

U.S. covered bond legislation proposal

Commentary and European best practice discussion regarding the
bill proposed by Congressman Garrett on March 18, 2010

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General comment

The bill advanced by Congressman Garrett, creating law-based U.S. covered bonds refers to European covered bond legislation proven over centuries, such as German Pfandbriefe and Danish Realkreditobligationer, or more recently introduced successful new instruments such as French Obligations Foncières. Yet, as I will argue, such reference is more marketing than fact, and the value of the proposal in its current form for U.S. financial sector reform is highly questionable.

Many European enabling laws were created to encompass lessons from contemporary crises, for instance the deep German real estate and banking crisis of the 1890s or the bankruptcy of the Credit Foncier de France, Europe's oldest mortgage bank founded in 1852, in the 1990s. Lawmakers reacted by defining high asset quality standards where they were none or earlier lower standards had failed. Their laws required the existence of a mortgageable real estate or state guarantees, first liens on real estate assets and conservative loan-to-value limits and valuation techniques. The goal was to reduce risk for the issuing institution by creating a safe and secure long term financing mechanism to match against long term loans. By limiting the number of counterparties involved that could distort transparency and accountability of the issuer, their simple, yet clearly defined design became attractive for generations of investors and required no external ratings until very recently.

Simplicity also is about to win in Europe in the area of market and liquidity risk management. Denmark's Realkreditobligationer, a pass-through bond basically unchanged since 1850, has

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survived the financial crisis without tapping government support. The European legislations supporting bullet bonds that require regular roll-over to finance the cover pool are responding to liquidity crisis and government intervention by tightening their asset-liability and liquidity matching rules.

Driven by the liberalization trend, there have been attempts in the past in Europe by issuers to take a free ride on the existing simple and accepted bond products, such as introducing loans secured by movable assets or securities as cover assets. However, such departures from the basic concept of the bonds have been occasional and have not altered their character of backing by either high-quality real estate or state guarantees.

The current U.S. bill in contrast seems to rather paraphrase the European origins of the instrument, disregard many lessons learned from the financial crisis in the U.S. proper, and ignore the bias for conservativeness needed to build investor trust when a new product is launched.

The generic name 'covered bond' chosen, instead of a specific name picking up real estate as the core funding goal, such as in the French, Danish, German or Spanish cases, seems to point to the programs' obvious political intentions: to solve a wide range of pressing asset refinancing problems facing banks.

This suspicion is confirmed by rules allowing for an unusual menu of eligible collateral in the cover pool, including securities that may introduce legal and agency (rating) risk and whose re-packaging into another bond does not provide additional value to investors, including financial assets not backed by real estate or public guarantees, and including short-term assets that can be perfectly financed by deposits. Even home equity loans, a symbol of irresponsible lending practices, have found their way into the bill.

The present bill leaves lending standards – for real estate and other purposes - to the primary regulator's discretion and even allows ex-post inclusions of financial assets underwritten under historic standards. It ignores the relevance of low loan-to-value ratios and specific real estate valuation standards that acknowledge the asymmetric risk position of banks, in contrast to the symmetric one of the equity investor. Clear and legally constituted parameters have featured prominently in European legislation; they are particularly relevant for a jurisdiction recovering from the financial fallout of large residential and commercial real estate price cycles.

Moreover, the proposed transparency requirements over the cover pool assets fall behind established U.S. standards, for example in the MBS market. The absence of a clear definition of the basic asset-liability management principles - the most advanced here is the Danish dual system of general and specific balance principles between which lenders can chose - renders market and liquidity risk exposure of issuer and cover pool an unknown left de-facto to the discretion of his primary regulator.

A potentially unlimited range of counterparties involved in derivative and insurance protection of the cover translates into an ambiguous credit support structure that can vary from issuer to

issuer and is hard to analyze for investors. Bonds issued under the bill, in fact, will be closer in character to so-called 'structured' covered bonds, bonds that were created as arbitrage products in Europe allowing for lower precision of design, than to general law-based covered bonds.

As a result of a general lack of conservativeness in asset eligibility, risk management and counterparty selection, high amounts of overcollateralization will be required by the market to render the product palatable for investors. These promise to highly subordinate bank depositors and unsecured bondholders, and also raise the likelihood that insufficient funding liquidity will be available to a trustee appointed in insolvency. The result is an increased reliance on, and adverse selection of, public insurers of first and last resort, i.e. the Federal Deposit Insurance Corporation and the Federal Reserve System (even though an explicit role for the Federal Reserve System in liquidity provision, such as present in the case of Fannie Mae and Freddie Mac, has been avoided at the last moment).

A bond with such an unusually high level of implicit government support will still be only mildly attractive for large, too-big-to-fail U.S. banks who can save issuance costs by relying on unsecured bonds. However, it will be very strongly so for mid-sized banks that currently face strict market discipline through the threat of FDIC intervention, including possible clawbacks of securitized or pledged assets, and by implication high unsecured and even occasionally secured funding costs. In its current version, the law in effect promises to just throw the rope of implicit federal guarantees for the U.S. financial system farther.

The U.S. would be better off with a bill that tries to truly lay the foundations for a new private bank bond gold standard based on high-quality assets and restoring market discipline in a vital sector of the economy, real estate finance. Legacy problems with shaky assets of all colours or bank balance sheets should be solved via bad banks and/or bank insolvency and restructuring. The bill introduced by Congressman Garrett deserves to be considered by legislators and administration. But it should be changed in order to encompass international best practice in mortgage bond design as described, and kept simple and conservative in order to reach the ultimate goal of bond market reform: restoring lost investor trust.

Detail critique of the law proposal and best practice discussion

Reference documents:

- *Proposed bill of March 18, 2010, and*
- *Discussion draft of February 17, 2010.*
- *Various European laws².*

Name, issuer and program licensing, oversight

Reference: Sections 2 (4C, 5, 6, 9, 10) and 3 (a)

Name protection of bond: [Section 2 (4)]

- Critique: The current name ‘covered bond’ is too generic. Covered bonds are a general class of instruments that could easily be confused with reformed private-label MBS, GNMA or even GSE bond products. The current wording also suggests an ‘anything-goes’ asset selection approach (see discussion below), e.g. no specific reference to collateral such as ‘mortgages’ is made.
- Best practice: European jurisdictions allocate easily identifiable names from investor perspective that specify mortgage and public sector capital centers, e.g. Germany’s Hypotheken- and öffentliche Pfandbriefe and Spain’s Cédulas Hipotecarias and Cédulas Territoriales. Greater diversity of bond types leads to greater diversity of names, such as in the case of Denmark or France that each use each three different names for different covered bond products (differentiated by asset-liability management rules in the Danish case, and by collateral type and pooling mechanism in the French case).

→ Find more specific name(s), ideally picking up U.S. high reputation legacy bonds.

→ Limit mortgage-related name to pools with a floor of mortgage asset content, analogous for other collateral classes.

Eligible issuers, licensing and size of the market: [Section 2 (9)]

- Critique: the mere reference to insured depository institutions or bank holding companies promises to invite hundreds of issuers. The response to the failure of a highly concentrated and nationalized issuer system appears to be here the suggestion of an atomized private issuer system, which swings the pendulum into the opposite extreme. Insufficient thought appears to have been given to fundamentals such as optimal market structure in conjunction with granularity and transparency of the bonds issued (e.g. pooled vs single collateral) and the number of both capable and viable issuers that exists in the U.S.. For example, issuing long-term fixed-rate bonds carries the risk of negative maturity transformation that requires asset-liability management skills or else risk insolvency. Also, small issuers could be abused as conduit warehousing dubious assets for securitization purposes. Finally, would the U.S. want to allow small community banks and S&Ls to operate a potentially very risky bond product?

2 For a comparison of legal frameworks, see <http://www.ecbc.eu/framework/list>

- Best practice: we find 3 institutional models internationally:
 - a) Unlicensed: carries obvious reputation risks for the system due to adverse selection or small issuers unable to fulfill minimum prudential role.
 - b) Licensed: increases scale and minimum capacity, revocation of license as a disciplining instrument; possible abuses as arbitrary rationing instrument.
 - c) Special bank: inflexibility of capital allocation tends to limit investor interest and further increase scale, possible conflict with strategies to avoid too-big-to-fail; yet greater focus and specialization could mitigate risk.

The market structure effects of these models are pronounced. In Germany, since the special bank law (Hypothekenbankengesetz) was lifted in 2005 and replaced by a covered bond law (Pfandbriefgesetz) with a licensing system run by the bank regulator, the number of issuers has risen from the 18 (2003) to 35 (2009). It now includes now mid-cap S&Ls. The introduction of covered bonds in Central Europe in the 1990s under different regimes lead to varying numbers of issuers in broadly same-scale economies: unlicensed in the Czech republic (more than a dozen issuers initially), licensed in Slovakia (9 issuers), and special bank in Poland and Hungary (each 3 issuers, in HU the government created an additional issuer to the initial 2). Hampered by scale effects, the introduction of special banks has not been successful in these small economies (either they were not issuing, as in Poland, or became issuing via high subsidies, as in Hungary). Yet in the Czech republic the practice of non-licensing has also been quickly revoked as too many weak issuers flooded the market.

Capital market effects speak largely in favor of minimum scale, to reached e.g. via licensing:

- a) Minimum ticket size: a target of USD 50-100 million should rule out many small issuers;
- b) Clearer pricing (ease investor understanding) if collateral is not pooled (see below);
- c) Motivation for small issuers to create joint issuers is enhanced by licensing or special bank (examples: Totalkredit (Denmark), Caisse de Refinancement Hypotcaire (France) or Pfandbriefbank schweizerischer Hypothekarkreditinstitute / Pfandbriefzentrale schweizerischer Kantonalbanken (Switzerland). The Bill addresses the option in Section 2 (9c)).

In a large jurisdiction, such as the U.S., the need to protect non-covered bond creditors from subordination may speak in favor of special banks or quasi-special banks (e.g. special purpose companies or vertically split universal banks) as issuers. See discussion further below. This will also prevent problems at the bank holding company level from interfering with the special purpose company which will benefit from the legislation.

→ At least issuers should be directly licensed by their primary regulator under standardized requirements. The FDIC should be in the position to reject licensing

→ The costs and benefits of a special bank system should be openly discussed. The U.S. has had traumatic experiences with the failure of the Roosevelt administration to implement the private special bank charter NMA during crisis – the charter was not used until administration decided to create FNMA in 1937. Nevertheless, the size of the market and its current level of specialization and sophistication in mortgage finance should support a decentralized specialized whole-

sale banking system. Such a system, while carrying oligopolistic character, has clear advantages over an atomized issuer system. The alternative would be strict licensing.

→Smaller lenders could be led to the wholesale market via correspondent relations or co-operative joint issuers. This would also open integration perspectives for the FHLB system. Note that the still functional Swiss Pfandbriefzentralen created in 1930 were modelled on the FHLB.

Licensing or special bank operational requirements:

- Critique: the scope of licensing requirements is currently limited to the covered bond program, not the issuer.
- Best practice: would require an licensing of the issuer with a minimum of:
 - a) Legal analysis capacities. Focus on mortgage and public sector legal issues.
 - b) Appraisal and market analysis capacities. Issuers must be able to in-house property appraisals and independently assess the fundamental drivers of collateral prices.
 - c) Risk management capacities. Corporate treasury departments must have proven capacity in mortgage loan and servicing pricing and hedging. They must be able to run credit and cash flow (prepayment) projection models for ALM and pricing forecasting purposes.
 - d) Bond market issuance capacities: Corporate treasury department must have proven capacity in issuing bank bonds (pass-through, hard bullet, soft bullet).
 - e) Capital/profit center. Ideally, existence of full mortgage / public sector capital center organization with ring-fenced capital.
 - f) Minimum absolute capital levels (national bank charter).

In practice, many European universal banks issuing covered bonds do frequently not meet one or several of the above criteria. In combination with idiosyncratic national enabling laws there are more than 100 European issuers currently. This leads to severe market fragmentation, low liquidity, lack of diversification across jurisdictions, increased counterparty risk and reputational dangers for the European market.

Specialized banks have been forced to cut back on costs on their developed specialized functions when coming under strong competitive pressure by universal banks and capital markets during the 1990s and 2000s. Alternatively, such banks have tried to amortize their fixed costs by shifting into more profitable and riskier lending. Specialized mortgage capacity has remained rare and expensive. Creating a level playing field thus requires attention to be paid to the competitive situation, and possibly an initiative to reallocate mortgage finance to more specialized banking capacities away from universal banks (who can still hold specialist subsidiaries).

→Banks that do not hold sufficient specialized capacity to address mortgage lending specific risks should be discouraged from becoming covered bond issuers.

→Primary regulator to assess capacity along licensing/special bank requirements defined in the law.

→If restrictive licensing or special banking is not feasible, overall prudential regulation framework to provide substantial benefits for issuers choosing operational specialization (e.g. separate chapter under IRB model admission).

Program licensing specifics:

- Critique: currently the requirements are unspecific for non-SEC issuance. A potential submission under SEC licensing in some cases is very costly.
- Best practice: see EU Prospectus Directive with detail on program prospectus requirements and individual issuance term sheets. Program prospectus should be required, individual issue only term sheet.

→ Require program prospectus.

→ Avoid dual licensing SEC/non-SEC.

Oversight:

- Critique: Treasury is not the obvious regulator of a program requiring deep insight into bank risk management capacity.
- Best practice: invariably in Europe oversight is performed by the primary bank regulator.

→ FDIC, not Treasury, as they are the liability guarantor of most issuers and have the most interest in well executed covered bonds.

Eligible cover assets

Reference: Section 2 (1, 7, 8 & 11)

Loan eligibility: core (mortgage and (sub)sovereign) covered bond concept vs. wide range of eligible loan classes

- Critique: the bill signals a strong departure from the traditional concept of a bond backed by mortgages (narrow core concept) and public sector loans (wider core concept). See Table 1 for a visualization.

The bill allows for an unusual menu of eligible collateral in the cover pool, including financial assets not backed by real estate or public guarantees, and including short-term assets that can be perfectly financed by deposits:

- Home equity loans, almost invariably second liens and in their proliferation during the housing bubble a symbol of irresponsible lending practices, are eligible while 'residential mortgages' remain limited to first liens.
- Auto and credit card loans, potentially safe compared to second mortgages, are eligible although they are perfect assets for banks funded by short-term deposits. These asset classes are also ones which have been open for securitization.
- Student and SME loans potential long-term assets that could possibly be allowed into a public sector loan pool with sufficiently strong guarantees by public agencies. They should not be mixed with mortgages in the same bond.

The current structure seems to accommodate banks searching for low-cost funding for a wide range of loans rather than investor interest in minimal adverse selection risk, liquidity, transparency and ease to analysis.

- Best practice: the core concept of a covered bond is the one of financial assets backed by real estate, an asset that is publicly registered, can be encumbered on behalf of creditors, is immovable (esp. not beyond the physical reach of the creditor, such as e.g. a ship) and sufficiently marketable/liquid should borrowers default.

Long-term assets with high-quality public guarantees can be seen as a wider version of the core concept complementary to the presence of real estate. Examples are public infrastructure finance or long-term budget finance, occasionally publicly guaranteed real estate finance. Legislators have always imposed limits however, especially demanding a clear designation via separation of mortgage from public sector cover pools.

Two central virtues of the covered bond concept are interest alignment and long term interest rate protection for banks creating financial assets over those real assets. Financial assets in the cover should thus be limited to well underwritten, conservative loan to value ratio, first lien and long-term mortgages, and long-term loans in general. These are the asset classes where the benefits of the approach are greatest.

In practice, over time in Europe ‘everybody has been a sinner’ against some aspects of this basic concept, including Germany (e.g. ship finance, i.e. a movable asset potentially beyond reach of creditors), Denmark (e.g. agricultural loans with questionable marketability, albeit high cash flow stability) or France (e.g. allowing securitizations in cover pool). Also there has been a fair amount of exception and special treatment of sovereign and sub-sovereign finance due to political pressures.

European covered bond issuers are paying the price for adverse selection and excessive asset concentration, which has increasingly attracted attention of investors and rating agencies. Spanish Cedulas are hugely concentrated in Spanish mortgages, similarly Irish covered bonds in Irish mortgages. German and French covered bonds are exposed to fragile Southern European states. German issuers feature vulnerable large commercial real estate investments in the U.S. and are a global leader in volatile ship finance. Accordingly spreads have widely varied and widened over pre-crisis levels.

→Initially strictly limit to residential and commercial mortgages, including public guaranteed, and public sector loans (see Table 1).

→Long-term social purpose assets (student loans or other, e.g. renewable energy loans) could be a possible category of public sector bonds, if sufficiently publicly guaranteed.

Table 1 Eligible assets under the Garrett proposal and eliminations/amendments proposed by the author

Asset class	Long-term mortgages		Long-term public sector loans	Long-term social purposes assets		Short-term assets		
	RM	CM	Subsovereign	Student	Small business	HEL	Auto	Credit cards
(structured) Loans	First lien, LTV 80%, rental, some unfinished & land	First lien, LTV 60%, some unfinished & land	Concentration limits	TBD by sup guidance	SBA program loans	TBD by superv	TBD by superv	TBD by superv
Guaranteed loans	NHA & state	NHA & state	Federal & state	Federal & state	Federal & state			
ABS/Securities	AAA 20% limit	AAA 20% limit	BBB No limit	AAA 20% limit	AAA 20% limit	AAA 20% limit	AAA 20% limit	AAA 20% limit

Suggested amendments	Suggested to be eliminated
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Source: Finpolconsult.

Securities/ABS eligibility:

- Critique: the bill allows for the inclusion of existing securitizations. This may introduce legal and agency (rating) risk. Such repackaging of existing bonds into new bonds does not provide additional value to investors. There is a long list of potential risk issues of which we cite only a few central ones.

Significant legal questions arise, e.g. whether there is a plausible access of investors to the real assets embedded in the securitizations. A two-step enforcement process is needed (on security issuer, on collateral backing the security). This could delay payments to investors considerably.

Accounting may be a challenge. Including MBS into cover pools cannot make them exempt them from (cash flow-based) asset cover testing. This comes at a time when many of those instruments remain classified as illiquid at par under level 3.

Including securitizations implies arbitraging the covered bond investors versus bond market, which by itself should be pricing the asset efficiently according to its risk content.

In that regard, there is considerable adverse selection risk. For example, will any CDO and other derivative instruments of asset-backed securities be eligible? Could under the bills wording, an existing 100% weighted average LTV MBS originally rated AAA become eligible and receive the same treatment as an 80% weighted average LTV pool of mortgage loans? In the U.S. there is specific concern that Covered Bonds may become a parking lot for troubled MBS on the balance sheets of banks.

- Best practice: three out of 26 European laws listed on the European Covered Bond Council website permit senior MBS in the cover pool: France, Ireland and Italy. A parallel proposal was explicitly rejected in Germany in 2007. Yet, only two European programs are actually backed by MBS, both subject to the Obligations Foncières enabling law in France:

- CIF Euromortgage is de-facto an apex covered bond program for regional banks operating under the Credit Immobilier de France structure and issuing Obligations Foncières. The program securitizes AAA RMBS issued by the regional banks, which then de-facto guarantee the RMBS by holding junior tranches. This creates a program-based analogy to institutional apex structures, such as Danish Totalkredit or the French Caisse de Refinancement Hypothécaire. Yet, the MBS-approach entails the noise of external ratings and appears therefore inferior to the alternative of a transfer of whole loan pools backed by regional guarantees. The reason why CIF still adopted the RMBS structure were internal disputes over the pricing structure for such guarantees.
- Credit Foncier de France, after having been scaled back post insolvency to the apex of the small French savings bank network (Caisses d'Épargne) has been using Italian RMBS to support the volume of her Obligations Foncières. This reflects the specific European problem that many apex banks have no pan-European first tier and distribution network. Italian RMBS have been among the worst performing European RMBS products.

European residential MBS markets outside the Netherlands and the UK generally have been shallow and fraught with adverse selection problems as banks preferred to keep

good quality assets on balance sheet. This affects in particular jurisdictions with positive mortgage credit performance, such as Germany.

During the crisis, many of those MBS have been placed in Level 3 accounting, indicating illiquidity and unavailability of pricing benchmarks. Covered bond cash flow stress testing logic would at least require Level 2 accounting, i.e. marking to a cash flow model using market instruments.

Concerns regarding the liquidity of the assets in bankruptcy during crisis have increased during the crisis as securities were reclassified. Interestingly, rating agencies appear to assume higher liquidity of MBS than of whole loan (pools), e.g. Fitch assumes a 3 month or less sales period for MBS vs. more than 3 months for loans. This argument hinges crucially on the amount of structuring and credit enhancement in the MBS construction.

The EU in its proposed new Capital Requirement Directive (CRD) intends to limit MBS to 10-20% of the cover pool by law, while the industry is lobbying to keep limits higher in the case of originators repackaging self-originated MBS in covered bonds (examples using such exemptions would be Fortis (NL), and 3CIF (FR).

Yet, there are arbitrage options even in case of self-originated MBS, such as that banks could issue such an MBS to the general public and only retain in the covered bond pool the 10% that they have to hold on-balance sheet because of new securitization regulations.

→ Exclude securities from eligible asset range altogether.

→ If including, limit to non-structured pools (de-facto whole loan pools) originated under the same conditions as the loan portfolio.

Acquisition, development and construction finance eligibility:

- Critique: without additional safeguards, including loans collateralized by building in the construction phase may be riskier than completed buildings due to project and marketing risks. Yet with sufficient risk mitigation in place a limited inclusion may raise the social benefits of the bond for the real estate industry and consumers without adding to risk.
- Best practice: German law allows for 10% of the cover to consist of land and unfinished buildings, where land cannot exceed 1% of the cover and is subject to a 20% valuation haircut. The inclusion of unfinished buildings is typically limited to the situation where the developer equals the end-user or can produce presale contracts with clients eligible for takeout finance with the same lender. Other potential protection options include builders warranty of sufficient quality.

→ Allow inclusion of acquisition, development and construction finance with sufficient risk mitigation and subject to small pool limit.

Ad-hoc supervisory guidances:

- Critique: allowing ad-hoc additional asset classes, delegating underwriting standards to ad-hoc supervisory determination, permitting ex-post inclusions of financial assets underwritten under historic standards are all risky practices that undermine the quality of the product. Even the inclusion of loans originated by completely unregulated entities,

such as finance companies, appears possible without a contemporary check by the supervisor.

- Best practice: German asset class innovations in the 2000s were ships, a movable asset classes in an extremely cyclical market. Other jurisdictions allowed MBS. However, all these extensions were at least law-based, i.e. received the higher-quality signature from the implicit guarantor via parliamentary decision rather than an administrative one. European laws determine underwriting standards and in particular maximum legal loan-to-value ratios. The variety of rules, e.g. of permissible LTV levels in residential mortgages (see below), has triggered discussion about a delegation to the administrative level or faster law adjustments. However, steadiness of the underwriting constraints imposed has proven a strength of the legislation in terms of communication with investors and also risk management. Therefore, ad-hoc changes in underwriting standards are rare.

Ex-post references such as ‘at the time of loan origination’ are not practiced in Europe.

→ Subject eligible asset classes and their underwriting standards to law and bylaw.

→ Avoid language creating contingent liabilities for future supervisors. Supervisors should be free to reject any loan at time of inclusion to the cover pool or afterwards.

Credit risk management

Reference: Sections 2 (1, 11) and 3(b)

Asset pooling/concentration limits, single-collateral bonds: *[missing]*

- Critique: U.S. practices will depend on the institutional solution (licensing vs. special bank). This may limit or expand the number of issuers. The more issuers, the more likely there will be pressure to pool different collateral classes to compensate for a shortfall in lending volumes. This reduces price and risk transparency.
- Best practice: best practice appears to be Ireland, whose legislation requires separation of commercial, residential and public sector cover pools. Elsewhere in Europe practice especially in small jurisdictions has been to pool different mortgage collateral classes in order to maximize liquidity (in the Danish case agriculture, residential and commercial, in the German case residential and commercial). Pooling collateral, however, renders pricing of bonds more difficult, both from a credit and cash flow perspective. For example, Danish prepayment risk analysis has been hampered by the co-existence of professional investors and households in the same pool.

Many European legislations treat rental apartments as residential collateral. One reason is the large share of small landlords with similar characteristics to retail mortgage borrowers renting out individual properties for investment purposes. Another reason is that when the housing unit is marketed after a default, rental and ownership are perfect substitutes. This configuration allows for example a specialized residential lender to re-enter the asset into the same pool. In a concentrated issuer system in a large jurisdiction, individual pools backed by residential investment properties would be preferable for pricing reasons.

Separate currencies should require separate cover pools.

- Preference should be given to single-collateral cover pools and bonds clearly isolating risks. This borrows good practice from MBS market while keeping the issuer guaranty.
- In a large jurisdiction, demand the separation of residential, commercial and public sector cover pools/bonds.
- Consider permitting rental apartments into residential cover pools, subject to [20%] limit. Alternatively consider separate cover pools.

Mortgage criteria – real estate valuation/sustainable mortgageable valuation: *[missing]*

- Critique: no reference whatsoever is made in the bill to real estate valuation standards supporting the credit quality of the bond. Pro-cyclical open market valuation techniques and fraudulent appraisals have been a motor of the past real estate bubble. A bond constructed without mechanisms to limit such abuses would face serious credibility problems.
 - Best practice: covered bond legislations often set bank-specific standards in both residential and commercial mortgages. The argument is symmetry of optionality of equity investor vs. asymmetry of optionality of bond/loan investor. In particular, open market values are vulnerable to unsustainably low discount factor assumptions reflecting permanent capital gains expectations. Germany, Denmark, others have therefore defined cash flow valuation techniques that apply minimum discount factors, also a whichever-is-lower principle applied to rent observations, to arrive at more conservative and smoother valuations. This method is relevant in particular for commercial real estate. In residential finance, where important cash flow valuation parameters (such as rents) are harder to obtain, valuation rules prescribe haircuts from contract prices (10%). Since these can be procyclical, too, an imputed rent benchmark for residential housing should be preferable.
- Strict real estate valuation rules oriented towards the asymmetric long-term bank risk position ('sustainable mortgageable value') are the core of the covered bond concept. They should be introduced in a bylaw.
- This bylaw should support cash flow rather than open market valuation techniques. Establishing an imputed rent benchmark based on comparable property rent information (both residential and commercial) is a high priority for macroprudential regulation in the U.S..

Mortgage criteria – loan-to-value (LTV) limits/loan structuring [missing]

- Critique: there should be no covered bond law without statutory LTV ceilings!
- Best practice: there is no empirical example in Europe without statutory LTV ceiling. LTV differentiation by collateral useful, e.g. commercial (typically 60%), residential (between 60-80%).

Two basic concepts exist: position LTV (Germany/France, other) vs. total LTV (Denmark) concepts (see Figure 1)

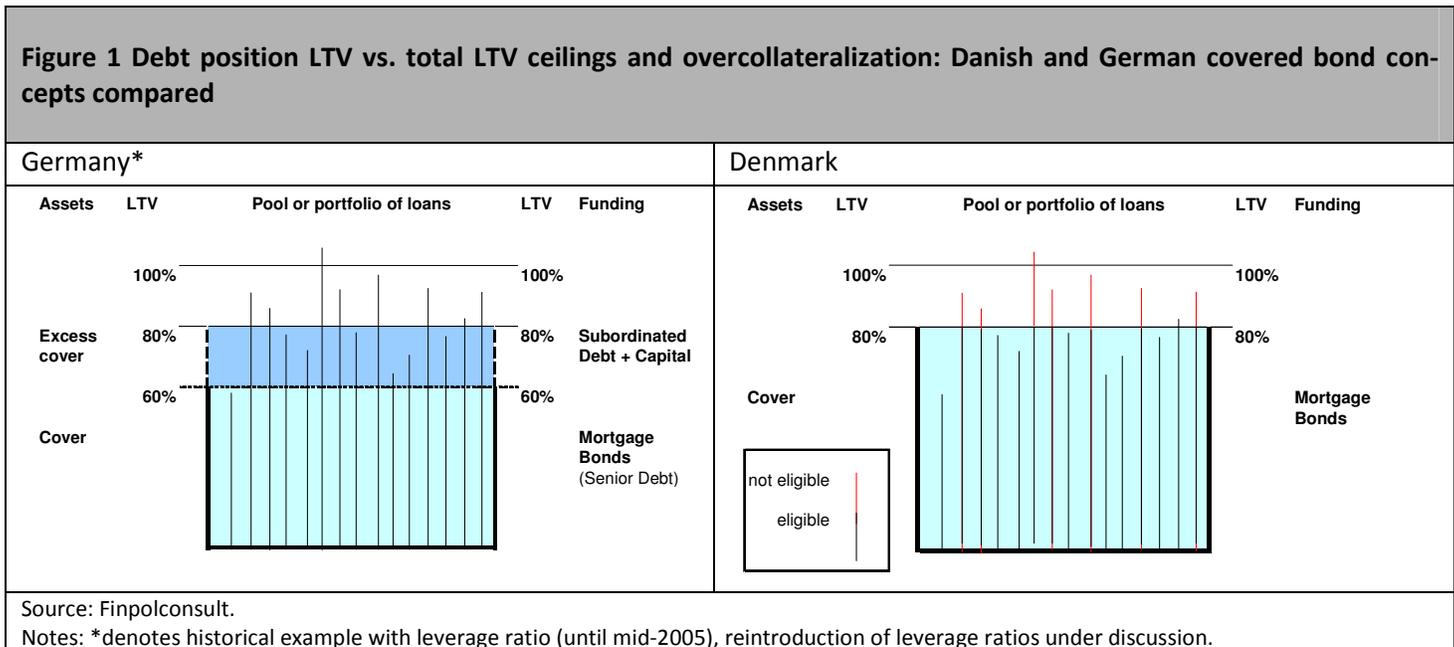
- Germany/France: any total LTV is eligible (up to limits, e.g. 100%), but the LTV position covering the bonds is limited to 60%. The result is subordination of interbank debt and unsecured bonds or deposits.
- Denmark: only up to a max of 80% total LTV loans are eligible, but those entirely. There is no subordination (supported further by the special bank structure).

Haircuts/sustainable mortgageable valuation techniques and LTV limits will cumulate. For example, an 80% residential LTV with 10% valuation haircut becomes a 72% effective LTV.

→ Introduce LTV rules for each collateral class into the bill.

→ Differentiate LTV limits by empirical long-term price risk content of the asset class.

→ Cumulate LTV limits with cash-flow based and parameter-constrained valuation method.



Mortgage criteria - debt service coverage ratio: [missing]

- Critique: commercial real estate and possibly also residential real estate ought to be subjected to debt service coverage and pre-leasing standards.
- Best practice: U.S. already practices since early 1990 commercial real estate crisis.

→ The issue should be addressed in a bylaw.

(Sub)sovereign loan criteria:

- Critique: the bill allows for concentrations of public sector loans into a single address. The investment grade (BBB) threshold for securities means a far lower threshold than what is proposed for ABS raising systematic questions.
- Best practice: Europe is currently making negative experiences with concentrations of public sector loans in single or correlated few states by covered bond issuers. One German Pfandbrief issuer, Hypo Real Estate, has been reported with 9 billion Euro exposure in Greece (3% of Greek outstanding sovereign debt, almost 3 times Hypo Real Estate's own tangible common equity). The Greek case also shows the arbitrariness of a BBB threshold (implicitly applied to lending to rated borrowers) as the country is sliding into near-insolvency while being rated between BBB and A.

→ Add minimum risk diversification and partitioning (granularity) requirements.

→ Concentrations should be discouraged rather than encouraged. This implies diversified issuance on the national level. This is the basic Fannie/Freddie credit management concept; however compared to the current duopoly structure, insolvency risk in a decentral covered bond issuer system is partitioned.

Non-performing and sub-performing (collateral deficiency) loans: [Section 3(b)]

- Critique: the bill delegates overcollateralization requirements to the regulator (Treasury) rather than defining them. The bill also does not address the requirements in case of insufficient collateral backing the financial assets (partly due to the fact that no LTV rules are defined).
- Best practice: asset substitution & bond substitution are the two basic concepts that can address in principle either issue.

Asset substitution options follow the type of bond issued and will be typically applied to non-performing loans (NPL):

- Under a portfolio bond concept (i.e. bonds backed by a revolving loan pool, the standard covered bond structure), new loans are written into the pool as old loans mature, prepay or default. This creates risk that bad underwriting policies are concealed by replacing defaulted loans with new loans likely to default soon. Because of such risk, loan substitutions are prohibited or limited by some securitization structures. The cover monitor (indenture trustee) and the primary regulator share responsibility for minimizing such risk in a regulated bank - portfolio bond issuer constellation. Obviously the issuer is free to add cash as collateral rather than new loans to support the bonds' rating, subject to possible substitute asset limits.
- Under a pass-through concept (i.e. bonds backed by a static loan pool, the structure used by Danish Realkreditobligationer), pools are also tapped several times before they are closed. NPLs are substituted with cash only, to be distributed as a prepayment or added to the cash reserve/substitution assets.

The rule in all covered bond legislation is immediate NPL substitution, not 'at will' by the guarantor (example recent practices by Fannie/Freddie). This inter alia stabilizes prepayment expectations and reduces counterparty risk. The cover monitor should during

his periodic reviews flag critical loans that bank management has not substituted, if necessary to the regulator.

Bond substitution has been introduced recently by Denmark in response to an EU requirement for issuers to react to a shortfall in collateral values, e.g. if individual loan LTV ratios due to a property price decline promises to rise over the statutory limit. Bond substitution is implemented via issuance of junior (subordinated) covered bonds that is invested in substitute assets to protect the (senior) covered bonds. See Figure 2 for a graphical display. Such junior bonds are not eligible to preferential regulatory treatment for investors. The rationale is that the lean Danish pass-through system does not lend itself easily to an asset substitution concept on a larger scale.

Outside Denmark, which runs the only remaining special bank system, universal banks in Europe will typically respond to a collateral value decline

by reducing their high voluntary overcollateralization levels. Alternatively, less senior bonds will be issued or other subordinated funding sources for the cover pool be mobilized to support the senior claims, typically deposits. Conservative loan-to-value ratios and valuation haircuts creating a buffer for a collateral value decline can reduce those additional subordination risks.

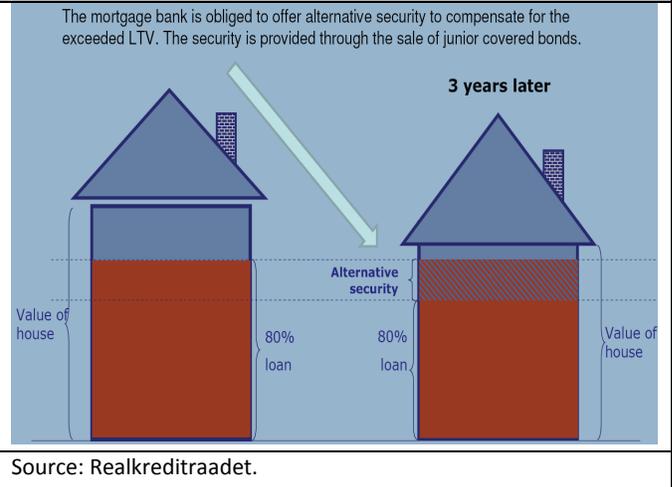
Substitution rules can be procyclical in crisis; however, incentives to issue sufficient subordinate debt funding in time and conservative underwriting standards will minimize the associated liquidity risk. Issuing junior bonds would be also in the logic of the increasing calls for contingent capital available to bank management in a pre-insolvency situation.

There is of course a certain discrepancy between using a static matching concept, such as bond or asset substitution, for credit risk implied by a collateral shortfall, and the dynamic NPV concepts with regard to interest rate risk that are now the standard in covered bond matching regulations. An NPV concept could be in theory applied to both interest rate and credit risk under an expected loss concept. The U.S. would be at the forefront of covered bond legislations if it would develop and apply such a test.

→ Whatever the type of bond, the *immediate* substitution of defaulted loans should be a statutory requirement.

→ Moreover, the issuer should be required to materially react to declining collateral values and thus the threat of under-collateralization of the cover pool. Issuers should have some discretion over whether to use asset or bond substitution to address this problem. For special banks, the most likely approach will be bond substitution.

Figure 2 Bond substitution model: when collateral values fall and current LTV limits are violated, lenders issue junior bonds



→The bond substitution feature should be enabled in the law and promoted by bank regulation in order to support the emergence of specialized issuers with limited access to cross-subsidizing collateral.

→Conservative LTV and valuation rules and sufficient cover monitor and regulator rights will minimize the need for asset or bond substitution.

→FRB haircut standards [*as per Section 2 (b2)*] should be immaterial for a bond concept operating with defined LTV, haircut and substitution standards. Nevertheless supervisors should be entitled to mandate additional collateral if there is reason to believe that lenders hold insufficient collateral to back the cover assets.

Ancillary asset (derivatives/credit enhancement) criteria: [*Sections 2 (1)*]

- Critique: a large variety of credit enhancement techniques and counterparties are potentially introduced into the U.S. concept. Some of these – for example CDS, or loan/pool insurance - should be dealt with great caution, given the complexity of structures and counterparty risk issues involved. For instance, U.S. mortgage insurers have been denying many claims payments during the mortgage market crisis on legal grounds.

In a broader perspective, formulation p2, line 4 “any credit enhancement or liquidity arrangement associated with an eligible asset ...” appears de-facto as carte blanche for creating a quasi structured covered bond, an almost entirely contractual construction. This level of flexibility conflicts with the main purpose of a law creating a statutory covered bond: to clearly determine responsibility for credit risk management in a way that is standardized and easy to understand for investors.

- Best practice: the basic line of statutory covered bond laws has always been not compromise the ease of analysis by investors. The main avenue to reach this goal has been to minimize the number of counterparties involved. For centuries, the French, German and Danish bonds featured only two counterparties: the issuer and the investor.

European covered bond legislators have been struggling with implementing even interest rate swap instruments and the associated counterparties. Germany enabled such third party enhancements in 2003, and Denmark only in 2007. The mechanic selection of interest rate swap counterparties through ratings to the current day is anathema for German regulators.

France has a (remote) analogy to U.S. mortgage insurance in a surety solution ‘caution’. The ‘caution’ routinely substitutes the mortgage as surety due to high notary/mortgage registration costs.³ However, France had imposed ceilings on the use of ‘caution’-backed loans in the Obligations Foncières established by law in 1998. As a result, some banks started issuing structured (non-statutory) covered bonds to securitize portfolios with higher shares of ‘cautions’-backed loans. The French legislator is currently responding to this development and introducing a dedicated law for bonds backed by ‘cautions’ assets, under an idiosyncratic name.

Derivatives protecting the cover pool under European laws are usually owned by inves-

³ The guarantor of the ‘caution’ registers the mortgage only in case of default and forecloses on the property, which reduces total registration costs of a given portfolio.

tors. This is safeguarded via mechanisms such as entry of the derivative into the cover register, the banning of insolvency acceleration clauses and interception into netting agreements between issuer and swap counterparty.

Registered swaps must also be used only as hedges to portfolio cash flow risks. There have been cases in which covered bond issuers used interest rate derivatives in a way that added to rather than reduced interest rate risk (main trigger of the AHBR bankruptcy in Germany in 2006).

Swaps, options and the portfolio should be jointly marked to market in the NPV calculations.

→ Limit the use of derivatives to plain vanilla interest rate caps, floors, swaps and swaptions. It would be preferable if the interest rate derivatives were either exchange traded or went through a clearinghouse.

→ Limit credit enhancements to full faith and credit guarantees by federal or state entities.

Substitute asset criteria: [Section 2 (11)]

- Critique: an excessive range of liquid assets is permitted, and no floors or ceilings are imposed on the total amount.
- Best practice: the goal of substitute asset rules is to preserve the character of an asset-backed instrument while allowing for sufficient volume for cash substitution of defaulted or prepaid loans, or minimum liquidity in the pool supporting a stand-alone liquidation.

European law increasingly focuses on the liquidity profile of substitution assets and on demanding a liquid asset floor via liquidity matching rules. The floors are relatively new; the tendency in the past had been to rather impose ceilings intended to preserve the asset-backed character of the bond. Such ceilings have been watered down in the aftermath of the financial crisis.

→ Eliminate Section 2 (11C, D); substitute assets should consist of cash & full faith and credit U.S. government obligations only; not GSE or overnight instruments (renders determination of cash position of the cover difficult).

→ Add a minimum substitute asset requirement, possibly also a target maximum.

Interest-rate risk management rules

Reference: Section 3 (b 1, 2, 3)

Statutory matching or balancing rules (static, dynamic), overcollateralization

- Critique: the bill has no details on the type or principles of matching or balancing rules as well as stress testing to be applied to those rules. It delegates the decision to the covered bond regulator, i.e. Treasury. The monthly stress testing interval mentioned is too long. Interestingly the bill asks the cover (asset) monitor to do cash flows analysis and report to the primary regulator, which is a very unusual procedure. That could mean

an additional safeguard though if the monitor receives access to all cash flow data points, prepayment estimates.

- Best practice: initially laws were written with static matching requirements, i.e.

Table 2 Asset-liability mismatch in European portfolio covered bonds				
Table 12: Weighted Average Residual Maturities				
Pool type & country of issuer (yrs)	2008		2007	
	Assets	Liabilities	Assets	Liabilities
Total	8.3	4.1	9.4	5.1
PS, total	5.0	3.7	6.9	5.0
PS, Germany	4.8	3.9	6.0	4.7
PS, excl. Germany	7.7	4.7	12.1	5.6
MO, total	11.8	4.7	11.8	5.2
MO, Germany	4.0	3.6	4.2	4.1
MO, UK	17.6	4.1	16.0	7.4
MO, Spain	18.7	5.7	20.1	6.4

PS: Public sector; MO: Mortgage
Source: Fitch Covered Bonds SMART

Source: FitchRatings, Comparative Study of Covered Bonds 2008/2009.
Note: most European mortgage assets are call-protected by various mechanisms.

nominal cover matching, yield and revenue matching. Today most laws require dynamic matching on an NPV basis. The NPV calculation is subjected to yield curve stress-tests and partial termination (prepayment) models.

Most laws use synthetic stress tests, rather than endogenous / historic tests. This would preclude using experience from the recent financial crisis.

A dynamic credit stress test on the basis of expected loss from either moves in credit or interest rates is currently not required by any law. A full joint termination model (prepayment, default) could be an option to develop the methodology further.

The existing laws thus operate under a split methodology: static capital requirements and asset or bond substitution requirements (see discussion above) address credit risk changes. The cash flow stress test addresses interest and prepayment risk changes.

Best practice is weekly cash flow stress testing.

The amount of overcollateralization is a function of the stressed interest rate and prepayment risk cash flows. For example, a 2% minimum overcollateralization requirement on an NPV basis that is subjected to a 200bp parallel yield curve shift may imply a 5 or 10% nominal overcollateralization level, unless the cash flows are closely matched.

→ Spell out the general methodology of dynamic matching requirements, including stress tests, in law.

→ Possibly apply a joint termination model (prepayments, default) to fully model and stress expected asset cash flows.

→ Compare notes with Danish legislation covering the general and the specific balance principle as a model for OC determination, stress test typology and calibrations.

Coexistence of pass-through (pool) and bullets (portfolio) covered bonds:

- Critique: the bill does not differentiate between different types of capital centers/covered bond programs of the same issuer that could be used to issue both types of bonds. In fact, it is technically impossible to issue both portfolio and pool covered bonds on the basis of the current portfolio bond concept backed by a single revolving loan pool. This severely limits the ALM options for issuers and pushes issuance of pass-through away from banking into the ambit of securitizations. Also, no reference is made by the law to the guiding matching/balancing principles for issuers, which are needed to define the ALM framework.

Box 1 Covered bond regulations may permit pass-through and bullet bonds by the same issuer from different capital centres

In Denmark since 2007 every bond series with a series reserve fund or capital centre has to comply with the 8% capital requirement; This capital is in effect a minimum level of mandatory overcollateralization (OC).

A bank's management is legally required to determine a minimum level of voluntary OC considering the extent of expected fluctuations in the value of the cover assets and the covered bond prices. Banks have the choice to follow either the general balance principle or the specific balance principle, for every given capital center. Their decision must be made clear in the respective program (base) prospectus or prospectus supplement for bonds issued after the 1 July 2007.

Both balance principles address market and liquidity risks, such as interest rate and currency and options risks.

- Best practice: European legislation with the exception of Denmark enables only bullet bonds with pricing and ALM characteristics as government bonds. This typically means a single type of covered bond based on a single revolving pool, at most these are split by asset class (e.g. Germany with mortgage and public sector loan pools).

Denmark operates a dual system of bullet and pass-through bonds by allowing both revolving (portfolio) and fixed loan pool-based bonds under different covered bond programs issued by different capital centers of the same issuer. See Box 1 for detail.

Pass-through (of interest and principal) allows to fully separating credit risk from interest rate risk. This enables issuers and investors to better align their incentives: issuers focus on evaluating and managing credit risk; investors focus on interest rates, yield curves, and volatility.

Pass-through markets may be organized in a transparent way via large constant coupon bonds that are traded on an exchange. This enhances financial education: in Denmark, consumers check daily mortgage trading prices online the way stock investors check Yahoo finance today. Mixed-coupon pools are far harder to price and understand, for both investors and consumers.

Pass-through bonds minimize the need for overcollateralization for interest rate risk protection purposes of investors and are thus more digestible for deposit insurers (see discussion below).

Pass-through bonds minimize liquidity risk and reduce the need for public liquidity facili-

ties or implicit guarantee promises to permit roll-over. In fact, Danish pass-through covered bond issuers are by definition long on liquidity while they channel through borrower payments from borrowers to investors.

Pass-through bonds may be tap issued, to make large, same-coupon bonds that are easy to price for investors with regard to prepayment and extension risk.

Soft bullet or callable bonds are an imperfect substitute to pass-through bonds operated by many portfolio bond issuers. In the presence of prepayment risk and in particular liquidity risk during insolvency, soft bullets establish a compromise between ease to understand for investors and minimization of ALM/liquidity risks for issuers. Soft bullet bonds are enabled by six European laws (Denmark, Greece, Italy, Ireland, Norway, Portugal and the UK) and also found in contractual covered bond programs (e.g. Canada).

Callable bonds are widely practiced in U.S., e.g. by Freddie Mac, often also in combination with derivatives. They allow idiosyncratic prepayment behavioral risk to be retained by the issuer (Fannie/Freddie ALM models).

The cash flows of hard bullets will typically be mismatched with asset cash flows - in particular in the case of residential mortgages - and there is considerable roll-risk. Rating agencies therefore give credit to more flexible bond maturity characteristics, such as soft bullet bonds and callable bonds, although the most credit is given to bonds with no asset/liability mismatches, i.e. pass-through bonds.

Best practice example for regulation is the dichotomy between specific and general balance principle adopted by Danish legislation of 7/1/2007. The regulation asks for separate cover registers and capital centers, as well as capital center-specific base prospectuses.

→ Danish legislation defining the general and specific balance principles and creating separate capital centers is state of the art.

→ Soft bullet bonds and callable bonds should be enabled.

→ An open question for the U.S. would be whether more idiosyncratic bond structures, such as CMO should be tied to a concept designed to increase transparency and understanding by investors.

Optional redemption mortgages:

- Critique: by not configuring the issuance of pass-through bonds, the law renders the socially desirable introduction of optional redemptions for homeowners more difficult than necessary. Optional redemption describes the homeowners' right to redeem his debt at the going market price, i.e. above, at or below par, instead of solely at par as under current prepayment standards. Non-callable (allowing only redemption at the market price) and callable (allowing redemption at either market price or par) mortgages can be elegantly defined in this way. The ability to realize the market price for his debt adds to the homeowners' financial flexibility and in particular smoothens the home equity position (principle of balance). Optional redemptions can stabilize housing, mortgage and bond markets by reducing credit risk and financing needs in critical phases. Having a significant number of homeowners exercise their optional redemption can act as a significant shock absorber to the domestic financial system.

- Best practice: Just as many mortgages currently offer homeowners financial advantages of prepaying and refinancing when interest rates drop, optional redemption mortgages do so when the value of a mortgage drops, due to a *rise* in interest rates. Many borrowers in the U.S. now hold mortgages that are trading at far less than the par value owed on the mortgage; if they had optional redemption mortgages, they could refinance at lower principal and often maintain positive equity in their home. This is being done on a small scale today, via middle men. Hedge funds have purchased pools of mortgage loans at significant discounts, and will offer a portion of that discount to the homeowner in return for refinancing into a new loan with a smaller balance.

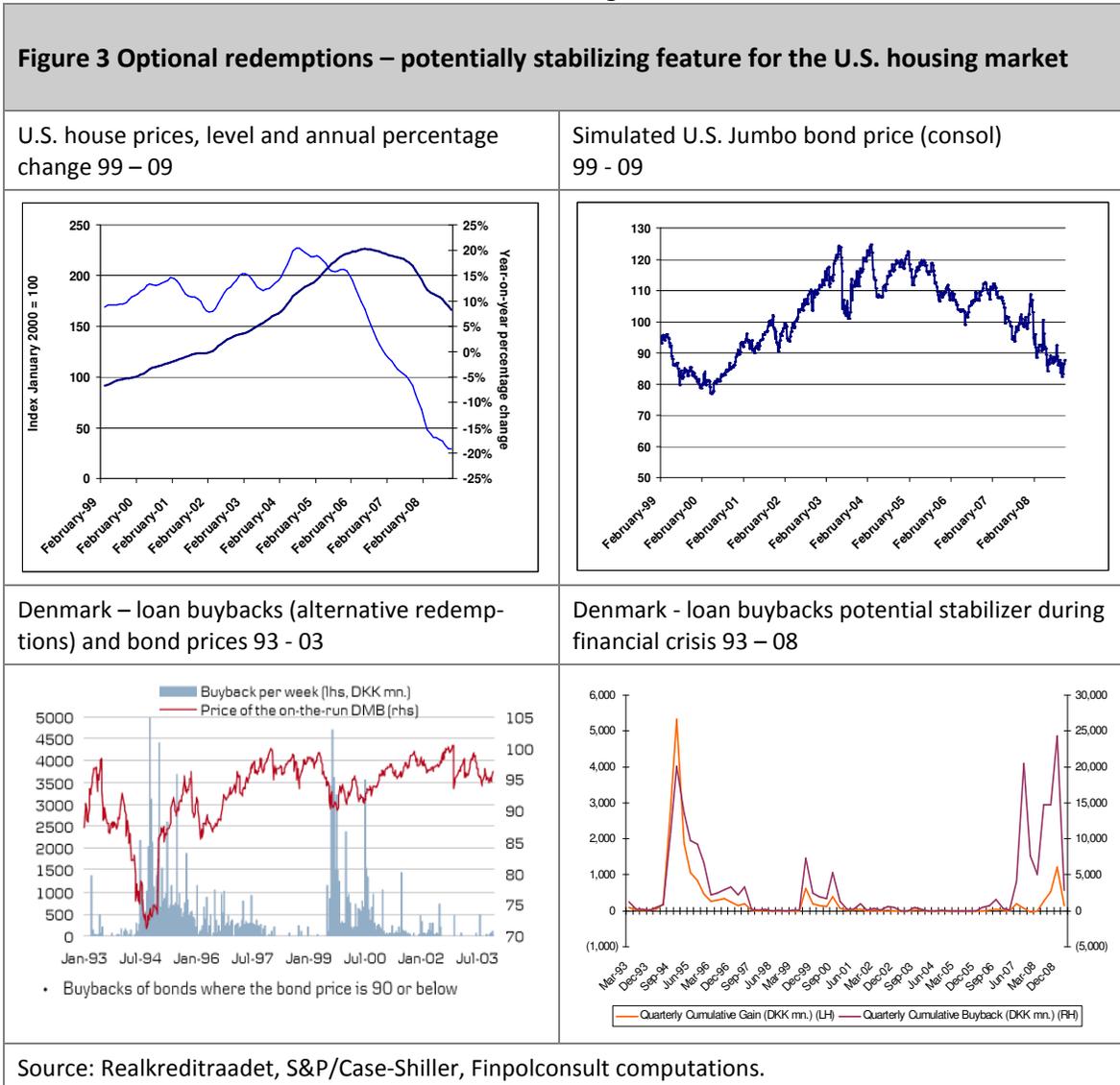


Figure 3 presents some empirical indications showing the usefulness of optional redemption in the U.S. case with the example of the Jumbo market. The Jumbo market is the only mortgage market segment where interest rates are largely determined by market forces. As house prices started to decelerate and eventually drop from late 2006 onwards well into 2009, the prices of a bond backed by Jumbo mortgages have done so in parallel. Clearly, prepaying a Jumbo mortgage at such reduced market prices instead of par would have gen-

erated a capital gain for the homeowner balancing some or all of the loss in house prices.

The result would have been a far better matching of borrowers assets and liabilities. This, in turn, would have especially benefited the loan vintages originated at the peak of house prices in 2006 and 2007. A far lower ratio of underwater mortgages would have been the result, and by implication a significantly reduced default risk.

Pass-through covered bonds pooling loans of the same coupon level render optional redemptions easy to implement through the so-called delivery option. The delivery option allows the borrower to buy back his loan in the market, from a willing seller. The price is quoted daily for his loan pool in the secondary market. In fact, by comparing current house prices and current market prices for his loan, the borrower can easily monitor his equity position in real time, and react, if necessary. The mortgage banks, who carry only the credit risk of the loan, actively monitor the equity position of the borrower and advise the homeowner on the best course of action given any move in interest rates. A large proportion of the borrower population does active monitoring.

While optional redemptions can also be realized by quoting to the borrower a synthetic price derived from a fixed-rate bond of comparable residual maturity, none of the remaining European covered bond markets have implemented the feature.

→ Pass-through covered bonds should be enabled by the bill.

→ Consumer protection legislation should be passed that asks banks to offer optional redemption mortgages on the basis of market prices for loan pools or synthetic pricing over bond benchmarks, in a standardized fashion.

Liquidity risk management:

- Critique: liquidity risk is not explicitly addressed by the bill and explicitly exempted as a determinant of overcollateralization.

Liquidity risk for mortgage bond issuers has been at the heart of the financial panic of 2008. The resulting insolvencies included the largest capital market intermediaries in the sector: Bear Stearns, Lehman Brothers, Fannie Mae and Freddie Mac.

- Best practice: Eurozone covered bonds were also subject to severe liquidity risk realizations during the crisis. The market essentially died in the fall of 2008. Germany even nationalized her top two covered bond issuers: Hypo Real Estate and indirectly Eurohypo as wholly-owned subsidiary of partially nationalized Commerzbank.

The Danish fixed-rate covered bond market in contrast remained open for issuance throughout the crisis, as Figure 4 shows, including during the critical months of fall 2008. Moreover, as Figure 5 reports, the maturities of bonds issued increased in 2008 while in the Eurozone it decreased, materially due inability of issuers to find any demand. Only the practice of highly concentrating the ARM mortgage roll-over event led to liquidity problems in December 2008, which were resolved by extra purchases of a government pension fund.

The European covered bond market since early 2009 is relying strongly on implicit guarantees issued by sovereign governments. Moreover, the ECB's covered bond purchase program initiated (by end of April 2010 totalling € 45 billion), in combination with a significant amount of repos (by end of December 2009 ~ € 300 billion), has kept the covered bond market in equilibrium.

As a result of the government bailouts, Eurozone covered bond spreads have risen rather moderately in late 2008. Spreads then receded after the ECB purchase program

Box 2 Which covered bond markets stayed open in Europe in the fall of 2008 and which not?

Europe's covered bond markets broadly shut down in the wake of the Lehman bankruptcy of September 2008 due to heightened counterparty risk, collateral quality and liquidity concerns. Germany nationalized its second biggest issuer, Hypo Real Estate, directly, and its biggest issuer, Eurohypo, indirectly via partial nationalization and emergency liquidity lines to its mother Commerzbank. Spanish issuances were reduced to a trickle and frequently directly repoed with the ECB. French individual issuances ceased. Jumbo markets generally closed.

However, in a few constellations markets stayed open:

- Collective credit enhancement/joint issuers: Caisse de Refinancement Hypotecaire, a joint issuer of the French banking industry, continued almost business as usual. Joint issuance works as a de-facto collective credit guaranty of the member banks of the facility (in the French case all big names). Swiss Pfandbriefzentrale schweizerischer Hypothekarkreditinstitute even massively expanded her business as Swiss banks, in particular UBS, mobilized domestic mortgage collateral to access this funding option. However, collective issuers in high-risk jurisdictions became hit, e.g. vehicles used to pool covered bonds issued by Spanish Cajas.
- Pass-throughs: Denmark continued to issue FRM pass-throughs – at elevated spreads. However, Danish lenders ran into liquidity problems with regard to their ARM portfolio, which is rolled over once a year to reveal new pricing (instead of e.g. an index-linked pass-through). The December 2008 roll was achieved by a combination of higher short-term rates used by Nationalbanken to protect the exchange rate, some increase in central bank repos and some increased purchases by large local pension funds.
- Name bonds recovered far faster than bearer bonds and private placements remained open for many names. This points to two factors: the large domestic investor bias of covered bonds (>70%) that was reinforced by the crisis, and the fact that name bonds do not have to be marked to market, reducing balance sheet volatility.

was announced in January 2009. As the program became effective, in particular issuance programs in jurisdictions with heightened sovereign or collateral risk were stabilized. Against the background of widening sovereign spreads in Southern Europe, an extension beyond the program's termination date in June 2010 appears likely.

Danish covered bond spreads, despite absence of comparable central bank purchase interventions and rather regular repo operations, have widened only modestly and less than those of German Pfandbriefe. A contributing factor is that the issuers of Danish pass-throughs are by definition long in liquidity and thus have no funding gap at roll risk during crisis.

The liquidity crisis of 2008 and the ongoing problems in European bond markets have become addressed both by legislation and rating agency actions. New legal developments in Europe (starting in Germany in mid-2009) require a perma-

nently closed liquidity position over 180 days. This tends to increase overcollateralization requirements for the portfolio bonds, however.

The rating agencies have proposed significant changes to their covered bond rating methodologies.

Fitch is changing the way it calculates its Discontinuity Factor by reducing the expected market value of covered assets and increasing the weighting attached to liquidity gaps.

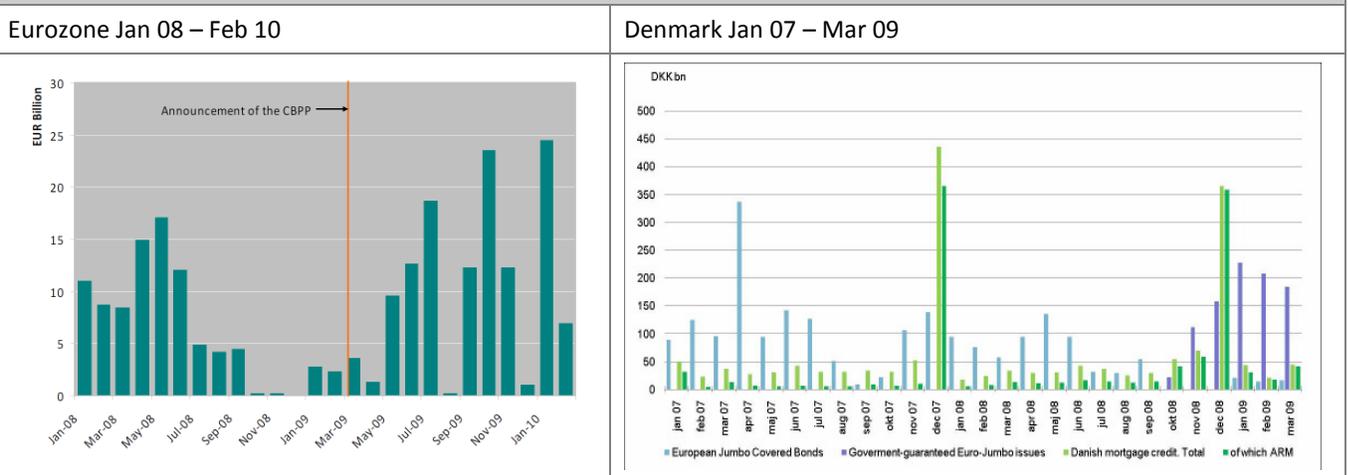
This has led to higher levels of overcollateralization and an explicit preference for liquidity management instruments such as pass-throughs and soft bullets. The results are shown in Figure 6 below.

Moody’s also requires additional collateral based upon the relative change in collateral value versus the proceeds due on the bond.

S&P has made the most significant proposed changes, which center around assigning covered bonds to three categories based upon their inherent asset–liability mismatch. This forces a higher correlation between bond and issuer ratings as the maturity mismatches increase. Match-funded covered bonds, in which the issuer retains only the credit risk of the collateral but takes no interest rate risk (because the covered loans exactly match the terms of the bond), are significantly de-linked from the issuer rating. S&P plans to score each national market based upon the degree of support they offer. They will use recent history as a guide for the scenario analysis when trying to estimate market value of collateral.

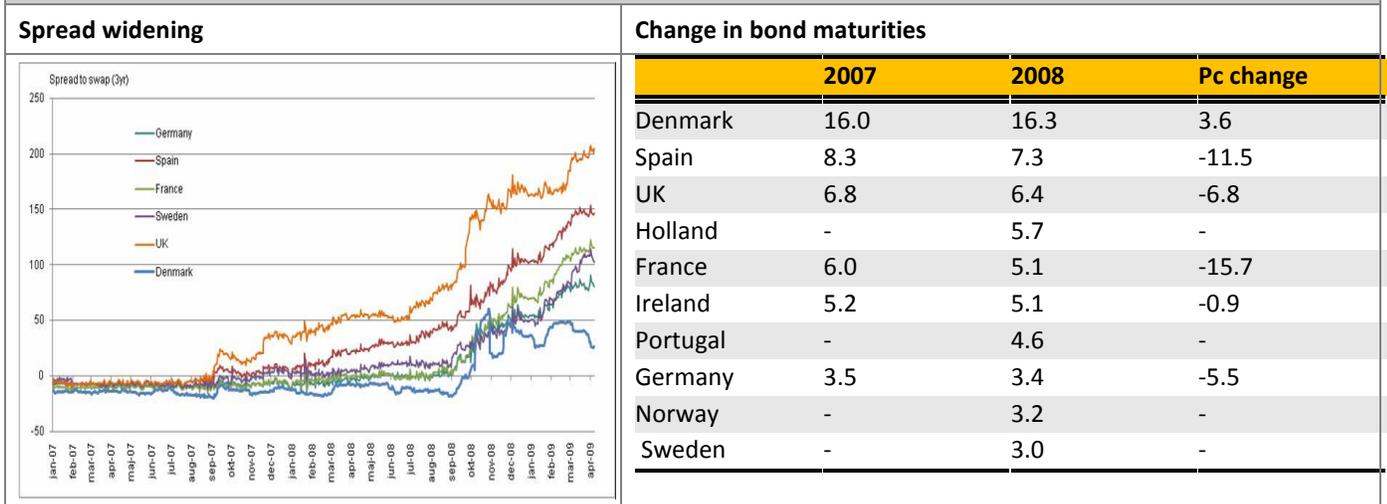
- The bill or a bylaw should entail specific liquidity risk management requirements.
- The bill should enable pass-through bonds as the obvious option to minimize liquidity risk for issuers (see recommendations made above).

Figure 4 Liquidity (roll-over) risk realization – covered bond issuance activity during the financial crisis in the Eurozone and Denmark



Source: ECB, Nykredit.

Figure 5 Crisis reaction indicators in different European covered bond jurisdictions



Source: iBoxx, Nykredit markets.

Transparency

Reference: Section 3 (a3)

Cover pool reporting:

- Critique: the bill only refers very generally to ‘information on all outstanding bonds issued’ to be published by issuers.
- Best practice: covered bonds are issued under permanent issuer program and thus experience permanent substitution processes as loans/derivatives mature and new loans/derivatives are written into the cover. This requires some reporting adjustment vs. MBS, which in the U.S., where their nature is generally self-liquidating, are backed by a static pool. However, MBS pool reporting standards are high compared to European covered bond standards - and this refers in particular to reporting on commercial mortgages.

→U.S. can do better than European covered bond laws by asking for essentially MBS prospectus and master servicing standards in cover pool reporting.

→Registry information should be update weekly or possibly daily.

Default and insolvency

Reference: Section 4

Traffic rules with regard to claims by FDIC and other senior and/or secured creditors, acceleration vs. continued life of the bond:

- Critique: it will be unacceptable for the deposit insurer (FDIC) to see large amounts of overcollateralization to be segregated and attached to the insolvent estate. The bill

solves this by yielding unusual power – compared to European law - to FDIC.

According to a policy statement issued, FDIC might use these powers to de-facto circumvent the laws core intention to create a private bond instrument that survive issuer insolvency. FDIC has proposed three mechanisms, which from an economic standpoint can be collapsed to two:

- 1) FDIC continues to pay the covered bond, potentially until maturity. This would establish a de-facto nationalization. Proponents of the bill had conceded to avoid this scenario when automatic Fed liquidity guarantees were discussed. Such a provision was eliminated from an earlier draft. Rating agencies such as Fitch have made it clear that any implicit assumption of timely payment duties by a government entity would be considered as a sovereign guarantee backing the bond.
- 2) FDIC pays damages up to the value of the collateral backing the bond, or 3) FDIC liquidates the cover pool. These are diametrically opposed options leading to bond acceleration. They bear the potential for substantial losses for investors and risk a spiralling loss of trust in the system in times of crisis, via marking to a volatile market or fireselling.

As recent as in the mid-2000s, the rating agency Moodys had defined a covered bond as invariably a non-accelerating instrument, which will be expected to survive an issuer liquidation unaffected either as stand-alone or via transfer to another issuer. European countries had changed their laws under the impression of Moodys' argumentation.

It would appear that FDIC – based on experiences e.g. in the IndyMac and other bank insolvencies with FHLB being on the secured creditor side - feels urged to circumvent this intention of the law in order to avoid the alternative, to define a process of segregation of overcollateralization at the time of insolvency or even accept subordination of her own insured claims.

The expected ongoing segmentation of regulators in charge of bank unwinding and liquidation also affects the likelihood with which the above options will be chosen. The Federal Reserve System will retain regulatory powers over the 36 largest U.S. banks. Will the Fed interpret acceleration options as rigidly as the FDIC has in analogous cases in the past, when dealing with other senior bank bonds? What would be the impact of divergent actions taken by the two agencies on investor trust during crisis?

An additional complication for covered bond holders in the U.S. could be FHLBs and other de-jure super senior claims conflicting with covered bond investor claims.

While FDICs powers are explicitly addressed by the bill, the FHLBs has the power to seize the entire pledged mortgage collateral of its members, and hence severely subordinate both deposit insurers and other creditors. In the current legal situation it would appear that an issuer willing to continue to tap the FHLB window should operate the covered bond from an already segregated guarantee instrument, such as a special purpose vehicle or company. This may require a number of adjustments elsewhere in the law.

FDIC also continues to extend exemptions from new safe harbor rules passed in December 2009 that would considerably extend the agency's abilities to claw back loans from the cover or unwind allegedly fraudulent transactions. Despite the existence of a law

creating a dedicated cover pool the associated legal uncertainty might affect the segregability of such pool in the insolvency case.

The bill also says little about the seniority of derivative transactions and their treatment in insolvency (for registration, netting issues see above).

The question of super-seniority of liquidity being provided to a stand alone vehicle, via repo or unsecured credit, also is unaddressed.

- Best practice: In terms of management of the insolvent estate three approaches have been configured in European laws:
 - Acceleration and forced liquidation,
 - Stand alone and self-liquidation,
 - Transfer to a new (licensed) covered bond issuer, including sale of the issuer.

Transfer to the deposit insurer or other public entity in a de-facto nationalization has not been an element of law; however, nationalizations have been practiced, such as recently during the German systemic crisis that led to the de-jure nationalization of Hypo Real Estate and de-facto nationalization of Eurohypo, the two largest covered bond issuers.

Acceleration has de-facto been ruled out since the mid-2000s by rating agency action, as discussed. This has prompted changes in European laws. For example Germany in 2005 removed legal acceleration options and introduced the concept of an administrator with the principal intention of securing an ongoing life of the bond. The key concern were arbitrary actions taken immediately after the insolvency during crisis that might lead to material losses for investors. Even absent such risk, bond investors searching for a sov-

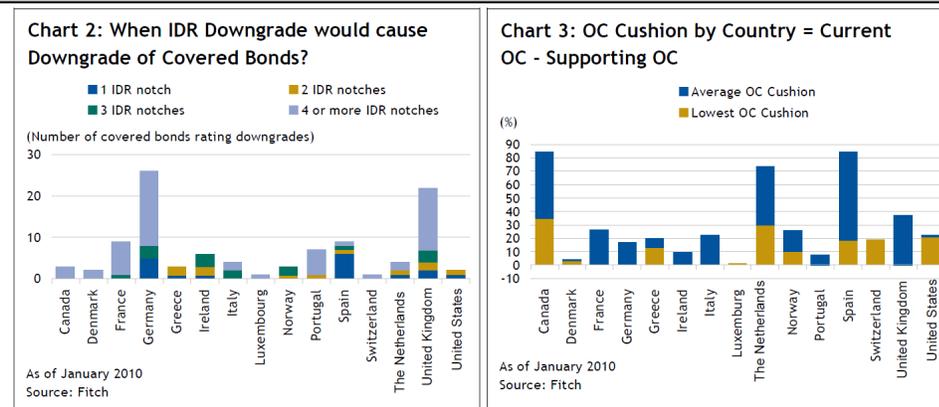
ereign credit surrogate do not like cash flow acceleration events.

Both stand-alone and transfer options require a specification of the scale of overcollateralization and the mechanisms to its release from the insolvency mass to the covered bond insolvency trustee.

European laws operate with vastly differing levels of overcollateralization

(see Figure 6). In the universal bank context now common to all jurisdictions except the Danish mortgage credit institution system these implicitly subordinate deposits. The FDIC situation of a powerful deposit insurer with far-reaching unwinding powers that

Figure 6 Issuer downgrade sensitivity and over-collateralization levels in European covered bonds



Source: FitchRatings Comment on the Implementation of Liquidity Criteria for Covered Bonds (1/27/2010). Note: IDR – long-term issuer default rating. OC – over-collateralization. Note: r.h. chart underestimates total over-collateralization level which is the sum of OC cushion (voluntary) and supporting OC (statutory). However, voluntary OC levels indicative of the levels of depositor and other unsecured creditor subordination. Statutory OC is proportional to interest rate risk exposure of the cover pool.

corrects such imbalance a priori, in the law-making process, simply does not exist.

Large amounts of overcollateralization and high degrees of subordination of depositors characterize the Spanish covered bond legislation, where collateralization stretches to all eligible mortgage on the balance sheet of the bank, broadly comparable to FHLB powers/practices in the U.S.. The German and French laws also produce overcollateralization levels that are hardly acceptable in the U.S. context. In the German case, the law mandates that only 'necessary' overcollateralization would remain attached to the segregated cover pool. Yet, there exists no operational specification of this law wording.

The only legal context within which only minimal subordination of the deposit insurer will occur is the special bank context, which in Europe has survived in Denmark. Under the German special bank model (discontinued in 2005), the subordinated positions financing overcollateralization were de-facto limited to interbank debt (see Figure 1 for a conceptualization). This limited the issue of overcollateralization release to a dispute between subordinated bank creditors and the covered bond insolvency trustee.

In the case of Danish Realkreditobligationer issued by the special bank system of mortgage credit institutions, there is de-facto no overcollateralization. Collateral shortfalls are compensated also by issuing junior interbank debt.

In these two empirically tested bank-based models, a stand-alone or transfer option leading to a continued life of the bond can be produced without subordinating deposits. An alternative would be SPV or SPC construction forced to issue junior debt, as a special bank would be. However, where statutory covered bond laws have taken this route, e.g. the Italian law of 2007, the main sponsor of the SPV/SPC has remained liable to fund the subordinate position, and hence deposits remained implicitly subordinated.

All other practical cases, the standard now in Europe under the universal bank model, would lead to either high insolvency-related costs for the deposit insurer (i.e. increased insurance premia), or to a de-facto nationalization or acceleration of the bond.

In the depositor-senior bondholder conflict scenario of the universal bank, a compromise would be clear rules regarding the release of overcollateralization that lead to less arbitrariness in the loss allocation between the two parties. There is unfortunately no best practice, as European laws invariably fail to address the specific traffic rules needed. In principle such rules would entail an immediate (independent) due diligence of the portfolio post-insolvency as well as a clearly defined interaction process of proposal, rejection and acceptance, between deposit insurer (FDIC) and the insolvency trustee acting on behalf of bondholders.

The overwhelming European practical experience in bank resolution has been the transfer of both bond obligations and cover assets to a new issuer. However, this has carried dangers by creating too large issuers over time via cumulative portfolio transfers (in Germany Eurohypo and Hypo Real Estate). If such dangers are present, especially in a Federal Reserve regulation context or large national banks, the general downsizing and restructuring options in the hands of regulators come into play.

Neither stand alone nor forced liquidation options have ever been tested in Europe. Both raise questions of short-term liquidity management that new law proposals (e.g. the upcoming German proposal to be discussed in summer 2010 in parliament) intend to address. The technical solution of preference will likely be to grant the insolvency

trustee a partial bank status, which allows for standard access options to short-term liquidity.

An FHLB-type situation of a competing severely de-jure overcollateralized claim is typically not present in Europe.

Registered derivatives will typically rank senior to covered bond creditors; hence do also have access to collateral placed into the cover.

European laws have found varying solutions to minimize the risk of claw back of loans from the cover or unwinding of allegedly fraudulent transactions. Italian and British covered bonds use trust structures, and the French covered bond law operates under a special purpose company structure (with the additional intention to remove a potential superseniority of bank staff salary payments implicated in French law over covered bond creditor payments). German law creates a strict legal segregation of the cover from the insolvency estate, in which the cover monitor's decisions cannot be overridden by the bank regulator.

Whatever the legal technical solution, covered bonds presuppose the existence a 'safe harbor' treatment just as much as MBS. In fact, both instruments should be treated broadly under the same principles. A second best to a universal treatment for all secured capital markets instruments is to have a special legal rule just for covered bonds.

→The bill leaves the decision over the release of overcollateralization de-facto to the FDIC as a conservator or receiver, potentially diminishing investor interests and raising the likelihood of either acceleration leading to investor losses, alternatively de-facto nationalization. There should be instead a clearly established process for the release of overcollateralization enabling the stand-alone or transfer to another issuer options, which are the core of the covered bond concept.

→A transfer period of 15 days of the cover pool to a new issuer in that regard may be too short, given also the need to perform sound due diligence of the cover pool to determine the necessary overcollateralization. The nature of the due diligence assessment and the appeals process need to be determined by law.

→The coexistence of FDIC and Federal Reserve System as primary regulators responsible to protect deposit, systemically important banks, raises the risk of diverging practices with regard to options available during insolvency at the worst possible time, during crisis. Both regulators should operate under the same rule book.

→FHLB access to collateral should be limited to a specific, separate asset pool not pledged to covered bond creditors. The bill should say explicitly that covered bond creditors have a first lien on the cover pool. Registered derivatives should have pari-passu treatment with covered bond creditors.

→Safe harbor rules should be passed that treat covered bond cover pools and MBS the same.

Special investor protection mechanisms

- Critique: the MBS market has been plagued by numerous design failures: absence of proper loan documentation proving the existence of claims or real assets, conflicts between investors, trustees/SPV directors, servicers and originators and conflicts of interest, for example the staffing of trustees/SPVs by the very originators of the assets. Covered bonds adopt a simpler, and more incentive-compatible structure. The bill is sometimes not clear about the monitoring and reporting duties of the trustees, in some cases (e.g. requiring the indenture trustee to do asset stress testing) goes beyond typical standards. There are no provisions defining bondholder democracy, which may be essential in a market crisis (as seen in the MBS market).

- Best practice:

Cover monitoring/indenture trustee: an independent indenture trustee (accountant or lawyer) should act exclusively on behalf of investors, with legal access to all relevant information regarding the cover assets (legal documentation concerning claims and real estate financed, performance at granular levels). A full cover audit should take place every year (European laws typically every 2 years, but U.S. experience speaks at least initially for 1 year). The trustee should report to investors every 3 months, independently from the general cover reporting by the issuer. The trustee should be required to inform regulators ad-hoc and immediately about irregularities. The regulator should have independent (from investors) powers to revoke the assignment of the indenture trustee in case of breach of obligations.

Insolvency trustee: can be the same as cover monitor, but not necessarily so (e.g. in case of malfeasance leading to insolvency, whence regulator). Acts on behalf of investors during insolvency (against FDIC), proposes resolution options to investor committee.

Bondholder democracy: investor committee mandatory. Voting rules: e.g. 75% rule on indenture trustee proposals? Probably historic U.S. is best practice.

- More clearly define indenture and insolvency trustee roles.
- Define bondholder democracy rules, esp. during insolvency.

Abbreviations

ABS	Asset-backed securities
ALM	Asset-liability management
ARM	Adjustable-rate mortgage
CB	Covered bond
CCD	EU Consumer Credit Directive
CDS	Credit default swap
CRD	EU Capital Requirement Directive
EUR	Euro
IDR	Issuer default rating
MBS	Mortgage-backed securities
MCI	Mortgage credit institutions (specialized covered bond issuers)
MFI	Monetary financial institutions.
MTM	Marked to market
NPL	Non-performing loan
OC	Over-collateralization