period (e.g., one year).

One issuer interview pointed out that, taking Northern Rock's failure as an example, the actual costs incurred following the failure of a large mortgage bank, particularly where there is a resolution, are impossible to properly estimate.

Some argued that the method of calculation of coverage proposed by the EBA requires operational costs to be over-collateralised (i.e., the expected operational costs would be multiplied by 1+the minimum over-collateralisation). This is not appropriate if the actual costs incurred during a transfer to a back-up servicer are fixed. In (at least) one jurisdiction, a fixed cash amount needs to be set aside for this eventuality. This is not, however, a material concern.

An issuer of public sector covered bonds also suggested that the estimate of operational costs needs to reflect both the underlying asset class (the servicing of residential mortgage portfolios for example being far more onerous than the servicing of a portfolio of public sector loans) and national specificities (some countries have highly standardised IT and straightforward enforcement environments making operational costs for a third-party asset administrator far less).

According to an ICF survey of issuers and national coordinators, a majority of the respondents believe that specifying the coverage requirements at an EU level would have a positive (mostly low to moderate) impact on investor perception of the product

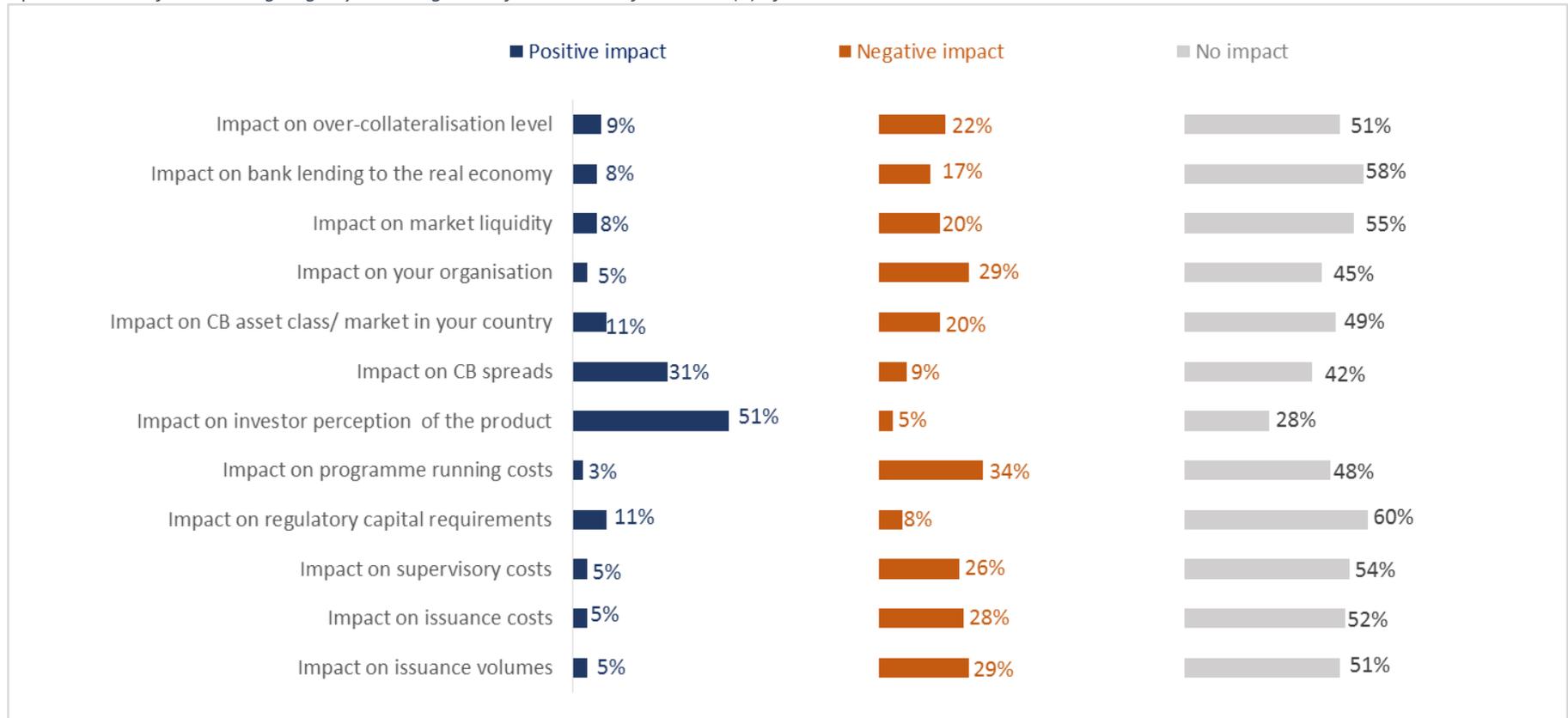
(51 per cent) and covered bond spreads (31 per cent). The drawback would be on running, issuance and supervisory costs as well as on issuance volumes (according to 28-34 per cent of respondents) - Figure 33.

Figure 33. Likely impacts of EU proposals regarding coverage requirements

Coverage requirements

Status quo: Art. 52(4) of the UCITS Directive sets out the ‘coverage’ principle of the covered bonds, requiring that during the whole period of validity of the bonds, the assets underlying the covered bonds must be capable of covering claims attached to the bonds

Option 1: an EU framework going beyond the general formulation of Article 52(4) of the UCITS Directive



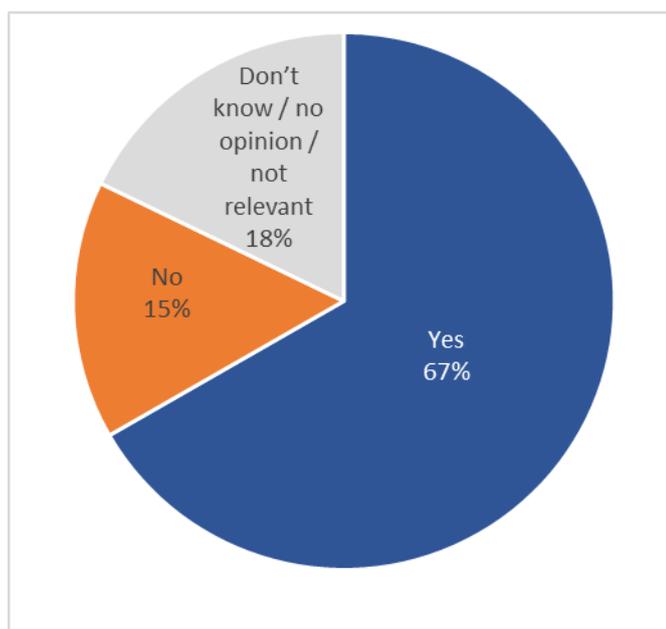
Source: ICF survey, feb. 2017, n=65, avg 18% of no response.

Note: Question 17 from online survey

Calculation method: treatment of derivatives

Respondents to the public consultation highlighted that the sole purpose of derivatives is protection against interest rate and/or currency risk, rather than collateralising covered bonds. Some believed that derivatives should not be included within the calculation of the cover pool. Others (including most investors) thought that derivatives need to be included within the calculation, otherwise there are fluctuations (interest and forex rates fluctuations) that are observed but do not reflect actual fluctuations in coverage.

Figure 34. Should derivatives entered into in relation to the cover pool be taken into account for the purpose of determining the coverage requirement?



Source: European commission Open Public Consultation. N= 45

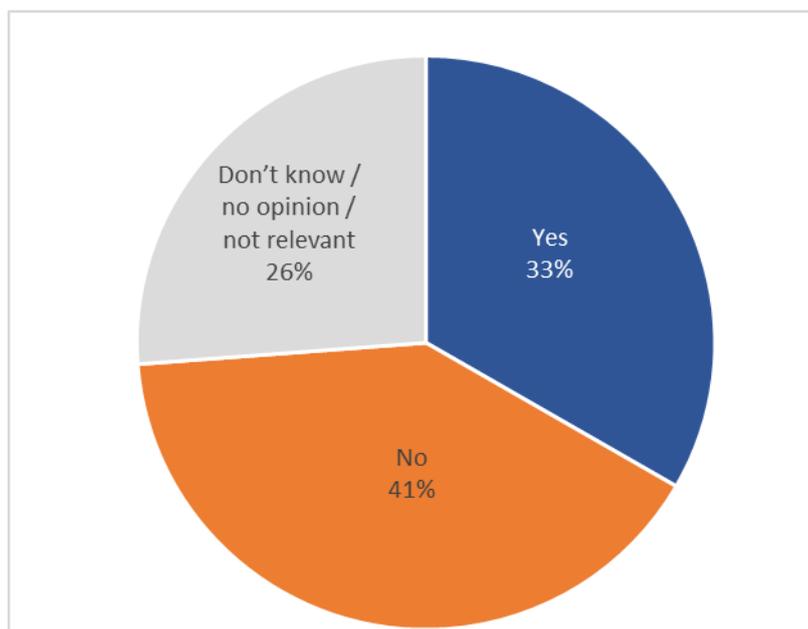
Several stakeholders interviewed commented that the measurement of the derivative in the coverage ratio calculation should align with the basis of the primary assets (i.e., if the coverage ratio is on a nominal basis the derivatives should not be present valued or marked to market). This is not in line with the EBA proposal in that it measures swaps on either their cash flow or close out value, but only measures asset and bonds on their cash flow value.

The proposed treatment of derivatives in the calculation was unclear to stakeholders in all of the interviews where it was discussed. Since this is fairly technical, the proposed treatment is explained more fully in annex 4.

Calculation method: stress tests

The importance of stress testing the coverage requirements was recognised by respondents to the public consultation. Opinions differed, however, on whether stress tests should be applied on a pan-European level, whether they should be defined locally or a combination of the two (e.g., stressed house price declines could be defined nationally while interest rate and current moves could be specified across the Eurozone).

Figure 35. If the coverage requirement were formulated as net-present value coverage under stress, should the stress tests be specified in any form in the Framework or ESMA/EBA regulatory guidelines?



Source: European commission Open Public Consultation. N= 42

The support for an EU action came mostly from the investor side, which would value comparable quality protection across countries.

Respondents to the public consultation thought it more feasible to list, at an EU level, the areas that should be subject to stress-test – rather than to define the technical requirements per se. But within the answers, there was no consensus on which areas should be covered, but listed risk areas included: currency tests, interest rate tests, underlying assets tests and macro-economic tests

Generally speaking, the lack of support for an EU level harmonisation was due to the inherent diversity of both the covered bond and the real estate markets. It was felt that the sources of stress for asset valuation are country- and time-specific.

If defined at EU level, the stakeholders interviewed thought that the stress tests should be consistent across countries, but did accept the difficulty of defining risk-sensitive and meaningful indicators across all EU countries. The stress test requirements should also be designed to take into account historical performance (where data are available, in order not to disadvantage particular countries).

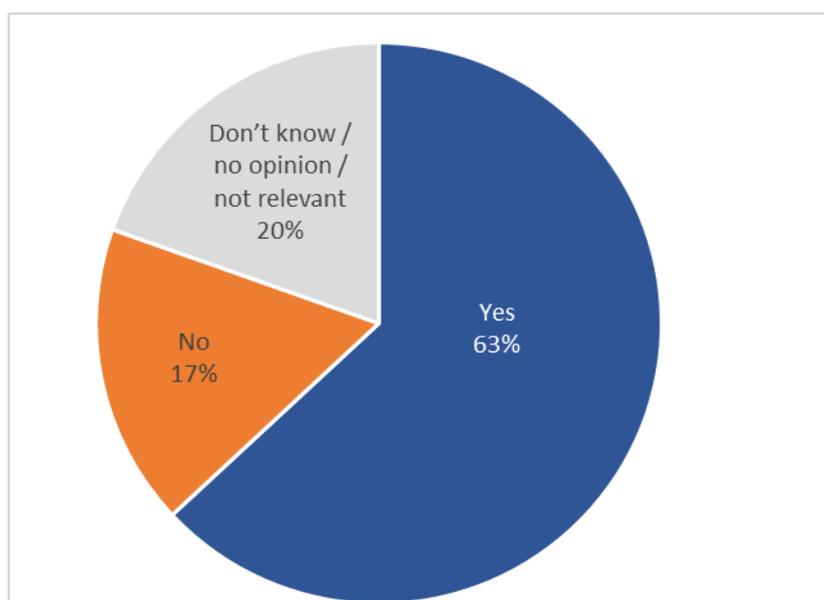
It was also raised that without harmonised stress tests, one should refrain from comparing coverage ratios across countries – as those comparisons are not meaningful.

One stakeholder commented that stress tests should not be applied to cover pools as they duplicate the existing stress tests applied to banks as part of regular banking supervision.

Over-collateralisation level: minimum level

The majority of respondents to the public consultation (29 of 46) plus survey respondents and interviewees agree that a minimum over-collateralisation level for covered bonds should be established.

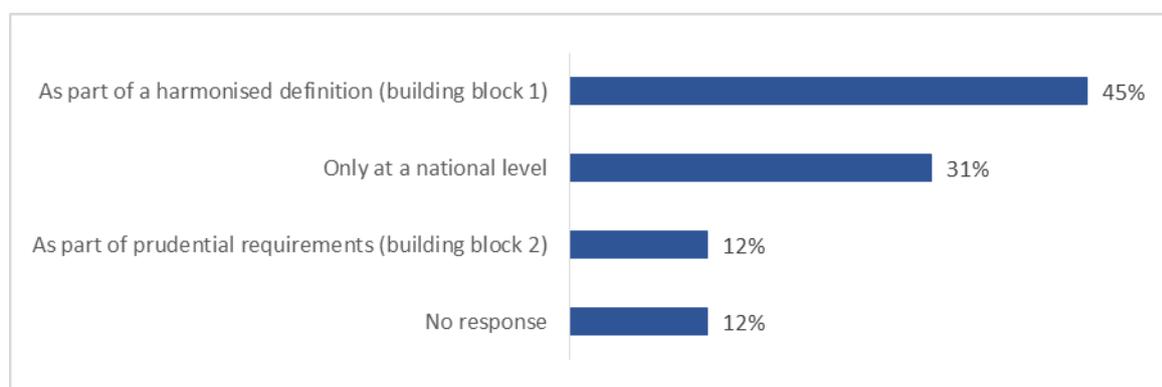
Figure 36. Should a quantitative mandatory minimum OC level be set in the Framework?



Source: European commission Open Public Consultation. N= 46

However, the majority of the respondents to the ICF online survey believe that the minimum level of over-collateralisation should be defined as part of building block one (30 responses, 45 per cent) rather than under building block two (eight responses, 10 per cent) - Figure 37. The share of issuers who instead believe the minimum level of over-collateralisation should be defined at the national level is non-negligible, totalling about 30 per cent of respondents.

Figure 37. Should a minimum level of over-collateralisation be established?



Source: ICF survey, feb. 2017, n=67.

The idea suggested during the consultation that exceptions to the minimum OC requirement could be granted (e.g. where the issuer applies a precise "match funding model" or where certain targeted liquidity and market risk mitigation measures are used) did not gather much support. Instead, respondents called for a minimum OC level, complemented by additional requirements where necessary.

A minority of stakeholders suggested that the main purpose of OC is to cover administration cost – not to cover all risks that are better addressed by other mechanisms (e.g., credit risk via strict legal requirements for eligible cover assets;

liquidity risk via liquidity buffers or soft bullet structures and the interest rate risk via derivatives or stress tests requirements). They thus rejected the idea of a minimum over-collateralisation level if operational costs are also considered in the coverage calculation.

Over-collateralisation level: maximum level

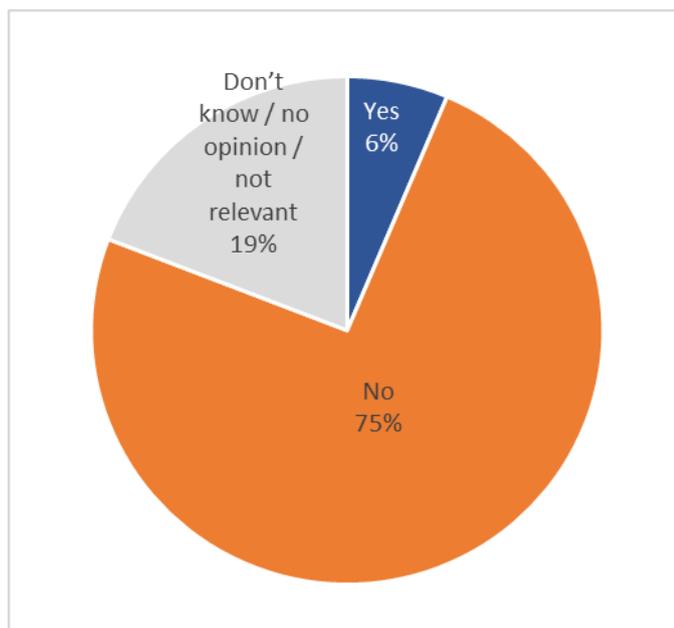
Almost all interviews and respondents to the consultation rejected the idea of a maximum level of over-collateralisation.

From a practical perspective, one respondent highlighted that such a rule would not benefit newly established issuers who, by definition, have large OC while they build up their issuance capacity. Likewise for established issuers, large redemptions that do not need refinancing short-term automatically translate into large OC. In both cases, respecting a maximum OC limit would create significant operational problems. The costs would be particularly high where eligible assets have been segregated on the issuer's balance sheet through a true sale, since it would imply transferring back the assets to the sponsor each time the OC exceeds a certain level.

A side effect of a maximum OC could be to increase rating volatility in times of extreme stress for the underlying assets (as issuers would not be able to increase the OC above a certain cap to avoid rating downgrades). The performance of the Irish and Greek property markets during the crisis were used as examples.

Contrary to the prevalent view that there should be no maximum over-collateralisation one respondent commented that there should be a cap on the amount of over-collateralisation that would be protected by law.

Figure 38. Should the Framework set a maximum level of permitted OC?



Source: European commission Open Public Consultation. N= 47

Over-collateralisation level: appropriate level

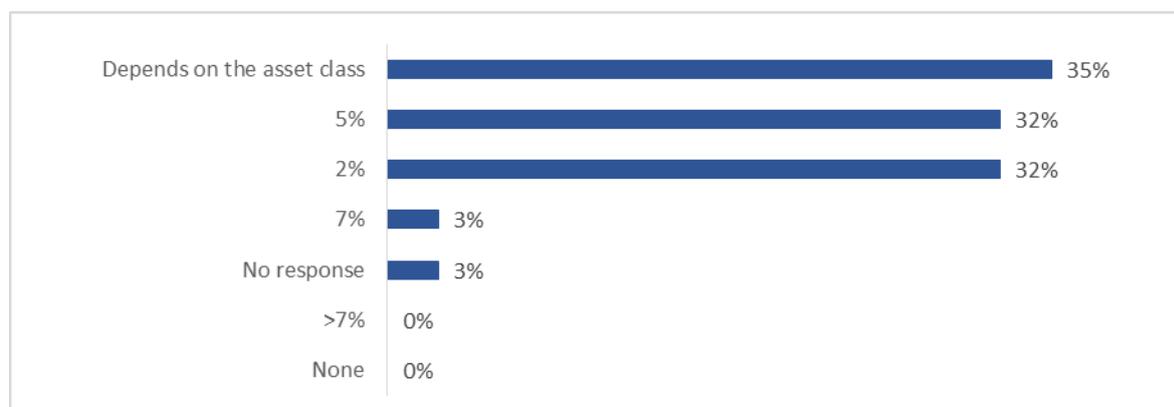
Stakeholders interviewed proposed different absolute levels of over-collateralisation, ranging from 1- 20 per cent:

- The most frequently suggested level is 5 per cent;

- 2 per cent was suggested to bring the rule in line with the threshold for exemption from clearing obligations for covered bond associated derivatives under EMIR;
- Alignment with the over-collateralisation requirements in the LCR delegated act has been suggested, at the same time recognising that this could create pro-cyclical cliff risks in the event of covered bond downgrades (as minimum OC levels would be dependent on rating triggers).

The quantitative results for our survey confirm the feedback from interviews. 2 per cent and 5 per cent levels received equal support, each by a third of respondents who believe the level should be determined at an EU level (in step 1 or 2). The remaining third of respondents were in favour of non-harmonised minimum levels depending on the asset class (see discussion in the next subsection).

Figure 39. What is the appropriate level of over-collateralisation?



Source: ICF survey, feb. 2017, n=38.

The argument in favour of a 2 per cent or 5 per cent rate is that higher levels would not be necessary in the case of high quality cover pools and would increase the encumbrance levels of issuer balance sheets to the detriment of other creditors. This is particularly worrying for dedicated mortgage banks or other issuers with a very high proportion of assets pledged to covered bond pools. See Annex 3 for a further discussion of the effect of over-encumbrance.

Over-collateralisation level: non-harmonised minimum level

Several interviewees commented that the minimum over-collateralisation level should be set according to the risk profile of the underlying asset class - x per cent for residential mortgages, y per cent for public sector receivables, etc. (although this will cause some confusion where jurisdictions allow mixed-asset cover pools and some respondents were against this idea of differentiation). This is true for a few Member State's current national legislation (e.g. Ireland), where it is broadly understood and considered appropriate by investors.

The minimum OC level could be a function of the nature of collateral provided, its liquidity and the volatility of its price. For example, traditional covered bonds (mortgage and public sector covered bonds) could have lower minimum OC level as compared to non-traditional ones (SME, aircraft, ships) (assuming that non-traditional assets are eligible at all).

Similarly, the country where the cover pools are located influences the risk profile and the risk of having a uniform level is that it will be perceived as too low for some countries and unnecessarily high for others. It has been emphasised, therefore, that an EU-wide minimum level of over-collateralisation should in no way detract from the ability of national jurisdictions, contractual obligations or supervisory processes to

establish higher levels (if needed based on the risk profile of the covered bond programme). In that context, it would be vital that investors rights over over-collateralisation in excess of the EU-wide minimum are fully respected in insolvency and resolution processes. Rating agencies could continue to require higher minimum OC, necessary for the granting of particular ratings.

Some stakeholders commented that, consistent with a principles based approach, it should be recognised that issuers and Member States have developed calculation methods for over-collateralisation that are a far more appropriate measure of the riskiness of their programmes.

Other comments

Analysis of calculation methodology

We consider that the proposed way to project future interest payments on both assets and liabilities for their remaining maturity at then prevailing spot rates is flawed to in that their maturities are not matched: a 10-year asset funded by a 5-year bond could count the interest receivable on its last 5 years towards the cover ratio without regard to the future cost of financing.

We also do not consider appropriate the proposed method for the calculation of derivatives in this ratio. Because the close out amount of the swap may determine its contribution to this coverage ratio, the required over-collateralisation could vary, for example, with the shape of the yield curve. This also breaches the principal that the swap and the assets and liabilities it hedges should be calculated on the same basis.

Finally, the calculation of close out amounts is predicated on an arrangement of master agreements which is at odds with the market practice in at least on jurisdictions and which would cause major market disruption if implemented.

c) Conclusions

Methodology

We believe the methodological problems referred to in section B are all ultimately an inevitable consequence of attempting to include derivatives in a nominal value calculation, while it is clear that derivatives are important in some jurisdictions but that nominal value calculations only can work in others.

Given the difficulty of establishing a workable methodology for all jurisdictions, it could be more appropriate if the methodology for the calculation of the coverage ratio is defined purely in terms of principles and that the detailed calculation methodology should continue to be defined at a Member State level as is currently the case.

Operational costs

Given the vast differences in the likely operational costs between different Member States and asset classes, Member States ideally should decide the exact way operational costs are calculated. However, stakeholder conversations made it clear that operational costs are currently estimated (in those Member States where this is required) on very different assumptions particularly with regard to the time period and expenses that should be assumed. It would therefore, be helpful for the Commission/EBA to establish some principles for the calculation of operational costs.

It seems appropriate that operational costs should be considered in coverage calculations as determined by national regulators, but in line with principles established at a pan-European level.

Derivatives

Investors are for the inclusion of derivatives in coverage calculations which would therefore increase confidence in the market. It would not make sense to exclude them from coverage calculations, when they are included in cover pools.

Stress tests

Similarly, a standardisation of stress tests across Member States would increase investor confidence and better harmonise the covered bond markets in different Member States. There is no apparent cost to the standardisation of levels.

Recognising that some stresses are pan-European (e.g., assumptions about future euro interest rates) whereas others are necessarily national (e.g., stresses of local property prices), it would be appropriate for the EBA to publish specific levels for pan-European variables (which will necessarily change over time along with macro-economic conditions) and principles that national competent authorities should apply for other variables (e.g., confidence levels for stressed house price moves).

5 per cent minimum over-collateralisation

In a few cases, de facto over-collateralisation is currently below 5 per cent. These can be broken down into two main categories:

a) Cases where issuers have chosen not to include meaningful over-collateralisation either because: i) the bond is not intended for sale to investors but for collateral purposes where there is no binding requirement for a particular rating or collateral level or ii) because the maximum achievable rating of the bond is constrained by external factors (either the AAA "upper bound" or more commonly the sovereign rating ceiling imposed by rating agencies on all bonds from the issuer's jurisdiction).

b) Cases where the assets in the covered bonds have exceptionally high credit quality and/or the bonds are structured to avoid market risks and the current law stipulates either no or a lower level of over-collateralisation (for example in Denmark where the over-collateralisation level of 8 per cent is calculated with reference to risk weighted assets and is therefore below 5 per cent on a nominal basis).

For the former, although the introduction of a minimum over-collateralisation level will create additional costs for these issuers we consider this justified to protect the credit standing of covered bonds. A default of a covered bond used as repo collateral, although less public, is equally damaging to the covered bond market (and the repo counterparty). Whereas the "sovereign rating ceiling" concept is important, the biggest determinant of a bond's default probability is not always the sovereign's default probability. In Greece, for example, although the sovereign rating capped the ratings of all covered bonds, when the government bonds were renegotiated the covered bonds continued to perform well. This would not have happened if Greek bank's had chosen to include no over-collateralisation.

Objecting to a 5 per cent limit is more justified in the second case. This is partly because it seems appropriate to "reward" structures or assets with exceptionally low risk characteristics, partly because the costs of introducing such a rule, for example, in Denmark where the funding of the increase in over-collateralisation would be particularly onerous (and would require capital as well as senior unsecured funding).

To conclude, a 5 per cent minimum over-collateralisation could be adopted, but a lower limit could be applied for programmes "able to demonstrate that they have eliminated refinancing risks in their covered bond programmes to the satisfaction of their competent authority". A 2 per cent lower limit for these programmes would seem appropriate, given the requirements of the EMIR rules mentioned earlier.

Maximum over-collateralisation levels

There appears to be no material support for the concept of maximum over-collateralisation levels. As far as this was proposed to reduce over-encumbrance in the banking system, and taking in account discussions about it in annex 3, and particularly the various sources of encumbrance in the banking system other than covered bonds, a limit on over-collateralisation in covered bonds would not be an appropriate way to address this concern.

In particular, the maximum over-collateralisation level would be independent of the number of bonds outstanding – a bank with much of its balance sheet encumbered would have the same percentage limit as one with only one bond outstanding – therefore, the rule would be totally ineffective in addressing total encumbrance levels.

On the other hand, such a limit could significantly diminish investor confidence as shown by the overwhelming opposition to the idea in the public consultation.

Summary of potential impacts on existing over-collateralisation

In most cases an EU-wide minimum over-collateralisation value (e.g., 5 per cent) would be less than existing contractually committed, statutory or regulatory ("pillar 2") over-collateralisation. Therefore, in these cases, no additional over-collateralisation would be needed as a result of the rule (unless of course the issuers are in breach of their contractual, statutory or regulatory over-collateralisation levels).

(a) Where the constraint is regulatory over-collateralisation, this could be reduced – for example in extremis the OC might be reduced to allow more covered bonds to be issued

(b) Where the constraint is statutory this could presumably not be reduced

(c) Where the constraint is contractual the situation is less clear (reduction would depend on trustee consent)

The above scenarios are all likely to be correlated to an extreme stress scenario. In which case the requirement to keep a minimum o/c might reduce the bonds that can be issued, e.g., for emergency repo support.

There are some cases where:

Actual over-collateralisation is less than 5 per cent (and of course more if this value was higher). These are typically either i) very high quality programmes where the actual over-collateralisation is slightly less than 5 per cent or ii) programmes where the issuer has chosen not to optimise the credit rating.

The over-collateralisation could be less than 5% without negatively impacting the rating. Again this is typically because the issuer has chosen not to optimise the achievable rating.

In the future, there will be more cases where the o/c could be below 5 per cent as conditional pass throughs typically require less over-collateralisation and the other proposed changes will be credit positive (by implication the reduction in required o/c as a result of the proposed changes will have to be quantified in the cost/benefit analysis)

5.1.6 Specific conditions for soft bullet and CPTs

To defer principal payments in the liquidity coverage calculation (see section above) and as an additional eligibility criteria for inclusion under building block 1, covered bonds that allow a “non-standard amortisation structure” should meet certain criteria:

- i) the maturity extension should not be at the discretion of the issuer;
- ii) the covered bond issuer must have defaulted or (in the case of specialised credit institutions) the sponsoring institution must have defaulted and the covered bond has breached certain criteria/tests indicating a likely failure of the covered bond to be repaid at the scheduled maturity date;
- iii) at the discretion of the special administrator bearing in mind all possible options the maturity can be extended in advance of the triggers mentioned in ii) above (only when the issuer is no longer a going concern);
- iv) the extension respect the *pari passu* ranking of covered bond creditors, including with awareness of the concept of time subordination;
- v) the competent authority may be allowed to trigger extensions in certain cases.

a) Current situation (baseline)

This topic is not addressed in the existing EU legislation or EBA best practice recommendations.

There are currently €305 billion of soft bullet and €14 billion conditional pass throughs outstanding (only the benchmark bonds in the iBoxx index are included in these figures). Within this index they represent 41 per cent and 2 per cent of the total respectively. These percentages are increasing over time because more newly issued covered bonds are in these formats and the conversion of existing bonds from “hard bullet” to “soft bullet” structures typically after bond-holder consent solicitations.

Extendible maturity structures are broadly two types:

- i) *Where the issuer and the asset holder are distinct legal entities, the issuer has to default to trigger an extension and the assumption by the asset holder of the liabilities.* These structures typically adhere to the proposed rules of the EBA. There are currently €194 billion outstanding of this type of bond outstanding (of which €122 billion are in Member States). However, because of the proposed liquidity rules (discussed in section 5.2.3) we anticipate that hard bullets will be converted into soft bullets in these countries, leaving €202 billion outstanding, €119 billion in Member States).

Table 13. Outstanding covered bonds with soft bullet by type of jurisdiction (Group 1) – as of October 2016, € millions

Group 1: Country	Hard bullet	Soft bullet
Australia	1,000	21,500
Canada	0	44,850
Italy	0	42,603
Netherlands	0	32,500
New Zealand	1,250	5,250

Group 1: Country	Hard bullet	Soft bullet
Switzerland	3,250	5,500
United Kingdom	2,750	41,650
Total	8,250	193,853

Source: Credit Agricole data, 2016

ii) Where the issuer and the asset holder are the same legal entities, an issuer may trigger an extension of maturities where there is no insolvency. Most of these bonds will not equate to the proposed rules of the EBA. There are currently €104 billion outstanding (of which €69 billion are in Member States). But we anticipate that as a result of new liquidity rules, this could increase to €286 billion (Member States: €250 billion).

Table 14. Outstanding covered bonds with soft bullet and conditional pass through by type of jurisdiction (Group 2) – as of October 2016, € millions

Group 2 : Country	Hard bullet	Soft bullet
Belgium	0	14,425
Denmark	2,000	9,500
Finland	11,000	12,000
France	159,554	21,200
Norway	0	34,650
Portugal	0	5,000
Singapore	0	500
Sweden	20,050	6,000
Turkey	0	500
Total	182,604	103,775

Source: Credit Agricole data, 2016

Conditional pass throughs

There are currently €11.95 billion of conditional pass throughs outstanding in the iBoxx index and €6.45 billion we know are not eligible for inclusion in the iBoxx index.

Although this sector seems very small, there are also several bonds outstanding that have not been sold to third-party investors and are primarily used as repo collateral. Because not all these programmes are publicly disclosed, the list below is not complete. However, since some of these non-disclosed facilities are used in Member States with highly stressed banking systems, this product is disproportionately significant and should not be discounted due to the small quantum of public debt outstanding.

Table 15. Non-exhaustive list of covered bonds with conditional pass throughs outstanding in the iBoxx

Country	Issuer	Bonds outstanding in iBoxx index Cbn	Compliance with EBA proposed rules?
NL	Aegon Bank	1.25	Y
PT	Caixa Economica Montepio Geral	*	N
IT	MPS	5.7	N
NL	NIBC	2	Y
PT	Novo Banco	*	N
IT	Unicredit	2	N
NL	Van Lanschot	1	Y

Note: *the bonds issued under the Novo Banco and Caixa Economica Montepio Geral conditional pass through programmes are not included in the iBoxx index. According to the issuer's investor reports they have a total notional outstanding of Caixa Economica Monepio Geral: €2.3 billion and Novo Banco: €4.15 billion.

b) Potential implications and impacts of the specific proposal

Eligibility of extendible structures for step 1 and step 2

Dual recourse

The EBA has suggested that extendible maturity structures could contravene the dual recourse principle. Several stakeholders (including investors) disagreed because the conditions of the bond clearly state that the obligation to repay can be at the legal final maturity date rather than the scheduled maturity date. It would only breach the dual recourse principle if the investors did not have recourse to the issuer, or its insolvency estate at the legal maturity date. We accept this view.

Complexity

The EBA also suggest that extendible structures "(...) involve a higher level of complexity, incorporate non-uniform features and introduce changes to the structural characteristics of the ... product".

It is partly true that these features have increased structural diversity in the covered bond market, but this is more of a result of how they have typically been introduced – by contractual terms – rather than by any particular features of the structure per se.

Generally speaking, based on our analysis within any given country, soft bullet structures seem relatively homogenous, although there are differences between jurisdictions.

Conditional pass through structures to date seem highly homogenous in the Netherlands but less so in Italy and Portugal, as illustrated below.

Table 16. Key differences between conditional pass through structures in Italy and Portugal

	Caixa Economic Montepio Geral	Novo Banco	Unicredit	MPS
Cross extension clause	No	Yes	No	No
SARA clause	No	No	Yes	No
OC in amortisation test	Determined by statute	Determined by statute	Contractual, with reference to ACT	Contractual with reference to
Consequence of amortisation test breach	Vote on acceleration	Vote on acceleration	Cross default and cross extension	Extension of all bonds

Notes: a cross extension clause specifies that if one bond extends, all series of bonds in the programme automatically do the same.

A Selected Assets Required Amount (SARA) clause determines the assets that can be sold to repay one bond currently in pass through mode.

An amortisation test is a post issuer event of default test that determines whether the bonds themselves are likely to default, in which case remedial action can be taken.

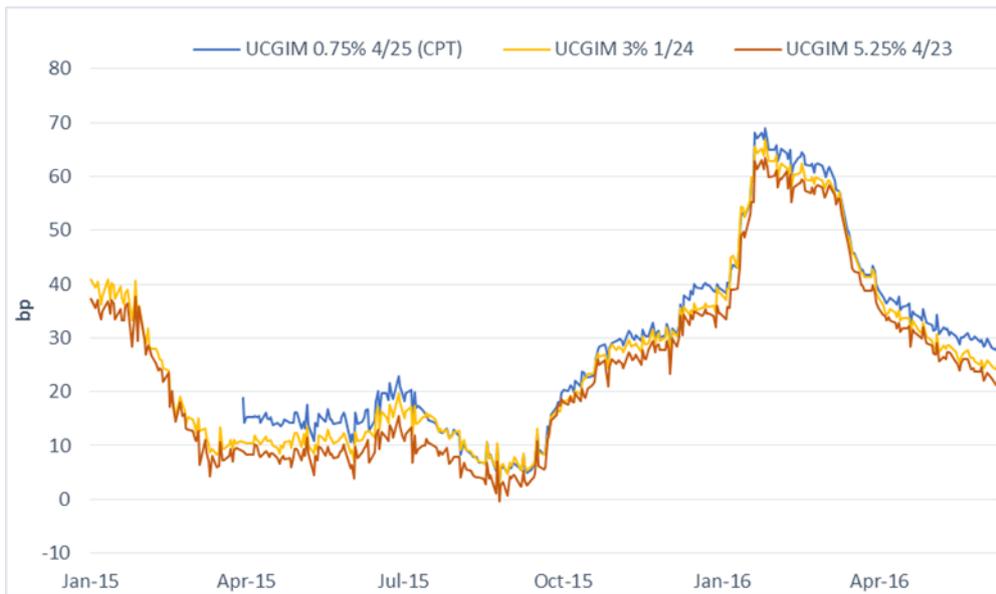
Pricing and risks

The EBA also suggests that extendible structures "(...) expose investors to additional risks... and may pose difficulties for investors in the pricing of such bonds". Empirically, this does not appear so. Whereas comparisons between issuers who use different maturity structures are difficult –because too many other variables can influence pricing –a few issuers have both hard and soft bullet covered bonds outstanding and we know one issuer who has both conditional pass through and soft bullet bonds. As illustrated below, there is no apparent pricing differentiation between these products.

The first chart shows that one issuer with benchmark bonds outstanding in both soft bullet and conditional pass through formats the trading levels of these bonds over time. The trading level of the conditional pass through bonds has remained either identical or very similar to the trading levels of the two soft bullet bonds since its launch in April 2015.

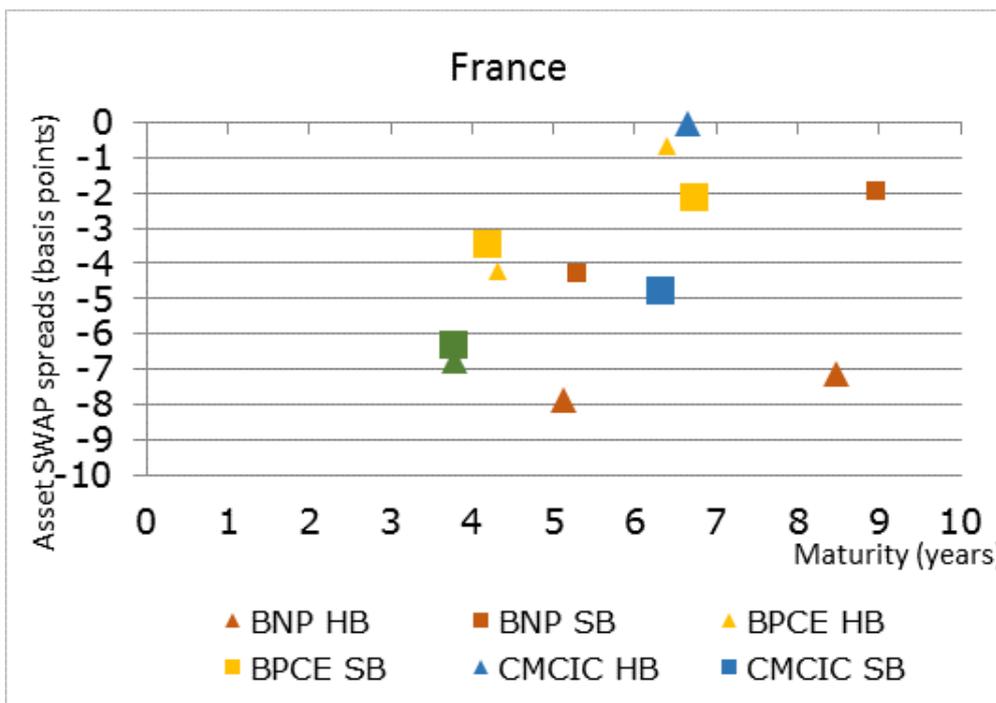
The second and third below charts show more cases of issuers with hard and soft bullets outstanding, in the first graph the French cases (where there are more examples), in the second graph the cases in other countries). As there are many more examples the spread levels are shown at one point in time rather than a time series. There are some issuers for whom the soft bullet bonds trade wider than their hard bullets, some where they are tighter and some where they are broadly identical. This suggests that the hard/soft bullet distinction is not currently a meaningful driver of price.

Figure 40. Spread levels for Unicredit conditional pass through and soft bullet bonds



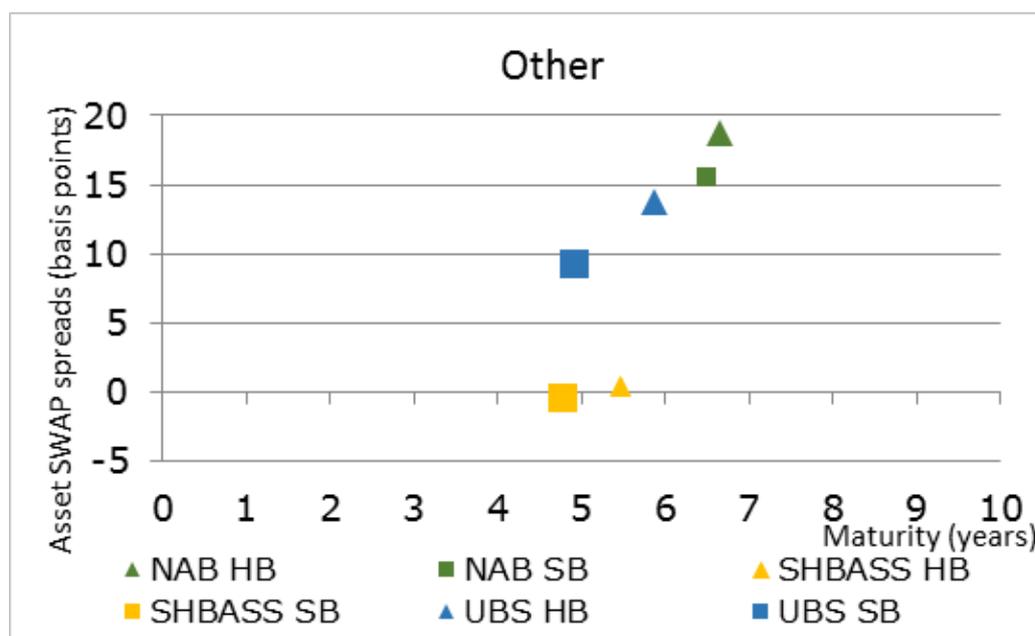
Source: Unicredit Research

Figure 41. Spread levels for hard and soft bullet bonds of the same issuer (France)



Source: Unicredit Research

Figure 42. Spread levels for hard and soft bullet bonds of the same issuer (Other countries)



Source: Unicredit Research

Arguably, this is a function of current abnormal market conditions (in particular, due to the spread compression caused by the ECB purchase programme) but empirical evidence is supported by conversations with investors who acknowledge that in the past a soft-bullet structure may have been relevant to bond pricing, but not anymore. Some but not all investors say the same about conditional pass throughs.

Lower over-collateralisation

A possible concern with extendible structures not highlighted by the EBA is that they typically have lower over-collateralisation levels, all other things equal.

The over-collateralisation required by rating agencies in covered bond structures addresses both credit risk (assets defaulting) and market risk (the issuer not able to issue bonds to refinance maturing bullet bonds). For soft-bullet and conditional pass through structures, the market risk is much reduced or zero, respectively. Extendible structures, therefore, allow lower levels of over-collateralisation for any given credit quality of underlying assets than hard bullet structures.

But there are two significant off-sets that explain the relative investor indifference in pricing to the two structures. First, as a result of the elimination (or reduction) of market risk, soft bullet covered bonds tend to be both higher rated and have less rating volatility. This is slightly misleading in that the rating refers to a different outcome (repayment on the final rather than the legal maturity date). However, the actual rating assigned to the bond – rather than the (somewhat technical) detail of whether the rating relates to the final or scheduled maturity – drives the categorisation of the bond in, for example, rules determining whether a bond is eligible for an index, for use as collateral, etc. Because the soft bullet bond will be better rated and therefore will have a lower probability of losing any given rating (and therefore eligibility), it will be relatively more attractive to investors, all other things being equal.

Second, the possibility of a later sale of the assets in the cover pool is assumed to yield a higher ultimate recovery value.

In summary, for the reasons outlined, there is currently no observable price differentiation between the alternative maturity structures in the market.

Eligibility of extendible structures for deferral of principal coverage in liquidity calculations

We deal with below in the discussion of the proposed liquidity rules.

C) Conclusions

Adopting the EBA's proposals for eligibility criteria for soft bullet and conditional pass through triggers appears justified, subject to a transitional grace period.

We anticipate that because of the EBA's liquidity proposals, many bonds that are currently hard bullet will convert to extendible structures. And, as a result of the proposed rules for extensions, those programmes currently not requiring an issuer event of default will amend their trigger events.

We consider it appropriate for those programmes where the cost of financing is passed on to retail investors to continue to use a trigger event which is linked to refinance rates.

An industry initiative would address concerns about conditional pass through structures. We consider it appropriate to evaluate this over time.

Existing hard bullet bonds

We estimate that following the introduction of this proposal, up to €349 billion of existing hard bullet covered bonds will take steps to convert their structure to extendible maturity structures (either soft bullet or conditional pass through) to avoid the greater cost of conforming to this rule. This is estimated to cost an average of 5 cents per bond (estimated total costs: €86 million).

Ineligible soft bullet triggers

For those covered bonds subject to an extension trigger that does fall within the EBA's recommended criteria, the potential loss of prudential treatment will be a compelling argument for their conversion. The conversion itself will not generate material costs (although it will involve changes to both programmes and in some cases potentially primary legislation and could be time consuming, which is why we propose a grace period). We therefore only consider the contingent cost, that is the loss of functionality that the current trigger structures were designed to provide.

Essentially, the current trigger structures were designed for two purposes, to avoid a possible default and to avoid a sudden increase in refinancing costs for mortgage borrowers (in limited cases).

The likely deferral of a principal payment of maturing bonds for a relatively short time period is highly unlikely to be material following a possible default of the issuer, either to avoid the default or to provide sufficient additional funding to allow a resolution process. This is particularly true given that such deferral would send a negative signal

to the market which is far more likely to negatively impact the distressed bank's ability to access other funding sources.

Although investor awareness of different types of extension triggers is currently low, it is growing. Having two types of structure in the European covered bond market is contrary to the goal of harmonisation of the product from the investor perspective. The harmonisation of this feature will increase the justification for the prudential treatment of the asset class.

Refinancing rate trigger events

Those extension triggers specific to programmes where the cost of borrowing is passed onto retail borrowers do not, however, impact the probability of the issuer defaulting and will not send a negative signal to the market if triggered. Given the policy implications of potentially removing this protection from retail borrowers, the EBA's criteria could be amended to allow such programmes.

Conditional pass throughs

We recognise EBA and investor concerns over conditional pass through structures. But stakeholder discussions and our own review of the structures of these programmes suggest that there is nothing fundamental to this concept that justifies these concerns, but, in practice, the lack of a standardised structure has caused considerable confusion and concern.

The current structures of conditional pass throughs in the market result from differing commercial imperatives of the respective issuers. It seems unnecessary to constrain the ability of issuers to make commercial decisions on this. However, we recognise that a certain minimum prudential standard is appropriate for these structures to benefit from inclusion within a covered bond legislative framework. The discussion is highly technical and industry is only beginning to define a market standard.

Following industry success in addressing, for example, market transparency concerns, we strongly suggest that the industry establishes a minimum standard for conditional pass through structures. After a suitable time (e.g., two years) it seems appropriate for the EBA to revisit this topic to evaluate whether the industry initiative is sufficient to justify the continued eligibility of the asset class for prudential treatment.

5.1.7 System of Supervision and administration – eligible issuers

Proposal

An EU framework would define eligible issuers as credit institutions established in the EU or, subject to third country equivalence (see below), in a third country.

The EU framework could include certain qualifying SPVs as eligible issuers. In particular, this category could include SPVs used to pool covered bonds issued by credit institutions or other eligible SPVs.

1. Current situation (baseline)

We interpret this proposal as referring to the model, currently mainly used in Spain, whereby smaller issuers “pool” covered bonds with matching characteristics in a fund or special purpose vehicle which then issues bonds (or equivalent) to fund its purchase of these notes. In Spain, to date, a fund has purchased the covered bonds and the notes issued have applied a “look through” principle in order to be treated as covered bonds. These structures are typically referred to as “multi-cedulas” structures. Specifically, the question addresses whether this model could be applied to legal structures other than Spanish funds to facilitate market access to smaller issuers.

Currently, there are €34 billion “multi-cedulas” structures outstanding in Spain (data refers to the iBoxx index but given that these bonds are typically only structured to achieve a critical mass this probably represents most, if not all, such bonds). This is significantly less than before and we note that the last issue was in 2009. The decline of the use of the structure is a result primarily of three factors:

1. The consolidation of the Spanish banking system. The primary users of multi-cedulas historically were issuers with a balance sheet size of less than €20-30 billion (source: BBVA), few of whom now remain.
2. The lower importance of a €1 billion transaction size as discussed in section 3.
3. (To a lesser extent) negative investor perceptions as a result of their association with Spanish savings banks during the crisis, poor rating downgrade performance, ineligibility for LCR buffers and lower ECB liquidity category treatment (previously liquidity category 5, now category 3. This affects the efficiency of the bonds as collateral for central bank repo operations for bank investors).

This structure can be compared to models prevalent in other countries whereby assets (rather than bonds) are transferred to an entity that issues the covered bonds and passes on the funding to the originators of the assets. This structure is used in several countries with different structural nuances, in particular whether the issuer of the bonds is a “special bank”, a universal bank or an entity established by specific legislation. These structures all represent an alternative to the “Spanish model” but none (to our knowledge) uses an unregulated SPV as an issuer.

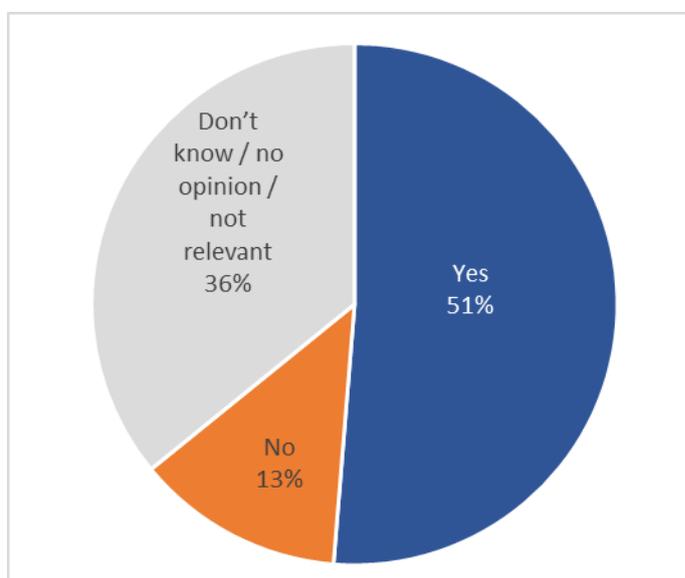
The question is whether, in those countries where such models are not practicable for legal or other reasons, could covered bonds be pooled in an SPV which itself issues bonds that qualify for covered bond treatment?

2. Potential implications and impacts of the specific proposal

Few stakeholders have raised any “in principle” objections to such a model being used elsewhere and recognise it could give smaller European banks the opportunity to access the (large and liquid) covered bond funding market (which would be beneficial for their clients – retail customers, particularly SMEs).

No interviews conducted have objected to the principle and only 13 per cent (five of 39) respondents to the public consultation opposed the concept (as opposed to 20 who supported it). Concerns were that covered bonds backed on pools of assets issued by several originators would be more complex, heterogeneous and opaque from an investor point of view. Particularly problematic was the possible allowance of covered bonds backed by other covered bonds. Other risks mentioned include higher legal risk linked to the necessity to assign claims. It was also mentioned that alternative ways exist for smaller credit institutions to tap into the covered bond market (e.g. selling and transferring eligible assets to another bank which has the licence to issue covered bonds).

Figure 43. Would it be desirable for an EU covered Bond Framework to allow the use of pooled covered bonds structures and SPVs?



Source: European commission Open Public Consultation. N= 39

Most interviews to date have said that there is no commercial need for such a model in their country (alternative structures generally exist to facilitate smaller issuer market access, for example, the Pfandbriefbank in Switzerland, or Sparebank Bolligkredit in Norway). Most noticeably, in Spain itself, it was questioned whether such a model was still needed given the consolidation in the Caja sector, the source of most of these issues to date.

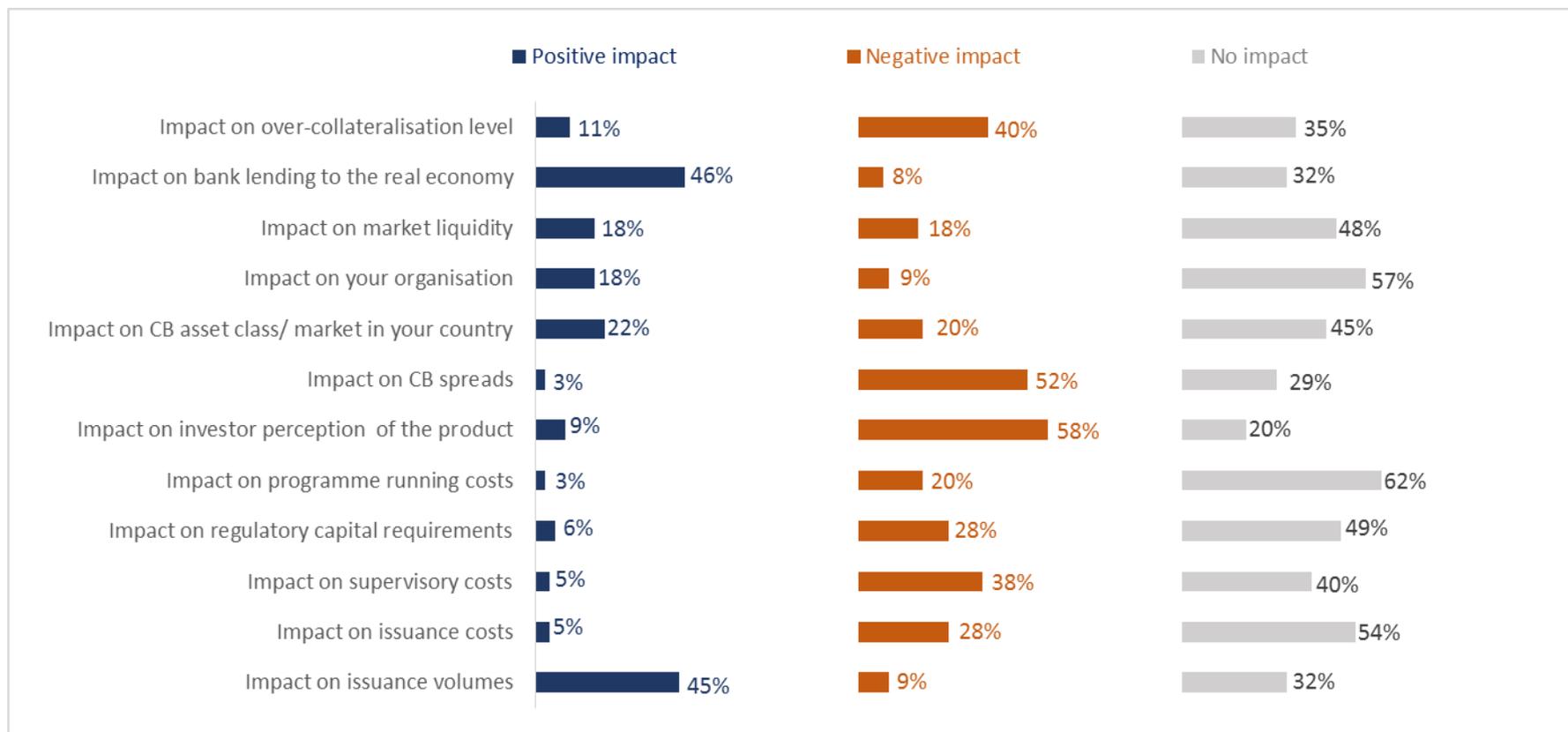
Figure 44 shows that the possibility of pooled structures in SPVs was generally seen as negative or neutral for most variables apart from facilitating lending to the real economy and issuance volumes. The two variables that the proposal to allow SPVs to issue covered bonds would negatively impact according to respondents to the ICF survey of issuers and national coordinators is investor perception of the product (negative impact for 58 per cent of respondents), covered bond spreads (negative impact for 52 per cent). Negative impacts are also expected in minimum over-collateralisation level and supervisory costs (c. 40 per cent each). The expected benefits relate to issuance volumes and bank lending to the real economy (c. 45 per cent each). Whereas respondents felt that it would be supportive of these important

variables, we suspect that few respondents will have looked into the actual demand for this funding tool and will have based their answers rather on the theoretical implications of the idea.

Figure 44. Likely impacts of allowing SPVs to issue covered bonds that pool other covered bonds in a similar way to Spanish multi-cedulas

Status quo: Only credit institutions are allowed to issue covered bonds

Option 1: Also allow SPVs to issue covered bonds that pool other covered bonds in a similar way to Spanish multi-cedulas



Source: ICF survey, feb. 2017, n=65, avg 17% of no response.

Note: Question 16 from online survey

c) Conclusion

Because the evidence above suggests there is no justification to allow non-credit institutions to issue covered bonds via a pooling system as there is no perceived need for this tool, it would add to the complexity of the asset class, would create a need for substantial new regulations (where the issuer is not a regulated financial institution) and would potentially contravene the dual recourse principle.

NB: In this section we have only considered the pooling of funding via the “multi-cedulas” model for several third party entities. We have not considered the treatment of intra-group exposures discussed in the EBA’s 2014 report and outside the defined scope of this project.

5.1.8 System of Supervision and administration – cover pool monitor

The covered bond framework should establish rules on:

- The appointment and dismissal of the cover pool monitor. The competent authority should play a decisive role in this
- Eligibility criteria
- Main duties and powers including: monitoring of compliance with legislation, including the eligibility of cover assets, coverage, liquidity, cover pool derivatives and transparency, reporting to the competent authority, including a duty to respond to specific request, regular reporting on compliance with legislation, material observations regarding the covered bond business, including when assets are added/removed and cause substantial change in the coverage requirements, the access to information that issuers should grant the monitor

a) Current situation (baseline)

This aspect is currently not governed by EU legislation described in section 2. But it can be considered an expansion of EBA best practice 7-A (appointment of cover pool monitor) in the following areas:

- i. To clarify the details of the reporting requirements to the competent authority (that it is at least annual and in response to queries, that it reports on compliance with legislation and that it has access to the necessary information)
- ii. Expansion of the topics which the monitor has to cover (for example with regard to the proposed new coverage and liquidity rules)
- iii. Adds that the competent authority should play a decisive role in the appointment of the cover pool monitor

According to the EBA, all EU jurisdictions except the Czech Republic (where there is no cover pool monitor or equivalent concept) conform to the best practice recommendation – see Table 2 in section 2.

Respondents to the OPC generally supported the EC proposal on cover pool monitors, including investors who highlight that – although it would not involve a change from current practice in many jurisdictions - it protects investors’ interests. But, again, given the particularities of each national covered bond model, respondents highlighted it would be difficult for an EU model to set out detailed requirements. For example, there is no unanimity on whether the cover pool monitor should be appointed directly by or with the approval of the competent authority - or also possibly by the issuer (although many respondents did see a role for the competent authority). A few

respondents also highlighted they disagreed that the cover pool monitor should necessarily not be the ordinary auditor.

The proposal for a passporting mechanism (that would allow cover pool monitors to offer their services in other Member States) did not gather much support. Respondents were sceptical it would be feasible, or even necessary (e.g. if the cover pool monitors are selected among auditing companies) or desirable (e.g. since cover pool monitors need to have legal expertise).

The table below provides the current annual costs incurred by issuers to meet national legislative requirements regarding cover pool monitors.

Table 17. Annual costs of appointing a cover pool monitor in different EU jurisdictions

	Cover pool monitor
Belgium	~ €80,000
France	€65,000 - €120,000*
Germany	€30,000 - 50,000**
Hungary	~ €90,000
Ireland	~ €200,000
Italy	€20,000 - €60,000
Luxembourg	~ €30,000
The Netherlands	€10,000 - €40,000
Portugal	€25,000 - €30,000
Sweden	~ €50,000
The United Kingdom	€10,000 - €50,000
EU average	€64,000

Source: ICF survey, n=41

* *Appointing a Specific Controller is compulsory under French law. The Specific Controller is an audit firm different from the legal auditors of the CB Issuer or the parent group of the CB Issuer. The Specific Controller not only acts as a cover pool monitor but has wider functions. The annual cost of appointing a Specific Controller ranges from €50,000 to €300,000 depending of the size and complexity of the issuer (source: French controleur spécifique).*

** *see annex 7. The higher range applies to a large issuer with two alternate monitors*

b) Potential implications and impact of the specific proposal

In Italy, the asset monitor does not have a reporting requirement to the competent authority (except where the asset monitor reports to the auditor who in turn reports to the competent authority). Whether this conforms to the original best practice is a moot point, but it is clear that the current arrangements do not conform to the proposed new rules.

Also, contrary to the EBA's survey, there is no concept of a cover pool monitor in Finland or Spain and in the UK, the issuer's existing auditor may also be the cover pool monitor.

Although not required by law, in practice in the Czech Republic, an equivalent entity is appointed under contract.

Although the phrase Cover Pool Monitor is used extensively, it is not the only legal term used for the party undertaking these responsibilities under all national laws. For clarity, it would be helpful for legislation in those countries that use a different term to use the same terminology used in most other Member States.

i) Conforming with existing best practice:

In the UK, Norway, Italy and the Czech republic, the changes needed to bring the covered bond regimes into line with the current best practice recommendations are not material (e.g., introducing a rule prohibiting the statutory auditor from being also the cover pool monitor).

In Spain, the changes necessary should be considered in combination with other necessary legal changes (see section 5.3).

In Finland, the introduction of a cover pool monitor can be estimated to cost €576,000 per year (nine programmes multiplied by the European average cost of a cover pool monitor of €64,000).

ii) Conforming to proposed new rule:

The proposed rule is wider in scope than the existing best practice.

The conformity of individual Member States with the proposed new rules and the cost implications of bringing them into line are difficult to assess case by case. As a reasonable approximation based on a comparison of the existing duties of the monitor and the new duties, we have estimated that the cost of a cover pool monitor will increase by 10- 20 per cent following the new proposal. At the end of 2015, there were 371 covered bond programmes in EU Member States. The incremental costs of implementing the proposed new rules are estimated at €2.4-4.8 million⁴⁴.

c) Conclusion

The incremental costs of adopting this proposal are clearly immaterial compared with the additional benefit of a harmonised European regime.

This proposal will increase the level of harmonisation between covered bond regimes in Europe, thus reducing the need for investor due diligence and improving comparability of investments between Member States. It will also provide a minimum standard for new Member States introducing covered bond regimes or upgrading existing regimes to better align them with international best practice.

Although these benefits are difficult to quantify, they clearly exceed the minor cost of implementing the proposal.

⁴⁴ Lower bound: $371 \times 10\% \times (64,000) = 2,374,400$

Upper bound: $371 \times 20\% \times (64,000) = 4,748,800$

5.1.9 System of Supervision and administration – duties of competent authority and issuer

The covered bond framework should cover the role of the competent authority, the duties of the issuer to the competent authority and the interactions of the competent authority, resolution authority, cover pool monitor and special administrator.

Duties of competent authority:

- Approve (or license) the establishment of a covered bond programme;
- Issuance should be notified (ex-post) to the competent authority (on an individual issue or regular aggregated basis). This should include information on the outstanding issues;
- Before the first issue, ensure (i) adequate operational procedures including for insolvency or resolution; (ii) adequate management and staff, (iii) all issuer restrictions are met and (iv) cover pool meets applicable requirements;

(The EBA clarifies that the above rules may be slightly different in the case of specialised covered bond issuers (rather than universal credit institutions) where the licensing arrangements cover the issuer rather than the programme).

- The right to execute on-site inspections and request further information;
- The competent authority should have corrective/ enforcement/ intervention powers;
- A decisive role in the appointment and dismissal of a cover pool monitor (where applicable).

Duties of issuer:

- To report to the competent authority according to special reporting rules separate from regular banking reporting;
- To notify changes in the features of the covered bond programme, including issuance in new markets and in the case of transferring the assets and bonds to a new owner.

a) Current situation (baseline)

This is a new rule according to the EBA, although arguably it is an expansion of the UCITS 52(4) requirement for special public supervision.

The proposal elaborates upon, but is broadly in line with Best Practice 7- B (Supervision of the covered bond issuer).

As identified by the EBA five EU jurisdictions (Austria, Cyprus, the Czech Republic, Italy and Slovakia) are currently partially aligned with the best practice - Table 2 in section 2.

- In Austria, the Czech Republic, Italy Slovakia covered bond programmes do not need to be approved.
- In Austria the framework does not set out the supervisor's duties and powers.
- In Cyprus the supervisor does not have to review operational practices as part of the approval process.

The table below summarises the evidence collected via a survey of issuers on the costs associated with meeting supervisory and regulatory requirements (aside from cover pool monitor) in select EU jurisdictions.

Table 18. Licence fees and annual costs of conducting audits in line with national regulatory requirements and other costs relating to supervision and regulations [cost to issuers]

	Licence fees	Audit fees	Other supervision and regulatory costs
Belgium	~€10,000	~ €50,000 (at start)	:
Denmark	See Annex 6	~ €70,000	See Annex 6
Finland	~€1,000	~ €30,000	~ €20,000
France	~€5,000 (AMF) €13,000 - €110,000	€100,000 - €850,000	~ €300,000
Germany	:	~ €125,000*	
Hungary	~€3,000	:	:
Ireland	:	~ €100,000	€1 million
Italy	€8,000 - €10,000	€10,000 - €130,000	€10,000 - €20,000
The Netherlands	€10,000 - €25,000	€10,000 - €60,000	€5,000 - €25,000
Portugal	€3,000 - €5,000	€30,000 - €75,000	€10,000 - €12,500
Sweden	€10,000 - €50,000	€10,000 - €50,000	€5,000 - €75,000
The United Kingdom	€27,500 - €50,000	~€120,000	€120,000 - €2.2 million

Source: ICF survey, n=41

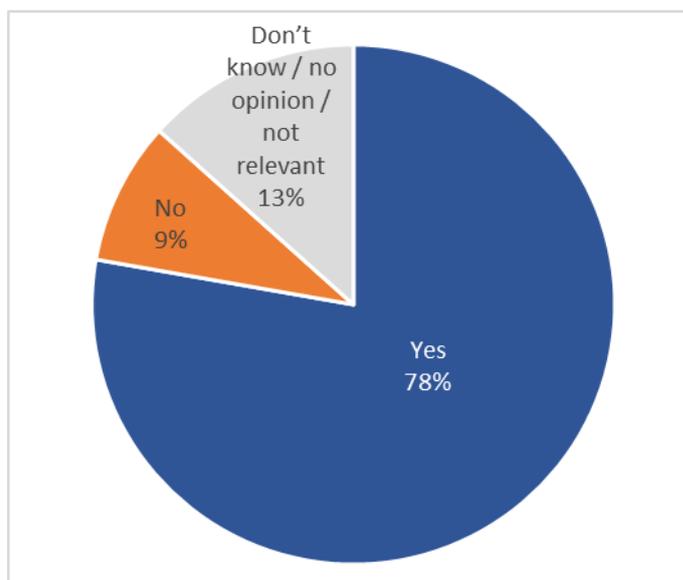
*includes cost of on-site cover pool audits which range from €10,000 for small savings banks to 6-digit amounts (at approx. €100,000) for major Pfandbrief banks, carried out by leading auditing firms. Additional supervision costs might include mandatory statements by chartered external auditors on appropriate organisation of the Pfandbrief business in the annual report + costs of internal control of observing the limits under the Pfandbrief Act + costs of cover pool insertion + lists of cover pool assets to be sent to BaFin. Some issuers carry out internal audits by their compliance departments, but this is not mandatory.

b) Potential implications and impacts of the specific proposal

Respondents to the OPC largely agreed (35 respondents in favour compared to four who rejected the idea) that defining, at EU level, common duties and powers on competent authorities for the supervision of covered bond programmes and issuers would be desirable. Again, this would depend on the EU framework providing rules that ensure a harmonised degree of quality while remaining high-level enough to accommodate national specificities.

The benefits would be for the market in general and for the investors in particular (safeguard for the overall safety and credit quality of the covered bonds). From an issuer point of view, benefits would be around the introduction of a level playing field (all issuers subject to a common set of rules). There is no agreement on the list of specific duties and powers that could be included within an EU supervisory framework (e.g. how to interpret rules regarding the approval of the establishment of new programmes or regarding the authorisation or notification process for amendments to covered bond programmes).

Figure 45. In your view, would it be desirable for an EU covered bond Framework to set common duties and powers on competent authorities for the supervision of covered bond programmes and issuers?



Source: European commission Open Public Consultation. N= 45

In Slovakia, the reported partial alignment with best practice does not appear to take into account the EBA's comment that the supervision of specialised covered bond issuers may - although different in form to the approval of individual programmes - achieve a comparable level of supervision.

The Italian partial alignment with this rule is due to its adoption of objective criteria for issuance eligibility (with regard to size and capital) rather than a supervisory process. This approach could be argued to have significant merits (such as objectivity).

In Spain, the granting of a covered bond issue license brings "no additional requirements" and we are sceptical that it aligns with the best practice as reported.

c) Conclusion

Bringing covered bond frameworks into line with this proposed law should entail no material costs in most Member States, including Slovakia and Norway that currently report only partial alignment with best practice.

In Austria, the Czech Republic and Italy, programme licensing arrangements will be needed. This cost is estimated at c. €1 million (€13,000 average licencing costs across EU multiplied by the 79 programmes extant in these countries).

The cost implications of bringing Spain into line with this regulation, and all other regulations, are considered separately.

In general, the relatively immaterial total cost is clearly outweighed by the benefit of greater harmonisation.

5.1.10 System of Supervision and administration – supervision post insolvency

The covered bond framework should require that the competent authority

- has a decisive role in the appointment and dismissal of the covered bond administrator and
- approves the transfer of the programme to another issuer

The framework should also require coordination between the competent authority, the special administrator and the resolution authority

a) Current situation (baseline)

This is a new rule and elaborates best practice 7-C (duties and powers of the national authority in a scenario of the issuer's insolvency).

According to the EBA:

- In Austria and Slovakia, the duties of the competent authority are "not specified or are given in less detail".
- No role specified for the banking supervisor in crisis in the Netherlands, although to conform to best practice 7-B, the Dutch regulator introduced a requirement on the issuer in default to report a management plan to the Competent Authority and for the Competent Authority to continue to assess compliance with article 129 CRR. This rule appears to ensure compliance with best practice 7-B but not with the proposal.
- No role specified for the supervisor in the transfer of the assets in Italy and France (OF framework only).
- No obligation of the supervisor to safeguard the ongoing management of the cover pool (either directly or via a special administrator) in Portugal or Poland.

b) Potential implications and impacts of the specific proposal

This proposal appears to have no material cost implications.

c) Conclusion

The negligible cost implications are clearly outweighed by the benefit of greater harmonisation.

5.1.11 System of Supervision and administration – administration post insolvency

The covered bond should, post issuer insolvency or resolution, be managed independently in the best interests of the covered bond investors.

The framework should clarify duties and powers of the special administration function and should have a high level of legal clarity and transparency in scenarios of potential distress.

In particular, it should ensure that the administration function recognises any broader resolution or insolvency process affecting affiliates of the issuer (e.g. a parent entity).

There should be rules on:

- The appointment and dismissal of the special administrator with the competent authority having a decisive role;
- The obligation to interact with the competent authority, resolution authority and the insolvency court (where applicable);
- The administration function, including:
 - managing the programme in the best interests of covered bond investors;
 - power to manage and dispose of cover assets;
 - power to carry out legal transactions;
 - duty to return cover assets to the insolvency estate after covered bonds have been paid out;
 - duty to monitor coverage of liabilities incurred and recoverability of the cover pool.

a) Current situation (baseline)

This elaborates EBA best practice 7-C (duties and powers of the national authority in a scenario of the issuer's insolvency).

According to the EBA, there is no framework currently in the Czech Republic and, in Spain, the general insolvency practitioner is responsible for the insolvency process.

b) Potential implications and impacts of the specific proposal

Views are divided on the proposals outlined in the OPC on the appointment and legal regime for a cover pool special administrator. There is no agreement on who should appoint the cover pool special administrator; whether the cover pool special administrator can or cannot be identical to the insolvency administrator (beyond the Spanish case, France also commented that "the special administrator of both the cover pool and the covered bonds issuers could be the cover pool monitor"), the qualifications of the special administrator, whether or not the special administration regime should be court-administered, etc.

Investors and all other respondents to the OPC generally supported the proposal that the special administrator be obliged to report regularly to the relevant supervisory authority (similar to the obligations applicable to the issuer). Some commented that a reporting requirement, not specified in detail, would not be sufficient (but such details could be set at national level).

Specific regimes do not currently meet the proposed rules in a number of ways, including:

- There is no role specified for the banking supervisor in a crisis in the Netherlands. To conform to best practice 7-B the Dutch regulator introduced a requirement on the issuer in default to report a management plan to the Competent Authority and a requirement on the Competent Authority to continue to assess compliance with article 129 CRR. This rule appears to ensure compliance with best practice 7-B but not with the proposal.
- There is no role for the supervisor in the transfer of the assets post in Italy and France (OF framework only).
- There is no obligation on the supervisor to safeguard the ongoing management of the cover pool (either directly or via a special administrator) in Portugal or Poland.

The cost implications of bringing Spain into line with this regulation are considered separately in section 5.3.

c) Conclusions

The negligible cost implications are clearly outweighed by the benefit of greater harmonisation.

The necessary changes to conform to this proposal in the Czech Republic and Spain can be considered around all other changes needed in those jurisdictions.

The less fundamental changes outlined above for France, Italy, the Netherlands, Poland and Portugal all seem only to require a change to the legislation (or regulation, depending on country) defining the responsibilities of the regulator in these scenarios, and, in the event of an insolvency, they will generate no additional supervisory costs in the normal course of business.

5.1.12 Transparency requirements

Covered bond issuers should disclose:

- aggregate data on credit, market and liquidity risks of the assets and bonds;
- other relevant information including concerning counterparties, required coverage, contractual and voluntary over-collateralisation;
- information on the structure of the covered bond;
- the methodology used to calculate LTVs for mortgage assets;
- all transaction documents (excluding legal opinions);
- information specific to the underlying asset class (for example LTVs for mortgage pools);
- a statement of compliance with the various regulatory categories;
- a glossary of definitions and criteria used in the disclosure.

Such information should be disclosed at an appropriate level of detail. This is presumed to be on an aggregate rather than line-by-line basis.

A higher level of disclosure “may be more appropriate” for covered bonds allowing long maturity extensions.

It should be “considered” to require a disclosure of loan-to-income information.

The information should be in a standardised format, at least quarterly.

a) Current situation (baseline)

This is an extension of the rules currently contained in article 129(7) of the CRR, significantly increasing the information disclosed, changing the frequency from semi-annually to quarterly and putting more onus on the issuer to provide the data (129(7) makes investors responsible for ensuring that they have access to this information). Although it should be noted that covered bond laws in Member States currently typically require issuers to disclose more information than is required in article 129(7).

This is an extension of EBA best practices 8-A (scope of disclosure) and 8-B (frequency of disclosure).

According to EBA’s analysis, legal/regulatory requirements for disclosure vary across Member States:

- In 10 jurisdictions, a fully comprehensive disclosure requirement is laid out in the legal/regulatory frameworks, although there are different approaches such as the information is required not only in nominal value, but also in present and stressed present value of cover assets and covered bonds.
- Seven EU Member States require disclosure of covered bond programmes, but do not fully meet the EBA best practice criteria.
- In four Member States, there are no disclosure requirements.

The frequency of disclosure also varies from monthly to annually. In six Member States, there is no explicit requirement regarding the frequency of disclosure with respect to covered bonds.

Table 19. Scope and frequency of disclosure requirements across EU Member States

Industry initiatives adopted by issuers	Legal/ regulatory frameworks	Frequency of disclosure
-----------------------------------------	------------------------------	-------------------------

	National Transparency Template (NTT)	ECBC's Harmonised Transparency Template (HTT)	Fully comprehensive disclosure requirements	Disclosure requirements are partially aligned with EBA best practice	Absence of specific disclosure requirements	requirement
Austria	✓				✓	X
Belgium	✓			✓	✓	X
Cyprus		✓	✓			Quarterly
Czech Republic	✓			✓		Annual
Denmark	✓	✓	✓	✓		Quarterly
Finland	✓	✓	✓			Quarterly
France	✓	✓	✓			Quarterly
Germany	✓	✓	✓			Quarterly
Greece	✓	✓	✓			Quarterly
Ireland	✓	✓		✓		Annual
Italy	✓	✓		✓	✓	Semi-annual
Luxembourg	✓	✓		✓		X
Netherlands	✓		✓			Quarterly
Poland	✓			✓		X
Portugal	✓	✓	✓			Semi-annual
Romania		✓	✓	✓		Quarterly
Slovakia	✓			✓		Annual
Slovenia	✓	✓	✓		✓	X
Spain	✓	✓	✓			Annual
Sweden	✓	✓			✓	X
United Kingdom	✓	✓	✓			Monthly/ Quarterly*
Number of MS	12	10	10	7	4	

*information disclosure is required for the asset and liability sides on a monthly or quarterly basis. In addition, issuers are required to publish loan-level data on a quarterly basis

Based on ECBC database and EBA (2016) EBA Report on Covered Bonds: Recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA, 20 December 2016

The EBA Report further notes that in some jurisdictions, issuers have adopted national transparency templates (NTTs) in the context of the ECBC's NTT initiative or the harmonised transparency template (HTT).

Covered bonds constituting 60 per cent of the entire market (70 per cent for Member States only) disclose information based on a voluntary market initiative with a higher level of disclosure.

The Covered bond label

The Covered Bond Label was created by the European Mortgage Federation/

European Covered Bond Council (ECBC) in 2012. It was developed by the European CB issuer community, working in close cooperation with investors and regulators, and in consultation with all major stakeholders.

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, compliant with Article 129(7) of the CRR, is complemented by the Harmonised Transparency Template published on quarterly frequency. The Label Committee in liaison with the Advisory Council review the CB label Convention on a yearly basis in order to ensure its alignment with the highest qualitative standard implementable in the market. Key market participants such as ECB, EIF, EBA, World Bank, EBRD, investors, rating agencies and law firms are part of the CB Label Advisory Council.

The Harmonised Transparency Template (HTT) is the worldwide standardised, Excel-based form that issuers who have been granted the Covered Bond Label use to disclose information on their covered bond programs. Definitions and format of the disclosed information are standardised to increase comparability and transparency between issuers and between jurisdictions. Standardisation facilitates investors' due diligence, enhancing overall transparency in the Covered Bond market. The HTT, designed to be fully compliant with art 129(7) CRR transparency requirements, undergoes constant review, stirred by the Covered Bond Label & Advisory committees, so as to be always up-to-date with regulatory and market requirements. Additional country-specific information on the covered bond programs can be found in the National Transparency Templates often included in the HTT.

The Covered Bond Label opened for registrations mid-2012. Following an initial test phase during 2012, the website became fully operational on 1st January 2013, with the first Labels effective since then. On this website, the CBLF Harmonised Transparency Template and 14 National Transparency Templates are published by 86 issuer profiles disclosing information on 102 labelled cover pools across 16 jurisdictions. This includes line-by-line details in ca 4400 bonds with a combined notional of ca €1.43 trillion.

The Covered Bond label Initiative was created to:

- Establish a clear perimeter for the asset class and highlight the core standards and quality of covered bonds;
- Increase transparency;
- Improve access to information for investors, regulators and other market participants;
- Improve liquidity in covered bonds;
- Position the covered bond asset class with respect to the new upcoming regulatory environment (CRD IV/CRR, Solvency II, redesign of ECB repo rules, etc.).

At the time of writing, the Covered Bond Label Committee is discussing the implementation in 2017 of new IT features providing ISIN level details on conditional pass through, soft bullets and green covered bond identifiers. Following the publication of the new ECB transparency requirements on Repo transactions, the Label Committee is also analysing the implementation in the HTT of a repo section disclosing swap counterparties details.

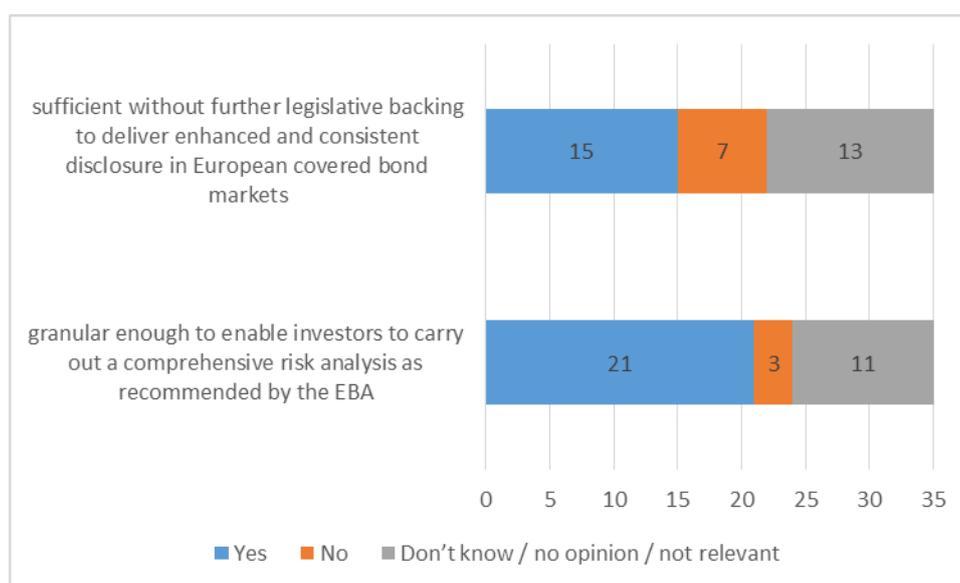
b) Potential implications and impacts of the specific proposal

Market initiatives

Most stakeholders interviewed emphasised that existing disclosure standards in national legislation and market practice are far in advance of those specified in article 129(7), that market forces are the most significant drivers of full disclosure and the market led initiatives, in particular the ECBC's harmonised transparency template, have ensured that disclosure standards are excellent *de facto*, if not *de jure*.

This supports consultation answers that tend to show that respondents agreed that investor reporting templates prepared by industry bodies are granular enough to enable investors to carry out their own risk analysis (21 respondents) and, to a lesser extent, sufficient – with no need for further legislative backing (15 respondents).

Figure 46. Views on investor reporting templates prepared by industry bodies



Source: European commission Open Public Consultation. N= 35

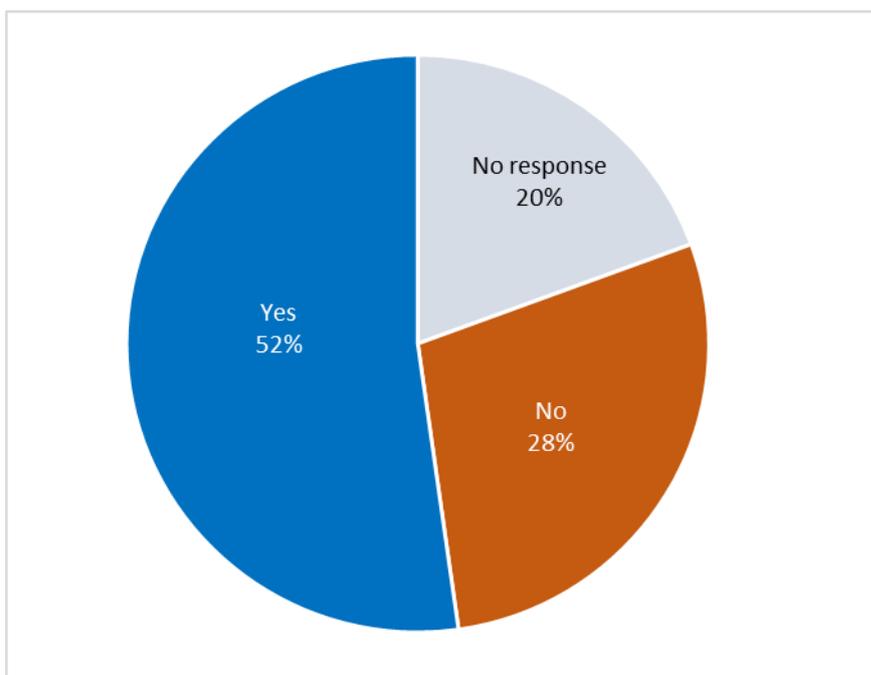
In particular, the templates are generally seen as satisfactory content-wise and granular enough to do a cash flow analysis, to model the impact of stressed conditions on the portfolio and to monitor the performance of a pool. Respondents stressed that the templates have been developed taking into account investors' needs and requirements and have been well received by investor associations such as the Covered Bond Investor Council.

The templates are also seen sufficiently flexible to take into account the specificities of the various national mortgage and covered bond markets.

With regard to the possibility of more granular disclosure, in particular "line-by-line" disclosure of the key characteristics of each asset in the cover pool, there were a few cases where interviewees recommended to go in this direction and introduce a portal similar to the European Data Warehouse portal which exists for ABS. But risks associated with this approach were often highlighted by issuers including: risks of rendering the disclosed information less understandable for investors and less easy to compare over time, in particular given the dynamic nature of the underlying collateral pool. These risks were highlighted in interviews but also in survey responses.

Just more than half of respondents to the ICF survey foresee costs or risks with disclosing all transaction documents.

Figure 47. Are there any costs or risks associated with disclosing all transaction documents?



Source: ICF survey, Feb 2017, n=67.

The costs that could potentially affect pricing relate to the need to produce additional reports and frequently update the information, to adapt the IT system and to check whether full disclosure meets contractual obligations.

Although many respondents saw no need for further legislative backing, some highlighted that regulatory underpinning would provide an additional incentive to harmonise these standards at a faster pace and would have the advantage of making the disclosure requirements enforceable.

Views on CRR 129(7)

Several stakeholders raised objections to the disclosure requirements in 129(7), in particular:

- They fail to sufficiently take into account the underlying asset class and the current requirements were considered more appropriate to residential mortgages than for commercial mortgages, public sector assets or ships.
- They require more standardised definitions in order to be meaningful, in particular in the light of national specificities.
- Although the frequency with which the data should be disclosed is clear (semi-annually), its timeliness is not specified.
- They only address disclosure about the cover pool, rather than about the issuer, structure and other information which is material for a full understanding of the credit risk.

The latter point is acknowledged in the EBA proposal. In the view of investors we met, the EBA proposals substantially address these concerns.

Frequency of reporting

Many stakeholders highlighted that quarterly disclosure is more appropriate than the current 129(7) requirement for semi-annual disclosure, and particularly that for most issuers it is in line with current market practice.

Some interviews indicated that regulators should have the option to require more frequent disclosure – presumably monthly – case by case. Although it was recognised that such a requirement would potentially exacerbate problems for a distressed issuer – due to signal effects.

It has been pointed out that if the disclosure requirements are expanded to include issuer data then quarterly disclosure could be problematic. In particular, listed issuers will disclose information on a schedule and with a frequency determined by their own financial year end and the requirements of their listing authority. It would not be appropriate and may contravene compliance regulations to disclose information at other times, for example according to a schedule driven by the covered bond market.

Most national disclosure rules include a requirement for timeliness and frequency of disclosure (e.g., quarterly data must be disclosed within one month of the end of the quarter). The EU regulations should therefore also specify deadlines and timescales.

Form of regulation

Some stakeholders, particularly issuers in various jurisdictions, commented that, given these shortfalls in 129(7) and the complexity that will follow more extensive disclosure, it is not appropriate to define disclosure standards in EU legislation at all and that they should be defined by guidelines issued by the EBA. Others believed that rules broadly similar to the current 129(7) rules should be included in legislation but supplemented by EBA disclosure templates.

More meaningful disclosure requirements for asset pools can only be defined for specific asset types (i.e., one set of requirements for residential mortgages, one for public sector assets, etc). Therefore, if building block 1 does not define eligible asset classes (see discussion in section 5.1.4) it will not be meaningful to include revised disclosure standards under building block 1 as proposed by the Commission.

Having said that, there is significant support for disclosure being a general (building block 1) requirement rather than a building block 2 requirement that only applies to covered bonds seeking preferential prudential treatment.

Disclosure of exposure to material counterparties

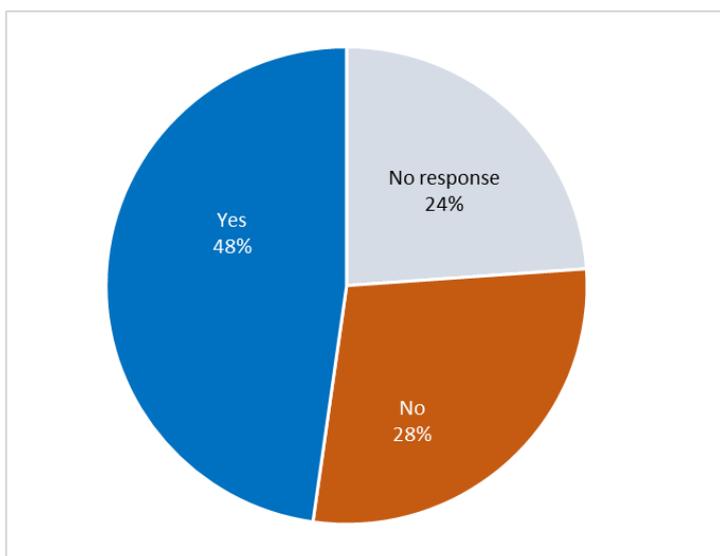
Views diverge on whether it is appropriate to disclose information on material counterparties in covered bond programmes, for example swap counterparties or bank account holders. Investors invariably felt that it was relevant information to disclose, issuers in some jurisdictions agreed (generally those jurisdictions where this information is already disclosed), issuers in other jurisdictions disagreed.

Although from a credit perspective it is potentially highly important, some stakeholders pointed out that this disclosure would conflict with commercial and confidentiality requirements and therefore disclosure requirements should continue to be made voluntarily. Private placement in particular is subject to confidentiality.

The information is already disclosed to supervisors /specific controllers and rating agencies and the need for more disclosure is already mitigated by structural features such as collateralisation obligations for swap counterparties and/or rating triggers to the satisfaction of rating agencies. Some respondents commented that these mitigants should also be disclosed.

Costs or risks associated with disclosing counterparty information were a concern for almost half of the respondents to the ICF survey.

Figure 48. Are there any costs or risks associated with disclosing counterparty information?



Source: ICF survey, feb. 2017, n=67.

One stakeholder (a law firm) commented that there should be full disclosure since the credit mitigants referred to will not necessarily work in practice, particularly in the event of a sudden default event of an issuer.

There is potential overlap of this disclosure with requirements under the Prospectus Directive (particularly for listed programmes).

A potential compromise would be to disclose information on degree of concentration of exposures to the counterparties and then only disclose information on "significant" third-party credit exposures (e.g., if a single cross currency swap mitigates the entire currency risk) and/or to limit disclosure to basic and public information on the main counterparties (names of the X largest counterparties representing X per cent of the exposure/swap / nominal amounts hedged, links to their website, their rating).

Other information

It is generally agreed that disclosure should cover liquidity/substitution assets in addition to the primary assets in the cover pool.

The EBA's proposal to exclude legal opinions from the documentary disclosure standard was considered largely unnecessary. This carve out appears to replicate one proposed in the securitisation market.

Box: Potential costs of changes to transparency rules

One off IT costs – greater pool disclosure

These costs will mainly relate to greater disclosure of cover pool data. Based on survey data on the historic costs of changing IT systems to make them compatible with covered bond programmes it is clear that the cost implications will range from nothing to potentially very high values.

Costs are likely to be particularly low for those issuers who also use their residential mortgages in securitisation structures and/or in those countries where the national level disclosure rules already cover the additional fields to be disclosed.

There will be some cases where the necessary changes are either impossible or

uneconomic. This is particularly the case where information that may be required to be disclosed is not stored electronically (but only in "paper" files) or not stored at all (e.g., the location of mortgage collateral may not be stored according to standardised regional breakdowns).

On-going costs – greater pool disclosure

Once established, there will be relatively minor, potentially no, ongoing IT or staff cost implications of a higher pool disclosure standard for most issuers.

There are potentially slightly higher ongoing audit and/or cover pool monitor costs so that more fields must be verified.

"Soft" costs – greater pool disclosure

Some disclosure may be credit negative in the eyes of some investors. This may be legitimate (additional disclosure reveals negative aspects of assets) or not (additional disclosure is difficult to interpret/mitigated by other factors).

For example, in one jurisdiction, each time a new mortgage product is granted to a borrower (which could be annually if they prefer a one-year fixed rate product), technically, this is a new mortgage, even if the borrower has been a mortgage customer for 20 years. An issuer in this jurisdiction objected to having to report their mortgage "seasoning" (i.e. the average age of mortgages in the book) as it would misleadingly suggest it was an extremely new portfolio – widely regarded as a credit negative by investors.

One-off/each programme update costs – programme disclosure

There will be some legal and compliance costs of ensuring that the disclosure is correct and some additional IT costs of amending the website to disclose the information. These are presumably not material.

Soft costs – programme disclosure

More significantly, the disclosure of sensitive information – such as the cost of some facilities – could create significant commercial disadvantage to issuers and could also potentially compromise secrecy obligations within the agreement.

IT, Audit, Accounting etc costs – issuer disclosure

Potentially significant if disclosure cycle is different from normal disclosure cycle.

Soft costs – issuer disclosure

Potential contradiction with listing requirements in that issuer level information is material price sensitive information.

potentially commercially unacceptable disclosure for non-listed entities.

All the above costs will be greater if reporting is standardised or in a centralised venue – cost of adapting existing disclosure to standard format and share of costs of central venue. European Data Warehouse (securitisation market) and/or Bloomberg would provide potential venues

Table 20. Cost of the transparency requirements proposed by the EBA with regard to pool data.

	Lower range	Higher range
Cost of changes to IT	No cost - €50,000	€100,000-500,000

system to meet the new EU level disclosure requirements - pool disclosure	
Ongoing (annual) costs e.g. No cost - €50,000 audit, staff, IT maintenance - pool disclosure	€100,000-500,000

Source: ICF survey, Feb 2017, n=67, above numbers refer to responses in all Member States. Nationality of the programme was not a material differentiating factor

c) Conclusions

A very high standard of disclosure is clearly vital to investor and regulator confidence in the covered bond market. It also facilitates cross-border investment in that it allows ease of comparison between issuers in different Member States. It also more accurately aligns borrowing costs with the actual risk characteristics of the borrower's commercial model.

The take-up of the covered bond label template demonstrates that, even in the existing market conditions, the issuers of most covered bonds consider the costs associated with conforming to this greater disclosure standard are warranted by the commercial benefits. This will be likely to increase over time as:

- Market conditions normalise, in particular as the spread differentiation between issuers with higher or level lowers of disclosure increases;
- Disclosure standards in other comparable investment classes such as STS securitisations improve – thus necessitating improved disclosure for covered bonds;
- Disclosure is expanded to areas proposed by the EBA which have lower IT or similar costs – such as documentary disclosure.

It therefore appears justified that the EBA's proposals are adopted.

However, we recognise that the proposal generates certain issues and that disclosure standards are of a technical nature, it might therefore be desirable that EBA's disclosure principles are further elaborated with regard to:

- The ability of issuers to redact commercially sensitive information in transaction documents;
- The phase-in period of the proposals, recognising that issuers may need time to conform to some aspects of the disclosure;
- Technical guidance on the definitions of terms, recognising that in some cases the exact definition will need to be specified at Member State level and that some terms are specific to certain asset classes.

5.1.13 Geographic eligibility

It should be assessed whether third countries' covered bonds should be eligible for the same preferential treatment as instruments issued in the EU and which criteria will make effective the recognition of equivalence.

a) Current Situation (baseline)

Covered bonds must be issued by credit institutions in an EEA Member State where the relevant competent authority is responsible for reporting their compliance to the Commission.

b) Potential implications and impacts of the specific proposal

On the one hand, extending the definition was seen as a positive development, which would create a precedent and act as an incentive for other markets to reinforce their covered bond frameworks, implement best practices and thereby further facilitate bank funding. A side benefit for candidate countries would be a smoother transition into the EU when this happens.

Some stakeholders thought it would facilitate and secure investments by EU resident investors into other markets (while others highlighted that UCITS funds can anyways diversify their investments, even without an equivalent regime). Mirroring this, increased investments in EU covered bond markets would materialise (provided non EU/EEA would put in place preferential treatment for EU covered bonds as part of mutual recognition and adopt similar bank liquidity rules), which would introduce liquidity and stability.

The equivalence regime should provide the EBA with sufficient flexibility to recognise regimes that are equivalent overall if, for example, the prudential regime for credit institutions is not equivalent but the covered bonds regime has a compensating strength.

It was suggested that the equivalence should be granted only after an assessment of all those items that would form part of the new definition of covered bonds. Parameters flagged as important to look at include: implementation of EBA's best practice guidelines, comparability of the underlying assets and ease of valuation.

On the other hand, there seems to be some concern about the level of certainty that could be achieved when considering other regimes equivalent (particularly the covered bond regime and supervisory practices e.g., there was concern that national insolvency regimes and enforcement procedures available to secured creditors would not be fully equivalent. Fears of an uneven playing field were raised - should the non EU/EEA regulatory standards actually fall short of those EU Member States. Along the same lines, some stakeholders felt that even "equivalent" covered bonds would entail more risk than EU covered bonds (because of possible changes in legislation or judicial practices, or because of currency risk that would be higher).

But several stakeholders commented that because of the problems of performing a full economic and legal analysis of covered bonds from regimes outside the EU - they should not benefit from the same prudential treatment as covered bonds issued in the EU.

It was also suggested that the equivalence regime is at odds with the goal of simplifying the covered bond framework as a whole - since even where there is broad equivalence across countries, some nuances in the details are to be expected. Concerns related to the dilution of the EU covered bond brand were also raised.

One respondent also saw it as problematic that a non-EU/EEA covered bond could be considered as “equivalent” while it would not necessarily be the case for some national covered bonds from within the EU. Several stakeholders commented that a reciprocal recognition of EU covered bond laws in non-EEA prudential regulations should be a necessary condition for recognition, from a competitiveness point of view.

Further opinions are sought on other potential eligibility requirements, such as whether a jurisdiction will need to be an OECD member, G20 member or similar such criteria.

Consideration should be given to the possibility of recognising the concept of covered bonds at a Basel level, which would, presumably support mutual recognition of covered bond regimes.

Finally, when the UK leaves the EU, it may also leave the EEA. As there are substantial cross-border holdings of covered bonds (UK investors holding EU bonds, EU investors holding UK covered bonds) the absence of a recognition regime will potentially be very disruptive.

Box: Conformity of Canadian covered bonds with the proposal

Existing Canadian covered bonds and their legal and regulatory framework (the National Housing Act of 2012 and the “Canadian Registered Covered Bond Programme Guide” published by the CMHC) broadly match most of the EBA best practices and the proposals. We would highlight the following:

- Existing rules do not meet the proposed 180 day liquidity rules but we note that all existing bonds use soft bullet language which is compliant with the EBA proposal. The act would need to be amended to require 180 days of interest coverage rather than the current 90 days.
- Over-collateralisation is set in all programmes by contract but there is a proposal for the introduction of a statutory minimum requirement of 3.1 per cent.
- There is currently no provision for a dedicated insolvency administrator in contradiction of proposal.
- Whereas the 10 per cent substitute asset limit is below the proposed 15 per cent limit, cash equal to the next six-months obligations under the bonds do not count in Canada towards this substitute asset limit.

With the possible exception of the need for a dedicated insolvency administrator, it appears very straightforward to adapt the current Canadian legislation to conform to the proposals, if appropriate.

Our estimate is based on the initial distribution statistics for Canadian covered bonds as reported by the issuers that circa €35bn are currently held by investors in EU Member States.

Box: Conformity of Singaporean covered bonds with the proposal

The Singaporean covered bonds as defined and regulated under Monetary Authority of Singapore notice 648 are broadly in line with the best practices and recommendations of the EBA. Minor discrepancies currently include that:

- Statutory minimum over-collateralisation is currently 3 per cent. Issuers in practice have entered into voluntary contractual commitments that provide for higher values;
- The liquidity rules do not explicitly refer to coverage of the next 180 days of

net principal and interest payments but are instead principle based;

- Soft bullet triggers do not conform to the EBA proposals;
- The MAS notice is silent on the administration and supervisory processes post-insolvency.

c) Conclusion

Because non-EEA covered bonds receive a better prudential treatment, they may represent greater competition for EEA covered bonds, increasing the cost of funding for issuers. But, there are two important mitigants:

Any potential prudential treatment would be on a reciprocal basis, that is if covered bonds from a country receive preferential treatment for EU based investors then EU issued covered bonds would need to receive preferential treatment for investors in that country. Whether the country and the EU have a net positive or negative flow of bonds between them is irrelevant – currently the EU is a “net importer” of covered bonds, reflecting the fact that demand for bonds currently exceeds supply (when compared to the supply/demand balance in non EEA states). If that balance were to reverse so would the net flow of bonds, to the benefit of both the EU and the non-EU state.

It is worth noting that Germany was a net exporter of covered bonds to other Member States from 1995 to 2003 and a net importer thereafter.

The possible increase in the cost of funds for issuers represents a more attractive risk/reward proposition for EU investors. In particular the lower correlation of non-EU covered bonds to an existing portfolio of EU issued covered bonds is an important contribution to stability, in particular for bank treasury investors (liquidity buffers are held by European banks in case of a crisis, the EU issued bonds would presumably be more correlated to a crisis affecting a European bank than non-EU issued bonds).

Relaxing the existing EEA criteria therefore, would be clearly beneficial to the extent that it is on a reciprocal basis and that the non-EEA Member States provide equivalent levels of protection.

The possible post-Brexit disruption for (non-British) investors and issuers highlighted above supports this.

5.2 Building block two: prudential aspects

5.2.1 Substitution assets

Substitution assets which meet the criteria for assets currently contained in CRR article 129 (1)(a)(b) and (c) should be allowed and should contribute towards the coverage requirement.

Substitution assets should be limited to 15% of the minimum required coverage.

a) Current situation (baseline)

As noted by EBA, a majority of the national covered bond frameworks regulate substitution assets, including their composition and quantitative limits. The quantitative limits range from 5% to 30%, with most jurisdictions setting the limit at 15 per cent (9) or 20 per cent (8) - Table 21.

Table 21. Quantitative limits on substitution assets and eligibility requirements

Country	Limit	Composition of substitution assets
Austria	15%	Cash, bank deposits and bonds from public issuers in EEA & CH
Belgium	15%*	Derivatives (CQS 1 OR 2), exposures to financial institutions
Cyprus	15%	Deposits with central banks and highly rated institutions, securities
Czech Republic	10%	Cash, EEA central bank deposits, EEA government securities
Denmark	15%	Exposures to credit institutions
Finland	20%	Public sector receivables, cash
France (SCF)	15%	Securities, assets and deposits (CQS 1, or CQS 2 if up to 100 days maturity)
Germany	10%*	Money claims against EU central banks or CQS1 Financial Institutions
Greece	15%	Exposures to credit institutions, (for o/c only) tradeable securities
Hungary	20%	Specified liquid assets
Ireland	15%	Assets that conform to CRR definition
Italy	15%	Deposits at EEA banks or other countries with a 0% risk weight, own debt securities with a maturity of less than one year
Luxembourg	20%	Cash, central bank assets, credit institutions or bonds meeting specified criteria
Netherlands	20%	Assets that conform to CRR definition
Norway	20%*	Assets that conform to CRR definition
Poland	15%	EU and certain other public sector receivables, cash, deposits at the national bank
Portugal	20%	Deposits at Bank of Portugal (ECB Tier 1 assets), credit institutions (CQS2), others as defined

Country	Limit	Composition of substitution assets
Slovakia	10%	National bank securities, deposits at NBS or Slovakian banks, cash, treasury bonds and 3rd party covered bonds
Slovenia	20%	EEA or CH public sector securities, EBRD or EIB or simialar. Cash at National Bank
Spain	5%	Exposures to public sector entities and credit institutions, senior RMBS
Sweden	20%*	Assets that qualify for 0% risk weighting, public sector, cash. Other assets as defined.
United Kingdom	Contractual	Assets that conform to CRR definition

Source: ECBC factbook and the vdp

Note: in Belgium, the limit is expressed on a reciprocal basis: rather than limit substitute assets to 15 per cent of the pool, they require that assets that are not substitute assets are 85 per cent of the pool. This allows additional assets to be added to the pool without constituting a technical breach. We consider this to be a preferable way to express this limit.

In Norway and Sweden, the 20 per cent limit may be increased to 30 per cent at the discretion of the regulator.

In Germany, 10 per cent for public sector pools, 20 per cent for mortgage pools of which 10 per cent may be "normal" substitute assets and 10 per cent may be public sector assets.

b) Potential implications and impacts of the specific proposal

It is widely agreed that there should be a greater standardisation of both limits on and asset eligibility criteria for substitution assets. The absence of EU wide rules on this topic to date has allowed diverse practices to develop in Member States. As a consequence of this any standardised rules are likely to require substantial changes to existing legislation and issuer practices.

Alternative definitions of eligible assets are possible including conforming the definition to the definition of assets eligible for LCR purposes and/or conforming the definition to the eligibility rules for central bank liquidity operations.

Generally, an appropriate balance is required between a sufficiently broad definition to avoid concentration risks and a sufficiently high quality definition to ensure the suitability of the assets in stress scenarios.

Specific suggestions about this criteria include that the currency should match the currency of the greatest outflow identified in the liquidity rules and that "own issued" or related issues should be excluded from the definition.

To estimate the possible cost of reducing the limit to 15 per cent for those jurisdictions that currently have a higher value, we randomly sampled 10 issuers in those jurisdictions on random dates over the past three years, based on their reported holdings of substitute assets according to their investor relations websites. In this sample, six issuers reported no substitution assets at all as of the report date. The remaining four issuers had substitution assets of 2.6 per cent, 1.8 per cent, 1.2 per cent and < 0.01 per cent of the total portfolio, well below the proposed cap of 15 per cent.

We therefore conclude that there would be no cost implications for the imposition of a 15 per cent cap on substitute assets in the normal course of business.

A higher proportion of substitute assets has occurred in certain cases in the past and could be envisaged in certain future scenarios, almost entirely as a result of a bank in a wind-down scenario not having new assets to replace maturing assets in the cover pool. For example, a rating agency and an issuer familiar with the situation pointed out that during the wind-down of Northern Rock, the portfolio consisted of a very large quantity of cash as mortgages repaid and no new mortgages were originated. In this case the cash reserves were significantly in excess of 15 per cent of the total portfolio (this was not a breach of the guidelines as Northern Rock was not a regulated covered bond issuer. It is used purely for illustration).

We note two points. Breaches such as these should only be anticipated in exceptional scenarios – such as the Northern Rock case - where better prudential treatment for existing bonds is not appropriate and where the issuer is unlikely to ever issue covered bonds again.

Second, in Sweden and Norway the limit on substitution assets may be relaxed by the Competent Authority in exceptional circumstances. This appears to be prudent to address potential unknowable extreme scenarios.

c) Conclusions

As indicated above, there would be no cost implications arising from the imposition of a 15 per cent cap on substitute assets in the normal course of business. However, market participants would welcome harmonisation of both limits on and asset eligibility criteria for substitution assets as it would benefit the market.

However, harmonisation of both limits on and asset eligibility criteria for substitution assets will reduce one area of difference between national covered bond models that cannot be reasonably attributed to national specificities. As such, it will remove an unnecessary complication to cross-border comparability of bonds and will better facilitate cross-border investment.

In addition to the EBAs proposals that appear justified, two further refinements could be made:

- That limits are expressed on a “reciprocal” basis, that is, rather than limit substitute assets to 15 per cent of the cover pool, specify that assets other than substitute assets should be at least 85 per cent of the required cover pool (including required over-collateralisation), that is following the Belgian methodology. This avoids the possibility that adding additional assets to a currently compliant pool makes it non-compliant.
- That, as per the regulations in Norway and Sweden, the regulator is empowered to grant temporary increases in the substitute asset limit. This will increase their flexibility to respond to exceptional market conditions.

5.2.2 LTV limits

The CRR should specify that [the current LTV limits]... represent soft coverage LTV limits – i.e. maximum LTV parameters that determine the percentage portion of the loan that contributes to the requirement of coverage of the liabilities of the covered bond programme. It should also be specified that these soft LTV limits should be applied on an ongoing basis throughout the life of the programme.

a) Current situation (baseline)

This proposal corresponds to EBA best practice – 4A (LTV limits). Although there is a high level of alignment with EBA best practice (all of the jurisdictions which replied to the EBA consultation apply LTV limits. 18 are fully compliant with the EBA best practice recommendation), there is significant diversity between the LTV policies applied in individual jurisdictions, most notably:

Ten jurisdictions apply soft LTV limits. Of these, the majority explicitly establish the LTV percentages, while a minority make reference to LTV limits as set out in Article 129 of the CRR.

- Eight jurisdictions allow the application of both soft and hard limits (hard limits at the inclusion of the loan in the pool and/or during the life of the loan), while the rules differ considerably between individual frameworks.
- Four jurisdictions apply hard LTV limits only.
- Specific LTV frameworks are applicable in Denmark, differentiating between the specialised mortgage credit institutions and universal banking models.
- The Spanish framework distinguishes between cover assets and eligible assets. Cover assets consist of the entire mortgage loan book, and there are no LTV limits applied to them. Part of the cover assets is formed by eligible assets for the purpose of determining the amount of CH that can be issued.
- Two jurisdictions have additional requirements (Poland and Slovakia).

In most jurisdictions, the covered bond frameworks distinguish between LTV for residential and commercial mortgages; and assign different LTV limits in recognition of different default risks linked to these asset classes. Only two jurisdictions (Germany and Slovakia) set out uniform LTV levels for these two types of loans. Three jurisdictions also specify LTV limits for other asset classes (Cyprus for ships, Germany for ships and aircrafts, and Sweden for properties used for agriculture).

The LTV limits are normally set out at the same percentage limits as prescribed by the CRR (i.e. 80 per cent for residential mortgages and 60 per cent for commercial mortgages). In a few jurisdictions however, the framework allows the possibility of applying higher LTV limits to residential mortgages in specific circumstances such as in the case of high over-collateralisation (France) or if the loan is backed by a guarantee or insurance (Spain).

Table 22. LTV limits applied in EU Member States

	Soft limits	Hard limits	No limits	Additional limits	Comments
Austria		60% (HypBG)	PfandBG & FBSchVG		
Belgium	80% (R) 60% (C)				
Bulgaria	80% and 60% (R) 60% (C)				
Cyprus		75% (R) 60% (C) 60% (S)			
Czech Republic	70% (issuer level)	200%			
Denmark	During lifetime of the programme	On inclusion of loan in cover pool			Demand for additional security
Finland	70% (R) & 60% (C) Hard limit applied on inclusion of loan in cover pool				Additional hard LTC limit of 100% applied during lifetime of programme
France: OFH	80% (R) 60% (G)				
France: OF	80% (R) 60% (C) 100% (G)				
France: CRH	80% (R) 100% (G)				90% for residential mortgages if OC = 25%
Germany	60% for all				

	Soft limits	Hard limits	No limits	Additional limits	Comments
Greece	Art. 129 CRR				
Hungary	70% (R) 60% (C)			Yes	Additional LTV limit of 70% on a portfolio basis (based on market value)
Ireland	75% (R) 60% (C)				
Italy	80% (R) & 60% (C) Hard limit applied on inclusion of loan in cover pool				
Luxembourg	80% (R) 60% (C)				
Netherlands	Art. 129 CRR				
Poland	80% (R) 60% (C)	100%		Yes [1]	Hard limit applied at the moment of granting loan or on acquiring loan from third party
Portugal	80% (R) & 60% (C)				
Romania	Art. 129 CRR Hard limit applied on inclusion of loan in cover pool				
Slovakia		70% on inclusion		Yes [2]	
Slovenia	80% (R) 60% (C)				
Spain		80% (R) 60% (C)			R=95% if mortgage has a bank guarantee or covered by credit insurance

	Soft limits	Hard limits	No limits	Additional limits	Comments
Sweden	75% (R) 60% (C) 70% (A)				
United Kingdom	Art. 129 CRR				

R= Residential mortgages; in case of France = first rank residential mortgages and guaranteed home loans

C= Commercial real estate/ mortgages; in case of France = first rank commercial mortgages

S= Ships

G= State guaranteed real estate or mortgage loans

[1] Total amount of mortgage loans, in the part exceeding 60% of the value of properties, may not surpass 30% of the total bank's mortgage loans

[2] Total amount of mortgage loans exceeding the 70% limit that can be added to the cover pool may not surpass 10% of the total amount of the mortgage loans

Source: Based on ECBC database and EBA (2016) EBA Report on Covered Bonds: Recommendations on Harmonisation of Covered Bond Frameworks in the EU, London: EBA, 20 December 2016

b) Potential implications and impacts of the specific proposal

LTV limits in general

There is general consensus that whereas it is appropriate to specify loan-to-value limits for residential and commercial mortgages on a pan-European basis, there are very substantial differences in Member States in the way they are currently calculated and that national specificities will preclude a standardisation of practice.

Some comments received suggest that this topic undermines the concept of a pan-European minimum over-collateralisation – even if all European covered bonds maintain the same loan-to-value limits, the fundamental differences in how they are calculated suggest that different jurisdictions have different risk characteristics and it is not therefore appropriate to set a standard level of over-collateralisation (see discussion earlier on in section 5.2.1).

Hard and soft basis for calculation

It is also agreed that a “hard” (eligibility) limit on loan-to-value ratios over the life of an asset is pro-cyclical in that assets can be excluded from cover pools *en masse* in the event of (for example) a downturn in property prices. This particularly concerns specialised mortgage banks that will likely run out of eligible collateral in an extreme downturn.

There is less agreement on whether there should be a hard cap on the inclusion of an asset at its inception/inclusion in a cover pool: some favour this idea, while others think that LTV should only be employed to determine the contribution of the loans to coverage (soft limits).

Some have argued that the hard cap on loan-to-value ratios is applied because it is a predictor of default probability but that the adverse impact of a higher default probability is ameliorated by a greater recovery value for higher LTV loans being included in a cover pool. I.e., an 80 per cent LTV loan is more likely to default than a 60 per cent LTV loan, but if it does default when a soft-cap is applied, only 60 per cent is used to calculate coverage level, therefore the “top tranche” 20 per cent improves the recovery rate on the defaulted loan. Therefore, a hard cap could be applied where the cover pool does not have a claim over the amount of the loan in excess of the soft cap.

For some issuers the rule that a hard cap should be measured at the inclusion of a mortgage in the pool is more onerous than for other issuers for purely operational reasons. For example, if the customer takes a new mortgage product, some issuers can accommodate the change without removing the mortgage from the cover pool, some have to remove it, amend it and subsequently re-turn it to the pool. The latter type of issuers would be disadvantaged by a hard cap at inclusion of the asset in the pool.

Some interviewees and respondents to the public consultation argued that the requirement for on-going monitoring of LTV ratios is not required in cases where the LTV is calculated on the basis of the mortgage lending value (or other equivalent conservative valuation methodologies) as this already provides protection from valuation fluctuations.

Some commented that while it is appropriate for different loan-to-value ratios to be applied to residential and commercial mortgages, this is predicated on a consistent definition of these asset classes, in particular with reference to “mixed-use” properties.

One interview commented that the 60/80 per cent distinction in the capital requirements directive mirrored a similar distinction in the Basle rules for the risk

weighting of mortgages on a bank's balance sheet but that it is proposed that this distinction will be dropped in the Basle rules which will sever the link to the CRR distinction and that this may have some commercial implications.

c) Conclusions

Where soft limits are considered the "lower" standard - from a prudential point of view - and national regulations remain free to impose a higher eligibility standard (i.e., a hard limit) the proposal does not change the current situation other than to clarify that it is the soft rather than the hard limit that is the basis of the rules currently in article 129. As such, it does not have any cost implications and only a marginal benefit (clarification).

It is clear from stakeholder conversations that there are too many national specificities in the creation of loan to value rules to support further harmonisation.

The standardisation of maximum loan-to-value ratios in CRR article 129 currently is well-recognised by investors and is considered a fundamental safeguard of the product. That many national legislations then apply a higher standard and that each jurisdiction has its own way of calculating this ratio in no way detracts from the benefits of this harmonisation.

The proposal that the limit be considered a soft limit at both inception and for the life of the asset represents a minimum standard which Member States will not contradict to the extent that they then chose to add a "hard" limit rule on asset eligibility. It is appropriate that any higher standards should be included on a voluntary basis or in national level rules on LTV measurement and frequency of monitoring and revaluation (EBA proposal r).

5.2.3 Cover pool liquidity requirements

The issuer should be required to hold liquid assets to cover the net liquidity outflows of the covered bond programme over the next 180 days. Net outflows are defined as all principal and interest payments of the programme and cash flows on derivatives after considering expected inflows over the same period.

Principal payments may be excluded from the above calculation if they are subject to conditional pass through or soft bullet structures that meet certain criteria. In this case the principal payment should be recorded at its legal final maturity rather than its scheduled maturity. The criteria which these bonds must meet are detailed more fully below.

Principal and interest payments may be excluded from this calculation if covered bonds have matched asset and liability cash flows.

Liquid assets should be subject to segregation arrangements.

Assets

Assets eligible for the liquidity buffer are Level 1 and 2a assets under the LCR requirements excluding own issued covered bonds and exposures to institutions as per CRR 129(1) (C). These should be recorded at market value and subject to value haircuts.

Cash should be held at an account bank subject to credit safeguards, securities should be held in a segregated account.

Uncollateralised claims from defaulted exposures are excluded from the calculation.

The EBA proposes that for the purpose of defining the necessary liquidity needs, derivative transactions should be included in the calculation on the basis of their actual cash flows, rather than their close out amount. Whereas this matches practice in those jurisdictions that currently have such liquidity tests (and which allow derivatives to count towards them) it is not in line with the proposed measurement of derivatives in the coverage ratio as further explained in annex 4.

a) Current situation (baseline)

This requirement is not currently stipulated under EU law. Moreover, this proposal represents a substantial development of EBA best practice 6-B (Liquidity buffer). The level of alignment with EBA best practice is furthermore, low with only 9 EU jurisdictions being fully aligned with EBA best practice; 9 being partially aligned and 3 being non-aligned.

Table 23. Key information on liquidity buffers by jurisdiction

Jurisdiction	Principal Coverage	Interest Coverage	Separate from the LCR	Allowed as part of cover pool	More detailed information on the liquidity buffer
Belgium	6 months	6 months	Yes	Yes	Liquidity line eligible asset
Cyprus	30-180 days	180 days	No	Yes	Principal coverage on sliding scale Liquidity can be outside the cover pool
France	180 days	180 days	Yes	Yes	Can be 3 rd party liquidity lines. Can be own covered bonds (with limit)
Germany	180 days	180 days	Yes	Yes	
Netherlands	6 months	6 months	Yes	Yes	Principal of extendible structures can be excluded
Poland	Not covered	6 months	Yes	No	Not in the cover pool
Romania	180 days	180 days	Yes	Yes	
Slovenia	180 days	180 days	Yes	Yes	
Ireland					Underlying mortgages can be used for funding at ECB via Mortgage Promissory Note programme. Most programmes have soft bullet
Finland					Can use liquidity facilities and extendible maturities
Portugal					Liquidity facilities and extendible maturities

Source: 2016 EBA Report on Covered Bonds and ECBC database and ECBC Covered Bond Comparative Database

Contractual obligations

Several issuers have indicated that they meet liquidity rules similar to those proposed either voluntarily or under a contractual obligation agreed to obtain a higher credit rating. These contractual obligations frequently differ from the proposal.

b) Potential implications and impacts of the specific proposal

Although this proposed rule conforms to the existing national rules in some Member States, it creates considerable incremental costs in others. According to the ICF survey, 50 per cent of respondents stated that this proposal would not create any extra costs because it agrees with either existing national rules or current industry practice; whereas 40 per cent of respondents suggested that this proposal would generate extra costs for them - Figure 49.

The main arguments from stakeholder interviews are that the proposal does not achieve its desired objectives, that the interaction with LCR rules needs to be better addressed, and that the definitions of soft bullet and conditional pass throughs are inappropriate.

A substantial minority of stakeholders stated that liquidity provision can only be meaningfully addressed at national level given the national specificities, particularly regarding i) the ability to liquidate mortgage portfolios in a stress scenario, ii) the characteristics of the underlying assets including their repayment speeds and rate basis and iii) the eligibility of mortgage loans as repo collateral.

It was also highlighted that there are alternative, more cost-effective ways to manage possible cash flow mismatches (other than introducing formal buffer requirement).

Finally, it has been argued that where assets and liabilities are match-funded and/or have automatic extension triggers in the event of a failure to refinance, there is no need for any liquidity buffer. This has been generally recognised by the EBA proposal, although it is unclear if the automatic extension triggers are included in their proposed exception (specifically, Danish ARM bonds).

Figure 49. The EBA has proposed that issuers maintain coverage for principal and interest outflows for the next 180 days. Do you support this proposal?



Source: ICF survey, feb. 2017, n=67.

Arguments that the proposal is inadequate

It has been argued that the rule does not sufficiently mitigate the risk that they are designed for:

i) 180 day

The use of a 180-day horizon for this test is based on the time that regulators, in particular in France and Germany, assumed would be required in a stress scenario to raise alternative finance against the assets. This is clearly heavily dependent on factors such as the eligibility of the bonds or underlying assets for central bank repo, the availability of securitisation technology and the jurisdictions traditions of trading mortgage portfolios. Based on feedback from rating agencies, this timeframe will clearly be inadequate in some Member States but probably more than sufficient in others. While there would be nothing to stop national legislation or contractual obligations specifying a higher threshold period, this would be extremely detrimental to the economics of issuance. For this reason, alternative liquidity mitigants (such as soft bullets or conditional pass through structures) are essential in these jurisdictions. An issuer of public sector covered bonds pointed out that their assets could be sold or otherwise used to raise finance far quicker than a granular portfolio of residential mortgage loans and that, therefore, they should have a more appropriate (lower) threshold for this test.

Jurisdictions that allow own issued covered bonds and/or the underlying assets to be used as collateral for central bank emergency liquidity could require a lower liquidity threshold.

ii) Co-mingling risk

The assumption that interest and principal scheduled to be received on assets would be received and therefore could be deducted from the required liquidity need was disputed by two rating agencies due to the risk of co-mingling – i.e., the risk that cash received from the assets would be included in the general insolvency estate of a failed bank due to an inability to identify cash receipts that relate to cover assets. This was a particular concern for banks using an on-balance sheet model where incoming cash is deposited in a general collection account.

iii) Use of CSA

There is an inconsistency in those countries that currently apply this rule as to whether cash flows on collateral posted by derivative counterparties to support the mark-to-market value of swaps could be used for these calculations. Derivative counterparties can typically change the composition of the collateral pool and reduce it if the derivative mark-to-market value changes, it seems inappropriate to assume the cash flows on these bonds for these purposes.

A stakeholder in a jurisdiction where this was permitted disagreed.

Interaction of liquidity proposal with current LCR

The potential for an issuer to have to hold one set of assets against a forthcoming bond payment according to LCR rules and a further set of assets against the same payment under covered bond rules is clearly not rational. However, it is also not particularly material in normal market conditions except for very short dated bonds (in particular 1 year ARMs in Denmark). As the overlap of the LCR and liquidity rules only occurs for one month, this would be a concern for, for example, 1/60th of the life of a five year bond (one month divided by five years). Assuming that the cost of holding collateral to address the liquidity need is 20 basis points (i.e. the cost of funding the asset less the yield which it generates) the average cost of holding this asset for one month is $0.20\% \times 1/60 = 0.0033\%$ (one third of one basis point).

In practice, the 20 basis point assumed cost of carry is conservative as typically the buffer will comprise term securities funded via three-month euribor, thus benefiting from the term structure of interest rates.

This value will clearly increase and issuers may even struggle to fund the additional (and unnecessary) collateral in an extreme stress scenario.

Given the possible stress scenario implications and the greater economic impact on very short dated bonds we propose that issuers should be allowed to structure their covered bond liquidity buffers to meet their LCR requirements. Given that most LCR eligible assets are allowed to count towards covered bond liquidity buffers in the EBA proposal (with the exception of level 2b assets and own issued covered bonds) the only criteria currently restricting issuers from counting covered bond liquidity towards LCR liquidity are the operational requirements in article 7 of the delegated act. For the avoidance of doubt, and to ensure that there is no discrimination against those Member States who use an SPV to ring fence cover pools it should be clear that this also applies to cover pool assets held in qualifying SPVs.

We recognise, though, that as covered bond liquidity buffers are more economically significant for issuers (applying for 180 rather than 30 days) and as the proposed list of eligible assets for these purposes is wider than for LCR purposes, issuers will not always wish to restrict themselves to the assets under the LCR definition and therefore avail themselves of this exemption. We therefore propose that the definition of eligible assets in the EBA proposal remains unchanged (i.e., issuers can choose: the narrower definition and allow the same assets to be held for both purposes or the wider definition and have to double count in the final month).

Issuers who do not have to cover scheduled maturity payments (where they are able to defer them under a structure that meets the EBA criteria) with liquidity assets should rightly continue to have to hold liquidity assets under the LCR rules against the expected rather than the legal final maturity.

As the assets held in the cover pool do not meet the operational criteria for assets for LCR purposes and as the rationale for the LCR in general is to avoid default (rather than to mitigate its effects), our recommendation could be disputed in that the resolution authority should have access to LCR assets in preference to covered bond creditors for this exemption to be allowed (which would clearly be in contradiction to covered bond laws). As, however, qualifying covered bonds are exempt from the bail-in process and therefore must continue to be paid in full even in a potential resolution scenario, we consider the exemption is justified so long as the covered bonds in question are exempt from bail-in.

Note: the proposed rule would be a derogation of paragraphs 31 to 33 of the BIS recommendations on "The Liquidity Coverage Ratio and liquidity risk monitoring tools" recommendation of January 2013⁴⁵. In this context though we note that the inclusion of covered bonds as eligible assets for tier 1 of this ratio is already an EU derogation of this recommendation.

Implications of assessing principal at scheduled rather than legal maturity

45% of covered bonds in the iBoxx index are currently subject to either a soft-bullet or conditional pass through conditions (source: Credit Agricole). Assuming that this is representative of the entire covered bond market this suggests that €1,110 billion of bonds contain this feature. Of these we estimate that €170 billion are in jurisdictions that currently require liquidity to be held against the expected maturity date. Therefore, for €940 billion of bonds currently outstanding, introducing a requirement to cover principal payments at their expected maturity would be a new rule. Assuming an average maturity of five years and a six-month liquidity horizon, this implies an additional €94 billion of additional liquid assets would be required. Further, assuming a cost of carry of 20 basis points in normal market conditions (see discussion in section 4.2.3) the assessment of principal at its scheduled rather than its legal maturity would have a net cost to covered bond issuers of €1.9 billion per year.

⁴⁵ www.bis.org/publ/bcbs238.pdf

Having said this, an unknown number of issuers have entered into commitments to provide liquidity on a contractual or voluntary basis so the actual required additional liquidity buffer as a result of the law will be less than this number, but by an unknown amount.

Impact of liquidity rules on maturity structures

€349 billion of covered bonds currently in hard bullet format could be converted into either soft bullet or conditional pass throughs (jointly “extendible”) bonds relatively easily (as verified by the fact that they are in a jurisdiction which currently contains extendible bonds. The cost of converting such bonds is 0.05 per cent (the standard fee paid by, inter alia Barclays, CBA, Credit Agricole and ING when requesting bondholder consent for such a conversion (source:ING). This fee is generally only paid to bondholders who vote in support of the change but to be conservative we have assumed that this will be 100 per cent).

The alternative cost if the proposed liquidity rule were to be introduced is the “cost of carry” of having to hold liquidity assets against the principal of every bond as it reaches six months from maturity. Assuming, as above, that the cost of carry is 20 basis points running for the period of six months, it would typically be twice the one-off fee of 0.05 per cent. Therefore, we would anticipate that all remaining hard bullet bonds in the specified jurisdictions when the liquidity rules are introduced would be converted into soft bullet bonds.

As we discuss in section 5.1.6 there is no incremental spread for soft bullets when compared to hard bullet structures.

Table 24. Potential straightforward conversions € billion

	Hard bullets in iBoxx	..as percentage of total	Estimated total
AU	1	4%	2
DK	2	17%	2
FI	11	48%	16
FR	160	88%	285
UK	3	6%	7
SE	20	77%	29
CH*	3	37%	6
NZ*	1	19%	1.73
Total	201		349

Notes

Shows for each state where both hard bullets and extendible bonds exist, the number of hard bullet bonds in the iBoxx index, this number as a percentage of all bonds from the country in the iBoxx index and that percentage multiplied by all of the covered bonds outstanding from that country. This is the estimate of the total covered bonds currently outstanding that could be converted into extendible maturity bonds.

* non Member States

** For Sweden and Denmark these values only relate to non-domestic bonds

Choice of soft bullet or conditional pass through structure

The EBA's proposed exemption from this rule on principal outflows in case of soft bullets and conditional pass through would lead a quarter or a third of those issuers currently issuing hard bullet to shift to soft bullet or conditional pass through. Others said they would not change their issuance model (based on responses received to ICF survey).

Any issuer moving from a hard bullet to an extendible maturity structure will need to consider whether to move to a soft bullet or a conditional pass through. The main difference between the two structures is the length of the deferral period. There are other differences, but the lack of standardisation within each group makes it difficult to use these to differentiate between the two structures, as discussed in more detail in section [5.1.6 a] .

The advantages of a conditional pass through are:

i. a greater rating de-linkage

According to Fitch, in the Netherlands a conditional pass through provides four notches of additional benefit, in Italy and Portugal, 6 notches, both relative to soft bullet structures.

ii. more collateral efficiency

According to Fitch, to achieve the same rating in the Netherlands a conditional pass through programme requires on average 5.3 per cent over-collateralisation while a soft bullet requires 28.7 per cent (note: it is impossible to derive equivalent numbers from published Fitch data for countries with sub-AAA covered bond markets).

The advantages of a soft-bullet structure are:

- greater investor acceptance. Although as suggested in section 4.1.6 this is not currently material enough to influence pricing, it is possible that it will be in more normal market conditions and it should be noted that some investors do not currently buy conditional pass through covered bonds;
- lower risk of adverse regulatory developments. There is general awareness that certain banking regulators have a more negative view of the product;
- lower legal costs due to the lower structural complexity.

The conditional pass through structure will be relatively more attractive in two groups of countries, one group defined by economic need (those with collateral shortages and/or poorer rated issuers), one by financial culture (currently the Netherlands, conceivably also the UK, Ireland and the Scandinavian countries). However it is difficult to accurately predict the proportion who would convert into each of the two structures and, given the recommendations in section 4.1.6 we think that there would be little benefit in the exercise.

Costs €86 million

This cost estimate is based on the following:

Conversion costs: €75 million

We estimate that up to €345 billion of existing bonds will undertake exercises to convert their structure to extendibles. This is the total of outstanding hard bullet benchmark bonds except those in Germany. In those countries where there are currently no extendible maturity bonds it is unclear whether issuers will be allowed to convert by their regulator and/or existing programme documentation.

We have assumed in Germany that no issuers will convert to a soft bullet as the regulator is unlikely to waive the existing requirements to cover forthcoming principal assets.

We have assumed that a standard fee of five cents will be payable to investors in the event of conversion. This is in line with market practice. This equates to a maximum total cost to the market of €175 million ($€345 \text{ billion} \times 0.05\%$).

The actual outcome will be substantially less as:

a) Many hard bullets mature in the near future, as many of the issuers now issue in soft bullet format the remaining hard bullets are likely to shrink significantly.

The exact number that will be converted will depend on the date of the implementation of the liquidity rule which is currently unknown:

Not all regulators will allow a conversion from hard to soft bullet or will waive the current liquidity rules for soft bullet structures.

c) The fees on exchange programmes are only payable to those bond holders voting in favour of conversion. Typically this is less than 50% of total bond holders (although the measures still pass given the bondholder meeting rules and the fact that most bondholders don't vote).

Given all the above, we assume that the maximum cost will be €175 million but that the actual cost of conversion will be €75 million.

Cost of additional liquidity in Luxembourg: €11 million

The proposed liquidity rules are new in two countries where issuers do not currently have access to soft bullet structures: Spain and Luxembourg with a combined outstanding notional of €291 billion. As discussed elsewhere we anticipate that Spain will amend their covered bond law and that the new law will allow some form of extension option therefore only consider that Luxembourg will be adversely impacted by the new proposal.

Assuming that the average coupon on outstanding bonds is 2 per cent and that the average maturity of existing bonds is five years, this represents an additional average liquidity coverage need in Luxembourg of $€1.1 \text{ billion} \text{ cpn } 2\% \times \text{notional } €10 \text{ billion} / 0.5 \text{ years}$ plus $(€10 \text{ billion} \times 6 \text{ months} / 5 \text{ years})$.

Assuming a 20 basis point cost of carry this represents an incremental cost of €2.2 million per annum. For cost/benefit purposes we assume that this will be €11 million over a five-year horizon.

We have not ascribed and do not see any incremental cost to the fact of conversion of existing bonds to new maturity structures. This is potentially different from the view point of the EBA, whose report refers to "unintended consequences" of the new liquidity rules (by implication, greater use of extendible structures).

Benefits

Although there is a clear benefit of standardising liquidity rules, it is difficult to quantify the value of both enhanced and harmonised standards to investor perceptions of the market. But it is possible to calculate a "break-even" value at which the saving – in basis points – outweighs the costs identified above.

The value of a one basis point spread saving for the entire covered bond market is €1.4 billion.

Given the above identified cost of €86 million the breakeven saving – that is the reduction in spread demanded by investors needed to justify the cost – is 0.06 basis points ($€86 \text{ million} / €1.4 \text{ billion}$).

Note: Finally, we note EBA's comment regarding the market impact of basing the liquidity requirement on the scheduled, rather than the legal maturity. Given that there are €305 billion of soft bullets currently outstanding and (again) assuming an

average 5 year maturity this would imply an additional liquidity buffer of €30.5 billion. At a 20 basis point cost of carry this would have a cost implication of €60mn per year.

c) Conclusion

Based on the above analysis of costs (estimated to be €86 million) and benefits (potentially in the order of €1.4 billion), the proposal is justified.

5.2.4 Cover pool derivatives

Derivative contracts should:

- be allowed exclusively for risk hedging purposes only;
- should be documented according to standard industry master agreements;
- should be part of the cover pool;
- cannot be terminated upon the issuer's insolvency (failure to pay should remain a valid termination event).

The covered bond framework should:

- specify counterparty eligibility criteria;
- require that in the event of the loss of creditworthiness the counterparty should collateralise their obligations and/or make reasonable efforts to replace themselves.

It should be clarified that derivatives contribute towards the coverage requirement and that they along with any associated collateral are included in segregation arrangements.

a) Current situation (baseline)

This is an elaboration on the existing best practice 6A (use of derivatives), in particular it introduces a requirement for eligibility criteria for counterparties, mitigants of deteriorating creditworthiness and a requirement for derivatives and collateral to be included in the segregation arrangements.

As noted by the EBA, in Luxembourg the law does not require that termination on insolvency be set aside in the contract but we understand that this is the market practice and it is the intention to include such a requirement in the law in the near future.

b) Potential implications and impacts of the specific proposal

Eligibility criteria

It has been pointed out that in several jurisdictions, an overly-restrictive requirement for the credit rating of a derivative counterparty would be counter-productive, pro-cyclical and would increase reliance on external credit ratings.

It was felt that such a hard rule – e.g., a minimum credit rating for derivative counterparties – is too high a standard particularly in Member States where the covered bonds are unable to reach the highest rating levels and thus, according to the rating agencies, where derivative counterparties are typically subject to lower credit requirements.

Some issuers went as far as to say that if an overly-strict credit criteria for derivative counterparties was stipulated, they would remove hedges from their cover pool, which would increase the riskiness of their bonds and thus be counter-productive.

Finally, it was noted that several mitigants exist to protect covered bond pools from exposure to derivative counterparties, although one market practitioner pointed out that these are not effective in a sudden deterioration of the swap counterparty's credit standing (a "jump to default" situation).

Replacement language

With regard to the replacement of derivative counterparties who lose eligibility under this rule, the EBA's initial proposal ("The counterparty to be subject to collateralisation requirement and/or forced to arrange for its replacement by another counterparty"- Public hearing presentation, November 2016) has been modified in the final proposal ("..the counterparty is subject to collateralisation requirements and/or should make reasonable effort to arrange for its replacement by another counterparty"). We welcome this change since the initial proposal was considered highly problematic in the few stakeholder meetings that took place between the public hearing and the publication of the final report.

In practice, language in swap agreements contains a requirement that counterparties who lose eligibility "make commercially reasonable best efforts to replace themselves" (or similar wording). It was widely held that any requirement more proscriptive than this would be unacceptable to swap counterparties and would effectively make it impossible to enter into swaps.

It was also noted that the replacement of swap counterparties under clauses such as this in practice "never" occurs within the specified time frame.

The language used by the EBA in this proposal presupposes that the issuer has a cover pool. We presume that issuers holding assets in distinct legal entities would also conform to this requirement.

Purpose of hedging

No stakeholders have disagreed with the EBA's proposal that derivatives should exist purely for risk hedging purposes.

c) Conclusion

Other than for Luxembourg noted above, the proposal conforms with existing practice and its introduction will cause no apparent costs. Moreover, as most national legal frameworks are already meeting this requirement, incremental benefits are likely to be limited.

5.3 Transition issues

5.3.1 Spain

To be compatible with the proposals, Spanish covered bond law would need to undergo substantial changes, particularly the establishment of a cover pool. There are two particular features of the current Spanish law that are problematic:

- Covered bond holders have a claim over the entirety of the eligible assets held by the bank. A new law establishing a cover register would directly contradict this in that it takes assets away from the existing covered bond investors;
- The statutory over-collateralisation is exceptionally high (25 per cent for mortgage covered bonds). Any improvement in the covered bond law should in theory allow this number to be reduced but this would be detrimental to existing bondholders. The Bank of Spain has suggested that any enforced change that could be seen to be detrimental to bond holders would generate potentially substantial legal issues.

Any transition arrangements in Spain are further complicated by the very high number of bonds outstanding, the high number of programmes (40), their diverse formats and the fact that the final maturity of a bond issued under the current law is believed to be 2046.

A "two track" approach whereby new bonds are issued under the new law but existing bonds continue to be serviced under the old law would generate a very high level of expense for investors (potentially until 2046) and would be difficult legally.

As a compromise, it has been suggested that there is a transmission period of potentially two years during which all existing and new bonds would have the benefit of a claim over the totality of the bank's eligible mortgage assets and a minimum 25 per cent over-collateralisation as at present but after which the claim would be reduced to the cover pool and a level of over-collateralisation more in line with international norms. This transition period would allow an ample opportunity for investors who are not comfortable with the new laws to exit their investments.

The implementation period of any new EU legislative proposal should provide for "grandfathering" of existing bonds for at least this transition period.

Costs and benefits of changes

Costs

There are currently 40 programmes in Spain. Assuming upfront costs of establishing a programme of €2 million (although see the wide range in upfront costs identified in appendix 5) and assuming that all existing programmes will have to "start from scratch" in terms of their structuring under a new law this will represent a total cost for issuers of conforming to the new law of €80m.

It is difficult to quantify the benefit of such an upgrade to Spanish banks in terms of an interest cost saving, but we would estimate that a change could give a rating upgrade of three notches on average.

As there are currently €280 billion of Spanish covered bonds outstanding and assuming (conservatively) an average maturity of five years, the DV01 of the entire Spanish market is circa €130 million. Therefore, the above upfront costs would be outweighed by a saving of less than one basis point.

Estimate of potential rating uplift under new Spanish covered bond law

We have arrived at this estimate based on the Fitch methodology but anticipate that similar results would be achieved under the other agency methodologies. This result is arrived at by comparing the model d-factor of Spanish covered bonds with the average modal d-factor for covered bonds in other jurisdictions (that is, assume that the new Spanish framework will be of average quality compared to its peers). See section 3.11 for an explanation of d-factors and for levels of modal d-factors in other Member States. We have then subtracted one notch from this to take into account the lower over-collateralisation we anticipate under the new Spanish law. This is in line with the normal Fitch adjustment to covered bond ratings for different recovery rate assumptions which, in turn are largely a function of over-collateralisation. Given current arrangements all Spanish banks currently have the highest possible uplift of two notches for this factor.

Within this overall cost benefit analysis, the Spanish market has a particularly wide range of issuer sizes and whereas the implications of the above cost benefit analysis are clear for larger or even medium sized banks, for any banks with a smaller outstanding notional, the assumed €2 million of set-up costs would represent more than a more material cost relative to their programme size.

5.3.2 Slovakia

The Slovak covered bond regime is currently being modified. Although the details are not finalised and are subject to inter alia a consultation and due parliamentary process, it is very likely that the resultant law will conform to the EBA proposals. This process was initiated before the EBA proposals were published and we consider that the costs and timeliness of the process would be broadly similar with or without the EBAs proposals so have not considered it to be a cost or benefit of the proposal per se.

Having said that, it is worth noting the transition process because it may be impacted by the final proposals.

The changes proposed to the law are significant. The transitional arrangements initially proposed by the issuers contemplated that existing bonds should be converted into bonds under the new regime by action of statute after a one-year transition period.

The latest draft of the law prepared by the government contemplates that existing bonds should remain under the original law while issuers use the new law for bonds issued in future. Whereas this is legally more appropriate (arguably the imposition of the new law onto the existing bonds is unconstitutional as a retroactive action of law), it generates several potential problems:

- Issuers will need to establish new programmes and will need to run both old and new programmes in parallel for as long as there are bonds outstanding under the old law. This will have substantial cost implications.
- Issuers will need to establish two cover pools and treat investors in each on a *pari passu* basis. In resolution or insolvency, this will create significant complications in particular to the extent that the proposed EU level changes result in bonds structured under the old (non-compliant) regime to lose exemption from bail-in under article 44(2) of the bank recovery and resolution directive.
- From an investor perspective the existence of two parallel covered bond markets will cause confusion and will result in the bonds issued under the old regime to rapidly become highly illiquid.

Under Slovak law, it is not normal to include provisions in bond documents to allow for bondholder meetings that could grant consent to fundamental changes to bond documentation.

Based on conversation with legal counsel in Slovakia, it is currently unclear which of the two possible approaches to the transition will prevail.

5.3.3 Czech Republic

In the Czech Republic, the changes that need to be made to bring the law into alignment with the proposals are clearly in bond holders interests. Therefore, it is considered that under Czech law it will be relatively straightforward to allow issuers to convert existing bonds to bonds under the new law via a simple notification.

5.4 Conclusions

Overall, we believe that there is a valid case for a harmonised EU legal regime for covered bonds. The value of even a one basis point saving for all covered bonds far outweighs any of the costs identified when looking at the proposals and it seems reasonable to assume that the benefits of the new regime will be substantially more than one basis point.

Evaluation of specific elements

The following EBA proposals appear to have a very clear case for action:

Step 1

- a) Dual recourse;
- b) Segregation of cover assets;
- c) Bankruptcy remoteness;

- f) Requirements on cover pool derivatives;
- g) Cover pool monitor;
- h) Supervision of the covered bond issuer;
- i) Supervision in the event of the issuer's insolvency/resolution;
- j) Administration of the covered bond programme post the issuer's insolvency/resolution.

Step 2

- m) Limit on substitution assets;
- n) LTV limits for mortgage cover assets.

With regard to the other proposals, we note:

a) Coverage requirements

There is a clear case that Coverage requirements should be included as a requirement in the calculation, although on the basis of principles to be specified by the EBA and details defined by the relevant competent authority in each Member State. This contradicts the EBA's proposed detailed methodology which we consider to contain flaws.

The inclusion of operational costs in coverage requirements will clearly benefit market confidence and stability. But given national and issuer model specific differences in actual likely costs, it seems more appropriate for the details of how they should be quantified to be specified as a responsibility of the national competent authority.

A 5 per cent minimum over-collateralisation conforms to the objective of increasing investor confidence and, because almost all programmes currently have higher levels of over-collateralisation, will generate negligible additional costs. The exception is covered bonds where the structure totally eliminates refinancing risk, where a 2 per cent minimum would be sufficient and where a higher value would generate significant additional costs.

b) Liquidity risk mitigants

We consider that the EBA's recommendations on the coverage of principal and interest and on the deferral of principal in qualifying extendible structures will provide significant market benefits. We concur with their assessment of the conditions specified for an extension trigger although recognise that this recommendation will be controversial.

We anticipate that the proposal will create a significant increase in the rate of conversion of programmes to soft bullet and conditional pass through structures, but do not share the EBAs concern as to the consequence.

c) Scope, frequency and format of disclosure

The extension of disclosure rules to substitute and liquidity assets will clearly benefit investor confidence and will have negligible cost implications.

The disclosure of transaction documents and exposure to material counterparties is appropriate, although recognising commercial sensitivity of this proposal, the exact details should be determined as a step 3 process.

d) Conditions for soft bullet and CPTs

We consider it appropriate that soft bullet and conditional pass through covered bonds should continue to be eligible for both step 1 and step 2, subject to the conditions as specified by the EBA. We note that the concerns of the EBA and some investors with regard to conditional pass throughs may reflect the lack of standardisation of the

product. Given the challenge, we consider it appropriate for an industry initiative to address these concerns and recommend that the EBA reassess the eligibility of conditional pass through covered bonds for preferential prudential treatment after two years.

e) Requirements for eligible cover assets

We believe it would benefit assets to be defined under building block 2. Initially, this should consider the current CRR asset definitions. Periodically, the EBA should consider both existing and alternative assets to ensure that the list of assets eligible for preferential prudential treatment continues to appropriately reflect risk characteristic. We understand that the eligibility of ship mortgages will be the subject of the first such review.

Step 1 should be silent on eligible asset classes which should be defined in national covered bond laws as is the current practice. We recognise that this creates the risk of creating a “two-tier” covered bond market but assess this to be an acceptable risk given the potential benefits of this approach to both the European economy and the stability of the banking system.

f) Transitional arrangements

In most cases, we consider that the changes necessary to conform to the proposals can be accommodated by amending laws, regulations and, where necessary, covered bond programmes but that such changes could be undertaken without establishing new programmes and therefore requiring grandfathering, bond exchange programmes or the establishment of parallel “new” and “old” programmes.

A few changes may require a lead time –e.g., to allow new IT systems to be introduced – which should be factored in to the implementation timetable.

In three cases (Spain, Slovakia and the Czech Republic), we consider that the necessary changes are more fundamental and may require transitional arrangements.

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Annex 2 List of interviews

Summary overview

Stakeholder group	Planned				Achieved			
	Population	Coverage	Target interviews	Approach to sampling for interviews	No. of organisations interviewed	No. of responses received to online surveys	No. of unique organisations consulted via interview/online surveys ⁴⁶	Country coverage of interviews/responses
Issuers	Circa 300 of whom 120 have issued jumbos	Sample based	50-60	Germany, Spain, France, Italy, Sweden, Denmark, the Netherlands and the UK. Issuers in smaller jurisdictions such as Slovakia, Portugal, Poland and Hungary	21	60	70	16 EU MS: Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Spain, Sweden, UK Non-EU: Norway and Singapore
Relevant national industry associations	20	Sample based	11	Select jurisdictions where these exist	5	1	6	5 EU MS: Germany, Netherlands, Sweden, Denmark, Spain

⁴⁶ Note that if two responses from the same organisation which is based in two different countries were received (i.e. Paribas France and Paribas Belgium), this was counted as 2 unique responses

Planned					Achieved			
Stakeholder group	Population	Coverage	Target interviews	Approach to sampling for interviews	No. of organisations interviewed	No. of responses received to online surveys	No. of unique organisations consulted via interview / online surveys ⁴⁶	Country coverage of interviews / responses
Investors	Hundreds	Sample based	~ 30	<p>Insurance and/or pension fund managers, in particular those governed by Solvency 2;</p> <p>Members of ICMA Covered Bond Investor Council;</p> <p>Asset managers who run dedicated covered bond funds, including for example PIMCO and MEAG;</p> <p>Asset managers who own covered bonds as part of general fixed income funds, and therefore take a cross-asset class perspective;</p> <p>Bank treasuries who own covered bonds as part of</p>	7	n/a	7	5 EU MS: Spain, Germany, Italy, Netherlands, UK

Stakeholder group	Planned				Achieved			
	Population	Coverage	Target interviews	Approach to sampling for interviews	No. of organisations interviewed	No. of responses received to online surveys	No. of unique organisations consulted via interview / online surveys ⁴⁶	Country coverage of interviews / responses
				their liquidity buffer management; Central banks Sovereign wealth funds				
Law firms	<100	Sample based	~ 10		4	n/a	4	4 EU MS: UK, Slovakia, Spain and Sweden
Relevant Rating Agencies	3	all	3	Not applicable	4	n/a	4	Big 3 + DBRS
National regulators	28	sample	11	Germany, Spain, France, Italy, Sweden, Denmark, the Netherlands, UK, Slovakia, Portugal, Poland and Hungary	9	n/a	9	7 EU MS: France, Italy, UK, Germany, Denmark, Sweden, Spain
Others (Working Groups of ECBC and	< 100	Sample	5 - 10		6	n/a	6	EBA, EBRD, ECB, EIF, ECBC working group on EU legislation and ECBC Steering Committee

Planned					Achieved			
Stakeholder group	Population	Coverage	Target interviews	Approach to sampling for interviews	No. of organisations interviewed	No. of responses received to online surveys	No. of unique organisations consulted via interview / online surveys ⁴⁶	Country coverage of interviews / responses
EBRD), ECB, EBA, EIF etc.								
Target			110-130		56	61	106	

List of interviewees

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
Denmark	Industry Association	Danish Mortgage Bank Association	Karsten Beltoft - Realkreditforeningen - Director at Realkreditforeningen Martin Kjeldsen Kragh - Realkreditforeningen - Head of Unit at Realkreditforeningen Morten Fredriksen - Head of regulatory affairs at DMBA	30/11/2016
Sweden	Industry Association	Swedish Bankers Association	Martin Rydin - LF Bank - Head of Treasury LF Bank Jonny Sylven - Swedish Banking Association - Economist at Swedish Bankers Juho-Pekka Jaaskilainem - Nordea - Senior Treasury Manager at Nordea	07/12/2016
Germany	Industry Association	vdp	Jens Tolckmitt - CEO Wolfgang Kalberer - Head of EU Office	14/12/2016

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
			Sascha Kullig - Head of Capital Markets	
Denmark	Industry Association and Issuers	Association of Danish Mortgage Banks	Ane Arnth – Realkreditradet - Deputy CEO of FinansDanmark Carsten Madsen - BRFkredit - CEO at BRFkredit Lars Blume - Jensen - DLR Kredit – Vice President at DLR Kredit Morten Nielsen - Nykredit - Head of Investor Relations Kim Laustsen - Nykredit - Chief Analyst Mette Saaby Pedersen - Association of Danish Mortgage Banks – Department Manager	30/11/2016
Netherlands	Industry Association and Issuers	DACB	Jac Besuijen - Consultant	27/01/2017
UK	International Organisation	EBRD	Jacek Kubas - Principal, Local Capital Markets, EBRD Andrea Moraru - Senior Banker at EBRD Jim Turnbull - Senior Capital Markets Advisor at EBRD	21/11/2016
Luxemburg	International Organisation	EIF (European Investment Fund)	Alessandro Tappi - Head of Guarantees, Securitisation and Microfinance	07/01/2017
Italy	Investor	CDP	Alfredo Varrati – Expert Financial Institutions Eugenio Cerioni - Structuring Responsible Pricing and Risk Management Applications	03/02/2017

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
Spain	Investor	BBVA	Augustin Martin - Head of European Credit Research Arron Baker - European Fixed Income Strategist	8/12/2016
Germany	Investor	Commerzbank	Michael Weigerding - Assistant Vice President Covered Bond Research Analyst	26/01/2017
Germany	Investor	Commerzbank	Olaf Pimper - Director of Treasury and Liquidity Portfolio Management	26/01/2017
Netherlands	Investor	ING	Johannes Rudolph - Global Head of Covered Bonds and SSA Bonds	27/01/2017
Spain	Investor	Santander	Antonio Torio – Head of Funding Silvana Borgatti – Senior Funding Manager	15/12/2016
UK	Investor	Union Invest	Daniel Rauch - Portfolio Manager for asset-class covered bonds	31/01/2017
Greece	Issuers	National Bank of Greece	Apostolos Mantzaris – Deputy Head of Wholesale Funding Market	13/02/2017
Hungary	Issuer	FHB	Janos Szuda – Deputy CEO at FHB Bank Rita Bozzai – Director Illés Tóth – Director	01/02/2017
Luxembourg	Issuer	NordLB	Thomas Cohrs - Head of Syndicate & Origination Hagen Schmidt - Head Long Term Funding	07/02/2017
UK	Issuer	Nationwide Treasury	Jim Gibbons - Head of Funding David Kirby – Head of Term Funding	31/01/2017

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
Poland	Issuer	PKO BH	Jakub Nieslowski - Vice President at PKO BH	03/02/2017
Portugal	Issuer	Caixa General de Depositos Santander Totta	Bruno Costa - Caixa General de Depositos - Head of Funding Alda Oliviera Peri - Caixa General de Depositos Ana Marques - Caixa General de Depositos - Capital Markets Funding Division Andre Barata - Analyst João Fialho - Corporate Finance Division	02/02/2017
Germany	Issuer	Kreditbank AG	Mathias Luther Andreas Kohn	14/12/2016
Germany	Issuer	NordLB	Thomas Keith - CFA, LL.M. Finance Hagen Schmidt - Head of Long Term Funding	07/02/2017
Netherlands	Issuers	NIBC Volksbank ING DACB (Dutch Association of Covered Bond issuers)	Toine Telling - NIBC Niek Allon - NIBC - Debt Capital Markets/Syndicate Sander Roling - Volksbank Peter van der Linde - ING - Senior Legal Counsel Jac Besuijen - DACB - President	27/01/2017
Italy	Issuers	UniCredit Intesa San Paolo	Giorgio Frazzitta - UniCredit - Group Finance Secured Funding Alessandro Bozza - UniCredit - Legal Group	24/01/2017

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
			Documentation Management Nadia Zecchin – UniCredit - Regulatory Counsel - Advisory Governance and Processes Stefano Patruno - Intesa San Paolo - Head of Secured Funding Management	
Italy	Law firm	Chiomenti Studio Legale	Gregorio Consoli - Chiomenti Studio Legale - Co-Managing Partner	
Italy	Industry Association	ABI	Marco Marino – ABI - Head Office Credit Department	
Spain	Law firm	Cuatrecasas	Rafael Minguez – Partner	13/12/2016
Slovakia	Law firm	Allen & Overy Bratislava	Peter Jedinak – Associate	16/02/2017
UK	Law firm	Clifford Chance	Christopher Walsh – Partner	03/02/2017
Sweden	Law firm	Roschier	Dan Hanqvist - Finance & Regulatory Counsel	07/12/2016
UK	Rating Agency	DBRS	Vito Natale - CFA, Senior Vice President, Head of EU Covered Bonds and Head of EU SF Surveillance	08/12/2016
UK	Rating agency	Fitch	Helen Heberlain - Managing Director - Head of Covered Bonds Sophia Kwon - Analyst - Covered Bonds Rebecca Holter – Senior Director	07/12/2016

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
			Laily Karia - Associate Director	
UK	Rating Agency	Moody's	Jane Soldera – Vice President	07/12/2017
UK	Rating Agency	Standard and Poor's	Casper Andersen – Director Roberto Paciotti - Head of Italian Branch & Global Head of Covered Bonds	21/11/2016
France	Regulator	ACPR (Autorité de contrôle prudentiel et de résolution) Banque de France	Florian Delva - Executive assistant Clement Royo - Deputy Head of Division Fabrice Macé - Assistant to the head of International Affairs Thomas Beretti - Executive Assistant Vincent Potier - Policy Expert Elodie Vo Ngoc - Legal expert	9/12/2016
Italy	Regulator	Banca d'Italia	Domenico Albamonte - Assistant Manager, Regulation Division Mario Marangoni - Head of Division Regulation & Head of Division Macro prudential Analysis	26/01/2017
France	Regulator	Banque de France	Alexandre Gautier - Director of Market Operations	9/12/2016
UK	Regulator	EBA	Christian Moor – Policy Advisor Jana Kovalcikova – Policy Advisor	23/01/2017

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
Germany	Regulator	ECB	Sebastian Weber - Senior Economist DG-Economics Elke Heinle - Deputy Heads of Division - Risk Strategy Cyril Schlund - Supervisory Policy Expert Sebastian Bielen Maik Luedersen Vesela Ivanova - Principal Economist at ECB Vesa-Ville Virtanen - Portfolio Management Expert Kieran Leonard - Senior Legal Counsel Martina Bender Ad Visser - Head of Financial Markets and Collateral Section	26/01/2017
Denmark	Regulator	FSA	Kristian Vie Madsen - Deputy Director General Jorn Andersen - Director	30/11/2016
Spain	Regulator	Ministry of Finance	Soledad Rodríguez - Senior advisor at the General Secretariat of the Treasury and Financial Policy María José Fernández	13/12/2016
Spain	Regulator	Comision Nacional del Mercado de Valores		13/12/2016
Spain	Regulator	Bank of Spain	Pablo Sinausíam - Economist María Cofre - Expert in Regulation	13/12/2016

Country	Stakeholder Category	Name of organisation	Name of interviewee(s) and role(s)	Date of interview
France		CFF (Compagnie de Financement Foncier)	Paul Dudouit - Director Olivier Avis - Advisor Pierre Bousquet - Director Counsel & External Affairs	09/12/2016

Annex 3 Asset encumbrance

It has been argued that an increase in the number of covered bonds issued has potentially adverse effects on the stability of the banking system as it reduces the assets available for unsecured bond holders and other creditors. This could manifest as a lower credit rating on the unsecured bonds, a higher yield demanded by unsecured investors and, in extreme scenarios more difficulty refinancing maturing debt.

For example, in a recent Bundesbank paper⁴⁷ authors' raise some concerns related to the effect of covered bonds issuance linked to the asset encumbrance. More specifically, they argue that the asset encumbrance has two distinct balance sheet effects. Firstly, they indicate that covered bond issuance funds more profitable investment and increases the expected value of bank equity. Secondly though, because of the dynamic replenishment of the cover pool, the balance sheet shocks are asymmetrically shifted to unsecured debt holders resulting in greater fragility. They assert that the bank's choice of asset encumbrance balances this trade-off between profitability and fragility.

Evidence of encumbrance levels in practice

In response to this concern and a specific request of the ESRB, since 2015 the EBA has begun to collect data⁴⁸ that allows an assessment of the actual encumbrance levels and sources in the EEA banking system. As concluded in the 2015 and 2016 EBA reports on asset encumbrance⁴⁹ '...there is no indication for an increase in the level of asset encumbrance over the last years', albeit EBA as well as other stakeholders including ESRB50 stresses the importance of a careful monitoring. The overall weighted asset encumbrance ratio in the EU as of December 2015 was 25.6%. Figure 50 shows the weighted average asset encumbrance by country.

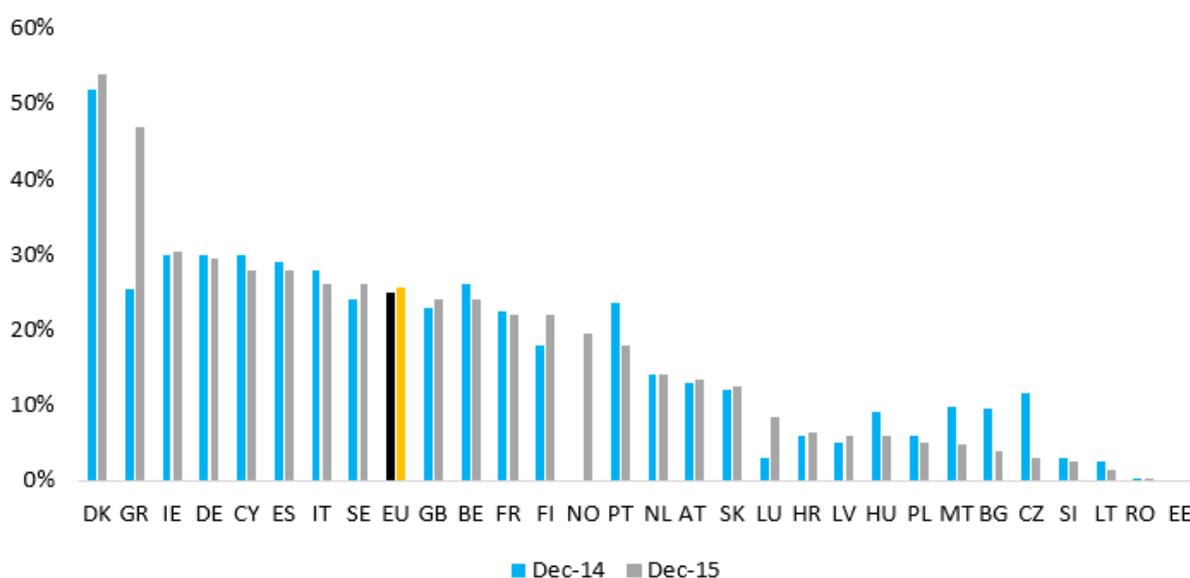
⁴⁷ Deutsche Bundesbank, 2016. Asset encumbrance, bank funding and financial fragility. Available at: https://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Discussion_Paper_1/2016/2016_06_13_dkp_17.pdf?__blob=publicationFile

⁴⁸ Data provided regularly by the sample of around 200 banks from 29 EEA countries. The sample covers at least 3 banks from each country including all large ones.

⁴⁹ EBA, 2015/ 2016. Reports on asset encumbrance. Available at: <https://www.eba.europa.eu/documents/10180/974844/EBA+Report+on+Asset+Encumbrance+September+2015.pdf> and <https://www.eba.europa.eu/documents/10180/1360107/EBA+Report+on+Asset+Encumbrance+June+2016.pdf/5182570b-0f23-497b-97a6-af65a64bafff>

⁵⁰ European Systemic Risk Board, 2012. Recommendation of the European Systemic Risk Board on funding of credit institutions – EXRB/2012/02

Figure 50. Weighted average asset encumbrance



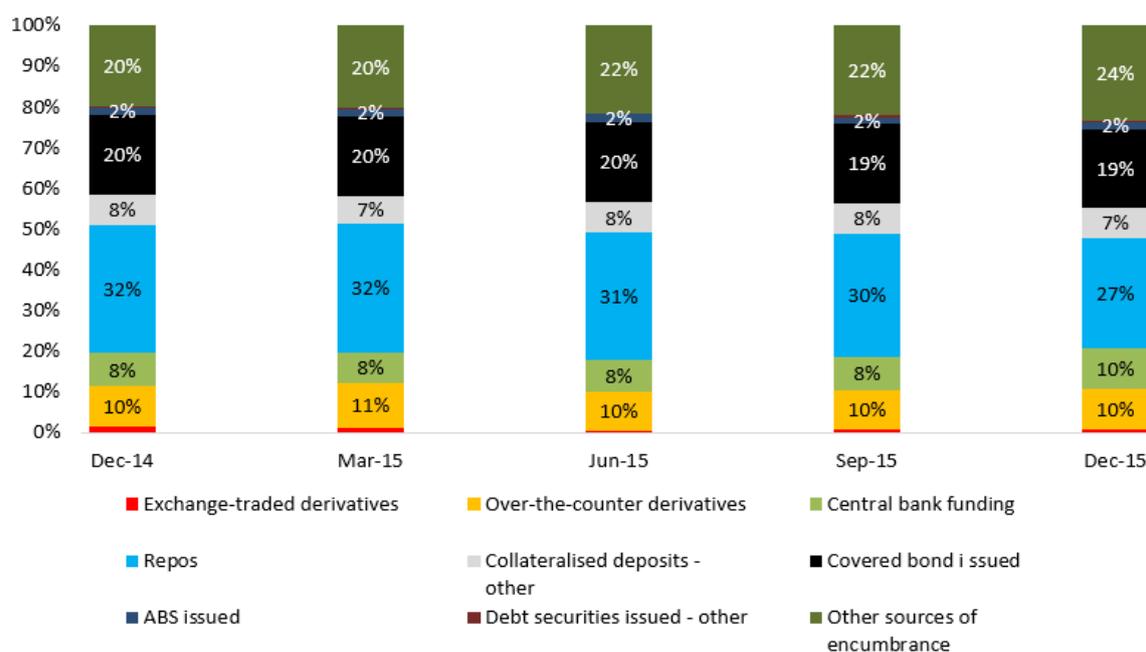
Source: EBA report on asset encumbrance from June 2016

The EBA report emphasises that asset encumbrance is typically be driven by three main factors:

- High share of central bank funding due to impact of the sovereign debt crisis (i.e. Greece);
- High share of repo financing and collateral requirements for over-the-counter derivatives (i.e. UK and Belgium);
- The size of covered bonds programme in a given country (i.e. Sweden and Denmark).

Yet, the EBA data on sources of encumbrance shows that covered bonds account for relatively modest share of the total encumbrance (circa 19% as of December 2015), and this has been constant since the actual data collection began. Repos are by far the single most important determinant, albeit its share has declined since the 2015 study (see Figure 51).

Figure 51. Distribution of the sources of the encumbrance



Source: EBA

Furthermore, in the context of covered bonds specifically, the direct comparison between the markets needs to be done with caution. This is because the implications of the encumbrance level also depend upon specific features of the domestic financial market and the business models of the credit institutions. For example the high levels of encumbrance in the Danish financial system is a function of the dominance of specialised mortgage lenders who are wholly reliant on covered bond funding. As market indicators show the relatively high encumbrance in Denmark compared to some other Member States is not reflected by a higher risk premium demanded by investors.

In general some recent studies cited previously prove that there does not exist any evidence of correlation between the covered bond encumbrance of a bank and its senior unsecured spread levels.

Qualitative assessment of different forms of encumbrance

The ECBC points out⁵¹ that as a result of the nature of the underlying assets covered bond encumbrance tends to remain more stable and less sensitive to market conditions in times of turmoil than other forms of encumbrance. For example, collateral posted under repos and collateral support agreements is typically marked to its market value on a very regular basis, whereas mortgage cover pools backing covered bonds (for example) are only 'marked to market' to the extent that a house price depreciation causes a deterioration in LTV ratios, thus they are far less volatile in an adverse market scenario.

Many other forms of collateral required by credit institutions are a function of their own credit risk (more collateral is required when the bank is downgraded), as such they are more pro-cyclical than collateral posted to covered bonds.

Changes in the share of a given source in the total encumbrance (as per Figure 51) may be also determined by fundamental shifts in the supply of others (i.e. recent

⁵¹ ECBC Position Paper on Asset Encumbrance from June 2013

decline in share of repos or earlier shrinking securitization market in the aftermath of the crisis).

Impact of encumbrance levels on probability of default and recovery rates

- It has been argued, for example by the ECBC that whereas covered bonds potentially increase the loss given default for more subordinate classes of creditor, the ability to access the covered bond market improves the access of financial institutions to robust term funding sources in extreme stress scenarios and thus reduces the probability of default of the institution in the first place.
- Finally, the materiality of the effect on loss given default needs to be considered. Assume two banks: bank A is funded entirely through senior unsecured debt, bank B 80% through unsecured debt, 20% through covered bonds. Furthermore assume both banks default and a loss of 20% is realised on the assets (an extreme value for a portfolio of mortgages for example, but purely for illustrative purposes). Unsecured creditors of Bank A realise a loss of 20%. Unsecured creditors of Bank B, subordinated to covered bond holders would realise a loss of 25% [$= (80-20) / (100 - 20)$]. Based on conversations undertaken as part of this study it is clear that a change in the assumed LGD of 5% would not normally be considered material by unsecured creditors or rating agencies.

Conclusion

Whereas it is clear that some of the proposals considered in this report will increase the potential use of collateral to support covered bonds (in particular the possibility of allowing alternative asset classes, but also potentially the liquidity and coverage rules), others which improve the supervisory framework will potentially reduce required over-collateralisation levels.

Given the above arguments, in particular the low contribution of covered bonds to total encumbrance, the lack of pro-cyclicality in covered bond structures, the mitigating factors in particular on the probability of default and the lack of materiality on LGD for other creditors it has been decided not to include the impact of this factor in the assessments.

Having said that it is still appropriate to continue to monitor this factor and, if in future it starts to become a material concern for regulators to undertake appropriate action.

Annex 4 Treatment of derivatives in coverage calculations

The EBA has proposed that derivatives should be included in the coverage calculation as follows:

“The cover pool derivatives contribute to the coverage requirement on the asset side, either by a positive or a negative value, as follows:

- The cash inflows and the cash outflows for all derivative transactions concluded under a master agreement are summed up into one aggregate cash flow amount;
- The aggregate cash flow amount of all derivative transactions in the master agreement is compared with the close-out amount of that master agreement;
- The smaller amount of the two determines the contribution of the cover pool derivatives towards the coverage requirement as either a positive or negative cover asset. The approach of considering a close-out amount in the calculation of contribution of the cover pool derivatives to the coverage reflects the fact that in contrast to a typical cover asset, cover pool derivatives concluded under a master agreement are subject to an additional layer of claims or obligations contingent on the default of a counterparty, which is beyond the control of the covered bond issuer”.

This proposal has caused substantial confusion amongst stakeholders. By way of clarification:

1. The proposal is an attempt to include derivative cash flows in an equation expressed in nominal terms. In order to do this cash flows associated with the swap must be evaluated without reference to forward discount factors or market rates. The EBA has therefore proposed that all future cash flows on the swaps should be aggregated. To the extent that the amount (expressed in the currency of the calculation) is not yet knowable – for example, because they are dependent on a future interest rate fix or FX conversion in the future – they should be estimated on the basis of current spot rates (either interest or FX).
2. Even if the future FX or interest rates that will determine payments due under the swap were known, the actual payments from or to the swap in future could be either: i) the contracted payments at these rates or ii) the payments that occur if the swap is terminated. In the interests of prudence the lower of these two amounts (that is, the more negative from the perspective of the cover pool) is assumed to happen.

The swap could be terminated because either the issuer or the swap counterparty defaults (in practice covered bond swaps are documented such that they do not automatically terminate on issuer default but they could terminate subsequently).

3. The payments due under the swap in a termination scenario are the close out amount. The close out amount of the swap is typically its market value adjusted for any collateral that has been pledged to support this under a collateral agreement. As covered bond swaps typically only allow collateral to be posted in one direction (for the benefit of the covered bond pool) the worst case scenario is that the collateral has zero value and the close out amount is the market value.

Typically swaps are documented under master agreements which allow many swaps to exist between the two contracting parties and which allow amounts due on these swaps to be netted for close out purposes. The EBA propose that the assumed cash flow is the net of all swaps entered into under the master agreement between the cover pool and the swap counterparty.

4. The derivative value is only ever included on the asset side (although it could easily be a negative asset) partly to avoid having to over-collateralise the mark to market amount, partly for ease of drafting (it would be possible to switch it between assets and liabilities according to: a) whether it is positive or negative and b) whether the closeout of sum of the cash flows is the bigger value. Clearly this would be more complicated).

This approach has some implications which should be highlighted:

1. For this methodology to work, all of the cash flows between the cover pool and that swap counterparty must be included in the master agreement and there must be no others (for example, a master agreement cannot contain swaps with the issuer some of which are in the cover pool, some of which are not. In this case amounts due to the cover pool under swaps in the pool could be reduced by amounts due to the swap counterparty under non-covered bond swaps with the issuer). Further, any collateral pledged by the swap counterparty must be included in the cover pool, not in the general accounts of the issuer.
2. In order to be consistent with the cash flows on the assets and liabilities in the pool, all cash flows on these should also be projected at today's spot interest and FX rates. This is the methodology proposed by the EBA (although they only explicitly refer to spot interest rates in the proposal). This is significantly different from the method currently used in the vast majority of Member States and would potentially be operationally burdensome to calculate.
3. There could be a substantial difference between the derivative close out amount and the sum of cash flows on the derivative. The cash flows on the derivative should net against the cash flows on the 'real' assets and liabilities (as swaps are only allowed under the EBA proposals to the extent that they are hedges of these assets and liabilities) but the close out amount has no equivalent calculation for real assets and liabilities. To the extent that the close out version of the derivative is the relevant factor in the calculation this could de facto increase the required coverage ratio in the case of, for example an increase in the yield curve gradient or the interest rate differential between two currencies in an FX swap.
4. The entire approach of projecting asset and liability cash flows on the derivative at today's spot rates is only effective to the extent that the same methodology is applied to the cash flows on the assets hedged. In the absence of a requirement that the duration of the funding matches the duration of the asset funded, this methodology does not work. For example, if a 10 year asset is funded by a 5 year bond, the interest payments on the last 5 years of the asset's life would count towards the over-collateralisation requirement without regard to the need to fund the asset 5 years in the future.

Annex 5 Costs of setting up and running a covered bond programme for an issuer

There are significant upfront and ongoing costs involved in establishing and running a covered bond programme. These costs are a function of several factors such as: (i) the size of the covered bond programme of an issuer; (ii) the structure of the covered bond issuer. For example, issuance from a specialist credit institution involves significant additional costs when compared with issuance from universal credit institutions; and (iii) country specific factors such as legal and supervisory requirements.

This section compiles data from various sources (online survey, OPC responses, Credit Rating Agencies and supervisors) to provide some estimates of: (a) the initial costs of setting-up a covered bond programme; (b) the ongoing (annual) costs of running a covered bond programme; and (c) the costs of single issuance. It also compares the costs of covered bonds issuance as compared to other collateralised instruments.

Upfront costs of establishing a covered bond programme

The upfront costs of setting up a covered bond programme comprise:

- The cost of setting up IT systems to support the administration and management of the programme including risk management, monitoring and reporting of the cover assets etc. (see table below);
- Legal fees including the cost of a prospectus (see table below);
- Application and registration fees i.e. the cost of registering the programme with the regulator or supervisor (see table below);
- Investment bank fees - these are typically a function of maturity of the bond e.g. for a standard five year deal, investment banking fees would be of the order of 0.2% of the amount raised. Sometimes, an issuer does not pay any fees on the basis of an agreement that the issuer will use the investment bank for the first few bond deals and/or give that bank a disproportionate amount of the total fees payable on them⁵².
- Rating agencies' fees - a minimum set-up and first issuance fee of €65,000 (limited approach) to €100,000 (full approach) for CEE issuers and €70,000-€150,000 (Western Europe) is charged by Fitch Ratings. S&P charges a standard fee €85,000 for annual surveillance of a covered bond programme.

Table 25. Covered bonds programme set-up costs: IT, legal and regulatory costs (based on survey responses)

	IT costs	Legal fees	Application & registration fees
Belgium	~ €100,000	~€250,000	~€10,000
Denmark	€2 - 3.5 million	€100,000 - €150,000	*
Finland	~ €1 million	€0.5 - 1 million	~€1,000
France	~ €1 million	€0.5 - 1 million	~€5,000 (AMF)

⁵² When a bond is launched typically three banks will run it for the issuer, each will get one third of the fees (€1bn bond x 20cent fees = €2mn / 3 banks = €666k each). Sometimes if one structured the programme the issuer might announce that the fee split is €1mn for the structurer, €0.5mn for the other two banks. The total fees paid don't change but the structuring got recognised with a fee of €333k

	IT costs	Legal fees	Application & registration fees
			€13,000 - €110,000
Germany	"substantial"	"millions"	€5,000 - €20,000
Hungary	:	:	~€3,000
Italy	€150,000 - €1 million	€200,000 - €300,000	€8,000 - €10,000
Luxembourg	€30,000 - €200,000	:	:
The Netherlands	€100,000 - €300,000	€150,000 - €350,000	€10,000 - €25,000
Poland	:	€250,000 - €300,000	:
Portugal	~ €30,000	€20,000 - €350,000	€3,000 - €5,000
Sweden	€3 - 5 million	€50,000 - €2 million	€10,000 - €50,000
The United Kingdom	€100,000 - €2 million	€550,000 - €1.2 million	€27,500 - €50,000

Source: ICF survey, n=40

*Danish institutions do not pay explicitly for a license. As explained in 0, the institutions under the supervision of Danish FSA pay for supervision in a broad sense according to specific formulas for allocating the total costs of running the Danish FSA to the different segments of institutions and within these different institutions in the specific segment. E.g. in a given year a mortgage credit institution under supervision applies for a license to issue covered bonds. This generates costs for the Danish FSA but these are not directly allocated to the institution in question; they are part of the total costs of DFSA allocated according to the system mentioned above. There is only a charge to an institution as such, and this is for the relative share of the cost of running the Danish FSA irrespective of the amount of bond issues that it makes.

Overall, set-up costs range from hundreds of thousands to a few million euros across various EU jurisdictions.

Ongoing costs of running a covered bond programme

The annual costs of running a programme, as indicated by respondents to the ICF survey, are indicated in the table below.

Table 26. Annual costs of running a covered bond programme (based on survey responses)

	IT costs	Legal fees	Cover pool monitor	Audit fees	Other supervision and regulatory costs
Belgium	~ €10,000	~ €25,000	~ €80,000	~ €50,000 (at start)	:
Denmark	~ €2 million	€10,000 - €50,000	:	~ €70,000	~€100,000
Finland	€150,000 - €200,000	~ €100,000	:	~ €30,000	~ €20,000
France	€50,000 - €400,000	€40,000 - €150,000	€65,000 - €120,000*	€100,000 - €850,000	~ €300,000

	IT costs	Legal fees	Cover pool monitor	Audit fees	Other supervision and regulatory costs
Germany	~ €150,000	:	€30,000 - 50,000**	~ €125,000***	
Hungary	:	:	~ €90,000	:	:
Ireland	:	~ €300,000	~ €200,000	~ €100,000	€1 million
Italy	:	€25,000 - €110,000	€20,000 - €60,000	€10,000 - €130,000	€10,000 - €20,000
Luxembourg	:	:	~ €30,000	:	:
The Netherlands	€10,000 - €100,000	€40,000 - €250,000	€10,000 - €40,000	€10,000 - €60,000	€5,000 - €25,000
Portugal	~ €5,000	€10,000 - €80,000	€25,000 - €30,000	€30,000 - €75,000	€10,000 - €12,500
Sweden	€100,000 - €750,000	€7,500 - €500,000	~ €50,000	€10,000 - €50,000	€5,000 - €75,000
The United Kingdom	€60,000 - €240,000	€60,000 - €180,000	€10,000 - €50,000	~€120,000	€120,000 - €2.2 million

Source: ICF survey, n=41

* *Appointing a Specific Controller is compulsory under French law. The Specific Controller is an audit firm different from the legal auditors of the CB Issuer or the parent group of the CB Issuer. The Specific Controller not only acts as a cover pool monitor but has wider functions. The annual cost of appointing a Specific Controller ranges from €50,000 to €300,000 depending of the size and complexity of the issuer (source: French controleur spécifique).*

** *see annex X. The higher range applies to a large issuer with two alternate monitors*

****includes cost of on-site cover pool audits which range from €10,000 for small savings banks to 6-digit amounts (at approx. €100,000) for major Pfandbrief banks, carried out by leading auditing firms. Additional supervision costs might include mandatory statements by chartered external auditors on appropriate organisation of the Pfandbrief business in the annual report + costs of internal control of observing the limits under the Pfandbrief Act + costs of coverpool insertion + lists of coverpool assets to be sent to BaFin. Some issuers carry out internal audits by their compliance departments, but this is not mandatory.*

Aside from above, issuers have to pay a fee to Credit Rating Agencies for annual surveillance of a covered bond programme. As indicated in the previous section, S&P charges a flat fee of €85,000 per programme. The fee charged by Fitch Ratings depends on the region and asset cover pool size – see table below.

Table 27. Annual programme fees charged by Fitch Ratings (full approach)

Assets	Western Europe	CEE
Upto and including €2.5 billion	€75,000	€40,000
€2.5 – 5 billion	€85,000	€50,000
€5 – 10 billion	€95,000	€60,000
€10 – 15 billion	€105,000	€80,000
€15 – 25 billion	€115,000	€80,000
> €25 billion	€130,000	€80,000

Source: 2017 S&P fee schedule. For a limited approach, the fees are €50,000 for Western European issuers and €40,000 for CEE issuers regardless of asset cover pool size

Survey respondents also indicated the following additional costs:

- Staffing costs for running the covered bond programme ;
- Cost of back office operations – these can be expected to be negligible once a covered bond programme has been set-up involving monthly running of reports or checking of accounting entries. Smaller issuers with less sophisticated IT systems might need to carry out manual intervention, in which case these would involve at most 0.5 FTE;
- Cost of professional bodies e.g. ECBC (€8,000 per year) and national industry body;
- Cost of the covered bond label comprising⁵³:
- Initial Registration fee of €5,000 payable with the registration of a new cover pool
- Annual Label fee of €3,800 in subsequent years where issuers will confirm/re-confirm their compliance to the Label Convention;
- An additional volume issuance fee of €1 per million of new issuance (capped at €5,000 per year; not payable on the first year of a new Label).
- The fees and expenses of the Bond Trustee and Security Trustee (if any), ranging from €7,500 to €72,600

Cost of single issuance

The following costs are associated with each issuance:

- Rating fees: Fitch rating charges fees on all covered bond issuance as a percentage of the total issue size. The fees ranges from 0.25 bps (limited approach) to 1.0 bps (full approach) in Western European countries. A flat rate of 0.5 bps is charged in CEE countries. It should be noted that issuers often get 2-3 ratings for their issues;
- Legal fees per issue is typically either nothing or a very small amount, but for a small number of issuers (in particular those who do not issue from a standard programme), these could range from 100,000 to €300,000;

⁵³ Covered bond label website: <https://www.coveredbondlabel.com/procedures-label-fee> [accessed 18.02.2017]

- The fees and expenses incurred or payable in connection with the listing of the covered bonds on stock markets. These can range from €4,000 in UK to €150,000 in Sweden.
- Fees relating to ISDA documentations (Swaps), which depends upon the number of counterparties an issuer has;
- In Hungary, audit fees are payable per issuance (~ €20,000 per issue).

The costs of covered bonds issuance as compared to other collateralised instruments

As indicated earlier, the upfront costs of establishing a covered bond programme amount to at least €0.5 million and are actually much higher in several EU jurisdictions. The ongoing costs are also high, ranging from €0.25 million to a few million euros.

According to many respondents to the OPC, although the costs of setting up and running a covered bond programme are higher than other collateralised instruments in absolute terms, these can be spread across several issues, which eventually results in lower operational costs for covered bonds as compared to securitisations. Many respondents stated that the advantage of a covered bond programme is that once set up and registered, multiple transactions can be issued under the programme i.e., each new issuance benefits from the existing structure of the covered bond programme and bears only a fraction of the costs. In contrast, for each new ABS/RMBS issue, set up cost have to be incurred. Covered bonds are thus, regarded as a more efficient funding tool by market participants.

The specific cost advantages of a covered bond programme over securitisation transactions are as follows:

- All covered bonds issued under a specific jurisdiction adhere to the same legislative requirements, whereas each securitisation transaction is a unique instrument with unique contractual agreements. Consequently for securitisation transaction, an issuer has to incur costs relating to due diligence of the portfolio; creation and maintenance of ad hoc structures such as SPVs; developing legal documentation; and advisory and rating costs (which are usually much higher for securitisation transactions as compared to covered bonds⁵⁴).
- The ability to provide a single investor reporting for an entire covered bond programme is less costly as compared individual securitisations.
- A single swap covering a covered bond issue is also less costly than multiple swaps for heterogeneous securitisation transactions.
- Securitisation transactions often involve the constitution of the legal entity (SPV) and the need for two different credit ratings, which implies additional costs.

Finally, from an investor's perspective, due diligence costs are lower for covered bonds as it is a more standardised product compared to securitisations.

Summary conclusions

There are significant upfront and ongoing costs involved in establishing and running a covered bond programme. These costs are a function of several factors such as: (i)

⁵⁴ This is because securitisation transactions are more complex, involving the creation of ad hoc structures, leveraged nature of tranche-structures (several tranches which are collateralised by the same asset pool are rated separately)

the size of the covered bond programme of an issuer; (ii) the structure of the covered bond issuer; and (iii) country specific factors such as legal and supervisory requirements. Consequently, there are huge variations in costs:

Upfront costs to set-up a covered bond programme range from hundreds of thousands to a few million euros across various EU jurisdictions. Set-up costs typically comprise:

- The cost of setting up IT systems to support the administration and management of the programme;
- Legal fees including the cost of a prospectus;
- Application and registration fees i.e. the cost of registering the programme with the regulator or supervisor;
- Investment bank fees; and
- Rating agencies' fees

The ongoing costs of running a covered bond programme are also high, ranging from €0.25 million to a few million euros. These costs typically include:

- Staffing costs for running the covered bond programme;
- Cost of back office operations;
- Cost of professional bodies e.g. ECBC and national industry body;
- Cost of the covered bond label.

Additionally, the following costs are associated with each issuance:

- Rating fees
- Legal fees per issue is typically either nothing or a very small amount, but for a small number of issuers (in particular those who do not issue from a standard programme), these could range from 100,000 to €300,000;
- The fees and expenses incurred or payable in connection with the listing of the covered bonds on stock markets
- Fees relating to ISDA documentations (Swaps), which depends upon the number of counterparties an issuer has;
- In Hungary, audit fees are payable per issuance

While the costs of setting up and running a covered bond programme are higher than other collateralised instruments in absolute terms, these can be spread across several issues, which eventually results in lower operational costs for covered bonds as compared to securitisations.

Annex 6 Cost of supervision

Within the framework of this study, detailed data was also collected from supervisors in three jurisdictions representing different supervisory regimes. The findings are reported below.

Denmark

The key tasks from the supervisory perspective in the Danish context entail the following⁵⁵:

- Issuance of license – one off covered bond specific licensing;
- Period review and analysis of the data/ documentation provided by the issuer;⁵⁶
- Periodic quality check of cover assets including checks on eligibility of assets and real estate valuations practices and outcomes (NB: This includes regular on-site visits)
- Periodic Monitoring of the exposure of the covered bond programme to market risk and liquidity risk;
- Periodic checks of minimum mandatory over collateralisation requirements;
- Evaluation of operational risks of the issuer.

Supervision of mortgage credit institutions is carried out by the Danish FSA. The basic rule is that the institutions under supervision pay for the costs associated with their supervision. The cost of running the Danish FSA is therefore, allocated to the different units under supervision based on different measures. In practice there is an allocation to each group of institutions in question, e.g. mortgage bank, universal bank, insurance company, investment fund, etc. Within these groups the allocated costs are further allocated based on different measures. Mortgage banks as a group pay 13.2% of the annual costs of the Danish FSA. Additional fixed fees apply to certain units under supervision, although these are largely insignificant in comparison. Within the group of mortgage banks this amount is divided between the mortgage banks according to their total assets.

As a rough estimate, circa 17 FTEs across different departments of the Danish FSA are involved in supervising covered bond programmes (of which roughly 3.5 FTEs are involved in on-site inspections of covered bond issuers). The average salary cost per FTE is 650,000 DKK (~ €87,400). In addition, the average overhead per FTE is 390,000 DKK (~ €52,450). The annual costs incurred by the Danish FSA can be estimated at ~ €2.4 million. Considering that there are 9-10 issuers in Denmark, the average cost of supervision works out as €237,745 - €264,161. The average cost per covered bond programme can be estimated as €103,367 (based on ECBC data on the number of programmes = 23 in 2014 and 2015).

France

The supervisory regime for covered bonds comprises the following bodies:

Two bodies with no specific role w.r.t. the covered bond framework:

⁵⁵ ECBC, 2017. Comparison of frameworks. Available at: <http://www.ecbc.eu/framework/freeCompare> and EBA, 2014. EBA Report on EU Covered Bond Framework and Capital. Available at: <https://www.eba.europa.eu/documents/10180/534414/EBA+Report+on+EU+Covered+Bond+Frameworks+and+Capital+Treatment.pdf>

⁵⁶ For instance, reports of mortgage banks to the Danish FSA are provided on the quarterly basis and cover credit risk exposure, market risk exposure and solvency

- AMF (Market supervisor): since as issuers of debt securities, covered bond issuers have to prepare a prospectus and submit it for AMF approval.
- Legal/ statutory auditors: as credit institutions, covered bond issuers need to have two legal auditors of their accounts.

Two bodies with specific roles w.r.t. the covered bond framework, namely the ACPR and the Specific controller, which will be the focus of this section.

Regulatory Supervisor (ACPR)

The main functions of the ACPR are:

- Approval of the establishment of the CB Issuer/program
- On-going supervision (based on quarterly and annual regulatory reports received from the Specific Controller, interviews and due diligences of the Specific Controller)
- Investigation rights: on-site inspections of covered bond issuers by the ACPR itself are not frequent (for illustrative purposes, it can be assumed that over a ten-year period, a covered bond issuer would typically have one chance in three to be inspected). In case they are performed though, these are in-depth inspections lasting several weeks or months.

The regular inspections are carried out by the Specific Controller who then reports to the ACPR.

Extended powers in a scenario of insolvency

At the ACPR, the special public supervision of the CB issuers is conducted by the banking supervision teams, along with their supervision under CRD4-CRR (covered bonds issuers being credit institutions in French law). Estimates of costs pertaining specifically to CB-specific public supervision are not readily available (as there are no CB dedicated teams / individuals and costs do not appear separately in ACPR analytical accounting).

As credit institutions under French law, CB issuers are subject to the same fees as any other credit institution (or "contribution pour frais de contrôle") according to article L.612-20 of the Code Monétaire et Financier. In this case, being a CB issuer does not imply specific treatment and the amount is not related to the work done by the supervisor for monitoring the cover pool of CB Issuers.

Specific Controller (art. L.513-23 of CMF)

The existence and appointment of the Specific Controller is enshrined in the French legal/regulatory covered bond framework: he/she is not appointed following a contractual agreement with the issuer as is frequent for cover pool monitors in other jurisdictions.

Although part of the public supervisory regime, the Special Controller is a staff member of a private audit firm (different from the firm auditing the accounts of the CB Issuer or the parent group of the CB Issuer to guarantee independence and absence of conflict of interest). The Specific Controller, a professional registered to the CNCC (French Audit Association), is chosen by the issuer after approval from the supervisor (ACPR).

The fees of the Specific Controller are 100% charged to the CB Issuer. These costs range from €50,000 to €300,000 per year depending of the size and complexity of each issuer.

The responsibilities of the Specific Controller (wider than the tasks of cover pool monitors in other countries as he/she undertakes part of the tasks typically undertaken by the supervisor) are as follows:

Controls the eligibility of cover pool assets based on tests conducted on a representative sample of cover pool assets (generally on annual basis)

Controls CB Issuer's compliance with the regulatory calculation requirements: OC, liquidity buffer, maturity gap, coverage plan on a quarterly basis and issues a quarterly review certification

Controls the compliance of valuation methods applied to cover assets (properties) for cover pools based on home loans (annual certification, which is disclosed with the financial statements of the CB Issuer)

Must alert the Supervisor and the management if the ALM matching in terms of maturity, currency or interest rate appears excessively unsafe and jeopardizes the bondholders

Delivers pre-issuance controls ensuring that new forecasted issuances would not entail a breach of any regulatory requirements (on a quarterly basis; quarterly review certification + specific review certification for each issuance > €500 million)

Germany

Licensing

Fees are levied for certain activities in relation to Pfandbrief business (cf. specifically section 2 of the schedule of fees, appendix to FinDAGKostV, <http://www.gesetze-im-internet.de/findagkostv/anlage.html>, German only), most relevant are:

the fee for extending the license to conduct Pfandbrief business (for establishment of credit institution including Pfandbrief business the fee for the entire licensing process ranges between €5,000 and 20,000; for the more common case of extending an already existing license to also include Pfandbrief business, the fee is 25% to 100% of the "establishment" fee), and

the fee for appointing a cover pool monitor (first-time appointment €305; extension of appointment €140).

The rest of the existing Pfandbrief-related types of fees, typically in relation to BaFin's waiving of certain requirements as provided for by the Pfandbrief Act, have no practical relevance. Beyond this, no specific attribution of costs to Pfandbrief banks for Pfandbrief-related supervisory activities applies; these costs thus are borne by way of all supervised entities being apportioned a share in BaFin's costs not yet borne otherwise ("Umlagefinanzierung").

Cover pool monitor (annual)

In Germany, the cover pool monitor (CPM) is appointed by BaFin. S/he is not BaFin staff, but an independent individual. The CPM is remunerated according to fees set by BaFin, as well as reimbursement of necessary expenses, in both instances to be paid by the Pfandbrief bank. The Pfandbrief bank is prohibited to award any additional benefits to the CPM. The scheme for setting CPM's compensation on a monthly basis is composed of a fixed amount (€700), a variable add-on in response to Pfandbriefe in circulation (the variable add-on amount is expressed as a %-point of the fixed amount; ranges from 0% - circulation below €1,000mn to 175% for circulation above €30,000mn), and a premium (+25%-points in case of cover pools composed mainly of complex CRE financings or complex public sector financings or a very high number of retail RRE financings; individually, the premium rate may be set at +50%-points if thoroughly justified) or rebate (-25%-points in case of non-complex ship financings or other large lot-size financings, or to compensate for high degree of work participation of deputy CPM) for certain individual aspects applicable to the variable add-on. The maximum compensation without individual adjustments thus amounts to a fixed amount of €700 + 175% of fixed amount €1,225 = €1,925 Euro for circulation above €30bn. The monthly remuneration of a CPM thus, varies between € 700 and 1,925.

On-site cover pool audits (conducted at two two-year intervals)

Department BA 57 at BaFin is responsible for conducting cover pool audits at Pfandbrief banks at two year intervals, either using its own staff (appraisers), or CPAs, experienced in the area of Pfandbrief cover pool audits (selected through a tendering process). Cost incurred due to a cover pool audit (ordered by reference to sec. 44 par. 1 of the Banking Act), are fully recoverable from the audited credit institution, cf. sec. 15 par. 1 no. 1 FinDAG (http://www.gesetze-im-internet.de/findag/__15.html, German only).

In case of cover pool audits performed by BaFin's own staff, the costs of cover pool audits, including travel expenses and offsite quality assurance activities are debited to the audited Pfandbrief bank.

In the latter case, BaFin launches and evaluates the tender, appoints a CPA to conduct the audit, evaluates the audit report, initiates transmission of the audit report to the audited Pfandbrief bank, and carries out any follow-up. Although BaFin commissions the audit contract, the auditing CPA typically is paid directly by the audited Pfandbrief bank.

Table 28. Cost of cover pool audits conducted at two year intervals, 2015

	Number of cover pool audits	Total costs	Average costs
CPA*	17	€718,000	€42,000
own staff	8	€224,000	€28,000

*Source: BaFin. Due to reorganisation of department BA 57 in 2014, and data for financial year 2016 not having been finalised, the following data have been compiled for 2015. * refers to tenders completed in 2015*

BA 57 total (100% FTE) budget for 2015 (with approximately 78% FTE dedicated for cover pool audit and supplementary functions) was as follows:

- Direct costs: €1.55 million (of which direct staffing costs: €1.51 million)
- Overhead costs: €1.18 million

The costs not recovered from Pfandbrief banks are funded as part of BaFin's general budget (i.e. via cost allocation to supervised entities, where being a Pfandbrief bank would not imply specific treatment).

Annex 7 Calculation of market sensitivity to spreads

The change in the market value of covered bonds outstanding in response to a one basis point reduction in the yield required by investors has been estimated as follows:

$$\Delta \text{Market value} = \Delta \text{basis points} \times \text{value of covered bonds outstanding} \times \text{average duration}$$

Change in basis points = 1

Value of covered bonds outstanding

The table below provides the latest available data on covered bonds outstanding as well as average issuance volumes during the last five years.

Table 29. Table Value of covered bonds outstanding and average issuance volumes, € billion

	Covered bonds outstanding		Average issuance during last 5 years***
	All covered bonds*	Benchmark bonds**	
Whole market (global)	2,498	1,565	539
EU	2,213	1,353	478

*ECBC factbook. Outstanding notional 2015 (latest figures available)

**Iboxx bonds outstanding Q3 2016, as provided by Credit Agricole (latest data available at the time of writing this report)

***ECBC factbook

Calculation of average duration

Average duration has been calculated as follows:

$$\text{Macaulay duration} = \frac{\sum_{t=1}^n \frac{tC}{(1+y)^t} + \frac{nM}{(1+y)^n}}{P}$$

where:

t = period in which the coupon is received

C = periodic (usually semi-annual) coupon payment

y = the periodic yield to maturity or required yield

n = number periods

M = maturity value

P = market price of bond

Using the above formula, we arrive at an average duration of 4.1% for all benchmark bonds and an average duration of 6.2% for all bonds outstanding.

Table 30. Duration calculations

Increment	0.01%		
	All	Benchmark	Issuance
Coupon	2.05%	2.05%	2.05%
YTM	0.65%	0.46%	0.46%
Price	108.21	106.28	106.28
Duration	6.2	4.1	4.1

NB: The duration calculation has been undertaken using excel functions but could equally easily be undertaken with on-line bond value calculators such as:

www.investopedia.com/calculator/bondprice.aspx

Assumptions

In order to calculate the average duration of all benchmark bonds outstanding we used values for the average coupon (2.05%) and average remaining life (4 years) of outstanding benchmark bonds in the iboxx index as at the date of the calculation (October 2016) and a discount yield equal to 4 year mid-swaps flat of 0.46%.

It is impossible to precisely calculate the average maturity and coupon for all covered bonds outstanding due to lack of data for many bonds. On the basis that private placements are typically longer dated than benchmark transactions (in particular those which are in registered format) we have assumed an average remaining life for all bonds of 6 years and have discounted the bonds at the then 6 year mid-swaps rate of 0.65%. We have kept the assumed coupon rate constant at 2.05% despite the longer maturity to reflect the fact that issuers from countries where spreads are typically lower tend to issue more of their funding in private placement format.

The duration used for an average year of issuance is assumed to be identical to the duration for all benchmark covered bonds. We have assumed that the characteristics of the bonds issued for the purposes of the 'average year of issuance' calculation are on average the same as for all outstanding bonds.

Reasonableness estimation

The calculations have been simplified by only considering euro values despite the fact that circa 20% of the market is denominated in either Danish Krone or Swedish Krona (and smaller amounts in other currencies). However given that the aggregate nature of issuance and the prevailing rate conditions in these markets is relatively similar to those in the euro area we consider this simplification to be non-material to the overall results.

Our assumptions with regard to the duration of all bonds (that is including those not in the iboxx index) are best value judgements which have been checked for reasonableness by two market experts.

We note that the resultant duration is relatively insensitive to assumptions with regard to the yield to maturity and coupon rate.

Change in market value

The durations derived from the above have been multiplied by the notional outstanding for the market broken down into:

1. All outstanding bonds. This has been derived from the European Covered Bond Council's values as of 1st January 2016 – the last date for which complete data was available at the time of writing.

2. All outstanding benchmark bonds. This has been derived from iboxx as of October 2016 when the calculations were undertaken
3. An average year's issuance of bonds. We have taken the average for the previous five years from the ECBC's database, details as in point 1 above.

All of these three categories have been broken down into the total value and that part of the total where the issuer is resident in a member state.

Results

On the basis of the above calculations, we arrive at the following sensitivity of the market to a one basis point change in yield.

Table 31. Change in the market value of outstanding covered bonds to a one basis point change in yield demanded by investors, € billion

	All covered bonds outstanding	Benchmark bonds outstanding	One year's average issuance
Whole market	1,537	643	221
EEA Member states only	1,361	556	196

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