

**The German
Pfandbrief system
facing the financial crisis**

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Abstract:

Despite of the good state of German primary mortgage credit markets the liquidity of the German Pfandbrief market has suffered after the collapse of the investment bank Lehman brothers. At the most the market was not able to absorb larger volumes of Pfandbrief sales since then. Also the emission market has suffered. The risk premiums as compared with government bonds have risen to levels never seen before.

Since the Pfandbrief as a special and highly regulated form of a covered bond has numerous characteristics meant to minimize the default risk the phenomena of partial illiquidity and rising risk premiums demand explanation. Presumably doubts about the quality of the covering values have only played a minor role here. It seems that investors do not trust the stability of the issuers any more. Also the massive emission volumes of government bonds and guaranteed bank obligations combined with deposit guaranties might have harmed the Pfandbrief market.

The Pfandbrief has been a stable source for the refinancing of mortgage credits for centuries. In view of the complete collapse of other sources of refinance the Pfandbrief system could even serve as a blueprint for the future of mortgage credit refinance around the world. We thus need to investigate carefully the necessity of re-regulation of Pfandbrief banks. One critical question is if the omission of the specialist bank principle in the field of Pfandbrief banks has made things worse in the current financial crisis. The potential contagion risk from other bank businesses has surely risen since then.

In the paper preliminary answers to the fundamental questions raised are sought:

- Are specialist banks or universal banks preferable or do we need both?
- In what segments of business should specialist banks be active?
- How should specialist banks be regulated – tighter or more liberal than universal banks?
- Is mortgage credit a sensible business activity to specialize in?
- How in detail should mortgage banks be regulated?
- To what extent should they be allowed to do ancillary credit business or other bank businesses?

Keywords: Pfandbrief, Covered bond, Specialist bank, Universal bank, Coverage principle, Cover pool, Cover asset, Mortgage lending value, Mortgage lending limit

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1 A brief outline of the German Pfandbrief system

The Pfandbrief is a special type of covered bond¹ subject to a dense network of regulation.² The outstanding bonds have to be covered by pools of eligible collateral assets. Only mortgage credits secured by a lien (“Pfand”) on the property (commercial and residential real estate, ship or aircraft) and loans to public authorities and institutions qualify as collateral values.³ The Pfandbrief does not constitute any legal relationship between the Pfandbrief creditor and the properties serving as loan securities. Instead the holders of the bonds have a dual claim: one against the issuer, and the other against the cover pool.

Mortgage and public loans are generally regarded as particularly fail-safe. While a mortgage credit gives the lender the right of foreclosure in case of the borrower’s default and thus the chance to regain the balance due immediately depending on the price achieved a government loan is assumed to be failure-resistant because of the governmental power to raise additional tax revenue by coercion. These properties taken by themselves do not suffice however for the specification of a solid asset. Even mortgage and state credits can be of poor quality due to worsened creditworthiness or fallen asset prices or both. The Pfandbrief as a bond type meant to be particularly fail-safe⁴ thus needs additional regulation to minimize these asset-related risks in the cover pool. Only mortgages that meet certain minimum requirements may be used as cover for Mortgage Pfandbriefe.⁵

¹ Covered bonds are financial assets which are covered by an asset pool, e.g. mortgages, which remains on the balance sheet of the issuing institution after origination.

² The Kreditwesengesetz (KWG), the Pfandbrief Act (Pfandbriefgesetz), the Net Present Value Act (Barwertverordnung), the Mortgage Lending Value Act (Beleihungswertermittlungsverordnung), and the Cover Register Statutory Order (Deckungsregisterverordnung) all contain regulation with the purpose of safeguarding the claims of the Pfandbrief creditors.

³ The historical roots of the Pfandbrief can be traced back to the 18th century. It was introduced by Frederick the Great in a Cabinets-Ordre decreed on 29 August, 1769 to cope with the credit crunch among Prussian nobility. Aristocratic landowners had to unite in “Landschaften”. These corporations granted the credit desired on security. The Landschaften refinanced themselves by issuing Pfandbriefe. Initially the lien did not refer to the whole pool of properties, but to single properties. Also the borrowers had to place the Pfandbriefe themselves (“Naturadarlehen”). The first German modern type mortgage bank, the Frankfurter Hypothekenbank, was founded in 1862. The system of covered refinance was transferred to public loans at the end of the 19th century. The mortgage banking act which entered into force on 1 January, 1900 was the first uniform legal basis of the Pfandbrief system.

⁴ Pfandbriefe are eligible for trust investment and for the premium reserve stocks of insurances.

⁵ Land charges and foreign security interests that offer comparable security rank equal with mortgages.

1.1 License requirement instead of specialist banking principle

Until recently mortgage banks were the most important specialized banking group in Germany. Different from universal banks these special banks were limited in their business activity to mortgage and community lending and associated secondary and auxiliary businesses. A specialist competence and a strong market position were associated with the specialist banking principle.

To make things complicated some public credit institutions including the Landesbanken and (for historical reasons⁶) some mixed mortgage banks (HVB, Eurohypo, Hypo Real Estate, i.e. large issuers who have grown over time by mergers and acquisitions) also had the right to issue Pfandbriefe although they were universal banks. These privileges did not allow for a level playing field between the different issuer groups. The specialist bank principle had already been largely undermined (Volk 2006, p. 146).

To make things worse, the public Pfandbrief issuers were considerably less densely regulated and supervised (e.g. mortgage lending limit, cover pool monitoring). Also these issuers profited from public guarantees at all times for their Pfandbrief issuances as well as for their “unsecured” bonds. The guarantees provided for top ratings and favorable refinancing conditions (Hagen / Kullig 2004, p. 1135). The triple claim regime entailed a quality problem in the cover pools of the public issuers. Hence, before the cancellation of the public guarantees for the Landesbanken as of 19 July 2005 legislative action was needed to ensure the quality of the Pfandbrief issuances of the public institutions after the effective date (Hagen 2004, p. 14).⁷

The Pfandbrief issuance monopoly of the privileged private and public institutions was given up as of 19 July 2005 with the Pfandbrief Act entering into force.⁸ It was replaced by certain minimum requirements to be fulfilled by the bank applying for a licence. The right to issue Pfandbriefe as a source of refinance no longer depended on the range of businesses covered

⁶ The historical reason is that the predecessors of the mixed mortgage banks, despite being universal banks, issued Pfandbriefe before the Mortgage Banking Act came into force in 1900. Bellinger speculates that the definition of the business activities of the mortgage banks was only superficially discussed because of the exemptions for the mixed mortgage banks (2005, p. 48). In fact the exemption was in force for more than a hundred years (until the end of the specialist bank principle). The mixed mortgage banks were able to increase their market share substantially because the Pfandbrief privilege was applicable to the whole bank after having merged with or having acquired another mortgage bank. It was like a built-in tendency to undermine the specialist bank principle.

⁷ Because of the omission of the public guarantees claims against Sparkassen and Landesbanken established after 18 July 2005 are not qualified as cover assets for Pfandbriefe any more. As a result the volume of Public Pfandbriefe has fallen sharply since then (Hagen / Kullig 2004, p. 1137). See also Volk 2006, p. 139.

⁸ With the repeal of the Mortgage Banking Act (Hypothekbankgesetz, HBG) the circulation limit for Pfandbriefe has also been abandoned. The circulation was limited to 60 times the liable equity capital (48 times for mixed mortgage banks, §§ 7 and 46 par. 2 HBG). The public issuers were not subject to a circulation limit. All banks are subject to limitations of their active business (§ 10 KWG) and to the rules on bank equity capital (Grundsatz I über die Eigenmittel der Institute) however. Not only the circulation limit, but also the obligatory right of termination of the Mortgage Pfandbriefe after 10 years (§ 8 par. 1 HBG) was not taken over from the HBG. As the German civil code grants mortgage loan holders a call right after 10 years, it is unlikely however that Pfandbrief banks will issue many bullet Mortgage Pfandbriefe with a maturity longer than 10 years (Volk 2006, p. 150).

by the credit institution. Well-proven instruments from the existing mortgage bank legislation were taken over however (e.g. the extra-low mortgage lending limit, the trustee principle, the regular cover pool examinations, the coverage principle and the preferential right of the Pfandbrief creditors in case of an issuer insolvency).

The Pfandbrief as a funding source is now open to every credit institution fulfilling the minimum requirements stipulated in § 2 of the Pfandbrief Act and in possession of a license granted by the Federal Bureau for the Supervision of Financial Services (Bafin). The permission can only be assigned if a core capital of 25 million Euros is proven, if the bank operates the Pfandbrief business regularly and lastingly and if it proves that it has suitable rules and instruments for the control, monitoring and check of the risks associated with the cover pools and the issue of the securities. Furthermore the credit institution must have an appropriate organizational structure, qualified staff and resources.⁹ Since an individual license for each of the four Pfandbrief categories (mortgage, public, ship and aircraft lending) is needed applicants must prove that they do have the respective expertise.

In stipulating these special conditions for the granting of a license, legislators were seeking to ensure that the licensed credit institutions conduct their Pfandbrief businesses seriously and lastingly. While “opportunistic business strategies of a short-term nature” (Hagen 2008, p. 8) are clearly discouraged the fact remains that the old specialist banking principle was of an even more discouraging nature in this respect.

1.2 Size and structure of the Pfandbrief market and the residential cover mortgages

The Pfandbrief market is a very important segment of the German, European and international capital markets. It served as a blueprint for the development of covered bond-structures in other European countries, in the U.S., Canada and Australia. From the total circulation of fixed income securities at the German bond market in 2008 (3.636 billion Euros) 22,2 per cent (805,62 billion Euros) were Pfandbriefe, thereof 226,65 billion Euros Mortgage Pfandbriefe und 578,97 billion Euros Public Pfandbriefe.¹⁰

In the composition of the cover values residential mortgages play a major role. Their share of the total volume of cover mortgages was 54,86 per cent in 2008. 19,38 per cent of the total cover mortgages were secured by multi-family units, 24,96 by single family homes and 10,52 by condominiums, respectively.¹¹ While only 22 per cent of the residential mortgages added to the cover pools in 2008 were induced by new completions, 60 per cent of the new residential mortgages were granted for the purchase or modernization of existing buildings and another 18 per cent for re-finance (vdp 2009a, p. 24). All in all the vdp member banks held 305,92 billion Euros in residential mortgages in 2008 (equal to 28 per cent of total volume of residential mortgages outstanding in that year). This number is not to be confused with the

⁹ Both, for the granting of loans eligible as cover for Pfandbriefe and for the business of issuing Pfandbriefe.

¹⁰ Source: Deutsche Bundesbank, Statistische Beihefte zu den Monatsberichten.

¹¹ Source: vdp, Veröffentlichungen gemäß § 28 par. 1 Nr. 1 und 3 PfandBG as of 4th quarter 2008.

volume of residential mortgages in the cover pools which only amounts to 127,52 billion Euros (equal to 11,7 per cent of all residential mortgages).¹²

The major part of the mortgages in the cover pools was granted in Germany (85 per cent in 2008, see vdp 2009a, p. 22). Pfandbriefe are more internationalized on the refinancing side than on the lending side. This could be partly due to regulation restricting mortgage lending to certain countries regarded as “safe”.

According to vdp 92 per cent of the total Pfandbrief volume outstanding are held by institutional investors (F.A.Z., 10.10.2008, p. 25). The Pfandbrief serves as a basic instrument for the intermediary investment of customer monies in long-term insurance and other key segments of the financial market like investment and pension funds (Asmussen 2008, p. 861). The Pfandbrief market is thus a cornerstone of the German financial system. Its safety and its liquidity are of vital importance for life insurances and other key players in the market. The reliability and functionality of the Pfandbrief market surely is of “systemic relevance”.

¹² vdp 2009a, p. 25 and Veröffentlichungen gemäß § 28 Abs. 2 Nr. 1 b, c und Nr. 2 PfandBG as of 4th quarter 2008.

1.3 Liquidity of the Pfandbrief market

Most Pfandbriefe are quoted on a stock exchange, where they can be bought and sold every trading day. As the financial crisis has shown this does only apply during ordinary times, when markets are in an orderly state. Most German banks offer Pfandbriefe within the scope of a fixed-price transaction and take them back if the customer wishes to sell.

The European Central Bank (ECB) eligibility of Pfandbriefe is another liquidity-enhancing element. Pfandbriefe are eligible as collateral within the scope of open-market operations with the ECB. Under such transactions the ECB provides credit institutions with central bank money for a certain period of time, against deposit of Pfandbriefe as security. Not only investors, but also Pfandbrief banks can deposit Pfandbriefe (including their own issues) as securities for this kind of open-market transactions.

The former segmentation of the Pfandbrief market into many small issuances with different formats did not correspond to the liquidity expectations and transparency needs of internationally oriented investors. As a reaction a new liquid market segment was created with the so called „Jumbo-Pfandbrief“. These Jumbos are issued by a consortium of investment banks. The consortium commits itself to the acquisition and marketing of the Jumbo bonds. German Jumbo issues must meet the following specific minimum standards¹³:

- **Size:** The minimum requirement for the size of Pfandbrief Jumbos is 1 billion Euros. The first issue must be of at least 750 million Euros and has to be followed by tap issues (with a minimum volume of 125 million Euros) of the outstanding difference amount within 180 days after the initial offering. Liquidity-impairing measures and the subsequent reduction of the circulating volume by premature repayments are inadmissible.
- **Bond type:** Only Euro-denominated Pfandbriefe of straight bond format (i.e. finally due papers, fixed coupon payable once annually in arrears, bullet redemption) may be offered as Jumbo Pfandbriefe.
- **Stock exchange listing:** Jumbos must be listed at an organized market in the EU or EEA.
- **Market making:** Each Jumbo Pfandbrief must have at least five market-makers who pledge to quote bid / ask (two-way) prices simultaneously for lots up to 15 million Euros during usual trading hours. The market-makers undertake to quote prices as long as there is sufficient outstanding volume to maintain a liquid market in the Jumbo Pfandbrief.

¹³ For details see vdp 2006.

2 Measures safeguarding the Pfandbrief creditor

A special risk limitation approach ensures the quality of the German Mortgage-Pfandbriefe:

- Prudent appraisal of the Mortgage Lending Value (MLV) by an independent surveyor as a permanently attainable price at the real estate market; market value as an absolute upper limit
- Mortgage lending limit: only a maximum of 60 per cent of a property's MLV may serve as a cover for Pfandbrief issues
- Cover pool monitoring: Independent surveillance of the cover assets entered into the cover registers
- Cover audits: regular cross-checks of the intrinsic values of the cover loans
- Mandatory overcollateralization: present value of the cover pool must exceed the present value of the Mortgage-Pfandbriefe circulating by at least 2 per cent after stress scenario (Net Present Value Act)
- Business restrictions: Financings outside Germany are permissible only in the EU and EEA countries, Switzerland, the USA, Canada and Japan
- Risk management system: to identify, assess, control and monitor the relevant risks in the cover pools such as counterparty risks, interest rate, currency and other market price risks, operational and liquidity risks (§ 27 Pfandbrief Act).

2.1 Coverage principle

The „coverage principle“ („Deckungsprinzip“) is of fundamental importance for the reduction of the risk exposition of the Pfandbrief creditors. The aggregate volume of the Pfandbriefe outstanding must at all times be covered by mortgage or public-sector loans respectively of at least the same amount and yielding at least the same rate of interest (ordinary cover). There is a special relationship between the asset (loans) and the liabilities (Pfandbriefe) side of the balance sheet. The preferential right of the Pfandbrief creditors to satisfy their claims out of the assets pooled in the respective cover pool in the event of an issuer insolvency is of particular importance in this respect.

Each Pfandbrief type does have its own separate cover pool, i.e. all mortgage cover loans outstanding serve as a collateral for all Mortgage-Pfandbriefe, all public sector cover loans serve as a collateral for all Public-Sector Pfandbriefe and so forth. Thus, the different cover pools are not only isolated against the other assets and creditors of the Pfandbrief bank but also against each other. This regulatory separation creates different classes of bonds. In case of quality differences between the different cover pools the failure probability of a Pfandbrief creditor will also depend on which type of Pfandbrief he is invested in.

In comparison with a MBS structure the Pfandbrief cover pools are generally characterized by a much higher degree of risk diversification. A multitude of heterogeneous assets represents the cover pool for each Pfandbrief category. The Pfandbrief creditors are exposed to market

risk whereas MBS creditors risk exposure is related to a rather specific and less diversified pool of assets. The degree of attainable risk diversification of a Pfandbrief bank admittedly depends on its size. The ability of small Pfandbrief banks to diversify the risks in their cover pools is more limited.

There are more differences between Pfandbriefe and Mortgage Backed Securities. First of all the cover assets remain on the balance sheet of the Pfandbrief issuer. The risk position of the bondholder is thus not only dependent on the performance of the cover assets (like in an MBS-structure), but also depends on the general performance of the bank. Only if the issuing Pfandbrief bank goes bankrupt the risk position of a Pfandbrief creditor would be solely related to the performance of the assets in the cover pool. And even then the Pfandbrief creditors still profit from the superior quality of the individual loans in terms of cautious property valuation and tight mortgage lending limits.

Finally we need to take into account the moral hazard risk created by the securitization of credit. The “originator” of a credit to be securitized will inevitably have an incentive to make use of his information advantage to generate or choose poor quality credit for securitization. The originator of the cover loans for a Pfandbrief issue does not have such incentives because of institutional identity. Also, the German Pfandbrief legislation ensures an extremely high quality standard of the individual cover loan. As the financial crisis has shown repeatedly the failure risk of MBS issues does not even remotely reach the high standard of the Pfandbrief. The instrument of MBS was widely misused to securitize junk loans. It seems that regulatory safeguarding instruments are superior to spontaneous forms of control exercised by capital markets and rating agencies.

2.1.1 Limiting interest rate and currency risk in the cover pools

The bondholders usually receive a fixed coupon over the term of the Pfandbrief, independent of the rates of the loans included in the cover pool. They have no extraordinary right of termination (§ 6 par. 2 Pfandbrief Act). This type of refinancing is especially suitable for mortgage markets which are dominated by long-term fixed-rate loans with easily predictable future cash flows. The German mortgage market surely meets these requirements. Sensible prepayment indemnities assure that the cash flows received from the mortgagee are almost known with certainty (Robin / Saunders 2009, p. 43). An irredeemable long-term refinancing tool with a fixed coupon and preferably with a duration similar to the duration of the fixed-rate periods of the originated loans is compatible with a primary mortgage market like that.¹⁴ Not that it would not work in other markets, but in that particularly conservative primary market environment its failsafe reliability is a priori superior.

But even German Pfandbrief banks have to take additional safety measures to cope with the remaining interest rate risks. Minimizing the probability of insolvency of a Pfandbriefbank

¹⁴ This “long-term culture“ is assumed to have stabilizing effects on real estate prices and the German economy as a whole (Meister / Nehls 2006).

does not only require adequate coverage in terms of volume, but also a minimum exposure of the Pfandbrief and the related credit business to the risk of interest rate changes. To eliminate any interest rate risk an exact matching of the term structures on the asset and on the liabilities side of the balance sheet would be necessary (no term transformation according to the golden bank rule). Unfortunately, this requirement of „congruent coverage“ (“Refinanzierungskongruenz“¹⁵) cannot be put into practice in pure form.

It must be emphasized however that congruent coverage (i.e. maturity-matching refinancing) is still the general principle for the balance sheet structure of the cover business of the Pfandbrief banks. This is really a very important point because the prolongation of short-term financial means used for the refinancing of long-term assets is one of the central problems underlying the current financial crisis.

The cover pools are made up of a large number of assets with different maturities, interest rates and currencies. The Pfandbrief issues will usually have a greater volume than the underlying assets. Also the cover pools for Pfandbriefe are dynamic by their very nature.¹⁶ This means their composition changes over time, according to the maturity structures and to the cover assets that are newly registered. Loans are repaid or are removed from the cover for other reasons (e.g. loan default). They will be replaced by new loans. Also new business will be included in the cover pools to enable the Pfandbrief Bank to issue new Pfandbriefe. Thus, the cover pools have to be actively managed to ensure matching cover at all times (Hagen 2008, p. 13).

Therewith, it is clear that the maturities, coupons and currencies of the Pfandbriefe cannot exactly match those of the cover pools. To balance out these mismatchings and to enhance the cover pool liquidity it is necessary to include liquid and flexible assets such as claims against credit institutions (substitute cover¹⁷) in the cover pools (Hagen 2008, p. 11). Such claims may account for only up to 10 per cent of the total volume outstanding of the respective Pfandbrief type. According to the Pfandbrief act a total maximum of 20 per cent of “other cover assets” is admissible (taking into account the substitute cover), e.g. public bonds, claims against credit institutions, claims resulting from interest rate or currency swaps.

¹⁵ See Sünderhauf 2006, pp. 24-26. This was indeed the case in practice in mortgage banking many years ago, when market conditions were not nearly as volatile as they are today (Arndt / Tolckmitt 2000, p. 24).

¹⁶ This is an important difference as compared to MBS with their static cover pools (Rudolf / Saunders 2009, p. 28).

¹⁷ Liquid assets such as cash and bank deposits are qualified as substitute cover, see enumeration in § 19 PfandBG.

A	balance	P
Mortgaged loans		Mortgage Pfandbriefe
Other cover values (< 20%)		
Public loans		Public Pfandbriefe
Other cover values (< 20%)		
other assets		Other refinancing means
		Equity capital

Fig. 1: Stylized balance sheet of a Pfandbrief bank

2.1.2 Derivatives in the cover pools

The unavoidable mismatch between cover pools and Pfandbriefe resulting from different terms and currencies can give rise to interest rate and currency risks in the cover pools. These risks need to be eliminated by appropriate measures. They can be neutralized by offsetting assets, or by derivatives (interest rate and currency swaps) concluded between the Pfandbrief Bank and the derivative counterparty. Derivatives included in cover pools may not be terminated by the counterparty if the Pfandbrief Bank becomes insolvent. Also the net derivative position in each cover pool may not exceed 12 per cent of the cover assets or of the Pfandbriefe outstanding (Hagen 2008, p. 12). The entry of derivatives in the cover pool is subject to approval by the derivative counterparty and the cover pool monitor.

While the use of derivatives in the cover pools is limited and rather densely regulated, this is not the case in the “non-cover business”. Under the rule of the old mortgage banking act derivatives could only be concluded as an “auxiliary business”. A modern, “universal” Pfandbriefbank is not however subject to any specific limitations for the use of derivatives in the non-cover business. And for that reason it could be exposed to higher contagion risks from derivative positions.

Independent of the inclusion of derivatives in the cover pools the financial crisis has revealed that derivatives always contain a counterparty risk. If the swap partner becomes insolvent the interest rate or currency risk revives. It is thus important to diversify derivative positions. We should keep in mind that derivatives in the cover pools are an important gateway for the contagion risks of a general financial crisis. As a basic principle maturity- and currency matching of active and passive positions should be striven for as far as possible to limit the need to use derivatives.

2.1.3 Transparency requirements

The covering values must be entered in cover registers (§ 5 Pfandbrief Act). A separate register is to be maintained for each Pfandbrief type. The cover registers must be passed on to the BaFin supervising agency at regular intervals, where they are stored.¹⁸ The purpose of the registration and checking procedures (cover audits, cover pool monitors) is to formally secure that the cover assets are in existence and of value. This is essential for the satisfaction the Pfandbrief creditors' claims in the event of an issuer insolvency. In this case the assets recorded in the cover registers are subject to the Pfandbrief creditors' exclusive right to be satisfied out of their future cash flows.

The Pfandbrief Act requires issuers to publish quarterly reports on the composition of the cover pools and additional data annually (disclosure requirement). Such information includes, for instance, the total volume of outstanding Pfandbriefe (in terms of nominal and net present value) the regional distribution of the cover assets, the type of properties lent against, the debtors of public-sector liabilities, the maturities of cover assets and Pfandbriefe, the volume of derivatives in the cover pools and the amount of claims that are at least 90 days in arrears (Strohrmann 2006, p. 34). This allows Pfandbrief creditors to compare the cover pools of different Pfandbrief Banks. What is more, this disclosure requirement has the effect of demanding more discipline of the issuers.

Aside from legal provisions and ratings many Pfandbrief banks provide comprehensive information (e.g. website, publications etc.) relating to their business strategy and the composition of their collateral pools.

2.1.4 Nominal and net present value coverage

Not only the nominal value, but also the net present value of the Pfandbriefe outstanding must be covered at all times by corresponding assets, or matching principal and interest income respectively, in the cover pools.¹⁹ The problem is the common mismatch between the maturities of the loans (or more precisely the length of the fixed interest rate intervals) and the maturities of the Pfandbriefe. The latter tend to be shorter and interest rate risk exposure is the consequence. In order to specify this risk exposure both the present value of the future Pfandbrief cash outflows and the present value of the future cash inflows of the corresponding loans (principal and interest) have to be calculated against the background of different fictitious scenarios for the future interest rate and exchange rate development (defined stress scenarios).²⁰ The interest rate risk has to be measured that way and to be reported to the supervisory authority regularly (traffic-light-system).

¹⁸ Details on the maintenance of the cover registers are set forth in the Cover Register Statutory Order (Deckungsregisterverordnung).

¹⁹ § 4 pars. 1 and 2 Pfandbrief Act (matching cover).

²⁰ The details of determining the net present value are set forth in the net present value regulation (Barwertverordnung). For a comment see Timmermann 2004. See also Sünderhauf 2006, pp. 22-24.

The stress tests are supposed to ensure the coverage in terms of net present values in the event of interest rate or exchange rate changes. While the NPVs have to be calculated on a bank working day basis (§ 2 PfandBarwertV), the stress tests need to be carried out weekly (§ 4 PfandBarwertV). In the stress test shifts of the currency-specific yield curves for swap transactions are simulated. Banks have a choice relating to the calculation method (static, dynamic or internal risk model to be approved by Bafin supervisory authority). The dynamic method requires a minimum yield curve shift of 100 basis points (§ 4 par.1 no. 2 Sentence 4 PfandBarwertV). Once the calculation method is chosen it can only be changed with approval of the Bafin. Even a parameter shift requires the formal approval of the supervisors. If the stress test reveals deficient cover, the difference has to be compensated for by adding additional cover assets to the cover pool (Sünderhauf 2006, p. 25).

Moreover, the net present and the nominal value of the cover assets must exceed the Pfandbrief liabilities to be covered by at least two per cent (mandatory overcollateralization according to § 4 par. 2 Sentence 1 Pfandbrief act). The excess cover must be invested in particularly liquid assets to be on hand to cover administrative expenses and liquidity management costs in the event of an issuer insolvency (Hagen 2008, p. 13). Pfandbrief banks often voluntarily hold far greater excess cover than that prescribed by law. Any voluntary overcollateralization exceeding the statutory minimum must be made available to the Pfandbrief holders.

2.2 Determination of the mortgage lending value

The coverage of a bond issuance also has a quality dimension. The high quality of the assets in the cover pools is one of the most important safety elements for the Pfandbrief creditors. As we said above only loans secured by a lien or public loans qualify as cover assets. On top of that the real property the lien is granted over has to be valued very cautiously and the resulting value, the Mortgage Lending Value (MLV) is subject to a tight mortgage lending limit.

The way in which the MLV is to be determined, and the requirements in respect of the valuer's qualifications and the valuer's independence vis-à-vis the Pfandbrief Bank are regulated in detail by the Pfandbrief Act and the Mortgage Lending Value Act (Beleihungswertermittlungsverordnung²¹).

The MLV reflects solely the long-term, sustainable features of a property, meaning that short-term speculative aspects of the property price are disregarded. It is a sustainable value which includes neither temporary price peaks at the property market nor expected future increases in the value of the property. The MLV is solely determined by the lasting characteristics (sustainable substance value) of the property and the sustainable yield expected under conditions of due management (sustainable Net Present Value NPV). The careful determination of the MLV is not least an instrument to prevent speculative bubbles at the property markets (Quentin 2008).

²¹ See Reif 2006 and Trotz 2006, p. 32 et seq. for an overview.

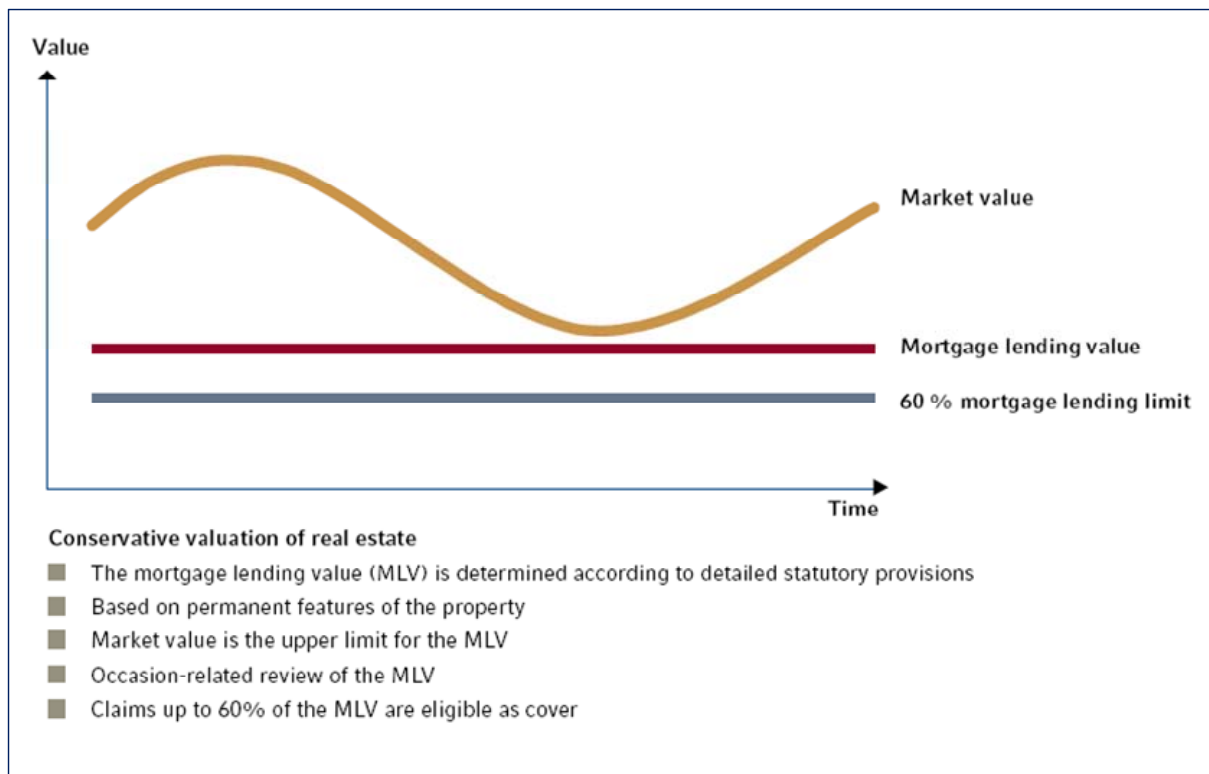


Fig. 2: Mortgage lending value vs. Market value

The MLV must not exceed, and indeed is usually lower than the market value.²² As a rule it will be between 15 and 20 per cent below the market value. Because of the cyclical fluctuations of the market value the difference between the two values does not remain the same during the mortgage amortization period. That is why it is not possible to make a simple percentage reduction of the market value at the effective date of the valuation.

2.3 Mortgage lending limit

Another pillar of the safety net of the Mortgage-Pfandbrief is the fact that only a maximum of 60 per cent of a property's MLV may serve as cover (mortgage lending limit) for Pfandbriefe as refinancing instruments. Financings exceeding the 60 per cent limit must be funded by other means, usually through the issuance of uncovered bonds.²³ Thus the risk of a property market slump during the amortization of the loan is taken into account. With this 40 per cent buffer it is assured that the loan amount financed through Pfandbriefe can, as a rule, be realized in full, even if property prices do fall temporarily or if properties have to be sold under pressure of time (e.g. enforced sale if the debtor defaults). As a matter of fact the security buffer will usually be much larger than 40 per cent because of the prudent valuation rules.

²² The market value is the estimated price that could be achieved at the valuation date between a seller ready to sell and a buyer ready to buy, in an arm's-length transaction after an orderly sales process where both parties act knowledgeably, prudently and without compulsion (§ 16 par. 2 PfandBG).

²³ The average LTV of the mortgages granted by Pfandbrief banks is de facto about 80 per cent.

2.4 Risk management

§ 27 Pfandbrief act is meant to protect the Pfandbrief creditors from risks arising from the Pfandbrief business. Pfandbrief issuers must have an adequate risk management system to identify, estimate, monitor and control default, interest rate, currency and other market price-related risks, operative and liquidity risks (§ 27 par. 1 Sentence 2 Pfandbrief Act). Explicitly required according to Sentence 3 sind:

- a limit system for correlation risks
- internal procedures to reduce risks in the event of a steep increase of a risk
- timely internal reporting to decision-makers in the event of a steep increase of a risk
- quarterly risk report to the management board independent of risk development
- yearly check of the risk management system and
- adaption, if necessary
- documentation

§ 27 par. 1 Sentence 1 PfandBG does not however require a separate risk management system if the system applied throughout the whole bank allows for a separate risk mapping of the specific risks of the Pfandbrief business and the cover pools.

Before taking up new business (products, fields of business, markets) the Pfandbrief bank has to carry out (and document) a comprehensive analysis of the associated risks (Hagen 2005, p. 16). The bank may not use the new business as cover assets unless an assured practical knowledge base relating to the new business is acquired. For new mortgage credit business (e.g. mortgage lending in a new legal system) a minimum waiting period of two years is required (§ 27 par. 2 PfandBG).

2.5 Regulation in the event of issuer insolvency

The safeguarding mechanisms of the Pfandbrief Act are put to the test in the event of an issuer insolvency – something which has never happened since the German Mortgage Bank Act entered into force in 1900. In this unlikely event the creditors' preferential right would take effect. To safeguard this preferential right, the Pfandbrief Act provides for an "emergency plan". The claims of the Pfandbrief creditors upon the values registered in the cover registers have absolute priority over all other creditors' claims.

The cover pools and corresponding Pfandbriefe are separated from the bank's insolvency proceedings. The other creditors cannot execute into the cover pools. The bank's insolvency administrator therefore has no access to the cover pools of the outstanding Pfandbriefe. Instead the registered cover assets constitute legally independent special assets (Sondervermögen) for each Pfandbrief type issued by the credit institution. The Pfandbrief creditors' claims are to be satisfied out of these special assets (§ 30 par. 1 Pfandbrief Act).

The Pfandbriefe do not accelerate but are managed by a cover pool administrator, who ensures that they are duly serviced and repaid until they finally mature. The administrator is

empowered to collect the cash flows of the cover pools to service the outstanding liabilities in accordance with the terms of issue until all the Pfandbriefe were repaid. Any surplus would be passed on to the insolvency administrator. With regard to mortgage loans, which are in part included in the cover pools and are in part outside the cover pools, the Pfandbrief Act provides that the payment flows from these loans first pass in full to the cover pool administrator.²⁴

The cover pool administrator has the right to manage and dispose of the cover pools, and represents solely the Pfandbrief creditors' interests. He is appointed by the court at the Pfandbrief bank's seat at the supervisory authority's request (§ 30 par. 2 Pfandbrief Act).²⁵ The cover pool administrator is authorized to carry out all transactions necessary to ensure that the Pfandbrief investors' claims are satisfied on time. He may even sell cover assets or take out liquidity loans in order to procure liquidity to fulfill the liabilities towards the Pfandbrief creditors. Moreover, with the supervisory authority's approval he may transfer all or parts of the cover assets and liabilities to another Pfandbrief bank. Also with their approval the cover pool administrator may agree with another Pfandbrief Bank to hold the cover pools in a fiduciary capacity for that bank (§ 35 Pfandbrief Act). In such a case, that Pfandbrief Bank must assume liability for the Pfandbriefe outstanding.

The creation of the office of cover pool administrator strengthens the position of the Pfandbrief creditors. It would be inappropriate if the management board of the insolvent bank or bank at risk of insolvency were allowed to continue maintaining the cover pools. Given the conflicting interests of the Pfandbrief and other creditors, the insolvency administrator would likewise be unable to safeguard the Pfandbrief creditors' interests (Hagen 2008, p. 15).

2.6 Supervision

Pfandbrief banks are one of the most tightly supervised banking groups in Germany and Europe. In addition to general banking supervision, Pfandbrief banks are subject to special permanent supervision by the Federal Financial Supervisory Authority (BaFin), the aim of which is to monitor observance of the Pfandbrief Act and the accompanying regulation.²⁶ A key element of the supervision of Pfandbrief banks is the monitoring of the loans and other assets used as covers. Cover audits must be conducted at least every two years. These audits of the

²⁴ However the insolvency administrator can demand that the payments above the cover limit of 60 per cent are separated at his expense and flow to him (Hagen 2008, p. 15).

²⁵ Cover pool administrators may also be appointed before insolvency proceedings are initiated if the bank's imminent insolvency is to be feared and such action is necessary in order to protect the Pfandbrief creditors.

²⁶ The permanent supervision is conducted by a specialized department within the BaFin. The "Pfandbrief Competence Center I – Basic Issues" was set up at BaFin to ensure the uniform application and interpretation of the Pfandbrief Act (Hagen 2008, p. 8). This kind of specialized supervision seems most suitable to ensure a consistently high quality product (Hagen / Kullig 2004, p. 1136).

assets in the cover pools serve to ensure that the statutory requirements are observed.²⁷ The regular cover checks also give insights into the credit policy of the individual bank.

Moreover, the BaFin appoints one or more independent cover pool monitors (Treuhänder) for each Pfandbrief bank. Their job is to ensure that the mandatory cover for the Pfandbriefe exists and that the cover assets are duly entered in the respective cover register.²⁸ The cover pool monitor is a legally independent officeholder (§ 7 par. 4 Sentence 2 PfandBG) independent of the bank, the supervisory authority and the Pfandbrief creditors.

²⁷ These cover audits are conducted by „Pfandbrief Competence Center II – Examination of Cover Assets” at BaFin supervisory authority.

²⁸ Otherwise Pfandbriefe may not be issued. The deletion of registered assets is also subject to the trustee’s approval. Moreover, the bank is required to place at the trustee’s disposal whatever information he needs to perform his duties.

3 Market disturbances after the collapse of Lehman Brothers: partial illiquidity and rising risk premiums

3.1 Current market disturbances

Even when the financial crisis reached its 2007 climax in August and September of that year Pfandbriefe were still placed. The issues involved registered securities for major investors for the most part.²⁹ The Pfandbrief market was not directly hit by the problems in the primary mortgage credit markets in countries like the U.S., Spain and the U.K. because of the modest share of foreign credit in the cover pools (around 15 per cent of the cover mortgages and 20 per cent of the public cover loans). The volume of U.S. cover mortgages was below one billion Euros and the engagement in Spain was limited to 2,2 billion Euros, respectively. However some Pfandbrief issuers had financed commercial real estate projects in these countries as part of their non-cover business and some holders of unsecured bonds were starting to get cold feet. While tradability of the German Pfandbriefe was always guaranteed during 2007 the margins between purchase and sale prices broadened from 6 basis points before the crisis to a peak of 18 basis points (Rasche 2007).

In the year 2008 it seemed that the Pfandbrief would even benefit from the financial disturbances. There was a lack of refinancing alternatives since the markets for the securitization of mortgage credit had almost dried out by the end of 2007. The Pfandbrief was able to step into the breach and the emission volume and the nominal value of the outstanding Mortgage Pfandbriefe was even rising in 2008 – as opposed to Public Pfandbrief business which suffered from the financial crisis ever since it became eminent. The new issuances of Mortgage Pfandbriefe made an enormous jump in 2008: They rose by 131 per cent (including ship Pfandbriefe) to a level of 63,4 billion Euros while new issuances of Public Pfandbriefe fell by 17 per cent to 89,5 billion Euros. It was not possible to replace large Jumbo maturities by new Jumbo Public Pfandbrief issues.

²⁹ In contrast to bearer Pfandbriefe registered Pfandbriefe are not required to be marked to the market. Write-offs are therefore not necessary for this type of bond. Hence registered Pfandbriefe are an attractive investment for balance-sheet sensitive investors like insurance companies, in particular during periods of low capital market yields (Volk 2006, p. 135 and Brockhaus / Bertram 2009, p. 44). Also registered Pfandbriefe can be structured with a high degree of precision according to the creditor's requirements (Arndt / Tolckmitt 2000, p. 13).

Period	nominal value of outstanding Mortgage Pfandbriefe, billion Euros	nominal value of outstanding Public Pfandbriefe, billion Euros	nominal value of outstanding Pfandbriefe, billion Euros ³⁰
4 th quarter 2008	204,26	557,10	761,36
3 rd quarter 2008	199,86	584,68	784,54
2 nd quarter 2008	196,69	596,84	793,53
1 st quarter 2008	191,39	607,17	798,56
4 th quarter 2007	191,18	620,70	811,88
3 rd quarter 2007	191,02	623,65	814,67
2 nd quarter 2007	198,23	640,30	838,53
1 st quarter 2007	196,28	648,33	844,61
4 th quarter 2006	203,64	649,11	852,75
3 rd quarter 2006	210,27	649,76	860,03
2 nd quarter 2006	214,35	649,41	863,76
1 st quarter 2006	214,63	650,06	864,69

Table 1: Nominal value of outstanding Public and Mortgage Pfandbriefe, source: vdp, Veröffentlichungen gemäß § 28 par. 1 Nr. 1 und 3 PfandBG

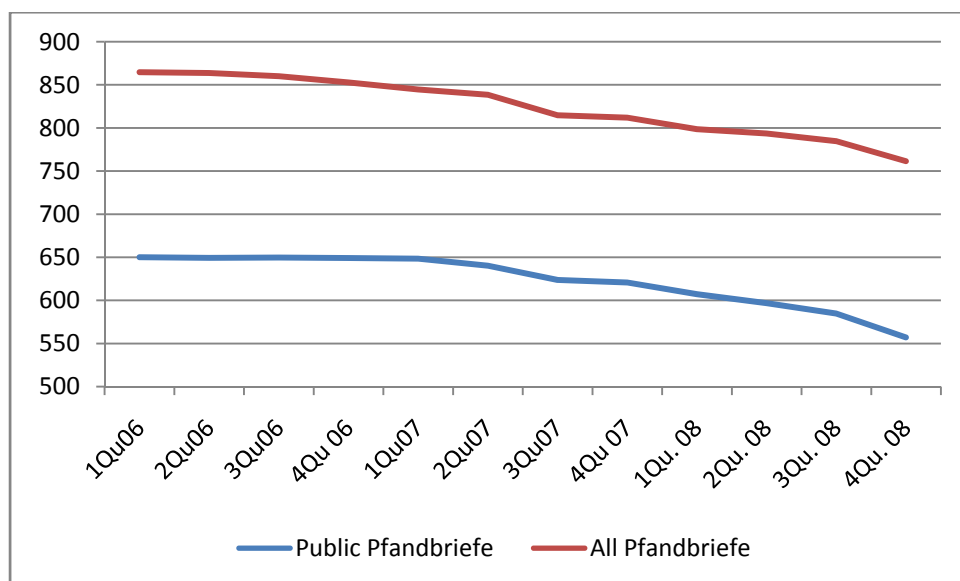


Fig. 3: Nominal value of outstanding Pfandbriefe, source: vdp, Veröffentlichungen gemäß § 28 par. 1 Nr. 1 und 3 PfandBG

³⁰ Without ship and aircraft Pfandbriefe.

In the course of the year 2008 the situation of the Pfandbrief worsened however. It should be emphasized that the problems started long before the Lehman bankruptcy in September. Tradability was temporarily restricted for larger volumes. The commitment of the market makers to provide binding bid and ask prices for Pfandbriefe was relaxed or suspended repeatedly during the crisis (F.A.Z., 20.09.2008, Nr. 221, p. 19). On the other hand, private investors with their smaller trading volumes were almost always able to buy or sell (F.A.Z., 05.06.2008, p. 25). Also in the middle of the year the risk premiums as compared with public bonds began to rise steeply. Even before Lehman the risk premiums widened to a peak of more than 100 basis points (i.e. more than a full percentage point higher interest on Pfandbriefe than on German federal bonds of the same maturity). It seems that the rising interest rates have fueled the Pfandbrief issuances in the second quarter. This trend was not sustainable however. The gross volume of new Pfandbrief issuances was relatively stable until the first quarter of 2008. In the second quarter of 2008 it jumped to 52,1 billion Euros from 32,3 billion in the previous quarter. Since the third quarter of 2008 the emission volume continuously fell to reach a level of only 27,3 billion Euros in the first quarter of 2009 (thereof about 14 billion Euros Mortgage Pfandbriefe and 13 billion Euros Public Pfandbriefe). There was also a shift between Mortgage and Public Pfandbriefe. The melt off began much earlier and was much steeper in the latter segment.



Fig. 4: Interest rate difference between Pfandbriefe and German federal bonds, source: Monega in F.A.Z.

According to statements from traders the secondary Pfandbrief market had dried out almost completely by the end of September 2009. Only private investors were able to sell or buy, but they had to accept very high margins between purchase and sale prices. Market participants

commented that the price formation was “liquidity-driven” and not driven by the creditworthiness of the issuers or the value of the cover assets (F.A.Z., 29.09.2008).

The market panic accelerated in October. Private investors were throwing all kinds of bonds on the market they regarded as risk-bearing. And they did not make a distinction between covered and uncovered bonds any longer. The whole Pfandbrief market suffered independent from the ratings of the issuers. The market disruptions were so bad and liquidity was so scarce that banks as market makers could not execute all private sales immediately. Investors who sold their positions in the middle of the panic realized high losses. Only Pfandbriefe with maturities below two years were less affected. Current yields temporarily rose to 15 per cent in some cases (F.A.Z., 10.10.2008, Nr. 237 / p. 25).

The turning point was ironically the bail out of the Hypo Real Estate bank in early October. It could be interpreted as an implicit state guarantee for all Pfandbrief issuers (F.A.Z., 16.10.2008, p. 21). The EU finance ministers rescue package which included the commitment to bail out any bank constituting a systemic risk in the banking market and common principles for the re-capitalization of ailing institutions (F.A.Z., 08.10.2008, Nr. 235, p. 11) was also helpful to re-establish trust in the stability of the financial system. Another milestone was the German government’s declaration contained in the Explanatory Memorandum of the Financial Markets Stabilization Act (Finanzmarktstabilisierungsgesetz) from 13. October 2008.

“The special statutory provisions in Germany mean that Pfandbriefe are already safe - throughout the more than 200-year long history of the product there has never been a default of a German Pfandbrief. The German government will ensure that this continues to be the case in the future as well. As far as the functionality of the Pfandbrief Market requires it the Federal Government will take further legal measures to ensure the safety of the Pfandbrief in the short term.”

This institutional letter of comfort went beyond the general guarantees for the German banks. Also it was absolutely costless for the Pfandbrief market and it was interpreted as covering all Pfandbriefe including existing issuances.

The president of the association of German mortgage banks commented on November 27, 2008: “In the Explanatory Memorandum of the Financial Markets Stabilization Act the Federal Government made clear that the Pfandbriefe are safe and therefore not in need of any public guarantees. There is nothing more to say than that. Public guarantees could permanently damage the Pfandbrief market. Suspicions could easily gain ground a quality defect of the Pfandbriefe had made public support necessary.”

The measures needed time to become effective however. Although the worst panic was over, the market remained disturbed because trust between banks still was not re-established. On October 25th Frankfurter Allgemeine Zeitung reported (p. 21) that Pfandbrief trading was still heavily disturbed and came to a halt over and over again during the crisis. Also the margins between sale and purchase prices remained very high.

The capacity of the Pfandbrief market to absorb new emissions was seriously hit by the crisis. As a consequence Pfandbrief banks began to reduce their credit engagement. Most severely hit by the de-leveraging process were the public loan segment and commercial mortgages. On the emission market the Pfandbrief banks resorted to smaller emissions far below the 1 billion Euro threshold value of the Jumbo Pfandbriefe.

3.2 The case of the Hypo Real Estate bank

The difficulties of the Hypo Real Estate Pfandbrief bank which became apparent by the end of September 2008 set a good example of the contagion risks a modern Pfandbrief bank is exposed to. The Hypo Real Estate was the outcome of the outsourcing of the real estate related business activities of the Hypovereinsbank. Her core fields of business were commercial real estate and public finance.

The bank faltered because her Irish subsidiary Depfa bank was no longer able to re-finance herself at the interbank-market. DEPFA was established in 1922 as a German State Agency with a focus on financing small-scale residential construction. In the 1970s its business expanded to include public sector lending. The privatization of the bank in 1990 was followed by an IPO in 1991. In 1993 the Dublin-based DePfa-Bank Europe plc with responsibility for public sector origination outside Germany was established. The fundamental decisions to re-organize the DEPFA Group, to spin-off of property activities and to relocate the Head Office to Ireland were taken in 2001. DEPFA ACS BANK was established as a Universal Bank and registered as a Designated Credit Institution under Irish Law issuing Irish Asset Covered Securities in the following year (DEPFA Bank 2005).

The Hypo Real Estate had justified the acquisition of the Depfa with the dependency of her commercial real estate finance core business on the business cycle. The public loan business of the Depfa was regarded as a means of risk diversification (F.A.Z. v. 30.9.2008, Nr. 229, p. 17).

The Depfa bank is specialized on the granting of credit to states with good credit ratings. With a credit portfolio of 230 billion Euros Depfa was one of the world's leading providers of public debt finance. Her credit portfolio was solid and not directly hit from the financial crisis.³¹ The business model of providing financial services to the public sector was presumed to be a "low risk, low margin" business not least because of the pure public sector focus: "A BB-rated Public Sector credit has been 50 per cent less likely to default than a AAA-rated corporate credit" (Depfa 2005).

The problem was on the refinancing side. The refinancing relied in part on shorter term credits from other banks (about 50 billion Euros). In normal times the prolongation risk of this approach would have been negligible. Maturity transformation is a classical function of a bank. If the quality of the assets on the active side of the balance sheet is solid there is no rea-

³¹ On September 30, 2005 84,6 per cent of Depfa's asset portfolio had AAA or AA ratings (Depfa 2005).

son why part of the refinancing means should not have shorter maturities. In the situation of the second half of September 2008 however, when the withdrawal of confidence was overarching it was not possible any more for the Depfa bank to get short-term interbank credits prolonged or to refinance short-term notes. In the face of the prevailing financial crisis the Depfa management should have replaced short-term debt by covered bond emissions when the covered bond markets were still liquid anyway. In the middle of the financial turmoil it was too late for any restructuring of the active or passive side of the balance sheet. The Depfa's assets were illiquid – not least because of the breakdown of the securitization markets long ago – and the bank and her mother house were therefore threatened by immediate insolvency.

Since the Hypo Real Estate bank was one of the largest Pfandbrief issuers her insolvency would have caused far reaching contagion effects threatening the whole Pfandbrief market. One cannot overemphasize the importance of the Pfandbrief market for the German financial system. Its sheer size and its symbolic function as a cornerstone of the German stability culture are powerful arguments for the bail out of a large Pfandbrief issuer. In the middle of a systemic banking crisis which had already severely affected the Pfandbrief market it would have been suicidal to give up a Pfandbrief debtor of that size. Most probably this would have damaged the reputation of the Pfandbrief as a financial product permanently. A basic source of refinancing means for the banking system might have dried out for an indefinite period of time (Ruhkamp 2008c). The consequences for the availability of mortgage credit and for the real estate markets would have been fatal for sure.

Apart from the Pfandbrief market with total assets worth 400 billion Euros the Hypo Real Estate bank also represented an immediate systemic risk for the financial system in times of crisis. The consequences of her bankruptcy were regarded as inconceivable. Institutional investors like life insurances were heavily invested in the Pfandbrief market. The unsecured debt of the bank might have caused a chain reaction among her borrowers („too interconnected to fail“).

The bail-out of the Hypo Real Estate has evolved into a never-ending story. The Sonderfonds Finanzmarktstabilisierung (Soffin) has granted liquidity guarantees with a volume of 52 billion Euros for the bond issues of the Hypo Real Estate bank which will mature end of August 2009. The bank had already received another 50 billion Euros from the federal government and a group of bank and insurers in autumn 2008 with a maturity until end of the year (F.A.Z., 15.04.2009, Nr. 87 / p. 17).

On top of that the federal government had taken over 9 per cent of the share capital of the bank. As a matter of fact the ultimate goal of the government is a complete nationalization of the bank. To this end a “voluntary” public takeover offer bid has been made. The government has offered 1,39 Euros per share. Just in case the shareholders do not accept the bid the necessary legal prerequisites for their expropriation have already been established. In the meantime 47,3 per cent of the share capital of the Hypo Real Estate belong to the federal government (F.A.S., 31.05.2009). This was enough to squeeze-out the remaining private shareholders at

the shareholders meeting on 2. June. The squeeze-out shall take place after a one-sided capital increase (that is to say only the federal government is going to sign the new shares) with a volume of 5,6 billion Euros. The capital increase is necessary because the core capital ratio of the bank has fallen below 4 per cent. Moreover, the bank's new CEO has announced that even more capital is needed to stabilize the bank (F.A.S., 31.05.2009).

The bank is going to cut the number of its employees by half. The future business model will focus on real estate finance. The public loan business will shrink substantially. The Hypo Real Estate will completely withdraw from the financing of public infrastructure projects (F.A.Z., 22.12.2008, Nr. 299, p. 17).

3.3 Previous market disturbances

The Hypo Real Estate was not the first Pfandbrief bank causing difficulties for the Pfandbrief market. Another history of scandal is the story of Allgemeine Hypothekenbank Rheinboden (AHBR, see F.A.Z., 23.04.2009, Nr. 94 / p. 23). AHBR was a mortgage bank owned by the trade unions. Due to an interest rate disbalance the bank had to be sold to the vulture fund Lonestar – after having brought about enormous losses at the trade unions' charge. With an outstanding Pfandbrief volume of 44 billion Euros (F.A.Z., 09.12.2005, p. 19) AHBR was one of the largest issuers on the Pfandbrief market.

After the terrorist attacks of 9/11 the management board of the AHBR (at that time a specialist mortgage bank) began to play the yield curve, yet again. They were expecting falling interest rate in the short run, but rising rates in the longer run. To draw a profit from their expectations the managers began to pile up enormous derivative positions. They were disappointed however: Interest rates fell sharply and remained at low levels for a long time.

As a consequence the quotations of the bank's unsecured bonds came under pressure. While the prices of her Pfandbriefe remained more stable, market liquidity of their issuances suffered from the turbulences of the bank. In October 2005 market makers discontinued to offer sale and purchase prices for AHBR-Pfandbriefe.

AHBR was not the first mortgage bank who ran into trouble because of deliberate maturity-mismatches in the non-cover business. The Essen Hyp and the Depfa are other cases in point. This propensity to dance on thin ice might be attributed to their boring and margin-thin core business: real estate and public finance by means of Pfandbriefe. But doesn't that mean that regulation is pointless? It seems as if capital market-oriented banks with a low risk, highly regulated and intensively supervised core business are inclined to take even more hazards in the less densely regulated and supervised parts of their business.

This raises fundamental questions: Where should the Pfandbrief loan business be located? In a specialist bank without any non-cover business? In a specialist bank with some permitted side businesses? Or in a universal bank?

3.4 Revival of the issuance market

Since the beginning of the year 2009 there were increasing signs that the Pfandbrief market was about to pick up noticeably. After more than five months without any Jumbo Pfandbrief emission the LBBW Landesbank successfully placed an issuance of Public Pfandbriefe worth 1 billion Euro at the beginning of February. The maturity of the emission was 5 years and the interest coupon amounted to 3,75 per cent – a markup of 75 basis points above the average swap rates. The last Jumbo-Pfandbrief had been placed on August 26, 2008 by Münchener Hypothekenbank (F.A.Z., 05.02.2009, p. 21). Other issuers were able to follow the LBBW (see table 2)

Issuer	Type	Date	Volume in billion Euros	Maturity	Interest
LBBW	Public	4.2.2009	1,0	2014	+75 bpvs. swaps
Postbank	Mortgage	5.2.2009	1,0	2014	+85 bpvs. swaps
Eurohypo	Mortgage	17.3.2009	1,25	2014	+100 bpvs. swaps
WL Bank	Public	13.5.2009	1,25	2014	+48 bpvs. swaps
Eurohypo	Mortgage	18.5.2009	1,75	2016	+80 bpvs. swaps

Table 2: Jumbo Pfandbrief issuance until May 18, 2009, source: vdp 2009b

For the rest of the year cautious optimism is gaining ground (vdp 2009b). While the unfair competition of state guaranteed bank bonds will remain, the covered bond purchase program of the ECB is expected to further stimulate the Pfandbrief and other covered bond markets. The announcement alone has helped to improve market liquidity. The differentiated development of the mortgage and public loan business will probably continue through the year. The Public Pfandbrief business is expected to suffer from large maturities and low margins due to the current capital market environment.

3.5 Possible explanations for the market disturbances in 2008 / 2009

Since the Pfandbrief as a special and highly regulated form of covered bond has numerous characteristics meant to minimize the default risk the phenomena of partial illiquidity and rising risk premiums demand explanation. Presumably doubts about the quality of the covering values have only played a minor role: “The collateralization of the Pfandbriefe would

stand any test – even an insolvency of the Hypo Real Estate. But in times of crisis nothing is hundred per cent certain, even if under all circumstances (i.e. an extreme development of the crisis) the cover pools would be sufficient.” (Ruhkamp 2008c).

It seems that investors – whether justified or not – did not trust the stability of the issuers any more (Kofner 2008, p. 95). The market participants might have taken into account the contagion risks stemming from the non-cover business which have generally increased after the omission of the specialist bank principle.

During the crisis the Pfandbrief was primarily perceived as an ordinary bank bond: “The Pfandbrief as a special form of a bank bond is affected by the crisis of confidence the financial sector is suffering from. While the security of the Pfandbriefe is out of question, the business models of the issuers are critically examined all the more. ... The cover business of the Pfandbrief banks is, in my opinion, less affected than the robustness of the non-cover business. In this field above all it is necessary to regain the trust of the investors.” (Rasche 2008, p. 6).

A modern Pfandbrief bank can become insolvent due to speculative forward exchange deals or due to any other reason unrelated to its Pfandbrief business. In an environment characterized by complete loss of confidence and an extreme preference for liquidity nobody is prepared to sit back and watch the liquidation of a Pfandbrief bank.

Even though the liquidity of the Pfandbriefe must be ensured for the first 180 days after the date of the insolvency (liquidity buffer) there remains a residual uncertainty for the time afterwards because of the inevitable maturity-mismatching between assets and liabilities. It is not certain if the cover pool administrator will be able to make use of his various options for action to ensure the timely payment of interest and principal to the Pfandbrief creditors. In a situation of financial turmoil it might not be possible to take out liquidity loans or transfer assets. Under normal circumstances however there is a great chance that the Pfandbrief creditors will receive their payments on time. There is even a chance that the respective issuance will stay liquid on the secondary market at any moment. But in the middle of a severe financial crisis where even secondary markets for covered bonds emitted by creditworthy debtors are disturbed, comprehensible fears predominate relating to the future secondary market liquidity of the Pfandbrief emissions of insolvent banks. If the liquidity of the issuance an investor holds dries out, his capital is frozen and will only be repaid at the same pace as the borrowers of the cover loans repay their debt.

It seems as if the regulatory safety net of the Pfandbrief tested its limits in the financial crisis. To make things worse, the Pfandbrief market was harmed by the massive emission volumes of government bonds and guaranteed bank obligations combined with deposit guarantees (Rasche / Walburg 2009, p. 489). The bond markets are more and more dominated by government emissions and by bank emissions backed by the governments.³² The liquidity and absorptive

³² In Ireland covered bonds are generally guaranteed and in Sweden guarantees are granted at request. In England covered bonds of certain issuers are publicly guaranteed, too (Rasche 2008, p. 5).

capacity of other bond markets suffered from this strain. In the face of an almost absolute preference for security each emission of the public or publicly guaranteed kind is at risk to hamper the willingness of investors to invest in normal bank bonds, corporate or covered bonds of whatever kind (crowding out). The consequence is that new emissions on these markets fail to appear or have to be provided with higher interest coupons. Not least the unlimited comfort letter of the German government for all kinds of bank deposits has done its bit to distort competition between the different asset categories.

It seems that we have to deal with a spiral of government intervention. A kind of canalized financial market under government guardianship is starting to develop (Kofner 2009). The measures taken to stabilize certain market segments hamper the liquidity in the segments not yet protected. The new “market disturbances” will give rise to another round of protective measures. The European markets for covered bonds are a case in point. Stricken by the nasty side-effects of government interventions in neighbouring market segments the covered bond markets were chosen by the European Central Bank as target for their purchase programme. Where is it all leading?

4 Specialist or universal banks - an old debate in the light of new experiences

Let us come back to the fundamental question where to locate the covered bond business. From a theoretical point of view five models for the relationship between the covered bond business and the other bank businesses are imaginable and it turns out that four of these models are applied somewhere in Europe:

1. **Covered bond issuer as an issuing vehicle** (France, Finland, Ireland, Norway): The covered bond issuer has the status of a bank, but only holds assets qualified as cover assets. The legally independent vehicle will not generate credit business by itself.³³ It is a 100 per cent subsidiary of a parent bank which generates and administers the cover assets on behalf of the issuing bank. The parent bank has a general banking license and operates all kinds of other bank businesses.
2. **Facultative specialist bank model** (Denmark, Hungary, Luxembourg, Poland, previously Germany): The covered bond issuer has the status of a bank and only holds assets qualified as cover assets (as a variant with some permitted non-cover side businesses). The stand-alone specialist bank will generate its own credit business and refinance it via covered bonds usually under a protected name like “Pfandbrief”. As a variant the specialist bank might co-operate with a parent bank or partner banks in the fields of generating and transferring credit business or placement of the covered bonds. Model no. 2 is a facultative offer of a regulatory framework for a special type of banking business under a protected name. It is important to understand that the active businesses included (mortgage and public loans) and even the principle of covering refinancing means with these assets are in no way exclusive to the specialist mortgage banks subject to the framework. There are no legal barriers for self-made covered bond issuances outside the specialized regulatory framework offered. This is a fundamental difference to a separate banking system of the Glass / Steagall type.
3. **Obligatory specialist bank model**: A theoretical model where either the coverage principle or even the mortgage and public loan business are exclusively reserved for specialist mortgage banks.
4. **Universal bank with covered bond license** (Germany, Latvia, Russia): Universal banks can apply for a license to issue covered bonds. There will be statutory quality requirements relating to the issuer and to the cover assets. A supervising agency will monitor compliance and impose sanctions in case of violations. The universal bank will generate its own credit business and refinance it via covered bonds. It also operates all kinds of other bank businesses and uses a wide array of refinancing means.
5. **Universal bank without license requirement** (Bulgaria, Czech Republic, Lithuania, Spain, Slovakia): Universal banks issue covered bonds. There will be some kind of

³³ Pfandbrief issuers have to comply with the requirements relating to the Pfandbrief business (expertise, resources, organization, experience) on the lending side as well as on the refinancing side. A Pfandbrief bank as a pure refinancing vehicle is not allowed in Germany (see the outsourcing rules of the BaFin).

self-imposed qualitative requirements relating to the cover assets. As universal banks the issuers are subject to general banking supervision. The universal bank will generate its own credit business and refinance it via covered bonds. It also operates all kinds of other bank businesses.

The common basis of all covered bond models is the idea of a significant reduction of the failure risk relating to the cover assets and the covered bonds by establishing a special relationship between the covered bonds and corresponding cover assets regarded as particularly failure-safe. What is the best way to achieve this goal?

4.1 Legal or contractual basis

One dimension of the problem is the origin of the rules applicable. The covered bond emissions can have a *legal* or a *contractual* basis. All models except for model no. 5 have a special legal basis apart from general banking regulation relating to the quality of the issuer and the cover assets. As model no. 5 (Universal bank without license requirement) is lacking legal typecasting it will most probably result in a multitude of different terms of issue in practice – unless issuers agree upon common terms voluntarily. Just like the MBS-market a covered bond market organized like that will tend to suffer from a serious lack of transparency. This intransparency also entails a greater risk of destructive competition: Issuers might be tempted to lower the quality hurdles in order to qualify more credits as cover assets. A few black sheeps might seriously harm the general reputation of covered bonds as an investment alternative. Another disadvantage of the universal bank model without license requirement is the impossibility of creating an umbrella brand like the German “Pfandbrief”. Branded financial products require uniform rules and specialized supervision. The wide array of different kinds of covered bonds to be expected from model no. 5 makes supervision and control rather ineffective. This will very likely result in a lower supervision intensity.

The only argument in favor of model no. 5 is its higher potential for innovation as a result of product competition. We should not forget however that in contrast to other product markets financial innovations could be detrimental if they are used on a large scale before their influence on the systemic risk is fully understood (think of the unregulated CDS market). Also in the case of the covered bond market the costs of a low innovation rate should be limited because the covered bond business is basically about an extra-safe investment device as a result of an exclusive access to particularly fail-safe cover assets. A high degree of product differentiation and product innovation would be detrimental for the communication of this simple idea in its pure form to the investing public. Furthermore a legal basis for covered bonds does not mean that there will be no innovation and product competition at all. The Pfandbrief always competes with other refinancing products like unsecured bank bonds, MBS, deposits or self-made covered bonds outside the regulatory framework. The German experience was that the Pfandbrief legislation was adapted frequently not least for the reason to preserve the competitiveness of the Pfandbrief as compared with competing means of refinance.

4.2 Covered bond issuance by an issuing vehicle

And what about the models with a common legal basis for the covered bond emissions? For our purposes we can treat model no. 1 as a variant of model no. 4 (Universal bank with covered bank license). Model no. 1 is a kind of mortgage bank incorporated in a universal bank. The isolation from the other bank businesses is however merely formal.³⁴ The issuing bank is a monoline subsidiary of the universal parent bank. Its only raison d'être is the issuing of covered bonds backed by the assets transferred from the parent bank. It is questionable if this monoline structure is better suited for supervision and control purposes because supervision needs to include the parent bank anyway since it administers the cover assets. Also in case of an insolvency of the parent bank the issuing bank will probably suffer because of its operative dependency from the parent bank. On the other hand, the legal independency of the issuing subsidiary stresses the idea of the separation of the cover assets on a symbolic level. Model no. 1 seems to be a little less complicated and easier to explain than the German model (no. 4). It should be emphasized however that the differences compared to models no. 5 (Universal bank without license requirement) and no. 2 and 3 (Specialist bank) are fundamentally.

4.3 Specialist or universal banks as covered bond issuers?

What are the advantages of the specialist bank models (no. 2 and 3) as compared to the license model (no. 4)? The basic difference between the specialist bank and the license model is the *isolation of risk spheres*.³⁵ While the specialist bank is less exposed to contagion risks from other bank businesses it does not have the possibility to benefit from risk diversification with regard to other banking businesses. Is that a problem? The isolation from contagion risks

³⁴ In a material sense, legal separateness requires that banking organizations take a series of actions to demonstrate that the bank affiliates are truly distinct companies. These actions include keeping separate accounting records, holding separate board meetings, maintaining some separateness of employees, officers, and directors and some separateness of facilities, avoiding actions that convey the impression that the parent bank is liable for the debts of the affiliate or that the liabilities of the affiliate entity are insured obligations, and ensuring that the affiliates are adequately capitalized (Chase 1988 and Whalen 1997, p. 13 et seq.).

³⁵ In insurance the legal separation of insurance lines is quite common for reasons of consumer protection. We find specialist insurers (monoliners) particularly in long term insurance lines with a large influence on wealth position of private households. Cases in point are life and health insurance in Germany where monoline insurance is obligatory. In the U.S. only monoline insurers are allowed to insure municipal bonds and mortgage credits.

Constraints on bank organizational form, in conjunction with so-called "firewalls", might mitigate risks associated between different bank activities. In general, firewalls are constraints on intra-company payments (e.g. dividends), lending and asset transfers that attempt to prevent the transfer of risks (Whalen 1997, p. 2). The key question is what is the best combination of constraints on organizational form and the appropriate type, number and thickness of firewalls needed to accomplish the insulation of the Pfandbrief related lending business from other banking activities. Constraints of this type might make sense for a universal bank with a Pfandbrief license as well as for a specialist mortgage bank with a universal parent bank. On the other hand, they make the firewalled activities more costly and less attractive to banks (Shull / White 1998, p. 9). Furthermore, one may object that banks attempt to operate their organizations as integrated entities, regardless of their nominal organizational structure. For this reason parent holding companies might tend to breach any firewalls, especially when they encounter financial difficulties. Some degree of effective separation of risk spheres can be attained by legal means after all depending on the performance of bank supervisors (Whalen 1997, pp. 15-18).

originating from general banking activities surely is more important than the isolation of other banking activities from the risks of prudent mortgage and public lending. Why is that? We are faced with an asymmetric contagion risk: The risk of a universal bank with covered bond license becoming insolvent because of its Pfandbrief and related lending activities tends towards zero if these activities are strictly regulated and supervised.³⁶ Vice versa the risks have to be taken very seriously as the financial crisis has shown: Pfandbrief banks in trouble are not in trouble because of their Pfandbrief business.

In theory insulating certain bank activities in legally independent units is likely to raise the risk level of all banks in the system and thus the systemic risk depending on the direction and strength of the correlation between the risk spheres. A totally unregulated mortgage bank would probably be more vulnerable than a universal bank because of its inability to diversify risks. Hence the need for additional requirements relating to the quality of the loans granted by the mortgage bank accrues. If the mortgage banks restrict themselves to the old-style first ranking, 60 per cent mortgage lending limit credit business, it is obvious that their business activities negatively affect the risk position of competing universal banks (leaving the riskier second ranking credit business to them). If, on the other hand, non-cover lending above the regulatory lending limit is allowed to the mortgage banks as a non-cover side business, in-house contagion risk is created.

Things get more complicated if we take the possibility of *equity participation* into account. It would violate the specialist bank principle if a specialist mortgage bank were allowed to hold a stake in a universal bank. If a universal bank or bank holding controls a specialist mortgage bank it is important to ensure that an insolvency of the parent bank, a sister bank or of the bank holding does not entail the insolvency of the mortgage bank.³⁷ To ensure this, the subsidiary mortgage bank should be as independent as possible from the parent bank in terms of credit generation and operations. On the other hand, in order to protect the specialist bank from in-house contagion risk and to maintain its competitiveness, it would make much sense, if the credit business above the statutory mortgage lending limit were done by the parent bank or by a partner bank – an unpleasant choice.

Apart from superior contagion resistance specialist banks might have *specialization advantages* in terms of regulation, supervision and internal control. A subsidiary structure can help

³⁶ The adequate intensity of supervision and control on both sides of the line depends on the type of business chosen for isolation in the specialist banks. If they are presumed to be riskier than the other banking businesses are on average, then the activities outsourced would need more regulation and surveillance – contrary to the Glass-Steagall model. If the outsourced businesses are less risky, then the non-specialist banks need to be supervised more intensely than the specialist banks. The question if mortgage lending is more or less risky than other banking businesses is more contentious than ever after the experiences with the U.S. subprime crisis. It is possible however to regulate mortgage lending in a way that it will be a low risk business (with the German Pfandbrief regulation serving as a blueprint).

³⁷ In German bankruptcy law the question of insolvency must be considered independently for each subsidiary. The insolvency of the parent company does not automatically entail the insolvency of its subsidiaries. In case of intensive deliveries and services transactions the subsidiaries are often threatened by insolvency because the claims against the parent company stemming from these transactions turn out to be worthless.

to make a multi-product financial firm more transparent to lawmakers, supervisors and the market (Whalen 1997, p. 4). Very often, large banks are a mixture of systems and unintegrated financial infrastructure. As the financial crisis has demonstrated on several occasions, risks tend to be unidentified and uncontrolled in the huge silos within a universal bank. The German specialist mortgage banks on the other hand were subject to tailor-made regulation and supervision and the operative risks were well-known and well-understood. It is questionable if these specialization advantages could be fully emulated in universal bank structure with a covered bond license.

But what about the *efficiency* of a specialist bank? There are economies of scope by selling various financial products such as deposit, credit, brokerage and insurance to the same customer at a banking branch (one stop shopping). However empirical research (Smith 2001) has demonstrated that though there may be economies of scope in selling different products, it is negligible when different financial products are produced in the same institution. It is doubtful however if these results apply to the activity of credit generation for cover purposes. It is a weak point of specialist banks that they usually do not have branch systems dense enough to cover the mass market. Hence their ability to create credit business is limited especially in the private household segment of the credit market. In practice specialist mortgage banks either concentrate on commercial real estate and multi-family buildings or they co-operate with a parent / partner bank to generate small-scale business like loans for private homes. As a consequence they either have a bias towards the more risky segments of the mortgage market or suffer from moral hazard / adverse selection from the loan transfer. Both are not really in the sense of bankruptcy remoteness.

A universal bank with a covered bond license and a balanced loan portfolio will not be affected by credit bias or moral hazard. On the other hand, the universal bank is a source of contagion risks in itself and subject to intransparency of risk.³⁸ The specialist bank-specific risks might be easier to deal with.

The temporarily illiquid secondary Pfandbrief markets during the financial crisis have demonstrated that contagion risk is evaluated differently by market participants in times of confidence crisis. This implies that the isolation of risk spheres is important before any concrete risk of insolvency of a credit institution emerges on the horizon.

We can subsume that in comparison to the licensed universal bank model the specialist mortgage bank model seems to be closer to the idea of bankruptcy remoteness of the covered bond issuing institution at first glance. The problem of competitiveness of the specialist banks could be resolved by a stable relationship with a parent / partner bank helping to generate small-scale and residential credit business and to provide for side activities like lending above the statutory limit. But these advantages might be dearly bought because the operative dependency on the parent bank raises the probability of the specialist mortgage bank becoming in-

³⁸ It is also argued that universal banking systems are prone to concentration and to abuse of market power (Cardona 2007, p. 252).

solvent (in case the parent or partner bank becomes insolvent or autonomically). While a stand-alone mortgage bank does not make much economic sense, a dependent one is subject to considerable contagion risk. Taking into account the specialization advantages in terms of regulation, supervision and internal control, there might be a positive net effect of a well-designed specialist bank system on the bankruptcy remoteness of the specialist banks. The effects on the systemic risk of the banking system are opaque however.

4.4 Facultative or obligatory specialist bank model?

There is a difference to be made between the facultative and the obligatory specialist bank model. In the facultative model universal banks are allowed to engage in the mortgage and public loan business whereas in the obligatory model these businesses would be restricted to the specialist banks. This would substantially hamper the ability of the universal banks to diversify their risks and probably increase the systemic risk of the whole financial system.

Another serious problem of model no. 3 is the sufficient provision of credit. If only specialist banks were allowed to make mortgage and public loans the credit originating capacities of the banking system would not be fully utilized and much less loans would be granted than possible. An important part of the potential demand for mortgage and public loans would remain unsatisfied. The obligatory specialist bank model thus depends on a close cooperation with partner / parent banks to originate cover credits which in turn creates a moral hazard problem with respect to credit quality.

In terms of economic order the obligatory model would be a far-reaching interference into entrepreneurial freedom and property rights. The reference point is the universal banking system in the sense of free choice of credit institutions to offer either the whole range of banking products or only a part of it. Limitations of the dispositive rights of the owners could be justified with the avoiding of conflicts of interest (consumer or client protection) or with positive effects on financial stability. It is more than questionable if the model does have such effects.

On the other hand the facultative model is always under pressure from competing credit products and refinancing instruments. There is a danger that financial innovation outside the covered bond system (including forms of regulation and supervision arbitrage) induces a loss in the covered bond market share and as a further consequence regulatory changes to keep the covered bonds “competitive”. The German experience with the facultative model is that the specialist mortgage banks will permanently lobby for more flexibility relating to non-cover side businesses. The logical consequence of these claims seems to be the license model (no. 4). There might be a natural tendency of the facultative specialist bank model to involve into the license model.

But an obligatory specialist banking system would be vulnerable to regulation and supervision arbitrage and lobbyism to cut the regulation back, too. Remember the never-ending story of the watering down of the Glass / Steagall act in the U.S. A tentative hypothesis is that any form of line separation is against the natural tendency of banks to offer the full range of bank-

ing products. Line separation excludes the banks from diversification possibilities into neighboring business segments and will always induce activities to bypass the regulation.

As compared with the obligatory model, the facultative specialist bank model hampers the ability of the universal banks to diversify their risks (which is important for systemic risk) only to a limited extent³⁹, does not affect or even enhances credit provision and availability and is not in conflict with entrepreneurial freedom and property rights. It is thus preferable to the obligatory specialist bank model. The facultative model is in danger however of evolving into the universal bank license model.

A facultative specialist bank model put into practice thus needs to be “defended”. It requires a regulatory approach which aims at establishing a *level playground* between the covered bonds and competing financial products not by watering down the covered bond regulation, but rather by containing financial innovation outside the covered bond system. Needless to say, this regulatory approach requires an international consensus to contain financial innovation which might be difficult to achieve but worth to have. Governments tend to “strengthen” their financial centers by lowering regulation and supervision standards and financial institutions regard a low degree of control as a location factor. A case in point are the London subsidiaries of U.S. investment banks. There is even a danger of a race to the bottom. We are confronted with some kind of contagion risk here, too.

From a German point of view the question is if the omission of the specialist bank principle for Pfandbrief issuers has made things worse in the current financial crisis. The potential contagion risk from other bank businesses has surely risen as a result of this measure. The case of the Hypo Real Estate bank is a textbook case of contagion risk. Maturity mismatching in an Irish subsidiary bank has created risks threatening the existence of the parent Pfandbrief bank and the reputation and stability of the whole German Pfandbrief system.

In the light of the crisis, one begins to wonder, whether the whole chain of amendments to the German mortgage banking act (for the purpose of maintaining the competitiveness of the Pfandbrief) crowned by the omission of the specialist banking principle was nothing but an aberration. Wouldn't it have been better to contain the non-cover and side-businesses of the specialist mortgage banks instead of watering down – and thereby questioning – the specialist banking principle? “No way” the lobbyists would have said. Deregulation would have been declared as necessary to avert immeasurable damage from Germany as a financial marketplace.

The potential of a specialist mortgage bank sector as a discipline factor for containing financial innovation might be its biggest advantage. This argument implies however that lawmakers and governments have realized their own weakness and are ready to lead off the fight against financial deregulation and destructive financial innovation.

³⁹ Admittedly, the facultative specialist banks cut off the competing universal banks from a part of the mortgage and public loan business. At least a part of the special safety of the mortgage bank sector might be attained at the expense of increased vulnerability of the rest of the financial sector.

5 The Pfandbrief as a blueprint?

The Pfandbrief is a reliable and cost-efficient long-term refinancing source for real estate investments. From the point of view of the investors the Pfandbrief is a particularly fail-safe type of bonds. While the Pfandbrief is perfectly suited for the requirements of borrowers with long time horizon (buy and hold), the collateralization with a mortgage is an impediment for active strategies with a high portfolio turnover. In particular large real estate portfolios are in a position to gain direct access to the capital market.

Like most segments of the financial market the Pfandbrief market has suffered from the financial crisis. It should be a comfort to the issuers that the Pfandbrief market was hit late. On the other hand, the biggest prevented bank failure by far was one of the most important Pfandbrief issuers suffering from contagion risk. While the Pfandbrief was saved from the embarrassment of direct government guarantees for Pfandbrief issues, the Pfandbrief system was only saved by the bail-out of the Hypo Real Estate bank, the government's letter of comfort and the general measures taken to stabilize the banking system, especially the declaration to save every bank relevant to the financial system. We now know for sure that the Pfandbrief market as a part of the financial system is not invulnerable in a crisis of confidence: "It is impossible to convert the Pfandbrief or any other investment vehicle into an absolutely risk-free investment. What we need to do, is to reduce the potential risks as far as possible having regard to economic efficiency." (Hagen 2003a, p. 581).

How can this be done? In the current situation Pfandbrief banks should critically examine their business models in the widest sense in order to make them crisis-proof with regard to the increased requirements of shareholders and Pfandbrief creditors. This refers to their credit policy and to their funding mix (Rasche 2008, p. 6 et seq.). The issuers and their top managers are responsible for upholding the values of the Pfandbrief act aiming at the best possible investor protection: Prudence and trust. These values must be effective in the non-cover business, too. The reflection on the traditional values and principles of banking will enhance resistibility when the next crisis hits the markets (Rasche 2008, p. 8). We need structural changes feeding deeply into the organizations of the credit institutions. The ultimate goal is a sustainable risk policy not enforced by regulation.

In this spirit, the Pfandbrief might even serve as a blueprint for the redesign of the global financial order. If one takes a closer look, it becomes obvious that the Pfandbrief is already characterized by the principles regarded as highly recommendable for the future stability of the global financial system (Rasche 2008, p. 7 and Rasche 2009):

- Tighter regulation: The Pfandbrief Act including secondary regulation already establishes a stringent regulatory framework.
- Tighter supervision: In addition to general supervision based on the German Bank Act dedicated supervision of the Pfandbrief business is demanded by the Pfandbrief Act.
- Simple structures: The Pfandbrief design with the aim of investor protection remained basically unchanged for more than 200 years. Pfandbriefe have a simple standardized

structure which encourages sustainable business conduct and accountability of the management.

- Responsible business conduct: All Pfandbrief cover assets are kept on the balance of the issuer.
- Increased transparency: The Pfandbrief Act requires compliance with strict disclosure standards. The habituation of the investors to the Pfandbrief saves information costs to a considerable extent.
- Regulation of rating agencies: Rating agencies are of minor importance. The Pfandbrief Act establishes strict quality standards. Supervisory authorities control compliance.

If all banks had granted their mortgage loans as prudent as the German Pfandbrief banks in their cover business we would not be in such a financial mess.

6 Sources

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